**1 Metadata Features**

**1.1 Quality of Non-Bathymetric Data**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area within which a uniform assessment of the quality of the non-bathymetric data exists. | | | | | | |
| **S-10x Metadata Feature: Quality of Non-Bathymetric Data (M\_ACCY)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Temporal Variation | |  | 1 : Extreme Event  4 : Likely to Change | | EN | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Horizontal Position Uncertainty | | (POSACC) |  | | C | 1, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Orientation Uncertainty | |  |  | | RE | 0, 1 |
| Survey Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**1.2 Data Coverage**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A geographical area that describes the coverage and extent of spatial objects. | | | | | | |
| **S-10x Metadata Feature: Data Coverage (M\_COVR, M\_CSCL)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Maximum Display Scale | |  |  | | IN | 1, 1 |
| Minimum Display Scale | |  |  | | IN | 1, 1 |
| Optimum Display Scale | |  |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**1.3 Navigational System of Marks**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area within which the navigational system of marks has been established in relation to a specific direction. | | | | | | |
| **S-10x Metadata Feature: Navigational System of Marks (M\_NSYS)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  10 : Other System  11 : Main European Inland Waterway Marking System  12 : Russian Inland Waterway Regulations  13 : Brazilian National Inland Waterway Regulation  15 : Paraguay-Parana Waterway - Brazilian Complementary Aids | | EN | 1, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Orientation Value | | (ORIENT) |  | | RE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**1.4 Local Direction of Buoyage**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area within which the navigational system of marks has been established in relation to a specific direction. | | | | | | |
| **S-10x Metadata Feature: Local Direction of Buoyage (M\_NSYS)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  10 : Other System  11 : Main European Inland Waterway Marking System  12 : Russian Inland Waterway Regulations  13 : Brazilian National Inland Waterway Regulation  15 : Paraguay-Parana Waterway - Brazilian Complementary Aids | | EN | 1, 1 |
| Orientation Value | | (ORIENT) |  | | RE | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**1.5 Quality of Bathymetric Data**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area within which a uniform assessment of the quality of the bathymetric data exists. | | | | | | |
| **S-10x Metadata Feature: Quality of Bathymetric Data (M\_QUAL)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Temporal Variation | |  | 1 : Extreme Event  2 : Likely to Change and Significant Shoaling Expected  3 : Likely to Change But Significant Shoaling Not Expected  5 : Unlikely to Change  6 : Unassessed | | EN | 1, 1 |
| Data Assessment | |  | 1 : Assessed  2 : Assessed (Oceanic)  3 : Unassessed | | EN | 1, 1 |
| Depth Range Maximum Value | | (DRVAL2) |  | | RE | 0, 1 |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 0, 1 |
| Features Detected | |  |  | | C | 1, 1 |
| Least Depth of Detected Features Measured | |  |  | | (S) BO | 1, 1 |
| Significant Features Detected | |  |  | | (S) BO | 1, 1 |
| Size of Features Detected | |  |  | | (S) RE | 0, 1 |
| Full Seafloor Coverage Achieved | |  |  | | BO | 1, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Survey Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Zone of Confidence | |  |  | | C | 1, \* |
| Category of Zone of Confidence In Data | | (CATZOC)  (ZOC) | 1 : Zone of Confidence A1  2 : Zone of Confidence A2  3 : Zone of Confidence B  4 : Zone of Confidence C  5 : Zone of Confidence D  6 : Zone of Confidence U | | (S) EN | 1, 1 |
| Fixed Date Range | |  |  | | (S) C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Horizontal Position Uncertainty | | (POSACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  2 : Found by Side Scan Sonar  3 : Found by Multi Beam  4 : Found by Diver  5 : Found by Lead Line  6 : Swept by Wire-Drag  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  10 : Photogrammetry  11 : Satellite Imagery  12 : Found by Levelling  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**1.6 Sounding Datum**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The horizontal plane or tidal datum to which soundings have been reduced. Also called datum for sounding reduction. | | | | | | |
| **S-10x Metadata Feature: Sounding Datum (M\_SDAT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 1 : Mean Low Water Springs  2 : Mean Lower Low Water Springs  3 : Mean Sea Level  4 : Lowest Low Water  5 : Mean Low Water  6 : Lowest Low Water Springs  7 : Approximate Mean Low Water Springs  8 : Indian Spring Low Water  9 : Low Water Springs  10 : Approximate Lowest Astronomical Tide  11 : Nearly Lowest Low Water  12 : Mean Lower Low Water  13 : Low Water  14 : Approximate Mean Low Water  15 : Approximate Mean Lower Low Water  19 : Approximate Mean Sea Level  22 : Equinoctial Spring Low Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  27 : Lower Low Water Large Tide  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**1.7 Vertical Datum of Data**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Any level surface (for example Mean Sea Level) taken as a surface of reference to which the elevations within a data set are reduced. Also called datum level, reference level, reference plane, levelling datum, datum for heights. | | | | | | |
| **S-10x Metadata Feature: Vertical Datum of Data (M\_VDAT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**1.8 Quality of Survey**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area within which a uniform assessment of the reliability of source survey information exists. | | | | | | |
| **S-10x Metadata Feature: Quality of Survey (M\_SREL)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Depth Range Maximum Value | | (DRVAL2) |  | | RE | 0, 1 |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 0, 1 |
| Features Detected | |  |  | | C | 0, 1 |
| Least Depth of Detected Features Measured | |  |  | | (S) BO | 1, 1 |
| Significant Features Detected | |  |  | | (S) BO | 1, 1 |
| Size of Features Detected | |  |  | | (S) RE | 0, 1 |
| Full Seafloor Coverage Achieved | |  |  | | BO | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Line Spacing Maximum | |  |  | | IN | 0, 1 |
| Line Spacing Minimum | |  |  | | IN | 0, 1 |
| Measurement Distance Maximum | | (SDISMX) |  | | IN | 0, 1 |
| Measurement Distance Minimum | | (SDISMN) |  | | IN | 0, 1 |
| Quality of Horizontal Measurement | | (QUAPOS) | 4 : Approximate | | EN | 0, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown  3 : Doubtful Sounding  4 : Unreliable Sounding  6 : Least Depth Known  7 : Least Depth Unknown, Safe Clearance at Value Shown  8 : Value Reported (Not Surveyed)  9 : Value Reported (Not Confirmed)  10 : Maintained Depth  11 : Not Regularly Maintained | | EN | 0, \* |
| Scale Value Maximum | | (SCVAL1) |  | | IN | 0, 1 |
| Scale Value Minimum | | (SCVAL2) |  | | IN | 0, 1 |
| Survey Authority | | (SURATH) |  | | TE | 1, 1 |
| Survey Date Range | |  |  | | C | 1, 1 |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Survey Type | | (SURTYP) | 1 : Reconnaissance/Sketch Survey  2 : Controlled Survey  4 : Examination Survey  5 : Passage Survey  6 : Remotely Sensed  7 : Full Coverage  8 : Systematic Survey  9 : Non-Systematic Survey  10 : Inadequately Surveyed  11 : Spot-Sounding Survey  12 : Acoustically Swept Survey  13 : Mechanically Swept Survey | | EN | 0, \* |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  2 : Found by Side Scan Sonar  3 : Found by Multi Beam  4 : Found by Diver  5 : Found by Lead Line  6 : Swept by Wire-Drag  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  10 : Photogrammetry  11 : Satellite Imagery  12 : Found by Levelling  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, \* |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**1.9 Update Information**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The Update Information metadata feature is used to represent a change to the information shown. | | | | | | |
| **S-10x Metadata Feature: Update Information** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface, noGeometry** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Update Number | |  |  | | IN | 1, 1 |
| Update Type | |  | 1 : Insert  2 : Delete  3 : Modify  4 : Move | | EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 0, 1 |
| Source | |  |  | | TE | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2 Geo Features**

**2.10 Magnetic Variation**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The angle between the magnetic and geographic meridians at any place, expressed in degrees east or west to indicate the direction of magnetic north from true north. Also called magnetic declination. | | | | | | |
| **S-10x Geo Feature: Magnetic Variation (MAGVAR, Magnetic Declination, Variation)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Reference Year for Magnetic Variation | | (RYRMGV) |  | | TD | 1, 1 |
| Value of Annual Change in Magnetic Variation | | (VALACM) |  | | RE | 1, 1 |
| Value of Magnetic Variation | | (VALMAG) |  | | RE | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.11 Local Magnetic Anomaly**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An anomaly of the magnetic field of the Earth, extending over a relatively small area, due to local magnetic influences. Also called local attraction or magnetic anomaly. | | | | | | |
| **S-10x Geo Feature: Local Magnetic Anomaly (LOCMAG, Local Attraction, Magnetic Anomaly, Local Magnetic Disturbance)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Value of Local Magnetic Anomaly | |  |  | | C | 1, 2 |
| Magnetic Anomaly Value | | (VALLMA) |  | | (S) RE | 1, 1 |
| Reference Direction | |  | 1 : North  5 : East  9 : South  13 : West | | (S) EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.12 Coastline**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The line where shore and water meet. Shoreline and coastline are generally used synonymously. | | | | | | |
| **S-10x Geo Feature: Coastline (COALNE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Coastline | | (CATCOA) | 1 : Steep Coast  2 : Flat Coast  3 : Sandy Shore  4 : Stony Shore  5 : Shingly Shore  6 : Glacier, Seaward End  7 : Mangrove  8 : Marshy Shore  9 : Coral Reef  10 : Ice Coast  11 : Shelly Shore | | EN | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  6 : Yellow  7 : Grey  8 : Brown  11 : Orange  13 : Pink | | EN | 0, \* |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Surface | | (NATSUR) | 1 : Mud  2 : Clay  3 : Silt  4 : Sand  5 : Stone  6 : Gravel  7 : Pebbles  8 : Cobbles  9 : Rock  11 : Lava  14 : Coral  17 : Shells | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.13 Land Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The solid portion of the Earth's surface, as opposed to sea, water. | | | | | | |
| **S-10x Geo Feature: Land Area (LNDARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Condition | | (CONDTN) | 1 : Under Construction  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 18 : Existence Doubtful | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.14 Island Group**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A named group of islands, including archipelagos. | | | | | | |
| **S-10x Geo Feature: Island Group (C\_AGGR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface, noGeometry** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 1, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.15 Land Elevation**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An elevation is the vertical distance of a point or a level, on, or affixed to, the surface of the earth, measured from a specified vertical datum. | | | | | | |
| **S-10x Geo Feature: Land Elevation (LNDELV)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Elevation | | (ELEVAT) |  | | RE | 1, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.16 River**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A relatively large natural stream of water. | | | | | | |
| **S-10x Geo Feature: River (RIVERS)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.17 Rapids**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Portions of a stream with accelerated current where it descends rapidly but without a break in the slope of the bed sufficient to form a waterfall. Usually used in the plural. | | | | | | |
| **S-10x Geo Feature: Rapids (RAPIDS)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.18 Waterfall**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A vertically descending part of a watercourse where it falls from a height (for example: over a rock or a precipice). In place names, commonly shortened to fall or falls, for example Niagara Falls. | | | | | | |
| **S-10x Geo Feature: Waterfall (WATFAL)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.19 Lake**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A large body of water entirely surrounded by land. | | | | | | |
| **S-10x Geo Feature: Lake (LAKARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.20 Land Region**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area of natural or cultivated scenery defined by its geographical characteristics and may be known by its proper name. | | | | | | |
| **S-10x Geo Feature: Land Region (LNDRGN)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Land Region | | (CATLND) | 1 : Fen  2 : Marsh  3 : Bog  4 : Heathland  5 : Mountain Range  6 : Lowlands  7 : Canyon Lands  8 : Paddy Field  9 : Agricultural Land  10 : Savanna/Grassland  11 : Parkland  12 : Swamp  13 : Landslide  14 : Lava Flow  15 : Salt Pan  16 : Moraine  17 : Crater  18 : Cave  19 : Rock Column or Pinnacle  20 : Cay  21 : Wadi | | EN | 0, \* |
| Feature Name | |  |  | | C | 1, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Surface | | (NATSUR) | 1 : Mud  2 : Clay  3 : Silt  4 : Sand  5 : Stone  6 : Gravel  7 : Pebbles  8 : Cobbles  9 : Rock  11 : Lava  14 : Coral  17 : Shells  18 : Boulder | | EN | 0, \* |
| Water Level Effect | | (WATLEV) | 1 : Partly Submerged at High Water  6 : Subject to Inundation or Flooding | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.21 Vegetation**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Plants collectively or individually, especially those dominating a particular area or habitat. | | | | | | |
| **S-10x Geo Feature: Vegetation (VEGATN)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Vegetation | | (CATVEG) | 3 : Bush  4 : Deciduous Wood  5 : Coniferous Wood  6 : Wood in General (inc Mixed Wood)  11 : Reed  13 : Tree in General  14 : Evergreen Tree  15 : Coniferous Tree  16 : Palm Tree  17 : Nipa Palm Tree  18 : Casuarina Tree  19 : Eucalypt Tree  20 : Deciduous Tree  22 : Filao Tree | | EN | 1, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.22 Ice Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area of ice over land or water. | | | | | | |
| **S-10x Geo Feature: Ice Area (ICEARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Ice | | (CATICE) | 1 : Fast Ice  5 : Glacier  8 : Polar Ice | | EN | 1, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  5 : Periodic/Intermittent  18 : Existence Doubtful | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.23 Sloping Ground**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An inclined surface. | | | | | | |
| **S-10x Geo Feature: Sloping Ground (SLOGRD)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Slope | | (CATSLO) | 1 : Cutting  2 : Embankment  3 : Dune  4 : Hill  5 : Pingo  6 : Cliff  7 : Scree | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  6 : Yellow  7 : Grey  8 : Brown  11 : Orange  13 : Pink | | EN | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Surface | | (NATSUR) | 1 : Mud  2 : Clay  3 : Silt  4 : Sand  5 : Stone  6 : Gravel  7 : Pebbles  8 : Cobbles  9 : Rock  11 : Lava  14 : Coral  17 : Shells  18 : Boulder | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.24 Slope Topline**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The upper marking of a slope, for example the ridge line or the separation line between two different gradients. | | | | | | |
| **S-10x Geo Feature: Slope Topline (SLOTOP)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Slope | | (CATSLO) | 1 : Cutting  2 : Embankment  3 : Dune  6 : Cliff | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  6 : Yellow  7 : Grey  8 : Brown  11 : Orange  13 : Pink | | EN | 0, \* |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Surface | | (NATSUR) | 1 : Mud  2 : Clay  3 : Silt  4 : Sand  5 : Stone  6 : Gravel  7 : Pebbles  8 : Cobbles  9 : Rock  11 : Lava  14 : Coral  17 : Shells  18 : Boulder | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.25 Tideway**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A channel through which a tidal current runs. | | | | | | |
| **S-10x Geo Feature: Tideway (TIDEWY)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.26 Built-Up Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area of land or construction over the water containing a concentration of buildings and/or other structures. | | | | | | |
| **S-10x Geo Feature: Built-Up Area (BUAARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Built-Up Area | | (CATBUA) | 1 : Urban Area  2 : Settlement  3 : Village  4 : Town  5 : City  6 : Holiday Village | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| In the Water | |  |  | | BO | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.27 Building**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A free-standing self-supporting construction that is roofed, usually walled, and is intended for human occupancy (for example: a place of work or recreation) and/or habitation. | | | | | | |
| **S-10x Geo Feature: Building (BUISGL)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Building Shape | | (BUISHP) | 5 : High-Rise Building  6 : Pyramid  7 : Cylindrical  8 : Spherical  9 : Cubic | | EN | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  4 : Wingless  5 : Planned Construction | | EN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Function | | (FUNCTN) | 2 : Harbour-Masters Office  3 : Customs Office  4 : Health Office  5 : Hospital  6 : Post Office  7 : Hotel  8 : Railway Station  9 : Police Station  10 : Water-Police Station  11 : Pilot Office  12 : Pilot Lookout  13 : Bank Office  14 : Headquarters for District Control  15 : Transit Shed/Warehouse  16 : Factory  17 : Power Station  18 : Administrative  19 : Educational Facility  20 : Church  21 : Chapel  22 : Temple  23 : Pagoda  24 : Shinto Shrine  25 : Buddhist Temple  26 : Mosque  27 : Marabout  28 : Lookout  29 : Communication  30 : Television  31 : Radio  32 : Radar  33 : Light Support  34 : Microwave  35 : Cooling  36 : Observation  37 : Timeball  38 : Clock  39 : Control  40 : Airship Mooring  41 : Stadium  42 : Bus Station  44 : Sea Rescue Control  45 : Observatory  46 : Ore Crusher  47 : Boathouse  48 : Pumping Station | | EN | 0, \* |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Multiplicity of Features | |  |  | | C | 0, 1 |
| Multiplicity Known | |  |  | | (S) BO | 1, 1 |
| Number of Features | |  |  | | (S) IN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic  12 : Glass | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 4 : Not in Use  7 : Temporary  8 : Private  12 : Illuminated  13 : Historic  14 : Public | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| In the Water | |  |  | | BO | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.28 Airport/Airfield**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A defined area on land (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft. | | | | | | |
| **S-10x Geo Feature: Airport/Airfield (AIRARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Airport/Airfield | | (CATAIR) | 1 : Military Aeroplane Airport  2 : Civil Aeroplane Airport  3 : Military Heliport  4 : Civil Heliport  5 : Glider Airfield  6 : Small Planes Airfield  8 : Emergency Airfield  9 : Search and Rescue Airfield | | EN | 0, \* |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  12 : Illuminated  14 : Public | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.29 Runway**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A defined area, on a land aerodrome, prepared for the landing and take-off run of aircraft. | | | | | | |
| **S-10x Geo Feature: Runway (RUNWAY)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  4 : Hard Surfaced  5 : Unsurfaced  6 : Wooden  7 : Metal | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  12 : Illuminated  14 : Public | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.30 Helipad**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A small landing surface for helicopters, with minimal or no supporting installations or facilities. | | | | | | |
| **S-10x Geo Feature: Helipad** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  4 : Hard Surfaced  5 : Unsurfaced  6 : Wooden  7 : Metal | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  12 : Illuminated  14 : Public | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.31 Bridge**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: (1) An elevated structure extending across or over the weather deck of a vessel, or part of such a structure. The term is sometimes modified to indicate the intended use, such as navigating bridge or signal bridge. (2) A structure erected over a depression or an obstacle such as a body of water, railroad, etc., to provide a roadway for vehicles or pedestrians. | | | | | | |
| **S-10x Geo Feature: Bridge (BRIDGE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface, noGeometry** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Bridge Construction | | (BridgeStructureType) | 1 : Arch  2 : Viaduct  3 : Pontoon Bridge  4 : Suspension Bridge  5 : Transporter Bridge | | EN | 0, 1 |
| Bridge Function | |  | 1 : Vehicular  2 : Rail  3 : Pedestrian  4 : Aqueduct | | EN | 0, \* |
| Category of Opening Bridge | |  | 3 : Swing Bridge  4 : Lifting Bridge  5 : Bascule Bridge  7 : Drawbridge | | EN | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  6 : Wooden  7 : Metal  11 : Latticed | | EN | 0, \* |
| Opening Bridge | |  |  | | BO | 0, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  12 : Illuminated | | EN | 0, \* |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Distance Unit of Measurement | |  | 1 : Metres  2 : Yards  3 : Kilometres  4 : Statute Miles  5 : Nautical Miles  6 : Feet  7 : Hectometres | | EN | 0, 1 |
| Waterway Distance | | (wtwdis) |  | | RE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.32 Span Fixed**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A fixed component of the deck of a bridge spanning successive bridge piers. | | | | | | |
| **S-10x Geo Feature: Span Fixed (BRIDGE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Horizontal Clearance Fixed | |  |  | | C | 0, 1 |
| Horizontal Clearance Value | | (HORCLR) |  | | (S) RE | 1, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | (S) RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Vertical Clearance Fixed | | (VERCLR) |  | | C | 1, 1 |
| Vertical Clearance Value | | (VERCLR)  (VERCCL)  (VERCOP)  (VERCSA) |  | | (S) RE | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Distance Unit of Measurement | |  | 1 : Metres  2 : Yards  3 : Kilometres  4 : Statute Miles  5 : Nautical Miles  6 : Feet  7 : Hectometres | | EN | 0, 1 |
| Waterway Distance | | (wtwdis) |  | | RE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Vertical River Datum Reference Level Value | | (vcrval) |  | | RE | 0, 1 |
| Name of Vertical River Datum Reference Level | | (vcrlev) |  | | TE | 0, 1 |
| Elevation of Water Level | | (elevwl) |  | | RE | 0, 1 |
| Reference Gauge | | (refgag) |  | | TE | 0, 1 |
| Reference Gravitational Level | | (reflev) | 1 : Baltic Datum  2 : Adriatic Level  3 : Amsterdam Ordnance Datum (NAP)  4 : Mean Sea Level  5 : Other Datum  6 : National Geodetic Vertical Datum - NGVD29  7 : North American Vertical Datum - NAVD88  8 : Mean Sea Level 1912  9 : Mean Sea Level 1929  10 : Tweede Algemene Waterpassing | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.33 Span Opening**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An opening component of the deck of a bridge spanning successive bridge piers. | | | | | | |
| **S-10x Geo Feature: Span Opening (BRIDGE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Horizontal Clearance Fixed | |  |  | | C | 0, 1 |
| Horizontal Clearance Value | | (HORCLR) |  | | (S) RE | 1, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | (S) RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Vertical Clearance Closed | | (VERCCL) |  | | C | 1, 1 |
| Vertical Clearance Value | | (VERCLR)  (VERCCL)  (VERCOP)  (VERCSA) |  | | (S) RE | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Clearance Open | | (VERCOP) |  | | C | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Clearance Value | | (VERCLR)  (VERCCL)  (VERCOP)  (VERCSA) |  | | (S) RE | 1, 1 |
| Vertical Clearance Unlimited | |  |  | | (S) BO | 1, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Distance Unit of Measurement | |  | 1 : Metres  2 : Yards  3 : Kilometres  4 : Statute Miles  5 : Nautical Miles  6 : Feet  7 : Hectometres | | EN | 0, 1 |
| Waterway Distance | | (wtwdis) |  | | RE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Vertical River Datum Reference Level Value | | (vcrval) |  | | RE | 0, 1 |
| Name of Vertical River Datum Reference Level | | (vcrlev) |  | | TE | 0, 1 |
| Elevation of Water Level | | (elevwl) |  | | RE | 0, 1 |
| Reference Gravitational Level | | (reflev) | 1 : Baltic Datum  2 : Adriatic Level  3 : Amsterdam Ordnance Datum (NAP)  4 : Mean Sea Level  5 : Other Datum  6 : National Geodetic Vertical Datum - NGVD29  7 : North American Vertical Datum - NAVD88  8 : Mean Sea Level 1912  9 : Mean Sea Level 1929  10 : Tweede Algemene Waterpassing | | EN | 0, 1 |
| Reference Gauge | | (refgag) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.34 Conveyor**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A mechanical device for conveying bulk material or people using an endless moving belt or series of rollers. | | | | | | |
| **S-10x Geo Feature: Conveyor (CONVYR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Conveyor | | (CATCON) | 1 : Aerial Cableway  2 : Belt Conveyor  3 : Flume  4 : Lift/Elevator | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Lifting Capacity | | (LIFCAP) |  | | RE | 0, 1 |
| Multiplicity of Features | |  |  | | C | 0, 1 |
| Multiplicity Known | |  |  | | (S) BO | 1, 1 |
| Number of Features | |  |  | | (S) IN | 0, 1 |
| Product | | (PRODCT) | 4 : Stone  5 : Coal  6 : Ore  10 : Bauxite  11 : Coke  12 : Iron Ingots  13 : Salt  14 : Sand  15 : Timber  16 : Sawdust/Wood Chips  17 : Scrap Metal  22 : Grain  25 : Clay | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 4 : Not in Use  12 : Illuminated | | EN | 0, \* |
| Vertical Clearance Fixed | | (VERCLR) |  | | C | 0, 1 |
| Vertical Clearance Value | | (VERCLR)  (VERCCL)  (VERCOP)  (VERCSA) |  | | (S) RE | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Vertical River Datum Reference Level Value | | (vcrval) |  | | RE | 0, 1 |
| Name of Vertical River Datum Reference Level | | (vcrlev) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.35 Cable Overhead**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A single continuous rope-like bundle consisting of multiple strands of fiber, plastic, metal, and/or glass, which is supported by structures such as poles or pylons and passing over or nearby navigable waters. | | | | | | |
| **S-10x Geo Feature: Cable Overhead (CBLOHD)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Cable | | (CATCBL) | 1 : Power Line  3 : Transmission Line  4 : Telephone  5 : Telegraph  6 : Mooring Cable  7 : Ferry  10 : Telecommunications Cable | | EN | 1, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  5 : Planned Construction | | EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Ice Factor | | (ICEFAC) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Multiplicity of Features | |  |  | | C | 0, 1 |
| Multiplicity Known | |  |  | | (S) BO | 1, 1 |
| Number of Features | |  |  | | (S) IN | 0, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  12 : Illuminated  28 : Buoyed | | EN | 0, \* |
| Vertical Clearance Fixed | | (VERCLR) |  | | C | 1, 1 |
| Vertical Clearance Value | | (VERCLR)  (VERCCL)  (VERCOP)  (VERCSA) |  | | (S) RE | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Clearance Safe | | (VERCSA) |  | | C | 0, 1 |
| Vertical Clearance Value | | (VERCLR)  (VERCCL)  (VERCOP)  (VERCSA) |  | | (S) RE | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Distance Unit of Measurement | |  | 1 : Metres  2 : Yards  3 : Kilometres  4 : Statute Miles  5 : Nautical Miles  6 : Feet  7 : Hectometres | | EN | 0, 1 |
| Waterway Distance | | (wtwdis) |  | | RE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Name of Vertical River Datum Reference Level | | (vcrlev) |  | | TE | 0, 1 |
| Vertical River Datum Reference Level Value | | (vcrval) |  | | RE | 0, 1 |
| Reference Gauge | | (refgag) |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.36 Pipeline Overhead**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A string of interconnected pipes, supported by pylons and passing over or nearby navigable waters, used for the transport of matter, nowadays mainly oil or gas. | | | | | | |
| **S-10x Geo Feature: Pipeline Overhead (PIPOHD)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Pipeline/Pipe | | (CATPIP) | 2 : Outfall Pipe  3 : Intake Pipe  4 : Sewer  6 : Supply Pipe | | EN | 1, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Multiplicity of Features | |  |  | | C | 0, 1 |
| Multiplicity Known | |  |  | | (S) BO | 1, 1 |
| Number of Features | |  |  | | (S) IN | 0, 1 |
| Product | | (PRODCT) | 1 : Oil  2 : Gas  3 : Water  7 : Chemicals  8 : Drinking Water  9 : Milk  18 : Liquefied Natural Gas  19 : Liquefied Petroleum Gas  20 : Wine  22 : Grain | | EN | 1, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  7 : Temporary  12 : Illuminated | | EN | 0, \* |
| Vertical Clearance Fixed | | (VERCLR) |  | | C | 1, 1 |
| Vertical Clearance Value | | (VERCLR)  (VERCCL)  (VERCOP)  (VERCSA) |  | | (S) RE | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Distance Unit of Measurement | |  | 1 : Metres  2 : Yards  3 : Kilometres  4 : Statute Miles  5 : Nautical Miles  6 : Feet  7 : Hectometres | | EN | 0, 1 |
| Waterway Distance | | (wtwdis) |  | | RE | 0, 1 |
| Name of Vertical River Datum Reference Level | | (vcrlev) |  | | TE | 0, 1 |
| Vertical River Datum Reference Level Value | | (vcrval) |  | | RE | 0, 1 |
| Reference Gauge | | (refgag) |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

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| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.37 Pylon/Bridge Support**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A vertical construction consisting, for example, of a steel framework or pre-stressed concrete to carry cables, a bridge, etc. | | | | | | |
| **S-10x Geo Feature: Pylon/Bridge Support (PYLONS)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Pylon | | (CATPYL) | 1 : Power Transmission Pylon/Pole  2 : Telephone/Telegraph Pylon/Pole  3 : Aerial Cableway Pylon  4 : Bridge Pylon/Tower  5 : Bridge Pier  6 : Pipeline Pylon | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Multiplicity of Features | |  |  | | C | 0, 1 |
| Multiplicity Known | |  |  | | (S) BO | 1, 1 |
| Number of Features | |  |  | | (S) IN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  6 : Wooden  7 : Metal  11 : Latticed | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 4 : Not in Use  12 : Illuminated | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Water Level Effect | | (WATLEV) | 1 : Partly Submerged at High Water  2 : Always Dry  3 : Always Under Water/Submerged  4 : Covers and Uncovers  5 : Awash  6 : Subject to Inundation or Flooding | | EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

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| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.38 Fence/Wall**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A man-made barrier used as an enclosure or boundary or for protection. | | | | | | |
| **S-10x Geo Feature: Fence/Wall (FNCLNE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Fence | | (CATFNC) | 1 : Fence  3 : Hedge  4 : Wall | | EN | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  3 : Loose Boulders  6 : Wooden  7 : Metal  11 : Latticed | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  7 : Temporary  12 : Illuminated  13 : Historic | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.39 Railway**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A rail or set of parallel rails on which a train, tram, or rail wagon runs. | | | | | | |
| **S-10x Geo Feature: Railway (RAILWY)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  6 : Reserved  12 : Illuminated  13 : Historic  14 : Public | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.40 Road**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A route with a specially prepared surface that is intended for use by wheeled vehicles or pedestrians. | | | | | | |
| **S-10x Geo Feature: Road (ROADWY)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Road | | (CATROD) | 1 : Motorway  2 : Major Road  3 : Minor Road  4 : Track/Path  5 : Major Street  6 : Minor Street | | EN | 1, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 4 : Hard Surfaced  5 : Unsurfaced | | EN | 0, \* |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  6 : Reserved  7 : Temporary  8 : Private  12 : Illuminated  13 : Historic  14 : Public | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.41 Tunnel**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A passage that is open to the atmosphere at both ends, buried under the seabed or laid over the seafloor or bored under the ground or through mountains. | | | | | | |
| **S-10x Geo Feature: Tunnel (TUNNEL)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Horizontal Clearance Fixed | |  |  | | C | 0, 1 |
| Horizontal Clearance Value | | (HORCLR) |  | | (S) RE | 1, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | (S) RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  4 : Not in Use  6 : Reserved  8 : Private  14 : Public | | EN | 0, \* |
| Vertical Clearance Fixed | | (VERCLR) |  | | C | 0, 1 |
| Vertical Clearance Value | | (VERCLR)  (VERCCL)  (VERCOP)  (VERCSA) |  | | (S) RE | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Vertical River Datum Reference Level Value | | (vcrval) |  | | RE | 0, 1 |
| Name of Vertical River Datum Reference Level | | (vcrlev) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Buried Depth | | (BURDEP) |  | | RE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.42 Landmark**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Any prominent object at a fixed location on land which can be used in determining a location or a direction. | | | | | | |
| **S-10x Geo Feature: Landmark (LNDMRK)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Landmark | | (CATLMK) | 1 : Cairn  2 : Cemetery  3 : Chimney  4 : Dish Aerial  5 : Flagstaff  6 : Flare Stack  7 : Mast  8 : Windsock  9 : Monument  10 : Column/Pillar  11 : Memorial Plaque  12 : Obelisk  13 : Statue  14 : Cross  15 : Dome  16 : Radar Scanner  17 : Tower  18 : Windmill  20 : Spire/Minaret  21 : Large Rock or Boulder on Land  22 : Triangulation Mark  23 : Boundary Mark  24 : Observation Wheel  25 : Torii  26 : Bridge  27 : Dam | | EN | 1, \* |
| Category of Special Purpose Mark | | (CATSPM) | 16 : Leading Mark  17 : Measured Distance Mark  41 : Clearing Mark | | EN | 0, \* |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  4 : Wingless  5 : Planned Construction | | EN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Function | | (FUNCTN) | 2 : Harbour-Masters Office  3 : Customs Office  4 : Health Office  5 : Hospital  6 : Post Office  7 : Hotel  8 : Railway Station  9 : Police Station  10 : Water-Police Station  11 : Pilot Office  12 : Pilot Lookout  13 : Bank Office  14 : Headquarters for District Control  15 : Transit Shed/Warehouse  16 : Factory  17 : Power Station  18 : Administrative  19 : Educational Facility  20 : Church  21 : Chapel  22 : Temple  23 : Pagoda  24 : Shinto Shrine  25 : Buddhist Temple  26 : Mosque  27 : Marabout  28 : Lookout  29 : Communication  30 : Television  31 : Radio  32 : Radar  33 : Light Support  34 : Microwave  35 : Cooling  36 : Observation  37 : Timeball  38 : Clock  39 : Control  40 : Airship Mooring  41 : Stadium  42 : Bus Station  44 : Sea Rescue Control  45 : Observatory  46 : Ore Crusher  47 : Boathouse  48 : Pumping Station | | EN | 0, \* |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Multiplicity of Features | |  |  | | C | 0, 1 |
| Multiplicity Known | |  |  | | (S) BO | 1, 1 |
| Number of Features | |  |  | | (S) IN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  3 : Loose Boulders  6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic  11 : Latticed  12 : Glass | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  12 : Illuminated  13 : Historic  14 : Public | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| In the Water | |  |  | | BO | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.43 Silo/Tank**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A large storage structure used for storing loose materials, liquids and/or gases. | | | | | | |
| **S-10x Geo Feature: Silo/Tank (SILTNK)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Building Shape | | (BUISHP) | 5 : High-Rise Building  6 : Pyramid  7 : Cylindrical  8 : Spherical  9 : Cubic | | EN | 0, 1 |
| Category of Silo/Tank | | (CATSIL) | 1 : Silo in General  2 : Tank in General  3 : Grain Elevator  4 : Water Tower | | EN | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Multiplicity of Features | |  |  | | C | 0, 1 |
| Multiplicity Known | |  |  | | (S) BO | 1, 1 |
| Number of Features | |  |  | | (S) IN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic | | EN | 0, \* |
| Product | | (PRODCT) | 1 : Oil  2 : Gas  3 : Water  5 : Coal  7 : Chemicals  8 : Drinking Water  9 : Milk  13 : Salt  14 : Sand  16 : Sawdust/Wood Chips  18 : Liquefied Natural Gas  19 : Liquefied Petroleum Gas  20 : Wine  21 : Cement  22 : Grain  24 : Ice | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 4 : Not in Use  12 : Illuminated  13 : Historic | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| In the Water | |  |  | | BO | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.44 Wind Turbine**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A tower and associated equipment that generates electrical power from wind. They can be sited offshore and may be either fixed or floating. | | | | | | |
| **S-10x Geo Feature: Wind Turbine (LNDMRK (CATLMK = 19))** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  4 : Wingless  5 : Planned Construction | | EN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Multiplicity of Features | |  |  | | C | 0, 1 |
| Multiplicity Known | |  |  | | (S) BO | 1, 1 |
| Number of Features | |  |  | | (S) IN | 0, 1 |
| Nature of Construction | | (NATCON) | 2 : Concreted  6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic  11 : Latticed | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  12 : Illuminated  13 : Historic  14 : Public  28 : Buoyed | | EN | 0, \* |
| Vertical Clearance Fixed | | (VERCLR) |  | | C | 0, 1 |
| Vertical Clearance Value | | (VERCLR)  (VERCCL)  (VERCOP)  (VERCSA) |  | | (S) RE | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Water Level Effect | | (WATLEV) | 2 : Always Dry  7 : Floating | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| In the Water | |  |  | | BO | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.45 Fortified Structure**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A structure that is specifically designed or reinforced to provide for defence from armed attack. | | | | | | |
| **S-10x Geo Feature: Fortified Structure (FORSTC)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Fortified Structure | | (CATFOR) | 1 : Castle  2 : Fort  3 : Battery  4 : Blockhouse  5 : Fortified Tower  6 : Redoubt  8 : Fortified Submarine Shelter  9 : Rampart | | EN | 1, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  3 : Loose Boulders  6 : Wooden  7 : Metal | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 4 : Not in Use  7 : Temporary  8 : Private  12 : Illuminated  13 : Historic  14 : Public  28 : Buoyed | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| In the Water | |  |  | | BO | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.46 Production/Storage Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area on land for the exploitation or storage of natural resources. | | | | | | |
| **S-10x Geo Feature: Production/Storage Area (PRDARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Production Area | | (CATPRA) | 1 : Quarry  2 : Mine  3 : Stockpile  4 : Power Station Area  5 : Refinery Area  6 : Timber Yard  7 : Factory Area  8 : Tank Farm  9 : Wind Farm  10 : Slag Heap/Spoil Heap  11 : Production Plant  12 : Solar Farm | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Product | | (PRODCT) | 1 : Oil  2 : Gas  3 : Water  4 : Stone  5 : Coal  6 : Ore  7 : Chemicals  8 : Drinking Water  9 : Milk  10 : Bauxite  11 : Coke  12 : Iron Ingots  13 : Salt  14 : Sand  15 : Timber  16 : Sawdust/Wood Chips  17 : Scrap Metal  18 : Liquefied Natural Gas  19 : Liquefied Petroleum Gas  20 : Wine  21 : Cement  22 : Grain  23 : Electricity  25 : Clay | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 4 : Not in Use  12 : Illuminated | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.47 Checkpoint**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An official location at which to register, declare and/or inspect goods and/or people. | | | | | | |
| **S-10x Geo Feature: Checkpoint (CHKPNT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Checkpoint | | (CATCHP) | 1 : Custom  2 : Border | | EN | 1, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  5 : Periodic/Intermittent  7 : Temporary  9 : Mandatory  12 : Illuminated | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Nationality | | (NATION) |  | | TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.48 Hulk**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The hull of a wrecked or condemned ship, from which the fittings and superstructure have usually been removed, which is moored in a permanent position or grounded. It may be abandoned or put to some other use. | | | | | | |
| **S-10x Geo Feature: Hulk (HULKES)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Hulk | | (CATHLK) | 1 : Floating Restaurant  2 : Historic Ship  3 : Floating Museum  4 : Floating Accommodation  5 : Floating Breakwater  6 : Casino  7 : Training Vessel | | EN | 1, \* |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Horizontal Length | | (HORLEN) |  | | RE | 0, 1 |
| Horizontal Width | | (HORWID) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.49 Pile**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A long heavy timber or section of steel, wood, concrete, etc., forced into the earth or seafloor to serve as a support, as for a pier, or to resist lateral pressure; or as a free standing pole within a marine environment. | | | | | | |
| **S-10x Geo Feature: Pile (PILPNT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Pile | | (CATPLE) | 1 : Stake  3 : Post  4 : Tripodal  5 : Piling  6 : Area of Piles  7 : Pipe  8 : Mooring Post | | EN | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  6 : Reserved  7 : Temporary  8 : Private  12 : Illuminated  14 : Public | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.50 Dyke**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A dyke (or dike) is an artificial embankment to contain or hold back water. | | | | | | |
| **S-10x Geo Feature: Dyke (DYKCON, Dike)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  3 : Loose Boulders  4 : Hard Surfaced  5 : Unsurfaced  6 : Wooden  7 : Metal | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.51 Shoreline Construction**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A fixed artificial structure in the water and/or adjoining the land. It may also refer to features such as training walls, which are not necessarily connected to, nor form part of the shoreline. | | | | | | |
| **S-10x Geo Feature: Shoreline Construction (SLCONS)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Shoreline Construction | | (CATSLC) | 1 : Breakwater  2 : Groyne  3 : Mole  4 : Pier (Jetty)  5 : Promenade Pier  6 : Wharf  7 : Training Wall  8 : Rip Rap  9 : Revetment  10 : Sea Wall  11 : Landing Steps  12 : Ramp  13 : Slipway  14 : Fender  15 : Solid Face Wharf  16 : Open Face Wharf  17 : Log Ramp  18 : Lock/Guide Wall  19 : Ice Breaker  20 : Swimming Facility  21 : Water Intake Structure  22 : Quay  23 : Tie-Up Wall | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Horizontal Clearance Fixed | |  |  | | C | 0, 1 |
| Horizontal Clearance Value | | (HORCLR) |  | | (S) RE | 1, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | (S) RE | 0, 1 |
| Horizontal Length | | (HORLEN) |  | | RE | 0, 1 |
| Horizontal Width | | (HORWID) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  3 : Loose Boulders  4 : Hard Surfaced  5 : Unsurfaced  6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic  9 : Painted  11 : Latticed | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  3 : Recommended  4 : Not in Use  6 : Reserved  7 : Temporary  8 : Private  12 : Illuminated  13 : Historic  14 : Public  28 : Buoyed | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Water Level Effect | | (WATLEV) | 1 : Partly Submerged at High Water  2 : Always Dry  3 : Always Under Water/Submerged  4 : Covers and Uncovers  5 : Awash  6 : Subject to Inundation or Flooding  7 : Floating  8 : Above Mean Water Level  9 : Below Mean Water Level | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.52 Structure Over Navigable Water**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A roofed structure erected, or partly erected, over a body of water, to provide protection for a vessel or its cargo. | | | | | | |
| **S-10x Geo Feature: Structure Over Navigable Water** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Structure | |  | 1 : Boathouse  2 : Covered Bulk Terminal  3 : Covered Wharf  4 : Covered Service Terminal  5 : Covered Passenger Terminal | | EN | 0, \* |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Horizontal Clearance Fixed | |  |  | | C | 1, 1 |
| Horizontal Clearance Value | | (HORCLR) |  | | (S) RE | 1, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | (S) RE | 0, 1 |
| Horizontal Length | | (HORLEN) |  | | RE | 0, 1 |
| Horizontal Width | | (HORWID) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic  11 : Latticed  12 : Glass | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Product | | (PRODCT) | 7 : Chemicals  12 : Iron Ingots  13 : Salt  21 : Cement  22 : Grain  25 : Clay | | EN | 0, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  12 : Illuminated  14 : Public | | EN | 0, \* |
| Vertical Clearance Fixed | | (VERCLR) |  | | C | 1, 1 |
| Vertical Clearance Value | | (VERCLR)  (VERCCL)  (VERCOP)  (VERCSA) |  | | (S) RE | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.53 Causeway**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A raised way across low or wet ground or water. | | | | | | |
| **S-10x Geo Feature: Causeway (CAUSWY)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  3 : Loose Boulders  4 : Hard Surfaced  5 : Unsurfaced  6 : Wooden  7 : Metal | | EN | 0, \* |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  7 : Temporary  8 : Private  12 : Illuminated  14 : Public | | EN | 0, \* |
| Water Level Effect | | (WATLEV) | 1 : Partly Submerged at High Water  2 : Always Dry  3 : Always Under Water/Submerged  4 : Covers and Uncovers  5 : Awash  6 : Subject to Inundation or Flooding | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.54 Canal**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An artificial waterway with no flow, or a controlled flow, used for navigation, or for draining or irrigating land (ditch). | | | | | | |
| **S-10x Geo Feature: Canal (CANALS)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Canal | | (CATCAN) | 1 : Transportation  2 : Drainage  3 : Irrigation | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Horizontal Clearance Fixed | |  |  | | C | 0, 1 |
| Horizontal Clearance Value | | (HORCLR) |  | | (S) RE | 1, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | (S) RE | 0, 1 |
| Horizontal Width | | (HORWID) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  8 : Private  14 : Public | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.55 Distance Mark**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A distance mark indicates the distance measured from an origin and consists of either a solid visible structure or a distinct location without special installation. Usually found on canals. | | | | | | |
| **S-10x Geo Feature: Distance Mark (DISMAR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Distance Mark Visible | | (CATDIS) |  | | BO | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Measured Distance Value | |  |  | | C | 1, 1 |
| Distance Unit of Measurement | |  | 1 : Metres  2 : Yards  3 : Kilometres  4 : Statute Miles  5 : Nautical Miles  6 : Feet  7 : Hectometres | | (S) EN | 1, 1 |
| Reference Location | |  |  | | (S) TE | 0, 1 |
| Waterway Distance | | (wtwdis) |  | | (S) RE | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Category of Distance Mark | | (CATDIS) | 1 : Distance Mark Not Physically Installed  2 : Visible Mark, Pole  3 : Visible Mark, Board  4 : Visible Mark, Unknown Shape | | EN | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.56 Gate**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A structure that may be swung, drawn, or lowered to block an entrance or passageway on a watercourse. | | | | | | |
| **S-10x Geo Feature: Gate (GATCON)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Gate | | (CATGAT) | 2 : Flood Barrage Gate  3 : Caisson  4 : Lock Gate  5 : Dyke Gate  6 : Sluice | | EN | 1, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Horizontal Clearance Open | |  |  | | C | 1, 1 |
| Horizontal Clearance Value | | (HORCLR) |  | | (S) RE | 1, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | (S) RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  6 : Wooden  7 : Metal | | EN | 0, \* |
| Quality of Vertical Measurement | | (QUASOU) | 2 : Depth or Least Depth Unknown  3 : Doubtful Sounding  4 : Unreliable Sounding  6 : Least Depth Known  7 : Least Depth Unknown, Safe Clearance at Value Shown | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  6 : Reserved  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Vertical Clearance Open | | (VERCOP) |  | | C | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Clearance Value | | (VERCLR)  (VERCCL)  (VERCOP)  (VERCSA) |  | | (S) RE | 1, 1 |
| Vertical Clearance Unlimited | |  |  | | (S) BO | 1, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Waterway Distance | | (wtwdis) |  | | RE | 0, 1 |
| Distance Unit of Measurement | |  | 1 : Metres  2 : Yards  3 : Kilometres  4 : Statute Miles  5 : Nautical Miles  6 : Feet  7 : Hectometres | | EN | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.57 Dam**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A barrier to check or confine anything in motion; particularly one constructed to hold back water and raise its level to form a reservoir, or to prevent flooding. | | | | | | |
| **S-10x Geo Feature: Dam (DAMCON)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Dam | | (CATDAM) | 1 : Weir  2 : Dam  3 : Flood Barrage | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  3 : Loose Boulders  6 : Wooden  7 : Metal | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  6 : Reserved  7 : Temporary  8 : Private  14 : Public  28 : Buoyed | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Water Level Effect | | (WATLEV) | 1 : Partly Submerged at High Water  2 : Always Dry  3 : Always Under Water/Submerged  6 : Subject to Inundation or Flooding | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.58 Crane**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A machine for lifting, shifting and lowering objects or materials by means of a swinging boom or with a lifting apparatus supported on an overhead track. | | | | | | |
| **S-10x Geo Feature: Crane (CRANES)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Crane | | (CATCRN) | 2 : Container Crane/Gantry  3 : Sheerlegs  4 : Travelling Crane  5 : A-Frame  6 : Goliath Crane | | EN | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Lifting Capacity | | (LIFCAP) |  | | RE | 0, 1 |
| Orientation | |  |  | | C | 0, 1 |
| Orientation Uncertainty | |  |  | | (S) RE | 0, 1 |
| Orientation Value | | (ORIENT) |  | | (S) RE | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Radius | | (RADIUS) |  | | RE | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  6 : Reserved  12 : Illuminated | | EN | 0, \* |
| Vertical Clearance Fixed | | (VERCLR) |  | | C | 0, 1 |
| Vertical Clearance Value | | (VERCLR)  (VERCCL)  (VERCOP)  (VERCSA) |  | | (S) RE | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| In the Water | |  |  | | BO | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Name of Vertical River Datum Reference Level | | (vcrlev) |  | | TE | 0, 1 |
| Vertical River Datum Reference Level Value | | (vcrval) |  | | RE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.59 Berth**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A place, generally named or numbered, where a vessel may moor or anchor. | | | | | | |
| **S-10x Geo Feature: Berth (BERTHS)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Cargo | | (CATCGO) | 1 : Bulk  2 : Container  3 : General  4 : Liquid  5 : Passenger  6 : Livestock  7 : Dangerous or Hazardous  8 : Heavy Lift  9 : Ballast  10 : Dry Bulk Cargo  11 : Liquid Bulk Cargo  12 : Reefer Container Cargo  13 : Ro-Ro Cargo  14 : Project Cargo  15 : Break Bulk Cargo | | EN | 0, \* |
| Feature Name | |  |  | | C | 1, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Horizontal Clearance Length | |  |  | | RE | 0, 1 |
| Horizontal Clearance Width | | (horclw) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Minimum Berth Depth | |  |  | | RE | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  5 : Periodic/Intermittent  7 : Temporary  9 : Mandatory  12 : Illuminated | | EN | 0, \* |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Transshipping Goods | | (trshgd) | 1 : Containers  2 : Bulk Goods  3 : Oil  4 : Fuel  5 : Chemicals  6 : Liquid Goods  7 : Explosive Goods  8 : Fish  9 : Cars  10 : General Cargo | | EN | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  23 : Lowest Astronomical Tide  24 : Local Datum  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Category of Berth | | (catbrt) | 1 : Loading  2 : Unloading  3 : Overnight Accommodation  4 : Berth for Pushing-Navigation Vessels  5 : Berth for Other Vessels Than Pushing-Navigation Vessels  6 : Fleeting Area  7 : First Class Landing  8 : Second Class Landing  9 : Berth for Passenger Vessels  10 : Waiting Berth | | EN | 0, \* |
| Class of Dangerous Cargo | | (clsdng) | 1 : One Blue Light / Cone  2 : Two Blue Lights / Cones  3 : Three Blue Lights / Cones  4 : No Blue Light / Cone  5 : One Red Light / Red Cone Top Down | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.60 Dolphin**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A post or group of posts, used for mooring or warping a vessel, or as an aid to navigation. The dolphin may be in the water, on a wharf or on the beach. | | | | | | |
| **S-10x Geo Feature: Dolphin** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Dolphin | |  | 1 : Mooring Dolphin  2 : Deviation Dolphin  3 : Berthing Dolphin  4 : Fender or Breasting Dolphin | | EN | 1, \* |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  6 : Wooden  7 : Metal | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  3 : Recommended  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  12 : Illuminated  14 : Public  18 : Existence Doubtful | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.61 Bollard**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Small shaped post, mounted on a wharf or dolphin used to secure ship's lines. | | | | | | |
| **S-10x Geo Feature: Bollard** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  4 : Not in Use  6 : Reserved  7 : Temporary  8 : Private  12 : Illuminated  14 : Public | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.62 Dry Dock**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An artificial basin fitted with a gate or caisson, into which vessels can be floated and the water pumped out to expose the vessel's bottom. Also called graving dock. | | | | | | |
| **S-10x Geo Feature: Dry Dock (DRYDOC, Graving Dock)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Horizontal Clearance Length | |  |  | | RE | 0, 1 |
| Horizontal Clearance Width | | (horclw) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Horizontal Length | | (HORLEN) |  | | RE | 0, 1 |
| Horizontal Width | | (HORWID) |  | | RE | 0, 1 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 2 : Depth or Least Depth Unknown  3 : Doubtful Sounding  4 : Unreliable Sounding  6 : Least Depth Known  7 : Least Depth Unknown, Safe Clearance at Value Shown  8 : Value Reported (Not Surveyed)  9 : Value Reported (Not Confirmed) | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  6 : Reserved  8 : Private  12 : Illuminated  14 : Public | | EN | 0, \* |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.63 Floating Dock**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A form of dry dock consisting of a floating structure of one or more sections which can be partly submerged by controlled flooding to receive a vessel, then raised by pumping out the water so that the vessel's bottom can be exposed. | | | | | | |
| **S-10x Geo Feature: Floating Dock (FLODOC)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Horizontal Clearance Length | |  |  | | RE | 0, 1 |
| Horizontal Clearance Width | | (horclw) |  | | RE | 0, 1 |
| Horizontal Length | | (HORLEN) |  | | RE | 0, 1 |
| Horizontal Width | | (HORWID) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Lifting Capacity | | (LIFCAP) |  | | RE | 0, 1 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  12 : Illuminated | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  23 : Lowest Astronomical Tide  24 : Local Datum  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Name of Sounding Datum Reference Level | | (sdrlev) |  | | TE | 0, 1 |
| Sounding Datum Reference Level Value | | (sdrval) |  | | RE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Name of Vertical River Datum Reference Level | | (vcrlev) |  | | TE | 0, 1 |
| Vertical River Datum Reference Level Value | | (vcrval) |  | | RE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.64 Pontoon**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A floating structure, usually rectangular in shape which serves as landing, pier head, bridge support, etc. | | | | | | |
| **S-10x Geo Feature: Pontoon (PONTON)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  12 : Illuminated  14 : Public | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.65 Dock Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An artificially enclosed area within which ships may moor and which may have gates to regulate water level. | | | | | | |
| **S-10x Geo Feature: Dock Area (DOCARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Dock | | (CATDOC) | 1 : Tidal  2 : Wet Dock | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Horizontal Clearance Fixed | |  |  | | C | 0, 1 |
| Horizontal Clearance Value | | (HORCLR) |  | | (S) RE | 1, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | (S) RE | 0, 1 |
| Horizontal Clearance Length | |  |  | | RE | 0, 1 |
| Horizontal Clearance Width | | (horclw) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  6 : Reserved  8 : Private  14 : Public | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.66 Gridiron**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A structure in the intertidal zone serving as a support for vessels at low stages of the tide to permit work on the exposed portion of the vessel's hull. | | | | | | |
| **S-10x Geo Feature: Gridiron (GRIDRN, Careening Grid)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface, point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Horizontal Length | | (HORLEN) |  | | RE | 0, 1 |
| Horizontal Width | | (HORWID) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  6 : Wooden  7 : Metal  11 : Latticed | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  6 : Reserved  8 : Private  14 : Public  28 : Buoyed | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Water Level Effect | | (WATLEV) | 1 : Partly Submerged at High Water  3 : Always Under Water/Submerged  4 : Covers and Uncovers  5 : Awash | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.67 Lock Basin**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A wet dock in a waterway, permitting a ship to pass from one level to another. | | | | | | |
| **S-10x Geo Feature: Lock Basin (LOKBSN)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Horizontal Clearance Fixed | |  |  | | C | 0, 1 |
| Horizontal Clearance Value | | (HORCLR) |  | | (S) RE | 1, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | (S) RE | 0, 1 |
| Horizontal Length | | (HORLEN) |  | | RE | 0, 1 |
| Horizontal Width | | (HORWID) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  6 : Reserved  8 : Private  13 : Historic  14 : Public  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Horizontal Clearance Width | | (horclw) |  | | RE | 1, 1 |
| Horizontal Clearance Length | |  |  | | RE | 1, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.68 Mooring Trot**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A mooring is a place where a vessel may be secured. A mooring trot is a mooring that is composed of ground tackle, mooring cables, buoys and mooring berths on junction cables. | | | | | | |
| **S-10x Geo Feature: Mooring Trot (C\_AGGR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface, noGeometry** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.69 Sea Area/Named Water Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A geographically defined part of the sea or other navigable waters. It may be specified within its limits by its proper name. | | | | | | |
| **S-10x Geo Feature: Sea Area/Named Water Area (SEAARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Sea Area | | (CATSEA) | 2 : Gat  3 : Bank  4 : Deep  5 : Bay  6 : Trench  7 : Basin  8 : Mud Flats  9 : Reef  10 : Ledge  11 : Canyon  12 : Narrows  13 : Shoal  14 : Knoll  15 : Ridge  16 : Seamount  17 : Pinnacle  18 : Abyssal Plain  19 : Plateau  20 : Spur  21 : Shelf  22 : Trough  23 : Saddle  24 : Abyssal Hill  25 : Apron  26 : Archipelagic Apron  27 : Borderland  28 : Continental Margin  29 : Continental Rise  30 : Escarpment  31 : Fan  32 : Fracture Zone  33 : Gap  34 : Guyot  35 : Hill  36 : Hole  37 : Levee  38 : Median Valley  39 : Moat  40 : Mountains  41 : Peak  42 : Province  43 : Rise  44 : Sea Channel  45 : Seamount Chain  46 : Shelf-Edge  47 : Sill  48 : Slope  49 : Terrace  50 : Valley  51 : Canal  52 : Lake  53 : River  54 : Reach  55 : Intertidal Cay  56 : Submarine Volcano  57 : Chute  58 : Backwater/Slough  59 : Bend | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.70 Tidal Stream - Flood/Ebb**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Approximate tidal stream rates given as discrete rate values for flood and ebb flow during springs. | | | | | | |
| **S-10x Geo Feature: Tidal Stream - Flood/Ebb (TS\_FEB)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Tidal Stream | | (CAT\_TS) | 1 : Flood Stream  2 : Ebb Stream  3 : Other Tidal Flow | | EN | 1, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Orientation | |  |  | | C | 0, 1 |
| Orientation Uncertainty | |  |  | | (S) RE | 0, 1 |
| Orientation Value | | (ORIENT) |  | | (S) RE | 1, 1 |
| Speed | |  |  | | C | 0, 1 |
| Speed Maximum | | (CURVEL) |  | | (S) RE | 1, 1 |
| Speed Minimum | |  |  | | (S) RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.71 Current - Non-Gravitational**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Any current that is caused by other than tide producing forces. | | | | | | |
| **S-10x Geo Feature: Current - Non-Gravitational (CURENT, Non-Tidal Current)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Orientation | |  |  | | C | 0, 1 |
| Orientation Uncertainty | |  |  | | (S) RE | 0, 1 |
| Orientation Value | | (ORIENT) |  | | (S) RE | 1, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Speed | |  |  | | C | 0, 1 |
| Speed Maximum | | (CURVEL) |  | | (S) RE | 1, 1 |
| Speed Minimum | |  |  | | (S) RE | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Direction of Impact | | (dirimp) | 1 : Upstream  2 : Downstream  3 : To the Left Bank  4 : To the Right Bank  5 : To Harbour | | EN | 0, \* |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Current Velocity at High Water Level | | (curvhw) |  | | RE | 0, 1 |
| Current Velocity at Low Water Level | | (curvlw) |  | | RE | 0, 1 |
| Current Velocity at Mean Water Level | | (curvmw) |  | | RE | 0, 1 |
| Current Velocity at Other Water Level | | (curvow) |  | | RE | 0, 1 |
| Name of Relevant High Water Level | | (hignam) |  | | TE | 0, 1 |
| Name of Relevant Low Water Level | | (lownam) |  | | TE | 0, 1 |
| Name of Relevant Mean Water Level | | (meanam) |  | | TE | 0, 1 |
| Name of Other Locally Relevant Water Level | | (othnam) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.72 Water Turbulence**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The disturbance of water caused by the interaction of any combination of waves, currents, tidal streams, wind, shoal patches and obstructions. | | | | | | |
| **S-10x Geo Feature: Water Turbulence (WATTUR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Water Turbulence | | (CATWAT) | 1 : Breakers  2 : Eddies  3 : Overfalls  4 : Tide Rips  5 : Bombora  6 : Under Water Turbulence | | EN | 1, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.73 Tidal Stream Panel Data**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Approximate tidal stream characteristics given as discrete value sets at a specified interval before and/or after a high or low water. | | | | | | |
| **S-10x Geo Feature: Tidal Stream Panel Data (TS\_PAD)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Station Name | |  |  | | TE | 1, 1 |
| Station Number | |  |  | | TE | 0, 1 |
| Tidal Stream Panel Values | |  |  | | C | 1, \* (ordered) |
| Reference Tide | |  | 1 : High Water  2 : Low Water | | (S) EN | 1, 1 |
| Reference Tide Type | |  | 1 : Springs  2 : Neaps  3 : Mean | | (S) EN | 1, 1 |
| Stream Depth | |  |  | | (S) RE | 0, 1 |
| Tidal Stream Value | |  |  | | (S) C | 1, 99 (ordered) |
| Orientation | |  |  | | (S) C | 1, 1 |
| Orientation Uncertainty | |  |  | | (S) RE | 0, 1 |
| Orientation Value | | (ORIENT) |  | | (S) RE | 1, 1 |
| Time Relative to Tide | |  |  | | (S) RE | 1, 1 |
| Speed Maximum | | (CURVEL) |  | | (S) RE | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.74 Sounding**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Measured or charted depth of water (may be a drying height), or the measurement of such a depth, which has been reduced to a vertical datum. | | | | | | |
| **S-10x Geo Feature: Sounding (SOUNDG)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: pointSet** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  3 : Doubtful Sounding  4 : Unreliable Sounding  8 : Value Reported (Not Surveyed)  9 : Value Reported (Not Confirmed) | | EN | 0, \* |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 18 : Existence Doubtful | | EN | 0, 1 |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  2 : Found by Side Scan Sonar  3 : Found by Multi Beam  4 : Found by Diver  5 : Found by Lead Line  6 : Swept by Wire-Drag  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  10 : Photogrammetry  11 : Satellite Imagery  12 : Found by Levelling  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Sounding Accuracy | | (SOUACC) |  | | RE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.75 Dredged Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area of the bottom of a body of water which has been deepened by dredging. | | | | | | |
| **S-10x Geo Feature: Dredged Area (DRGARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 0, 1 |
| Depth Range Maximum Value | | (DRVAL2) |  | | RE | 0, 1 |
| Dredged Date | |  |  | | TD | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 10 : Maintained Depth  11 : Not Regularly Maintained | | EN | 0, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  8 : Entry Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  23 : Cargo Transhipment (Lightening) Prohibited  25 : Stopping Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  37 : Restricted Fairway Width  38 : Use of Spuds Prohibited  39 : Swimming Prohibited  40 : SOx Emission Restricted  41 : NOx Emission Restricted  43 : Passing or Overtaking of Convoys by Convoys Prohibited | | EN | 0, \* |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  2 : Found by Side Scan Sonar  3 : Found by Multi Beam  6 : Swept by Wire-Drag  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, \* |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.76 Swept Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area that has been determined to be clear of navigational dangers to a specified depth. | | | | | | |
| **S-10x Geo Feature: Swept Area (SWPARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 1, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Swept Date | |  |  | | TD | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.77 Depth Contour**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A line connecting points of equal water depth which is sometimes significantly displaced outside of soundings, symbols, and other chart detail for clarity as well as generalization. Depth contours therefore often represent an approximate location of the line of equal depth as related to the surveyed line delineated on the source. | | | | | | |
| **S-10x Geo Feature: Depth Contour (DEPCNT, Depth Curve)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Value of Depth Contour | | (VALDCO) |  | | RE | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.78 Depth Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A water area whose depth is within a defined range of values. | | | | | | |
| **S-10x Geo Feature: Depth Area (DEPARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 1, 1 |
| Depth Range Maximum Value | | (DRVAL2) |  | | RE | 1, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Waterway Distance | | (wtwdis) |  | | RE | 0, 1 |
| Distance Unit of Measurement | |  | 1 : Metres  2 : Yards  3 : Kilometres  4 : Statute Miles  5 : Nautical Miles  6 : Feet  7 : Hectometres | | EN | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown  8 : Value Reported (Not Surveyed)  10 : Maintained Depth  11 : Not Regularly Maintained | | EN | 0, 1 |
| Elevation 1 of Surface (m) | | (eleva1) |  | | RE | 0, 1 |
| Elevation 2 of Surface (m) | | (eleva2) |  | | RE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.79 Depth - No Bottom Found**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Upon investigation the bottom was not found at this depth. | | | | | | |
| **S-10x Geo Feature: Depth - No Bottom Found (SOUNDG (QUASOU = 5))** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: pointSet** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  2 : Found by Side Scan Sonar  3 : Found by Multi Beam  5 : Found by Lead Line  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.80 Unsurveyed Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area where hydrographic survey data is non-existent. | | | | | | |
| **S-10x Geo Feature: Unsurveyed Area (UNSARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 2 : Depth or Least Depth Unknown  8 : Value Reported (Not Surveyed) | | EN | 0, \* |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.81 Seabed Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A region of the seabed including the material of which it is composed and its physical characteristics. Also called nature of bottom, character (or characteristics) of the bottom, or quality of the bottom. | | | | | | |
| **S-10x Geo Feature: Seabed Area (SBDARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Surface Characteristics | |  |  | | C | 0, \* (ordered) |
| Nature of Surface | | (NATSUR) | 1 : Mud  2 : Clay  3 : Silt  4 : Sand  5 : Stone  6 : Gravel  7 : Pebbles  8 : Cobbles  9 : Rock  11 : Lava  14 : Coral  17 : Shells  18 : Boulder | | (S) EN | 0, 1 |
| Nature of Surface - Qualifying Terms | | (NATQUA) | 1 : Fine  2 : Medium  3 : Coarse  4 : Broken  5 : Sticky  6 : Soft  7 : Stiff  8 : Volcanic  9 : Calcareous  10 : Hard | | (S) EN | 0, 3 |
| Underlying Layer | |  |  | | (S) IN | 0, 1 |
| Water Level Effect | | (WATLEV) | 3 : Always Under Water/Submerged  4 : Covers and Uncovers  5 : Awash | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.82 Weed/Kelp**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Any macroscopic marine alga. | | | | | | |
| **S-10x Geo Feature: Weed/Kelp (WEDKLP)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Weed/Kelp | | (CATWED) | 1 : Kelp  2 : Seaweed  4 : Sargasso | | EN | 1, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.83 Seagrass**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Any of various submerged monocotyledonous plants (such as eelgrass, tape grass, and turtle grass) of tropical to temperate usually shallow coastal waters that have narrow grass-like leaves and often form dense underwater meadows. | | | | | | |
| **S-10x Geo Feature: Seagrass (WEDKLP (CATWED = 3))** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.84 Sandwave**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A large mobile wave-like sediment feature in shallow water and composed of sand. The wavelength may reach 100 metres, the amplitude may be up to 20 metres. | | | | | | |
| **S-10x Geo Feature: Sandwave (SNDWAV, Sand Wave, Sand-Wave, Mega-Ripple)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.85 Spring**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A natural issue of water or other substances from the earth. One on the bottom of the sea is called a submarine spring. | | | | | | |
| **S-10x Geo Feature: Spring (SPRING)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.86 Underwater/Awash Rock**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A concreted mass of stony material or coral which dries, is awash or is below the water surface. | | | | | | |
| **S-10x Geo Feature: Underwater/Awash Rock (UWTROC)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Exposition of Sounding | | (EXPSOU) | 1 : Within the Range of Depth of the Surrounding Depth Area  2 : Shoaler Than the Range of Depth of the Surrounding Depth Area  3 : Deeper Than the Range of Depth of the Surrounding Depth Area | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Surface | | (NATSUR) | 5 : Stone  9 : Rock  11 : Lava  14 : Coral  18 : Boulder | | EN | 0, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown  3 : Doubtful Sounding  4 : Unreliable Sounding  6 : Least Depth Known  7 : Least Depth Unknown, Safe Clearance at Value Shown  8 : Value Reported (Not Surveyed)  9 : Value Reported (Not Confirmed)  10 : Maintained Depth  11 : Not Regularly Maintained | | EN | 0, \* |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 18 : Existence Doubtful | | EN | 0, 1 |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  2 : Found by Side Scan Sonar  3 : Found by Multi Beam  4 : Found by Diver  5 : Found by Lead Line  6 : Swept by Wire-Drag  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  10 : Photogrammetry  11 : Satellite Imagery  12 : Found by Levelling  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, \* |
| Value of Sounding | | (VALSOU) |  | | RE | 1, 1 |
| Water Level Effect | | (WATLEV) | 1 : Partly Submerged at High Water  2 : Always Dry  3 : Always Under Water/Submerged  4 : Covers and Uncovers  5 : Awash  8 : Above Mean Water Level  9 : Below Mean Water Level | | EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Default Clearance Depth | |  |  | | RE | 0, 1 |
| Surrounding Depth | |  |  | | RE | 1, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.87 Wreck**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The ruined remains of a stranded or sunken vessel which has been rendered useless. | | | | | | |
| **S-10x Geo Feature: Wreck (WRECKS)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Wreck | | (CATWRK) | 1 : Non-Dangerous Wreck  2 : Dangerous Wreck  3 : Distributed Remains of Wreck  4 : Wreck Showing Mast/Masts  5 : Wreck Showing Any Portion of Hull or Superstructure | | EN | 1, 1 |
| Exposition of Sounding | | (EXPSOU) | 1 : Within the Range of Depth of the Surrounding Depth Area  2 : Shoaler Than the Range of Depth of the Surrounding Depth Area  3 : Deeper Than the Range of Depth of the Surrounding Depth Area | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown  3 : Doubtful Sounding  4 : Unreliable Sounding  6 : Least Depth Known  7 : Least Depth Unknown, Safe Clearance at Value Shown  8 : Value Reported (Not Surveyed)  9 : Value Reported (Not Confirmed)  10 : Maintained Depth  11 : Not Regularly Maintained | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 7 : Temporary  12 : Illuminated  13 : Historic  16 : Watched  17 : Unwatched  18 : Existence Doubtful | | EN | 0, \* |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  2 : Found by Side Scan Sonar  3 : Found by Multi Beam  4 : Found by Diver  5 : Found by Lead Line  6 : Swept by Wire-Drag  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  10 : Photogrammetry  11 : Satellite Imagery  12 : Found by Levelling  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, \* |
| Value of Sounding | | (VALSOU) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Water Level Effect | | (WATLEV) | 1 : Partly Submerged at High Water  2 : Always Dry  3 : Always Under Water/Submerged  4 : Covers and Uncovers  5 : Awash | | EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Default Clearance Depth | |  |  | | RE | 0, 1 |
| Surrounding Depth | |  |  | | RE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.88 Obstruction**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: In marine navigation, anything that hinders or prevents movement, particularly anything that endangers or prevents passage of a vessel. The term is usually used to refer to an isolated danger to navigation, such as a sunken rock or pinnacle. | | | | | | |
| **S-10x Geo Feature: Obstruction (OBSTRN)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Obstruction | | (CATOBS) | 1 : Snag/Stump  2 : Wellhead  3 : Diffuser  4 : Crib  5 : Fish Haven  6 : Foul Area  8 : Ice Boom  9 : Ground Tackle  10 : Boom  12 : Wave Energy Device  13 : Subsurface Ocean Data Acquisition System  14 : Artificial Reef  15 : Template  16 : Manifold  17 : Submerged Pingo  18 : Remains of Platform  19 : Scientific Instrument  20 : Underwater Turbine  21 : Active Submarine Volcano  22 : Shark Net  23 : Mangrove | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Exposition of Sounding | | (EXPSOU) | 1 : Within the Range of Depth of the Surrounding Depth Area  2 : Shoaler Than the Range of Depth of the Surrounding Depth Area  3 : Deeper Than the Range of Depth of the Surrounding Depth Area | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Nature of Surface | | (NATSUR) | 1 : Mud  2 : Clay  3 : Silt  4 : Sand  5 : Stone  6 : Gravel  7 : Pebbles  8 : Cobbles  9 : Rock  11 : Lava  14 : Coral  17 : Shells  18 : Boulder | | EN | 0, \* |
| Product | | (PRODCT) | 1 : Oil  2 : Gas  3 : Water  8 : Drinking Water  23 : Electricity | | EN | 0, \* |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown  3 : Doubtful Sounding  4 : Unreliable Sounding  6 : Least Depth Known  7 : Least Depth Unknown, Safe Clearance at Value Shown  8 : Value Reported (Not Surveyed)  9 : Value Reported (Not Confirmed) | | EN | 0, \* |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  13 : Historic  18 : Existence Doubtful  28 : Buoyed | | EN | 0, \* |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  2 : Found by Side Scan Sonar  3 : Found by Multi Beam  4 : Found by Diver  5 : Found by Lead Line  6 : Swept by Wire-Drag  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  10 : Photogrammetry  11 : Satellite Imagery  12 : Found by Levelling  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, \* |
| Value of Sounding | | (VALSOU) |  | | RE | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Water Level Effect | | (WATLEV) | 1 : Partly Submerged at High Water  2 : Always Dry  3 : Always Under Water/Submerged  4 : Covers and Uncovers  5 : Awash  7 : Floating | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Default Clearance Depth | |  |  | | RE | 0, 1 |
| Surrounding Depth | |  |  | | RE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  3 : Loose Boulders  4 : Hard Surfaced  6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic | | EN | 0, \* |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.89 Foul Ground**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Areas over which it is safe to navigate but which should be avoided for anchoring, taking the ground or ground fishing. | | | | | | |
| **S-10x Geo Feature: Foul Ground (OBSTRN (CATOBS = 7))** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown  3 : Doubtful Sounding  4 : Unreliable Sounding  6 : Least Depth Known  7 : Least Depth Unknown, Safe Clearance at Value Shown  8 : Value Reported (Not Surveyed)  9 : Value Reported (Not Confirmed) | | EN | 0, \* |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 13 : Historic  18 : Existence Doubtful  28 : Buoyed | | EN | 0, \* |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  2 : Found by Side Scan Sonar  3 : Found by Multi Beam  4 : Found by Diver  5 : Found by Lead Line  6 : Swept by Wire-Drag  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  10 : Photogrammetry  11 : Satellite Imagery  12 : Found by Levelling  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, \* |
| Value of Sounding | | (VALSOU) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Water Level Effect | | (WATLEV) | 3 : Always Under Water/Submerged  4 : Covers and Uncovers  5 : Awash | | EN | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.90 Discoloured Water**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Unnatural coloured areas in the sea which may or may not indicate the existence of shoals. | | | | | | |
| **S-10x Geo Feature: Discoloured Water (CTNARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.91 Fishing Facility**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A structure for fishing purposes which can be an obstruction to ships in general. The position of these structures may vary frequently over time. | | | | | | |
| **S-10x Geo Feature: Fishing Facility (FSHFAC)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Fishing Facility | | (CATFIF) | 1 : Fishing Stake  2 : Fish Trap  3 : Fish Weir  4 : Tunny Net | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  12 : Illuminated  18 : Existence Doubtful  28 : Buoyed | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.92 Marine Farm/Culture**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An assemblage of cages, nets, rafts and floats or posts where fish, including shellfish, are artificially cultivated. | | | | | | |
| **S-10x Geo Feature: Marine Farm/Culture (Fish Farm, MARCUL)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Marine Farm/Culture | | (CATMFA) | 1 : Crustaceans  2 : Edible Bivalve Molluscs  3 : Fish  4 : Seaweed  5 : Pearl Culture Farm | | EN | 1, 1 |
| Exposition of Sounding | | (EXPSOU) | 1 : Within the Range of Depth of the Surrounding Depth Area  2 : Shoaler Than the Range of Depth of the Surrounding Depth Area  3 : Deeper Than the Range of Depth of the Surrounding Depth Area | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown  3 : Doubtful Sounding  4 : Unreliable Sounding  6 : Least Depth Known  7 : Least Depth Unknown, Safe Clearance at Value Shown  8 : Value Reported (Not Surveyed)  9 : Value Reported (Not Confirmed) | | EN | 0, \* |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  7 : Entry Prohibited  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  14 : Area To Be Avoided  15 : Construction Prohibited  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  26 : Landing Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  37 : Restricted Fairway Width  38 : Use of Spuds Prohibited  39 : Swimming Prohibited  40 : SOx Emission Restricted  41 : NOx Emission Restricted  43 : Passing or Overtaking of Convoys by Convoys Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  14 : Public  16 : Watched  17 : Unwatched  28 : Buoyed | | EN | 0, \* |
| Value of Sounding | | (VALSOU) |  | | RE | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Water Level Effect | | (WATLEV) | 1 : Partly Submerged at High Water  2 : Always Dry  3 : Always Under Water/Submerged  4 : Covers and Uncovers  5 : Awash  7 : Floating | | EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.93 Offshore Platform**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A permanent offshore structure, either fixed or floating. | | | | | | |
| **S-10x Geo Feature: Offshore Platform (OFSPLF)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Offshore Platform | | (CATOFP) | 1 : Oil Rig  2 : Production Platform  3 : Observation/Research Platform  4 : Articulated Loading Platform  5 : Single Anchor Leg Mooring  6 : Mooring Tower  7 : Artificial Island  8 : Floating Production, Storage and Off-Loading Vessel  9 : Accommodation Platform  10 : Navigation, Communication and Control Buoy  11 : Floating Oil Tank | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Flare Stack | |  |  | | BO | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Product | | (PRODCT) | 1 : Oil  2 : Gas  3 : Water  18 : Liquefied Natural Gas  19 : Liquefied Petroleum Gas  23 : Electricity | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  7 : Temporary  8 : Private  12 : Illuminated  16 : Watched  17 : Unwatched  28 : Buoyed | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.94 Cable Submarine**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An assembly of wires or fibres, or a wire rope or chain, which has been laid underwater or buried beneath the seafloor. | | | | | | |
| **S-10x Geo Feature: Cable Submarine (CBLSUB, Submarine Cable)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Buried Depth | | (BURDEP) |  | | RE | 0, 1 |
| Category of Cable | | (CATCBL) | 1 : Power Line  3 : Transmission Line  4 : Telephone  5 : Telegraph  6 : Mooring Cable  7 : Ferry  8 : Fibre Optic Cable  9 : Junction Cable  10 : Telecommunications Cable | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  5 : Periodic/Intermittent  13 : Historic  18 : Existence Doubtful | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.95 Cable Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area which contains one or more submarine cables. | | | | | | |
| **S-10x Geo Feature: Cable Area (CBLARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Cable | | (CATCBL) | 1 : Power Line  3 : Transmission Line  4 : Telephone  5 : Telegraph  6 : Mooring Cable  7 : Ferry  8 : Fibre Optic Cable  10 : Telecommunications Cable | | EN | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  8 : Entry Restricted  9 : Dredging Prohibited  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  14 : Area To Be Avoided  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  20 : Drilling Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  26 : Landing Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  37 : Restricted Fairway Width  38 : Use of Spuds Prohibited  39 : Swimming Prohibited  40 : SOx Emission Restricted  41 : NOx Emission Restricted  43 : Passing or Overtaking of Convoys by Convoys Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  5 : Periodic/Intermittent  7 : Temporary  13 : Historic  18 : Existence Doubtful | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.96 Pipeline Submarine/On Land**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A connected set of pipes for conveying liquids, slurries, or gases. | | | | | | |
| **S-10x Geo Feature: Pipeline Submarine/On Land (PIPSOL)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Buried Depth | | (BURDEP) |  | | RE | 0, 1 |
| Category of Pipeline/Pipe | | (CATPIP) | 2 : Outfall Pipe  3 : Intake Pipe  4 : Sewer  5 : Bubbler System  6 : Supply Pipe  7 : Bubble Curtain | | EN | 0, \* |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 0, 1 |
| Depth Range Maximum Value | | (DRVAL2) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Multiplicity of Features | |  |  | | C | 0, 1 |
| Multiplicity Known | |  |  | | (S) BO | 1, 1 |
| Number of Features | |  |  | | (S) IN | 0, 1 |
| Product | | (PRODCT) | 1 : Oil  2 : Gas  3 : Water  7 : Chemicals  8 : Drinking Water  9 : Milk  18 : Liquefied Natural Gas  19 : Liquefied Petroleum Gas  20 : Wine  22 : Grain | | EN | 0, \* |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  8 : Entry Restricted  9 : Dredging Prohibited  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  14 : Area To Be Avoided  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  20 : Drilling Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  26 : Landing Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  37 : Restricted Fairway Width  38 : Use of Spuds Prohibited  39 : Swimming Prohibited  40 : SOx Emission Restricted  41 : NOx Emission Restricted  43 : Passing or Overtaking of Convoys by Convoys Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  7 : Temporary  12 : Illuminated  18 : Existence Doubtful | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.97 Submarine Pipeline Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area containing one or more submarine pipelines. | | | | | | |
| **S-10x Geo Feature: Submarine Pipeline Area (PIPARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Pipeline/Pipe | | (CATPIP) | 2 : Outfall Pipe  3 : Intake Pipe  4 : Sewer  5 : Bubbler System  6 : Supply Pipe | | EN | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Product | | (PRODCT) | 1 : Oil  2 : Gas  3 : Water  4 : Stone  5 : Coal  6 : Ore  7 : Chemicals  8 : Drinking Water  14 : Sand  15 : Timber  17 : Scrap Metal  18 : Liquefied Natural Gas  19 : Liquefied Petroleum Gas  21 : Cement  22 : Grain | | EN | 0, \* |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  8 : Entry Restricted  9 : Dredging Prohibited  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  14 : Area To Be Avoided  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  20 : Drilling Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  26 : Landing Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  37 : Restricted Fairway Width  38 : Use of Spuds Prohibited  39 : Swimming Prohibited  40 : SOx Emission Restricted  41 : NOx Emission Restricted  43 : Passing or Overtaking of Convoys by Convoys Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  7 : Temporary  18 : Existence Doubtful | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.98 Offshore Production Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area at sea within which there are production facilities. | | | | | | |
| **S-10x Geo Feature: Offshore Production Area (OSPARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Offshore Production Area | | (CATPRA) | 1 : Wind Farm  2 : Wave Farm  3 : Current Farm  4 : Tank Farm  5 : Seabed Material Extraction Area  6 : Solar Farm | | EN | 1, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  4 : Wingless  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Product | | (PRODCT) | 1 : Oil  2 : Gas  4 : Stone  6 : Ore  10 : Bauxite  14 : Sand  23 : Electricity | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  8 : Entry Restricted  9 : Dredging Prohibited  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  14 : Area To Be Avoided  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  20 : Drilling Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  26 : Landing Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  37 : Restricted Fairway Width  38 : Use of Spuds Prohibited  39 : Swimming Prohibited  40 : SOx Emission Restricted  41 : NOx Emission Restricted  43 : Passing or Overtaking of Convoys by Convoys Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  7 : Temporary  8 : Private  12 : Illuminated  16 : Watched  17 : Unwatched  28 : Buoyed | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Water Level Effect | | (WATLEV) | 2 : Always Dry  3 : Always Under Water/Submerged  4 : Covers and Uncovers  7 : Floating | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Nature of Construction | | (NATCON) | 2 : Concreted  7 : Metal  8 : Glass Reinforced Plastic | | EN | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.99 Navigation Line**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A straight line extending towards an area of navigational interest and generally generated by two navigational aids or one navigational aid and a bearing. | | | | | | |
| **S-10x Geo Feature: Navigation Line (NAVLNE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Navigation Line | | (CATNAV) | 1 : Clearing Line  2 : Transit Line  3 : Leading Line Bearing a Recommended Track | | EN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Measured Distance | |  |  | | IN | 0, 1 |
| Orientation | |  |  | | C | 1, 1 |
| Orientation Uncertainty | |  |  | | (S) RE | 0, 1 |
| Orientation Value | | (ORIENT) |  | | (S) RE | 1, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  5 : Periodic/Intermittent  7 : Temporary  8 : Private  14 : Public | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.100 Recommended Track**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A route which has been specially examined to ensure so far as possible that it is free of dangers and along which ships are advised to navigate. | | | | | | |
| **S-10x Geo Feature: Recommended Track (RECTRC)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Based On Fixed Marks | | (CATTRK) |  | | BO | 1, 1 |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Orientation Value | | (ORIENT) |  | | RE | 1, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown  6 : Least Depth Known | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  5 : Periodic/Intermittent  6 : Reserved  8 : Private  9 : Mandatory  14 : Public | | EN | 0, \* |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  2 : Found by Side Scan Sonar  3 : Found by Multi Beam  6 : Swept by Wire-Drag  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, \* |
| Traffic Flow | | (TRAFIC) | 1 : Inbound  2 : Outbound  3 : One-Way  4 : Two-Way | | EN | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.101 Range System**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Two or more features in the same horizontal direction, particularly those features so placed as navigational aids to mark any line of importance to vessels, as a channel. The one nearest the observer is the front mark and the one farthest from the observer is the rear mark. | | | | | | |
| **S-10x Geo Feature: Range System (C\_AGGR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface, noGeometry** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.102 Fairway**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: That part of a river, harbour and so on, where the main navigable channel for vessels of larger size lies. It is also the usual course followed by vessels entering or leaving harbours, called 'ship channel'. | | | | | | |
| **S-10x Geo Feature: Fairway (FAIRWY)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Orientation Value | | (ORIENT) |  | | RE | 0, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown  6 : Least Depth Known | | EN | 0, \* |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  15 : Construction Prohibited  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  37 : Restricted Fairway Width  38 : Use of Spuds Prohibited  39 : Swimming Prohibited  40 : SOx Emission Restricted  41 : NOx Emission Restricted  43 : Passing or Overtaking of Convoys by Convoys Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  6 : Reserved  7 : Temporary  9 : Mandatory  28 : Buoyed | | EN | 0, \* |
| Traffic Flow | | (TRAFIC) | 1 : Inbound  2 : Outbound  3 : One-Way  4 : Two-Way | | EN | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.103 Fairway System**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: That part of a river, harbour and so on, where the main navigable channel for vessels of larger size lies. It is also the usual course followed by vessels entering or leaving harbours, called 'ship channel'. A fairway system is an aggregation of connected fairway features making up a complex fairway system. | | | | | | |
| **S-10x Geo Feature: Fairway System (C\_AGGR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface, noGeometry** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.104 Recommended Route Centreline**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The recommended route centreline indicates the 'centreline' of a recommended route. | | | | | | |
| **S-10x Geo Feature: Recommended Route Centreline (RCRTCL)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Based On Fixed Marks | | (CATTRK) |  | | BO | 1, 1 |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Orientation Value | | (ORIENT) |  | | RE | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown  3 : Doubtful Sounding  4 : Unreliable Sounding  6 : Least Depth Known | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  5 : Periodic/Intermittent  6 : Reserved  9 : Mandatory | | EN | 0, \* |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  3 : Found by Multi Beam  6 : Swept by Wire-Drag  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, \* |
| Traffic Flow | | (TRAFIC) | 1 : Inbound  2 : Outbound  3 : One-Way  4 : Two-Way | | EN | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.105 Two-Way Route Part**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area of a two-way route within which traffic flow is generally along one bearing (and possibly its reciprocal). | | | | | | |
| **S-10x Geo Feature: Two-Way Route Part (TWRTPT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Based On Fixed Marks | | (CATTRK) |  | | BO | 0, 1 |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Orientation Value | | (ORIENT) |  | | RE | 1, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown  3 : Doubtful Sounding  4 : Unreliable Sounding  6 : Least Depth Known | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  6 : Reserved  9 : Mandatory | | EN | 0, \* |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  2 : Found by Side Scan Sonar  3 : Found by Multi Beam  5 : Found by Lead Line  6 : Swept by Wire-Drag  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  10 : Photogrammetry  11 : Satellite Imagery  12 : Found by Levelling  13 : Swept by Side Scan Sonar  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, \* |
| Traffic Flow | | (TRAFIC) | 1 : Inbound  2 : Outbound  3 : One-Way  4 : Two-Way | | EN | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.106 Two-Way Route**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A route within defined limits inside which two way traffic is established, aimed at providing safe passage of ships through waters where navigation is difficult or dangerous. | | | | | | |
| **S-10x Geo Feature: Two-Way Route (C\_AGGR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface, noGeometry** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.107 Recommended Traffic Lane Part**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A traffic flow pattern indicating a recommended directional movement of traffic where it is impractical or unnecessary to adopt an established direction of traffic flow. | | | | | | |
| **S-10x Geo Feature: Recommended Traffic Lane Part (RCTLPT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Orientation Value | | (ORIENT) |  | | RE | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  5 : Periodic/Intermittent  6 : Reserved  9 : Mandatory | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.108 Deep Water Route Centreline**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The Deep Water route centreline indicates the centreline of a route, the width of which is not explicitly defined. | | | | | | |
| **S-10x Geo Feature: Deep Water Route Centreline (DWRTCL)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Based On Fixed Marks | | (CATTRK) |  | | BO | 1, 1 |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| IMO Adopted | | (CATTSS) |  | | BO | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Orientation Value | | (ORIENT) |  | | RE | 1, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown  3 : Doubtful Sounding  4 : Unreliable Sounding  6 : Least Depth Known  7 : Least Depth Unknown, Safe Clearance at Value Shown | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  6 : Reserved  9 : Mandatory | | EN | 0, \* |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  3 : Found by Multi Beam  5 : Found by Lead Line  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, \* |
| Traffic Flow | | (TRAFIC) | 1 : Inbound  2 : Outbound  3 : One-Way  4 : Two-Way | | EN | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.109 Deep Water Route Part**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area of a deep water route within which ships proceed in the same direction. | | | | | | |
| **S-10x Geo Feature: Deep Water Route Part (DWRTPT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 1, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| IMO Adopted | | (CATTSS) |  | | BO | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Orientation Value | | (ORIENT) |  | | RE | 1, 1 |
| Quality of Vertical Measurement | | (QUASOU) | 1 : Depth Known  2 : Depth or Least Depth Unknown  3 : Doubtful Sounding  4 : Unreliable Sounding  6 : Least Depth Known  7 : Least Depth Unknown, Safe Clearance at Value Shown | | EN | 0, \* |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  27 : Speed Restricted | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  6 : Reserved  9 : Mandatory  28 : Buoyed | | EN | 0, \* |
| Technique of Vertical Measurement | | (TECSOU) | 1 : Found by Echo Sounder  3 : Found by Multi Beam  5 : Found by Lead Line  8 : Swept by Vertical Acoustic System  9 : Found by Electromagnetic Sensor  13 : Swept by Side Scan Sonar  15 : Found by LIDAR  16 : Synthetic Aperture Radar  17 : Hyperspectral Imagery  18 : Mechanically Swept | | EN | 0, \* |
| Traffic Flow | | (TRAFIC) | 1 : Inbound  2 : Outbound  3 : One-Way  4 : Two-Way | | EN | 1, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.110 Deep Water Route**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A route within defined limits which has been accurately surveyed for clearance of sea bottom and submerged obstacles as indicated on the chart. | | | | | | |
| **S-10x Geo Feature: Deep Water Route (C\_AGGR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface, noGeometry** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| IMO Adopted | | (CATTSS) |  | | BO | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.111 Inshore Traffic Zone**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A routeing measure comprising a designated area between the landward boundary of a traffic separation scheme and the adjacent coast, to be used in accordance with the provisions of the International Regulations for Preventing Collisions at Sea. | | | | | | |
| **S-10x Geo Feature: Inshore Traffic Zone (ISTZNE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  37 : Restricted Fairway Width  38 : Use of Spuds Prohibited  40 : SOx Emission Restricted  41 : NOx Emission Restricted  43 : Passing or Overtaking of Convoys by Convoys Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  6 : Reserved  9 : Mandatory  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.112 Precautionary Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A routeing measure comprising an area within defined limits where ships must navigate with particular caution and within which the direction of traffic flow may be recommended. | | | | | | |
| **S-10x Geo Feature: Precautionary Area (PRCARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| IMO Adopted | | (CATTSS) |  | | BO | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  14 : Area To Be Avoided  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  37 : Restricted Fairway Width  38 : Use of Spuds Prohibited  40 : SOx Emission Restricted  41 : NOx Emission Restricted  43 : Passing or Overtaking of Convoys by Convoys Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  9 : Mandatory  28 : Buoyed | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 1, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.113 Traffic Separation Scheme Lane Part**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area within defined limits in which one-way traffic is established. Natural obstacles, including those forming separation zones, may constitute a boundary. | | | | | | |
| **S-10x Geo Feature: Traffic Separation Scheme Lane Part (TSSLPT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Orientation Value | | (ORIENT) |  | | RE | 0, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  7 : Entry Prohibited  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  27 : Speed Restricted | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  6 : Reserved  9 : Mandatory  28 : Buoyed | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.114 Separation Zone or Line**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A zone or line separating the traffic lanes in which ships are proceeding in opposite, or nearly opposite directions; or separating a traffic lane from the adjacent sea area; or separating traffic lanes designated for particular classes of ships proceeding in the same direction. | | | | | | |
| **S-10x Geo Feature: Separation Zone or Line** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  9 : Mandatory  28 : Buoyed | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.115 Traffic Separation Scheme Boundary**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The outer limit of a traffic lane part or a traffic separation scheme roundabout. | | | | | | |
| **S-10x Geo Feature: Traffic Separation Scheme Boundary (TSSBND)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  9 : Mandatory  28 : Buoyed | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Category of Traffic Separation Scheme | | (CATTSS) | 1 : IMO Adopted  2 : Not IMO - Adopted | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.116 Traffic Separation Scheme Crossing**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A defined area where traffic lanes cross. | | | | | | |
| **S-10x Geo Feature: Traffic Separation Scheme Crossing (TSSCRS)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  7 : Entry Prohibited  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  27 : Speed Restricted | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  6 : Reserved  9 : Mandatory | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Category of Traffic Separation Scheme | | (CATTSS) | 1 : IMO Adopted  2 : Not IMO - Adopted | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.117 Traffic Separation Scheme Roundabout**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A routeing measure comprising a separation point or circular separation zone and a circular traffic lane within defined limits. Traffic within the roundabout is separated by moving in a counter-clockwise direction around the separation point or zone. | | | | | | |
| **S-10x Geo Feature: Traffic Separation Scheme Roundabout (Roundabout, TSSRON)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  27 : Speed Restricted | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  6 : Reserved  9 : Mandatory | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.118 Traffic Separation Scheme**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A routeing measure aimed at the separation of opposing streams of traffic by appropriate means and by the establishment of traffic lanes. | | | | | | |
| **S-10x Geo Feature: Traffic Separation Scheme (C\_AGGR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface, noGeometry** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| IMO Adopted | | (CATTSS) |  | | BO | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.119 Archipelagic Sea Lane Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Sea lanes designated by an archipelagic State for the passage of ships and aircraft. | | | | | | |
| **S-10x Geo Feature: Archipelagic Sea Lane Area (ARCSLN)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nationality | | (NATION) |  | | TE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.120 Archipelagic Sea Lane Axis**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The reference line used to determine the maximum extents of an Archipelagic Sea Lane. It may not indicate the deepest water nor any recommended route or track. | | | | | | |
| **S-10x Geo Feature: Archipelagic Sea Lane Axis (ASLXIS)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nationality | | (NATION) |  | | TE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.121 Archipelagic Sea Lane**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Sea lanes designated by an archipelagic State for the passage of ships and aircraft. The Archipelagic Sea Lane aggregates all component parts of an Archipelagic Sea Lane system. | | | | | | |
| **S-10x Geo Feature: Archipelagic Sea Lane (C\_AGGR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface, noGeometry** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nationality | | (NATION) |  | | TE | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.122 Radio Calling-In Point**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A designated position at which vessels are required to report to a traffic control centre. Also called reporting point or radio reporting point. | | | | | | |
| **S-10x Geo Feature: Radio Calling-In Point (RDOCAL, Radio Reporting Point, Reporting Point, Calling-In Point)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Communication Channel | | (COMCHA) |  | | TE | 1, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Orientation Value | | (ORIENT) |  | | RE | 1, 2 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  3 : Recommended  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  9 : Mandatory | | EN | 0, \* |
| Traffic Flow | | (TRAFIC) | 1 : Inbound  2 : Outbound  3 : One-Way  4 : Two-Way | | EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Category of Communication | | (catcom) | 1 : VTS Centre  2 : VTS Sector  3 : IVS Point  4 : MIB  5 : Lock  6 : Bridge  7 : Custom  8 : Harbour  9 : WLAN Area | | EN | 1, \* |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.123 Ferry Route**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A route in a body of water where a ferry crosses from one shoreline to another. | | | | | | |
| **S-10x Geo Feature: Ferry Route (FERYRT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Ferry | | (CATFRY) | 1 : Free Moving Ferry  2 : Cable Ferry  3 : Ice Ferry  5 : High Speed Ferry | | EN | 1, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  3 : Recommended  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  9 : Mandatory  12 : Illuminated  14 : Public  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.124 Radar Line**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Recommended tracks along which ships can be guided by coastal radar stations in the event of bad visibility. | | | | | | |
| **S-10x Geo Feature: Radar Line (RADLNE, Radar Guided Track)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Orientation Value | | (ORIENT) |  | | RE | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  3 : Recommended  4 : Not in Use  7 : Temporary | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.125 Radar Range**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Indicates the coverage of a sea area by a radar surveillance station. Inside this area a vessel may request shore-based radar assistance, particularly in poor visibility. | | | | | | |
| **S-10x Geo Feature: Radar Range (RADRNG)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Communication Channel | | (COMCHA) |  | | TE | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  7 : Temporary | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.126 Radar Station**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A station with a transmitter emitting pulses of ultra-high frequency radio waves which are reflected by solid objects and are detected upon their return to the sending station. | | | | | | |
| **S-10x Geo Feature: Radar Station (RADSTA)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Call Sign | | (CALSGN) |  | | TE | 0, 1 |
| Category of Radar Station | | (CATRAS) | 1 : Radar Surveillance Station  2 : Coast Radar Station | | EN | 1, \* |
| Communication Channel | | (COMCHA) |  | | TE | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private | | EN | 0, \* |
| Value of Maximum Range | | (VALMXR) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.127 Anchorage Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area in which vessels or seaplanes anchor or may anchor. | | | | | | |
| **S-10x Geo Feature: Anchorage Area (ACHARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Anchorage | | (CATACH) | 1 : Unrestricted Anchorage  2 : Deep Water Anchorage  3 : Tanker Anchorage  4 : Explosives Anchorage  5 : Quarantine Anchorage  6 : Seaplane Anchorage  7 : Small Craft Anchorage  8 : Small Craft Mooring Area  9 : Anchorage for Periods Up To 24 Hours  10 : Anchorage for a Limited Period of Time  11 : Anchorage for Other Vessels than Pushing-Navigation Vessels  12 : Anchorage for Dry Cargo Vessels  13 : Anchorage for Rafts  14 : Waiting Anchorage  15 : Reported Anchorage  16 : Anchorage for Pushing-Navigation Vessels | | EN | 0, \* |
| Category of Cargo | | (CATCGO) | 1 : Bulk  2 : Container  3 : General  4 : Liquid  5 : Passenger  6 : Livestock  7 : Dangerous or Hazardous  8 : Heavy Lift  9 : Ballast  10 : Dry Bulk Cargo  11 : Liquid Bulk Cargo  12 : Reefer Container Cargo  13 : Ro-Ro Cargo  14 : Project Cargo  15 : Break Bulk Cargo | | EN | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  7 : Entry Prohibited  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  15 : Construction Prohibited  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  38 : Use of Spuds Prohibited  39 : Swimming Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  3 : Recommended  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  9 : Mandatory  12 : Illuminated  14 : Public  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Nature of Surface | | (NATSUR) | 1 : Mud  2 : Clay  3 : Silt  4 : Sand  5 : Stone  6 : Gravel  7 : Pebbles  8 : Cobbles  9 : Rock  11 : Lava  14 : Coral  17 : Shells  18 : Boulder | | EN | 0, \* |
| Class of Dangerous Cargo | | (clsdng) | 1 : One Blue Light / Cone  2 : Two Blue Lights / Cones  3 : Three Blue Lights / Cones  4 : No Blue Light / Cone  5 : One Red Light / Red Cone Top Down | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.128 Mooring Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area in which vessels may be secured to mooring buoys. | | | | | | |
| **S-10x Geo Feature: Mooring Area** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Mooring Area | |  | 1 : Small Craft Mooring Area  2 : Mooring Area for Visitors  3 : Mooring Area for Tankers | | EN | 1, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Maximum Permitted Vessel Length | |  |  | | RE | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  15 : Construction Prohibited  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  27 : Speed Restricted  39 : Swimming Prohibited  42 : Power-Driven Vessels Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  3 : Recommended  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  9 : Mandatory  14 : Public | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Class of Dangerous Cargo | | (clsdng) | 1 : One Blue Light / Cone  2 : Two Blue Lights / Cones  3 : Three Blue Lights / Cones  4 : No Blue Light / Cone  5 : One Red Light / Red Cone Top Down | | EN | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.129 Anchor Berth**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A designated area of water where a vessel, sea plane, etc., may anchor. | | | | | | |
| **S-10x Geo Feature: Anchor Berth (ACHBRT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Anchorage | | (CATACH) | 1 : Unrestricted Anchorage  2 : Deep Water Anchorage  3 : Tanker Anchorage  4 : Explosives Anchorage  5 : Quarantine Anchorage  6 : Seaplane Anchorage  7 : Small Craft Anchorage  8 : Small Craft Mooring Area  9 : Anchorage for Periods Up To 24 Hours  10 : Anchorage for a Limited Period of Time  11 : Anchorage for Other Vessels than Pushing-Navigation Vessels  12 : Anchorage for Dry Cargo Vessels  13 : Anchorage for Rafts  14 : Waiting Anchorage  16 : Anchorage for Pushing-Navigation Vessels | | EN | 0, \* |
| Category of Cargo | | (CATCGO) | 1 : Bulk  2 : Container  3 : General  4 : Liquid  5 : Passenger  6 : Livestock  7 : Dangerous or Hazardous  8 : Heavy Lift  9 : Ballast  10 : Dry Bulk Cargo  11 : Liquid Bulk Cargo  12 : Reefer Container Cargo  13 : Ro-Ro Cargo  14 : Project Cargo  15 : Break Bulk Cargo | | EN | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radius | | (RADIUS) |  | | RE | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  3 : Recommended  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  9 : Mandatory  12 : Illuminated  14 : Public  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  7 : Entry Prohibited  8 : Entry Restricted  13 : No Wake  14 : Area To Be Avoided  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  38 : Use of Spuds Prohibited | | EN | 0, \* |
| Nature of Surface | | (NATSUR) | 1 : Mud  2 : Clay  3 : Silt  4 : Sand  5 : Stone  6 : Gravel  7 : Pebbles  8 : Cobbles  9 : Rock  11 : Lava  14 : Coral  17 : Shells  18 : Boulder | | EN | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Class of Dangerous Cargo | | (clsdng) | 1 : One Blue Light / Cone  2 : Two Blue Lights / Cones  3 : Three Blue Lights / Cones  4 : No Blue Light / Cone  5 : One Red Light / Red Cone Top Down | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.130 Seaplane Landing Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A designated portion of water for the landing and take-off of seaplanes. | | | | | | |
| **S-10x Geo Feature: Seaplane Landing Area (SPLARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  7 : Entry Prohibited  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  15 : Construction Prohibited  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  37 : Restricted Fairway Width  38 : Use of Spuds Prohibited  39 : Swimming Prohibited  40 : SOx Emission Restricted  41 : NOx Emission Restricted  43 : Passing or Overtaking of Convoys by Convoys Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  3 : Recommended  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  9 : Mandatory  14 : Public | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.131 Dumping Ground**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A sea area where dredged material or other potentially more harmful material, for example explosives, chemical waste, is deliberately deposited. | | | | | | |
| **S-10x Geo Feature: Dumping Ground (DMPGRD)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Dumping Ground | | (CATDPG) | 2 : Chemical Waste Dumping Ground  3 : Nuclear Waste Dumping Ground  4 : Explosives Dumping Ground  5 : Spoil Ground  6 : Vessel Dumping Ground | | EN | 1, \* |
| Date Disused | |  |  | | TD | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  7 : Entry Prohibited  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  27 : Speed Restricted | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  6 : Reserved  7 : Temporary | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.132 Military Practice Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area within which naval, military or aerial exercises are carried out. | | | | | | |
| **S-10x Geo Feature: Military Practice Area (MIPARE, Exercise Area)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Military Practice Area | | (CATMPA) | 2 : Torpedo Exercise Area  3 : Submarine Exercise Area  4 : Firing Danger Area  5 : Mine-Laying Practice Area  6 : Small Arms Firing Range | | EN | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nationality | | (NATION) |  | | TE | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  7 : Entry Prohibited  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  15 : Construction Prohibited  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  26 : Landing Prohibited  27 : Speed Restricted  39 : Swimming Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.133 Administration Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A defined area within which a jurisdiction applies. It may or may not be named. | | | | | | |
| **S-10x Geo Feature: Administration Area (ADMARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| In Dispute | |  |  | | BO | 0, 1 |
| Jurisdiction | | (JRSDTN) | 1 : International  2 : National  3 : National Sub-Division | | EN | 1, 1 |
| Feature Name | |  |  | | C | 1, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nationality | | (NATION) |  | | TE | 1, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.134 Cargo Transhipment Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area designated for transfer of cargo from one vessel to another sometimes in order to reduce a vessel's draught. | | | | | | |
| **S-10x Geo Feature: Cargo Transhipment Area (CTSARE, Cargo Lightening Area, Cargo Transfer Area)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Restriction | | (RESTRN) | 2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  15 : Construction Prohibited  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  24 : Dragging Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  37 : Restricted Fairway Width  38 : Use of Spuds Prohibited  39 : Swimming Prohibited  40 : SOx Emission Restricted  41 : NOx Emission Restricted  43 : Passing or Overtaking of Convoys by Convoys Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  3 : Recommended  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  9 : Mandatory | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.135 Caution Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Generally, an area where the mariner has to be made aware of circumstances influencing the safety of navigation. | | | | | | |
| **S-10x Geo Feature: Caution Area (CTNARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Condition | | (CONDTN) | 1 : Under Construction  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent  7 : Temporary | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.136 Information Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area for which general information regarding navigation, but not directly related to safety of navigation, is available. | | | | | | |
| **S-10x Geo Feature: Information Area (M\_NPUB)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 1, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.137 Contiguous Zone**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A zone contiguous to a coastal State's Territorial Sea, which may not extend beyond 24 nautical miles from the baselines from which the breadth of the Territorial Sea is measured. The coastal State may exercise certain control in this zone subject to the provisions of International Law. | | | | | | |
| **S-10x Geo Feature: Contiguous Zone (CONZNE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| In Dispute | |  |  | | BO | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nationality | | (NATION) |  | | TE | 1, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.138 Continental Shelf Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The Continental Shelf of a coastal State comprises the seabed and subsoil of the submarine areas that extend beyond its Territorial Sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the Territorial Sea is measured where the outer edge of the continental margin does not extend up to that distance. | | | | | | |
| **S-10x Geo Feature: Continental Shelf Area (COSARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nationality | | (NATION) |  | | TE | 1, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.139 Custom Zone**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The area within which national custom regulations are in force. | | | | | | |
| **S-10x Geo Feature: Custom Zone (CUSZNE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nationality | | (NATION) |  | | TE | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.140 Exclusive Economic Zone**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area, not exceeding 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, subject to a specific legal regime established in the United Nations Convention on the Law of the Sea under which the coastal state has certain rights and jurisdiction. | | | | | | |
| **S-10x Geo Feature: Exclusive Economic Zone (EXEZNE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| In Dispute | |  |  | | BO | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nationality | | (NATION) |  | | TE | 1, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.141 Fishery Zone**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The offshore zone in which exclusive fishing rights and management are held by the coastal nation. | | | | | | |
| **S-10x Geo Feature: Fishery Zone (FSHZNE, Fishing Zone)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nationality | | (NATION) |  | | TE | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.142 Fishing Ground**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A water area in which fishing is frequently carried on. | | | | | | |
| **S-10x Geo Feature: Fishing Ground (FSHGRD, Fishing Area, Fishing Zone)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  15 : Construction Prohibited  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  26 : Landing Prohibited  27 : Speed Restricted  39 : Swimming Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  14 : Public  16 : Watched  17 : Unwatched  28 : Buoyed | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.143 Free Port Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A port where certain import and export duties are waived (unless goods pass into the country) to facilitate reshipment to other countries. | | | | | | |
| **S-10x Geo Feature: Free Port Area (FRPARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  6 : Reserved  8 : Private  14 : Public | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.144 Harbour Area (Administrative)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The area over which a harbour authority has jurisdiction. | | | | | | |
| **S-10x Geo Feature: Harbour Area (Administrative) (HRBARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  8 : Private  14 : Public | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Category of Harbour Area | | (cathbr) | 1 : Custom Harbour  2 : Port of Refuge  3 : Yacht Harbour/Marina  4 : Fishing Harbour  5 : Private Harbour | | EN | 0, \* |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.145 Log Pond**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A maritime area enclosed with connected floating timbers used as a staging area for sawn logs. | | | | | | |
| **S-10x Geo Feature: Log Pond (LOGPON)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.146 Oil Barrier**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A floating barrier to stop and contain the spread of oil on a water body surface. | | | | | | |
| **S-10x Geo Feature: Oil Barrier (OILBAR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Oil Barrier | | (CATOLB) | 1 : Oil Retention (High Pressure Pipe)  2 : Floating Oil Barrier | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.147 Straight Territorial Sea Baseline**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Straight baselines are a system of straight lines joining specified or discrete points on the low-water line, usually known as straight baseline turning points. Straight baselines are used in delimitation. | | | | | | |
| **S-10x Geo Feature: Straight Territorial Sea Baseline (STSLNE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nationality | | (NATION) |  | | TE | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.148 Territorial Sea Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A belt of water of a defined breadth but not exceeding 12 nautical miles measured seaward from the territorial sea baseline. | | | | | | |
| **S-10x Geo Feature: Territorial Sea Area (TESARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| In Dispute | |  |  | | BO | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nationality | | (NATION) |  | | TE | 1, \* |
| Restriction | | (RESTRN) | 2 : Anchoring Restricted  4 : Fishing Restricted  6 : Trawling Restricted  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  12 : Diving Restricted  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  27 : Speed Restricted | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.149 Submarine Transit Lane**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A lane where submarines may navigate under water or at the surface. | | | | | | |
| **S-10x Geo Feature: Submarine Transit Lane (SUBTLN)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nationality | | (NATION) |  | | TE | 0, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  7 : Entry Prohibited  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  27 : Speed Restricted | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.150 Pilotage District**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area within which a pilotage direction exists. Such directions are regulated by a competent harbour authority which dictates circumstances under which they apply. | | | | | | |
| **S-10x Geo Feature: Pilotage District** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Communication Channel | | (COMCHA) |  | | TE | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.151 Collision Regulations Limit**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs). The demarcation line between inland navigation rules and international navigation rules. | | | | | | |
| **S-10x Geo Feature: Collision Regulations Limit** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Regulation Citation | |  |  | | TE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.152 Marine Pollution Regulations Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. | | | | | | |
| **S-10x Geo Feature: Marine Pollution Regulations Area** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Regulation Citation | |  |  | | TE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.153 Restricted Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A specified area designated by an appropriate authority within which navigation is restricted in accordance with certain specified conditions. | | | | | | |
| **S-10x Geo Feature: Restricted Area (RESARE)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Restricted Area | | (CATREA) | 1 : Offshore Safety Zone  4 : Nature Reserve  5 : Bird Sanctuary  6 : Game Reserve  7 : Seal Sanctuary  8 : Degaussing Range  9 : Military Area  10 : Historic Wreck Area  12 : Navigational Aid Safety Zone  14 : Minefield  18 : Swimming Area  19 : Waiting Area  20 : Research Area  21 : Dredging Area  22 : Fish Sanctuary  23 : Ecological Reserve  24 : No Wake Area  25 : Swinging Area  27 : Environmentally Sensitive Sea Area  28 : Particularly Sensitive Sea Area  29 : Disengagement Area  30 : Port Security Area  31 : Coral Sanctuary  32 : Recreation Area  33 : Ship Pollution Emission Control | | EN | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  7 : Entry Prohibited  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  14 : Area To Be Avoided  15 : Construction Prohibited  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  22 : Removal of Historical Artefacts Prohibited  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  25 : Stopping Prohibited  26 : Landing Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  37 : Restricted Fairway Width  38 : Use of Spuds Prohibited  39 : Swimming Prohibited  40 : SOx Emission Restricted  41 : NOx Emission Restricted  42 : Power-Driven Vessels Prohibited  43 : Passing or Overtaking of Convoys by Convoys Prohibited | | EN | 1, \* |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  3 : Recommended  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  9 : Mandatory  18 : Existence Doubtful  28 : Buoyed | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Nature of Surface | | (NATSUR) | 1 : Mud  2 : Clay  3 : Silt  4 : Sand  5 : Stone  6 : Gravel  7 : Pebbles  8 : Cobbles  9 : Rock  11 : Lava  14 : Coral  17 : Shells  18 : Boulder | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.154 Light All Around**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An all around light is a light that is visible over the whole horizon of interest to marine navigation and having no change in the characteristics of the light. | | | | | | |
| **S-10x Geo Feature: Light All Around (LIGHTS)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Light | | (CATLIT) | 4 : Leading Light  5 : Aero Light  8 : Flood Light  9 : Strip Light  10 : Subsidiary Light  11 : Spotlight  12 : Front  13 : Rear  14 : Lower  15 : Upper  17 : Emergency  18 : Bearing Light  19 : Horizontally Disposed  20 : Vertically Disposed | | EN | 0, \* |
| Colour | | (COLOUR) | 1 : White  3 : Red  4 : Green  5 : Blue  6 : Yellow  9 : Amber  10 : Violet  11 : Orange | | EN | 1, \* (ordered) |
| Exhibition Condition of Light | | (EXCLIT) | 1 : Light Shown Without Change of Character  2 : Daytime Light  3 : Fog Light  4 : Night Light | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Flare Bearing | |  |  | | IN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Light Visibility | | (LITVIS) | 1 : High Intensity  2 : Low Intensity | | EN | 0, 1 |
| Major Light | |  |  | | BO | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  10 : Other System  11 : Main European Inland Waterway Marking System  12 : Russian Inland Waterway Regulations  13 : Brazilian National Inland Waterway Regulation  15 : Paraguay-Parana Waterway - Brazilian Complementary Aids | | EN | 0, 1 |
| Multiplicity of Features | |  |  | | C | 0, 1 |
| Multiplicity Known | |  |  | | (S) BO | 1, 1 |
| Number of Features | |  |  | | (S) IN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Rhythm of Light | |  |  | | C | 1, 1 |
| Light Characteristic | | (LITCHR)  (Character of Light) | 1 : Fixed  2 : Flashing  3 : Long-Flashing  4 : Quick-Flashing  5 : Very Quick-Flashing  6 : Continuous Ultra Quick-Flashing  7 : Isophased  8 : Occulting  9 : Interrupted Quick Flashing  10 : Interrupted Very Quick Flashing  11 : Interrupted Ultra Quick-Flashing  12 : Morse  13 : Fixed and Flash  14 : Flash and Long-Flash  15 : Occulting and Flash  16 : Fixed and Long-Flash  17 : Occulting Alternating  18 : Long-Flash Alternating  19 : Flash Alternating  20 : Group Alternating  25 : Quick-Flash Plus Long-Flash  26 : Very Quick-Flash Plus Long-Flash  27 : Ultra Quick-Flash Plus Long-Flash  28 : Alternating  29 : Fixed and Alternating Flashing | | (S) EN | 1, 1 |
| Signal Group | | (SIGGRP) |  | | (S) TE | 0, 10 (ordered) |
| Signal Period | | (SIGPER) |  | | (S) RE | 0, 1 |
| Signal Sequence | | (SIGSEQ) |  | | (S) C | 0, 10 (ordered) |
| Signal Duration | |  |  | | (S) RE | 1, 1 |
| Signal Status | |  | 1 : Lit/Sound  2 : Eclipsed/Silent | | (S) EN | 1, 1 |
| Signal Generation | | (SIGGEN) | 5 : Radio Activated  6 : Call Activated | | EN | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  11 : Extinguished  14 : Public  15 : Synchronized  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Value of Nominal Range | | (VALNMR) |  | | RE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.155 Light Sectored**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A light presenting different appearances (in particular, different colours) over various parts of the horizon of interest to maritime navigation. | | | | | | |
| **S-10x Geo Feature: Light Sectored (LIGHTS, Sector Light)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Light | | (CATLIT) | 4 : Leading Light  5 : Aero Light  8 : Flood Light  9 : Strip Light  10 : Subsidiary Light  11 : Spotlight  12 : Front  13 : Rear  14 : Lower  15 : Upper  17 : Emergency  18 : Bearing Light  19 : Horizontally Disposed  20 : Vertically Disposed | | EN | 0, \* |
| Exhibition Condition of Light | | (EXCLIT) | 1 : Light Shown Without Change of Character  2 : Daytime Light  3 : Fog Light  4 : Night Light | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  10 : Other System  11 : Main European Inland Waterway Marking System  12 : Russian Inland Waterway Regulations  13 : Brazilian National Inland Waterway Regulation  15 : Paraguay-Parana Waterway - Brazilian Complementary Aids | | EN | 0, 1 |
| Multiplicity of Features | |  |  | | C | 0, 1 |
| Multiplicity Known | |  |  | | (S) BO | 1, 1 |
| Number of Features | |  |  | | (S) IN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Sector Characteristics | |  |  | | C | 1, \* |
| Light Characteristic | | (LITCHR)  (Character of Light) | 1 : Fixed  2 : Flashing  3 : Long-Flashing  4 : Quick-Flashing  5 : Very Quick-Flashing  6 : Continuous Ultra Quick-Flashing  7 : Isophased  8 : Occulting  9 : Interrupted Quick Flashing  10 : Interrupted Very Quick Flashing  11 : Interrupted Ultra Quick-Flashing  12 : Morse  13 : Fixed and Flash  14 : Flash and Long-Flash  15 : Occulting and Flash  16 : Fixed and Long-Flash  17 : Occulting Alternating  18 : Long-Flash Alternating  19 : Flash Alternating  20 : Group Alternating  25 : Quick-Flash Plus Long-Flash  26 : Very Quick-Flash Plus Long-Flash  27 : Ultra Quick-Flash Plus Long-Flash  28 : Alternating  29 : Fixed and Alternating Flashing | | (S) EN | 1, 1 |
| Light Sector | |  |  | | (S) C | 1, 10 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | (S) EN | 1, 99 (ordered) |
| Directional Character | |  |  | | (S) C | 0, 1 |
| Moire Effect | |  |  | | (S) BO | 0, 1 |
| Orientation | |  |  | | (S) C | 1, 1 |
| Orientation Uncertainty | |  |  | | (S) RE | 0, 1 |
| Orientation Value | | (ORIENT) |  | | (S) RE | 1, 1 |
| Light Visibility | | (LITVIS) | 1 : High Intensity  2 : Low Intensity  3 : Faint  4 : Intensified  5 : Unintensified  6 : Visibility Deliberately Restricted  7 : Obscured  8 : Partially Obscured  9 : Visible in Line of Range | | (S) EN | 0, 99 |
| Sector Limit | |  |  | | (S) C | 0, 1 |
| Sector Limit One | | (SECTR1) |  | | (S) C | 1, 1 |
| Sector Bearing | | (SECTR1)  (SECTR2) |  | | (S) RE | 1, 1 |
| Sector Line Length | |  |  | | (S) RE | 0, 1 |
| Sector Limit Two | | (SECTR2) |  | | (S) C | 1, 1 |
| Sector Bearing | | (SECTR1)  (SECTR2) |  | | (S) RE | 1, 1 |
| Sector Line Length | |  |  | | (S) RE | 0, 1 |
| Value of Nominal Range | | (VALNMR) |  | | (S) RE | 0, 1 |
| Sector Information | |  |  | | (S) C | 0, 99 |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Sector Arc Extension | |  |  | | (S) BO | 0, 1 |
| Signal Group | | (SIGGRP) |  | | (S) TE | 0, 10 (ordered) |
| Signal Period | | (SIGPER) |  | | (S) RE | 0, 1 |
| Signal Sequence | | (SIGSEQ) |  | | (S) C | 0, 10 (ordered) |
| Signal Duration | |  |  | | (S) RE | 1, 1 |
| Signal Status | |  | 1 : Lit/Sound  2 : Eclipsed/Silent | | (S) EN | 1, 1 |
| Signal Generation | | (SIGGEN) | 5 : Radio Activated  6 : Call Activated | | EN | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  11 : Extinguished  14 : Public  15 : Synchronized  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.156 Light Fog Detector**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A fog detector light is a light used to automatically determine conditions of visibility which warrant the turning on or off of a sound signal. | | | | | | |
| **S-10x Geo Feature: Light Fog Detector (LIGHTS, Fog Detector Light)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Colour | | (COLOUR) | 1 : White  3 : Red  4 : Green  5 : Blue  6 : Yellow  9 : Amber  10 : Violet  11 : Orange | | EN | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Flare Bearing | |  |  | | IN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Rhythm of Light | |  |  | | C | 0, 1 |
| Light Characteristic | | (LITCHR)  (Character of Light) | 1 : Fixed  2 : Flashing  3 : Long-Flashing  4 : Quick-Flashing  5 : Very Quick-Flashing  6 : Continuous Ultra Quick-Flashing  7 : Isophased  8 : Occulting  9 : Interrupted Quick Flashing  10 : Interrupted Very Quick Flashing  11 : Interrupted Ultra Quick-Flashing  12 : Morse  13 : Fixed and Flash  14 : Flash and Long-Flash  15 : Occulting and Flash  16 : Fixed and Long-Flash  17 : Occulting Alternating  18 : Long-Flash Alternating  19 : Flash Alternating  20 : Group Alternating  25 : Quick-Flash Plus Long-Flash  26 : Very Quick-Flash Plus Long-Flash  27 : Ultra Quick-Flash Plus Long-Flash  28 : Alternating  29 : Fixed and Alternating Flashing | | (S) EN | 1, 1 |
| Signal Group | | (SIGGRP) |  | | (S) TE | 0, 10 (ordered) |
| Signal Period | | (SIGPER) |  | | (S) RE | 0, 1 |
| Signal Sequence | | (SIGSEQ) |  | | (S) C | 0, 10 (ordered) |
| Signal Duration | |  |  | | (S) RE | 1, 1 |
| Signal Status | |  | 1 : Lit/Sound  2 : Eclipsed/Silent | | (S) EN | 1, 1 |
| Signal Generation | | (SIGGEN) | 5 : Radio Activated  6 : Call Activated | | EN | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  11 : Extinguished  14 : Public  15 : Synchronized  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  13 : Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  44 : Baltic Sea Chart Datum 2000 | | EN | 0, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.157 Light Air Obstruction**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An air obstruction light is a light marking an obstacle which constitutes a danger to air navigation. | | | | | | |
| **S-10x Geo Feature: Light Air Obstruction (LIGHTS)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Colour | | (COLOUR) | 1 : White  3 : Red  4 : Green  5 : Blue  6 : Yellow  9 : Amber  10 : Violet  11 : Orange | | EN | 0, \* |
| Exhibition Condition of Light | | (EXCLIT) | 1 : Light Shown Without Change of Character  2 : Daytime Light  3 : Fog Light  4 : Night Light | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Flare Bearing | |  |  | | IN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Light Visibility | | (LITVIS) | 1 : High Intensity  2 : Low Intensity  3 : Faint  4 : Intensified  5 : Unintensified  6 : Visibility Deliberately Restricted  7 : Obscured  8 : Partially Obscured  9 : Visible in Line of Range | | EN | 0, \* |
| Multiplicity of Features | |  |  | | C | 0, 1 |
| Multiplicity Known | |  |  | | (S) BO | 1, 1 |
| Number of Features | |  |  | | (S) IN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Rhythm of Light | |  |  | | C | 0, 1 |
| Light Characteristic | | (LITCHR)  (Character of Light) | 1 : Fixed  2 : Flashing  3 : Long-Flashing  4 : Quick-Flashing  5 : Very Quick-Flashing  6 : Continuous Ultra Quick-Flashing  7 : Isophased  8 : Occulting  9 : Interrupted Quick Flashing  10 : Interrupted Very Quick Flashing  11 : Interrupted Ultra Quick-Flashing  12 : Morse  13 : Fixed and Flash  14 : Flash and Long-Flash  15 : Occulting and Flash  16 : Fixed and Long-Flash  17 : Occulting Alternating  18 : Long-Flash Alternating  19 : Flash Alternating  20 : Group Alternating  25 : Quick-Flash Plus Long-Flash  26 : Very Quick-Flash Plus Long-Flash  27 : Ultra Quick-Flash Plus Long-Flash  28 : Alternating  29 : Fixed and Alternating Flashing | | (S) EN | 1, 1 |
| Signal Group | | (SIGGRP) |  | | (S) TE | 0, 10 (ordered) |
| Signal Period | | (SIGPER) |  | | (S) RE | 0, 1 |
| Signal Sequence | | (SIGSEQ) |  | | (S) C | 0, 10 (ordered) |
| Signal Duration | |  |  | | (S) RE | 1, 1 |
| Signal Status | |  | 1 : Lit/Sound  2 : Eclipsed/Silent | | (S) EN | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  11 : Extinguished  14 : Public  15 : Synchronized  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Value of Nominal Range | | (VALNMR) |  | | RE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 3 : Mean Sea Level  10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  16 : Mean High Water  17 : Mean High Water Springs  18 : High Water  19 : Approximate Mean Sea Level  20 : High Water Springs  21 : Mean Higher High Water  23 : Lowest Astronomical Tide  24 : Local Datum  25 : International Great Lakes Datum 1985  26 : Mean Water Level  28 : Higher High Water Large Tide  29 : Nearly Highest High Water  30 : Highest Astronomical Tide  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  44 : Baltic Sea Chart Datum 2000  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.158 Lateral Buoy**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A lateral buoy is used to indicate the port or starboard hand side of the route to be followed. They are generally used for well-defined channels and are used in conjunction with a conventional direction of buoyage. | | | | | | |
| **S-10x Geo Feature: Lateral Buoy (BOYLAT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Buoy Shape | | (BOYSHP) | 1 : Conical  2 : Can  3 : Spherical  4 : Pillar  5 : Spar  6 : Barrel  7 : Superbuoy  8 : Ice Buoy | | EN | 1, 1 |
| Category of Lateral Mark | | (CATLAM) | 1 : Port-Hand Lateral Mark  2 : Starboard-Hand Lateral Mark  3 : Preferred Channel to Starboard Lateral Mark  4 : Preferred Channel to Port Lateral Mark  5 : Right-Hand Side of the Waterway  6 : Left-Hand Side of the Waterway  7 : Right-Hand Side of the Channel  8 : Left-Hand Side of the Channel  9 : Bifurcation of the Waterway  10 : Bifurcation of the Channel  11 : Channel Near the Right Bank  12 : Channel Near the Left Bank  13 : Channel Cross-Over to the Right Bank  14 : Channel Cross-Over to the Left Bank  15 : Danger Point or Obstacles at the Right-Hand Side  16 : Danger Point or Obstacles at the Left-Hand Side  17 : Turn Off at the Right-Hand Side  18 : Turn Off at the Left-Hand Side  19 : Junction at the Right-Hand Side  20 : Junction at the Left-Hand Side  21 : Harbour Entry at the Right-Hand Side  22 : Harbour Entry at the Left-Hand Side  23 : Bridge Pier Mark  24 : Entry From a Lake to a Narrower Waterway, Right Bank  25 : Entry From a Lake to a Narrower Waterway, Left Bank  26 : Change Bank  27 : Continue Along Bank | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  10 : Other System  11 : Main European Inland Waterway Marking System  12 : Russian Inland Waterway Regulations  13 : Brazilian National Inland Waterway Regulation  15 : Paraguay-Parana Waterway - Brazilian Complementary Aids | | EN | 0, 1 |
| Nature of Construction | | (NATCON) | 6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic  11 : Latticed | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  5 : Periodic/Intermittent  7 : Temporary  8 : Private  18 : Existence Doubtful | | EN | 0, \* |
| Topmark | | (TOPMAR) |  | | C | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | (S) EN | 0, 99 (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe  7 : Single Colour  8 : Rectangle  9 : Triangle | | (S) EN | 0, 1 |
| Topmark/Daymark Shape | | (TOPSHP) | 1 : Cone (Point Up)  2 : Cone (Point Down)  3 : Sphere  4 : 2 Spheres  5 : Cylinder  6 : Board  7 : X-Shaped  8 : Upright Cross  9 : Cube (Point Up)  10 : 2 Cones (Point to Point)  11 : 2 Cones (Base to Base)  12 : Rhombus  13 : 2 Cones (Points Upward)  14 : 2 Cones (Points Downward)  15 : Besom (Point Up)  16 : Besom (Point Down)  17 : Flag  18 : Sphere Over a Rhombus  19 : Square  20 : Rectangle (Horizontal)  21 : Rectangle (Vertical)  22 : Trapezium (Up)  23 : Trapezium (Down)  24 : Triangle (Point Up)  25 : Triangle (Point Down)  26 : Circle  27 : Two Upright Crosses (One Over the Other)  28 : T-Shape  29 : Triangle Pointing Up Over a Circle  30 : Upright Cross Over a Circle  31 : Rhombus Over a Circle  32 : Circle Over a Triangle Pointing Up  33 : Other Shape (See Shape Information)  34 : Tubular | | (S) EN | 1, 1 |
| Shape Information | |  |  | | (S) C | 0, 1 |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| MMSI Code | |  |  | | TE | 0, 1 |
| Type Of AtoN | | (typatn) | 1 : Aid to Navigation  2 : Physical AIS Aid to Navigation  3 : Virtual AIS Aid to Navigation | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.159 Cardinal Buoy**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A cardinal buoy is used in conjunction with the compass to indicate where the mariner may find the best navigable water. It is placed in one of the four quadrants (North, East, South and West), bounded by inter-cardinal bearings from the point marked. | | | | | | |
| **S-10x Geo Feature: Cardinal Buoy (BOYCAR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Buoy Shape | | (BOYSHP) | 1 : Conical  2 : Can  3 : Spherical  4 : Pillar  5 : Spar  6 : Barrel  7 : Superbuoy  8 : Ice Buoy | | EN | 1, 1 |
| Category of Cardinal Mark | | (CATCAM) | 1 : North Cardinal Mark  2 : East Cardinal Mark  3 : South Cardinal Mark  4 : West Cardinal Mark | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  11 : Main European Inland Waterway Marking System | | EN | 0, 1 |
| Nature of Construction | | (NATCON) | 6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic  11 : Latticed | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  5 : Periodic/Intermittent  7 : Temporary  8 : Private  18 : Existence Doubtful | | EN | 0, \* |
| Topmark | | (TOPMAR) |  | | C | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | (S) EN | 0, 99 (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe  7 : Single Colour  8 : Rectangle  9 : Triangle | | (S) EN | 0, 1 |
| Topmark/Daymark Shape | | (TOPSHP) | 1 : Cone (Point Up)  2 : Cone (Point Down)  3 : Sphere  4 : 2 Spheres  5 : Cylinder  6 : Board  7 : X-Shaped  8 : Upright Cross  9 : Cube (Point Up)  10 : 2 Cones (Point to Point)  11 : 2 Cones (Base to Base)  12 : Rhombus  13 : 2 Cones (Points Upward)  14 : 2 Cones (Points Downward)  15 : Besom (Point Up)  16 : Besom (Point Down)  17 : Flag  18 : Sphere Over a Rhombus  19 : Square  20 : Rectangle (Horizontal)  21 : Rectangle (Vertical)  22 : Trapezium (Up)  23 : Trapezium (Down)  24 : Triangle (Point Up)  25 : Triangle (Point Down)  26 : Circle  27 : Two Upright Crosses (One Over the Other)  28 : T-Shape  29 : Triangle Pointing Up Over a Circle  30 : Upright Cross Over a Circle  31 : Rhombus Over a Circle  32 : Circle Over a Triangle Pointing Up  33 : Other Shape (See Shape Information)  34 : Tubular | | (S) EN | 1, 1 |
| Shape Information | |  |  | | (S) C | 0, 1 |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| MMSI Code | |  |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.160 Isolated Danger Buoy**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An isolated danger buoy is a buoy moored on or above an isolated danger of limited extent, which has navigable water all around it. | | | | | | |
| **S-10x Geo Feature: Isolated Danger Buoy (BOYISD)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Buoy Shape | | (BOYSHP) | 1 : Conical  2 : Can  3 : Spherical  4 : Pillar  5 : Spar  6 : Barrel  7 : Superbuoy  8 : Ice Buoy | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 1, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  11 : Main European Inland Waterway Marking System | | EN | 0, 1 |
| Nature of Construction | | (NATCON) | 6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic  11 : Latticed | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  5 : Periodic/Intermittent  7 : Temporary  8 : Private  18 : Existence Doubtful | | EN | 0, \* |
| Topmark | | (TOPMAR) |  | | C | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | (S) EN | 0, 99 (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe  7 : Single Colour  8 : Rectangle  9 : Triangle | | (S) EN | 0, 1 |
| Topmark/Daymark Shape | | (TOPSHP) | 1 : Cone (Point Up)  2 : Cone (Point Down)  3 : Sphere  4 : 2 Spheres  5 : Cylinder  6 : Board  7 : X-Shaped  8 : Upright Cross  9 : Cube (Point Up)  10 : 2 Cones (Point to Point)  11 : 2 Cones (Base to Base)  12 : Rhombus  13 : 2 Cones (Points Upward)  14 : 2 Cones (Points Downward)  15 : Besom (Point Up)  16 : Besom (Point Down)  17 : Flag  18 : Sphere Over a Rhombus  19 : Square  20 : Rectangle (Horizontal)  21 : Rectangle (Vertical)  22 : Trapezium (Up)  23 : Trapezium (Down)  24 : Triangle (Point Up)  25 : Triangle (Point Down)  26 : Circle  27 : Two Upright Crosses (One Over the Other)  28 : T-Shape  29 : Triangle Pointing Up Over a Circle  30 : Upright Cross Over a Circle  31 : Rhombus Over a Circle  32 : Circle Over a Triangle Pointing Up  33 : Other Shape (See Shape Information)  34 : Tubular | | (S) EN | 1, 1 |
| Shape Information | |  |  | | (S) C | 0, 1 |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| MMSI Code | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.161 Safe Water Buoy**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A safe water buoy is used to indicate that there is navigable water around the mark. | | | | | | |
| **S-10x Geo Feature: Safe Water Buoy (BOYSAW)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Buoy Shape | | (BOYSHP) | 1 : Conical  2 : Can  3 : Spherical  4 : Pillar  5 : Spar  6 : Barrel  7 : Superbuoy  8 : Ice Buoy | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 1, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  11 : Main European Inland Waterway Marking System | | EN | 0, 1 |
| Nature of Construction | | (NATCON) | 6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic  11 : Latticed | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  5 : Periodic/Intermittent  7 : Temporary  8 : Private  18 : Existence Doubtful | | EN | 0, \* |
| Topmark | | (TOPMAR) |  | | C | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | (S) EN | 0, 99 (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe  7 : Single Colour  8 : Rectangle  9 : Triangle | | (S) EN | 0, 1 |
| Topmark/Daymark Shape | | (TOPSHP) | 1 : Cone (Point Up)  2 : Cone (Point Down)  3 : Sphere  4 : 2 Spheres  5 : Cylinder  6 : Board  7 : X-Shaped  8 : Upright Cross  9 : Cube (Point Up)  10 : 2 Cones (Point to Point)  11 : 2 Cones (Base to Base)  12 : Rhombus  13 : 2 Cones (Points Upward)  14 : 2 Cones (Points Downward)  15 : Besom (Point Up)  16 : Besom (Point Down)  17 : Flag  18 : Sphere Over a Rhombus  19 : Square  20 : Rectangle (Horizontal)  21 : Rectangle (Vertical)  22 : Trapezium (Up)  23 : Trapezium (Down)  24 : Triangle (Point Up)  25 : Triangle (Point Down)  26 : Circle  27 : Two Upright Crosses (One Over the Other)  28 : T-Shape  29 : Triangle Pointing Up Over a Circle  30 : Upright Cross Over a Circle  31 : Rhombus Over a Circle  32 : Circle Over a Triangle Pointing Up  33 : Other Shape (See Shape Information)  34 : Tubular | | (S) EN | 1, 1 |
| Shape Information | |  |  | | (S) C | 0, 1 |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| MMSI Code | |  |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.162 Special Purpose/General Buoy**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A special purpose buoy is primarily used to indicate an area or feature, the nature of which is apparent from reference to a chart, Sailing Directions or Notices to Mariners. | | | | | | |
| **S-10x Geo Feature: Special Purpose/General Buoy (BOYSPP)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Buoy Shape | | (BOYSHP) | 1 : Conical  2 : Can  3 : Spherical  4 : Pillar  5 : Spar  6 : Barrel  7 : Superbuoy  8 : Ice Buoy | | EN | 1, 1 |
| Category of Special Purpose Mark | | (CATSPM) | 1 : Firing Danger Mark  2 : Target Mark  3 : Marker Ship Mark  4 : Degaussing Range Mark  5 : Barge Mark  6 : Cable Mark  7 : Spoil Ground Mark  8 : Outfall Mark  9 : ODAS  10 : Recording Mark  11 : Seaplane Anchorage Mark  12 : Recreation Zone Mark  13 : Private Mark  14 : Mooring Mark  15 : LANBY  16 : Leading Mark  17 : Measured Distance Mark  18 : Notice Mark  19 : TSS Mark  20 : Anchoring Prohibited Mark  21 : Berthing Prohibited Mark  22 : Overtaking Prohibited Mark  23 : Two-Way Traffic Prohibited Mark  24 : Reduced Wake Mark  25 : Speed Limit Mark  26 : Stop Mark  27 : General Warning Mark  28 : Sound Ship's Siren Mark  29 : Restricted Vertical Clearance Mark  30 : Maximum Vessel's Draught Mark  31 : Restricted Horizontal Clearance Mark  32 : Strong Current Warning Mark  33 : Berthing Permitted Mark  34 : Overhead Power Cable Mark  35 : Channel Edge Gradient Mark  36 : Telephone Mark  37 : Ferry Crossing Mark  39 : Pipeline Mark  40 : Anchorage Mark  41 : Clearing Mark  42 : Control Mark  43 : Diving Mark  44 : Refuge Beacon  45 : Foul Ground Mark  46 : Yachting Mark  47 : Heliport Mark  48 : GNSS Mark  49 : Seaplane Landing Mark  50 : Entry Prohibited Mark  51 : Work in Progress Mark  52 : Mark With Unknown Purpose  53 : Wellhead Mark  54 : Channel Separation Mark  55 : Marine Farm Mark  56 : Artificial Reef Mark  57 : Ice Mark  58 : Nature Reserve Mark  59 : Fish Aggregating Device  60 : Wreck Mark  61 : Customs Mark  62 : Causeway Mark  63 : Wave Recorder | | EN | 1, \* |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  11 : Main European Inland Waterway Marking System | | EN | 0, 1 |
| Nature of Construction | | (NATCON) | 6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic  11 : Latticed | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  5 : Periodic/Intermittent  7 : Temporary  8 : Private  18 : Existence Doubtful | | EN | 0, \* |
| Topmark | | (TOPMAR) |  | | C | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | (S) EN | 0, 99 (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe  7 : Single Colour  8 : Rectangle  9 : Triangle | | (S) EN | 0, 1 |
| Topmark/Daymark Shape | | (TOPSHP) | 1 : Cone (Point Up)  2 : Cone (Point Down)  3 : Sphere  4 : 2 Spheres  5 : Cylinder  6 : Board  7 : X-Shaped  8 : Upright Cross  9 : Cube (Point Up)  10 : 2 Cones (Point to Point)  11 : 2 Cones (Base to Base)  12 : Rhombus  13 : 2 Cones (Points Upward)  14 : 2 Cones (Points Downward)  15 : Besom (Point Up)  16 : Besom (Point Down)  17 : Flag  18 : Sphere Over a Rhombus  19 : Square  20 : Rectangle (Horizontal)  21 : Rectangle (Vertical)  22 : Trapezium (Up)  23 : Trapezium (Down)  24 : Triangle (Point Up)  25 : Triangle (Point Down)  26 : Circle  27 : Two Upright Crosses (One Over the Other)  28 : T-Shape  29 : Triangle Pointing Up Over a Circle  30 : Upright Cross Over a Circle  31 : Rhombus Over a Circle  32 : Circle Over a Triangle Pointing Up  33 : Other Shape (See Shape Information)  34 : Tubular | | (S) EN | 1, 1 |
| Shape Information | |  |  | | (S) C | 0, 1 |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| MMSI Code | |  |  | | TE | 0, 1 |
| Type Of AtoN | | (typatn) | 1 : Aid to Navigation  2 : Physical AIS Aid to Navigation  3 : Virtual AIS Aid to Navigation | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.163 Emergency Wreck Marking Buoy**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An emergency wreck marking buoy is a buoy moored on or above a new wreck, designed to provide a prominent (both visual and radio) and easily identifiable temporary first response. | | | | | | |
| **S-10x Geo Feature: Emergency Wreck Marking Buoy** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Buoy Shape | | (BOYSHP) | 1 : Conical  2 : Can  3 : Spherical  4 : Pillar  5 : Spar  6 : Barrel | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  11 : Main European Inland Waterway Marking System | | EN | 0, 1 |
| Nature of Construction | | (NATCON) | 6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic  11 : Latticed | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Topmark | | (TOPMAR) |  | | C | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | (S) EN | 0, 99 (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe  7 : Single Colour  8 : Rectangle  9 : Triangle | | (S) EN | 0, 1 |
| Topmark/Daymark Shape | | (TOPSHP) | 1 : Cone (Point Up)  2 : Cone (Point Down)  3 : Sphere  4 : 2 Spheres  5 : Cylinder  6 : Board  7 : X-Shaped  8 : Upright Cross  9 : Cube (Point Up)  10 : 2 Cones (Point to Point)  11 : 2 Cones (Base to Base)  12 : Rhombus  13 : 2 Cones (Points Upward)  14 : 2 Cones (Points Downward)  15 : Besom (Point Up)  16 : Besom (Point Down)  17 : Flag  18 : Sphere Over a Rhombus  19 : Square  20 : Rectangle (Horizontal)  21 : Rectangle (Vertical)  22 : Trapezium (Up)  23 : Trapezium (Down)  24 : Triangle (Point Up)  25 : Triangle (Point Down)  26 : Circle  27 : Two Upright Crosses (One Over the Other)  28 : T-Shape  29 : Triangle Pointing Up Over a Circle  30 : Upright Cross Over a Circle  31 : Rhombus Over a Circle  32 : Circle Over a Triangle Pointing Up  33 : Other Shape (See Shape Information)  34 : Tubular | | (S) EN | 1, 1 |
| Shape Information | |  |  | | (S) C | 0, 1 |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| MMSI Code | |  |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.164 Installation Buoy**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An installation buoy is a buoy used for loading tankers with gas or oil. | | | | | | |
| **S-10x Geo Feature: Installation Buoy (BOYINB)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Buoy Shape | | (BOYSHP) | 1 : Conical  2 : Can  3 : Spherical  4 : Pillar  5 : Spar  6 : Barrel  7 : Superbuoy  8 : Ice Buoy | | EN | 1, 1 |
| Category of Installation Buoy | | (CATINB) | 1 : Catenary Anchor Leg Mooring  2 : Single Buoy Mooring | | EN | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 7 : Metal  11 : Latticed | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Product | | (PRODCT) | 1 : Oil  2 : Gas  18 : Liquefied Natural Gas  19 : Liquefied Petroleum Gas | | EN | 0, \* |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  18 : Existence Doubtful | | EN | 0, \* |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.165 Mooring Buoy**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A buoy secured to the bottom by permanent moorings with means for mooring a vessel by use of its anchor chain or mooring lines. | | | | | | |
| **S-10x Geo Feature: Mooring Buoy** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Buoy Shape | | (BOYSHP) | 1 : Conical  2 : Can  3 : Spherical  4 : Pillar  5 : Spar  6 : Barrel  7 : Superbuoy  8 : Ice Buoy | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Maximum Permitted Draught | |  |  | | RE | 0, 1 |
| Maximum Permitted Vessel Length | |  |  | | RE | 0, 1 |
| Nature of Construction | | (NATCON) | 7 : Metal  8 : Glass Reinforced Plastic  11 : Latticed | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  18 : Existence Doubtful | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visitors Mooring | |  |  | | BO | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.166 Lateral Beacon**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A lateral beacon is used to indicate the port or starboard hand side of the route to be followed. They are generally used for well defined channels and are used in conjunction with a conventional direction of buoyage. | | | | | | |
| **S-10x Geo Feature: Lateral Beacon (BCNLAT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Beacon Shape | | (BCNSHP) | 1 : Stake, Pole, Perch, Post  2 : Withy  3 : Beacon Tower  4 : Lattice Beacon  5 : Pile Beacon  6 : Cairn  7 : Buoyant Beacon | | EN | 1, 1 |
| Category of Lateral Mark | | (CATLAM) | 1 : Port-Hand Lateral Mark  2 : Starboard-Hand Lateral Mark  3 : Preferred Channel to Starboard Lateral Mark  4 : Preferred Channel to Port Lateral Mark  5 : Right-Hand Side of the Waterway  6 : Left-Hand Side of the Waterway  7 : Right-Hand Side of the Channel  8 : Left-Hand Side of the Channel  9 : Bifurcation of the Waterway  10 : Bifurcation of the Channel  11 : Channel Near the Right Bank  12 : Channel Near the Left Bank  13 : Channel Cross-Over to the Right Bank  14 : Channel Cross-Over to the Left Bank  15 : Danger Point or Obstacles at the Right-Hand Side  16 : Danger Point or Obstacles at the Left-Hand Side  17 : Turn Off at the Right-Hand Side  18 : Turn Off at the Left-Hand Side  19 : Junction at the Right-Hand Side  20 : Junction at the Left-Hand Side  21 : Harbour Entry at the Right-Hand Side  22 : Harbour Entry at the Left-Hand Side  23 : Bridge Pier Mark  24 : Entry From a Lake to a Narrower Waterway, Right Bank  25 : Entry From a Lake to a Narrower Waterway, Left Bank  26 : Change Bank  27 : Continue Along Bank | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  11 : Main European Inland Waterway Marking System | | EN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  12 : Illuminated  18 : Existence Doubtful | | EN | 0, \* |
| Topmark | | (TOPMAR) |  | | C | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | (S) EN | 0, 99 (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe  7 : Single Colour  8 : Rectangle  9 : Triangle | | (S) EN | 0, 1 |
| Topmark/Daymark Shape | | (TOPSHP) | 1 : Cone (Point Up)  2 : Cone (Point Down)  3 : Sphere  4 : 2 Spheres  5 : Cylinder  6 : Board  7 : X-Shaped  8 : Upright Cross  9 : Cube (Point Up)  10 : 2 Cones (Point to Point)  11 : 2 Cones (Base to Base)  12 : Rhombus  13 : 2 Cones (Points Upward)  14 : 2 Cones (Points Downward)  15 : Besom (Point Up)  16 : Besom (Point Down)  17 : Flag  18 : Sphere Over a Rhombus  19 : Square  20 : Rectangle (Horizontal)  21 : Rectangle (Vertical)  22 : Trapezium (Up)  23 : Trapezium (Down)  24 : Triangle (Point Up)  25 : Triangle (Point Down)  26 : Circle  27 : Two Upright Crosses (One Over the Other)  28 : T-Shape  29 : Triangle Pointing Up Over a Circle  30 : Upright Cross Over a Circle  31 : Rhombus Over a Circle  32 : Circle Over a Triangle Pointing Up  33 : Other Shape (See Shape Information)  34 : Tubular | | (S) EN | 1, 1 |
| Shape Information | |  |  | | (S) C | 0, 1 |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Direction of Impact | | (dirimp) | 1 : Upstream  2 : Downstream  3 : To the Left Bank  4 : To the Right Bank  5 : To Harbour | | EN | 0, \* |
| MMSI Code | |  |  | | TE | 0, 1 |
| Type Of AtoN | | (typatn) | 1 : Aid to Navigation  2 : Physical AIS Aid to Navigation  3 : Virtual AIS Aid to Navigation | | EN | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.167 Cardinal Beacon**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A cardinal beacon is used in conjunction with the compass to indicate where the mariner may find the best navigable water. It is placed in one of the four quadrants (North, East, South and West), bounded by inter-cardinal bearings from the point marked. | | | | | | |
| **S-10x Geo Feature: Cardinal Beacon (BCNCAR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Beacon Shape | | (BCNSHP) | 1 : Stake, Pole, Perch, Post  2 : Withy  3 : Beacon Tower  4 : Lattice Beacon  5 : Pile Beacon  6 : Cairn  7 : Buoyant Beacon | | EN | 1, 1 |
| Category of Cardinal Mark | | (CATCAM) | 1 : North Cardinal Mark  2 : East Cardinal Mark  3 : South Cardinal Mark  4 : West Cardinal Mark | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 1, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  11 : Main European Inland Waterway Marking System | | EN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  12 : Illuminated  18 : Existence Doubtful | | EN | 0, \* |
| Topmark | | (TOPMAR) |  | | C | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | (S) EN | 0, 99 (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe  7 : Single Colour  8 : Rectangle  9 : Triangle | | (S) EN | 0, 1 |
| Topmark/Daymark Shape | | (TOPSHP) | 1 : Cone (Point Up)  2 : Cone (Point Down)  3 : Sphere  4 : 2 Spheres  5 : Cylinder  6 : Board  7 : X-Shaped  8 : Upright Cross  9 : Cube (Point Up)  10 : 2 Cones (Point to Point)  11 : 2 Cones (Base to Base)  12 : Rhombus  13 : 2 Cones (Points Upward)  14 : 2 Cones (Points Downward)  15 : Besom (Point Up)  16 : Besom (Point Down)  17 : Flag  18 : Sphere Over a Rhombus  19 : Square  20 : Rectangle (Horizontal)  21 : Rectangle (Vertical)  22 : Trapezium (Up)  23 : Trapezium (Down)  24 : Triangle (Point Up)  25 : Triangle (Point Down)  26 : Circle  27 : Two Upright Crosses (One Over the Other)  28 : T-Shape  29 : Triangle Pointing Up Over a Circle  30 : Upright Cross Over a Circle  31 : Rhombus Over a Circle  32 : Circle Over a Triangle Pointing Up  33 : Other Shape (See Shape Information)  34 : Tubular | | (S) EN | 1, 1 |
| Shape Information | |  |  | | (S) C | 0, 1 |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.168 Isolated Danger Beacon**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An isolated danger beacon is a beacon erected on an isolated danger of limited extent, which has navigable water all around it. | | | | | | |
| **S-10x Geo Feature: Isolated Danger Beacon (BCNISD)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Beacon Shape | | (BCNSHP) | 1 : Stake, Pole, Perch, Post  2 : Withy  3 : Beacon Tower  4 : Lattice Beacon  5 : Pile Beacon  6 : Cairn  7 : Buoyant Beacon | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 1, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  11 : Main European Inland Waterway Marking System | | EN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  12 : Illuminated  18 : Existence Doubtful | | EN | 0, \* |
| Topmark | | (TOPMAR) |  | | C | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | (S) EN | 0, 99 (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe  7 : Single Colour  8 : Rectangle  9 : Triangle | | (S) EN | 0, 1 |
| Topmark/Daymark Shape | | (TOPSHP) | 1 : Cone (Point Up)  2 : Cone (Point Down)  3 : Sphere  4 : 2 Spheres  5 : Cylinder  6 : Board  7 : X-Shaped  8 : Upright Cross  9 : Cube (Point Up)  10 : 2 Cones (Point to Point)  11 : 2 Cones (Base to Base)  12 : Rhombus  13 : 2 Cones (Points Upward)  14 : 2 Cones (Points Downward)  15 : Besom (Point Up)  16 : Besom (Point Down)  17 : Flag  18 : Sphere Over a Rhombus  19 : Square  20 : Rectangle (Horizontal)  21 : Rectangle (Vertical)  22 : Trapezium (Up)  23 : Trapezium (Down)  24 : Triangle (Point Up)  25 : Triangle (Point Down)  26 : Circle  27 : Two Upright Crosses (One Over the Other)  28 : T-Shape  29 : Triangle Pointing Up Over a Circle  30 : Upright Cross Over a Circle  31 : Rhombus Over a Circle  32 : Circle Over a Triangle Pointing Up  33 : Other Shape (See Shape Information)  34 : Tubular | | (S) EN | 1, 1 |
| Shape Information | |  |  | | (S) C | 0, 1 |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.169 Safe Water Beacon**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A safe water beacon is used to indicate that there is navigable water around the mark. | | | | | | |
| **S-10x Geo Feature: Safe Water Beacon (BCNSAW)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Beacon Shape | | (BCNSHP) | 1 : Stake, Pole, Perch, Post  2 : Withy  3 : Beacon Tower  4 : Lattice Beacon  5 : Pile Beacon  6 : Cairn  7 : Buoyant Beacon | | EN | 1, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 2, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  11 : Main European Inland Waterway Marking System | | EN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  3 : Recommended  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  9 : Mandatory  12 : Illuminated  14 : Public  16 : Watched  17 : Unwatched  18 : Existence Doubtful | | EN | 0, \* |
| Topmark | | (TOPMAR) |  | | C | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | (S) EN | 0, 99 (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe  7 : Single Colour  8 : Rectangle  9 : Triangle | | (S) EN | 0, 1 |
| Topmark/Daymark Shape | | (TOPSHP) | 1 : Cone (Point Up)  2 : Cone (Point Down)  3 : Sphere  4 : 2 Spheres  5 : Cylinder  6 : Board  7 : X-Shaped  8 : Upright Cross  9 : Cube (Point Up)  10 : 2 Cones (Point to Point)  11 : 2 Cones (Base to Base)  12 : Rhombus  13 : 2 Cones (Points Upward)  14 : 2 Cones (Points Downward)  15 : Besom (Point Up)  16 : Besom (Point Down)  17 : Flag  18 : Sphere Over a Rhombus  19 : Square  20 : Rectangle (Horizontal)  21 : Rectangle (Vertical)  22 : Trapezium (Up)  23 : Trapezium (Down)  24 : Triangle (Point Up)  25 : Triangle (Point Down)  26 : Circle  27 : Two Upright Crosses (One Over the Other)  28 : T-Shape  29 : Triangle Pointing Up Over a Circle  30 : Upright Cross Over a Circle  31 : Rhombus Over a Circle  32 : Circle Over a Triangle Pointing Up  33 : Other Shape (See Shape Information)  34 : Tubular | | (S) EN | 1, 1 |
| Shape Information | |  |  | | (S) C | 0, 1 |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.170 Special Purpose/General Beacon**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A special purpose beacon is primarily used to indicate an area or feature, the nature of which is apparent from reference to a chart, Sailing Directions or Notices to Mariners. | | | | | | |
| **S-10x Geo Feature: Special Purpose/General Beacon (BCNSPP)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Beacon Shape | | (BCNSHP) | 1 : Stake, Pole, Perch, Post  2 : Withy  3 : Beacon Tower  4 : Lattice Beacon  5 : Pile Beacon  6 : Cairn  7 : Buoyant Beacon | | EN | 1, 1 |
| Category of Special Purpose Mark | | (CATSPM) | 1 : Firing Danger Mark  2 : Target Mark  3 : Marker Ship Mark  4 : Degaussing Range Mark  5 : Barge Mark  6 : Cable Mark  7 : Spoil Ground Mark  8 : Outfall Mark  10 : Recording Mark  11 : Seaplane Anchorage Mark  12 : Recreation Zone Mark  14 : Mooring Mark  16 : Leading Mark  17 : Measured Distance Mark  18 : Notice Mark  19 : TSS Mark  20 : Anchoring Prohibited Mark  21 : Berthing Prohibited Mark  22 : Overtaking Prohibited Mark  23 : Two-Way Traffic Prohibited Mark  24 : Reduced Wake Mark  25 : Speed Limit Mark  26 : Stop Mark  27 : General Warning Mark  28 : Sound Ship's Siren Mark  29 : Restricted Vertical Clearance Mark  30 : Maximum Vessel's Draught Mark  31 : Restricted Horizontal Clearance Mark  32 : Strong Current Warning Mark  33 : Berthing Permitted Mark  34 : Overhead Power Cable Mark  35 : Channel Edge Gradient Mark  36 : Telephone Mark  37 : Ferry Crossing Mark  39 : Pipeline Mark  40 : Anchorage Mark  41 : Clearing Mark  42 : Control Mark  43 : Diving Mark  44 : Refuge Beacon  45 : Foul Ground Mark  46 : Yachting Mark  47 : Heliport Mark  48 : GNSS Mark  49 : Seaplane Landing Mark  50 : Entry Prohibited Mark  51 : Work in Progress Mark  52 : Mark With Unknown Purpose  53 : Wellhead Mark  54 : Channel Separation Mark  55 : Marine Farm Mark  56 : Artificial Reef Mark  57 : Ice Mark  58 : Nature Reserve Mark  60 : Wreck Mark  61 : Customs Mark  62 : Causeway Mark  63 : Wave Recorder | | EN | 1, \* |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  11 : Main European Inland Waterway Marking System | | EN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  12 : Illuminated  18 : Existence Doubtful | | EN | 0, \* |
| Topmark | | (TOPMAR) |  | | C | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | (S) EN | 0, 99 (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe  7 : Single Colour  8 : Rectangle  9 : Triangle | | (S) EN | 0, 1 |
| Topmark/Daymark Shape | | (TOPSHP) | 1 : Cone (Point Up)  2 : Cone (Point Down)  3 : Sphere  4 : 2 Spheres  5 : Cylinder  6 : Board  7 : X-Shaped  8 : Upright Cross  9 : Cube (Point Up)  10 : 2 Cones (Point to Point)  11 : 2 Cones (Base to Base)  12 : Rhombus  13 : 2 Cones (Points Upward)  14 : 2 Cones (Points Downward)  15 : Besom (Point Up)  16 : Besom (Point Down)  17 : Flag  18 : Sphere Over a Rhombus  19 : Square  20 : Rectangle (Horizontal)  21 : Rectangle (Vertical)  22 : Trapezium (Up)  23 : Trapezium (Down)  24 : Triangle (Point Up)  25 : Triangle (Point Down)  26 : Circle  27 : Two Upright Crosses (One Over the Other)  28 : T-Shape  29 : Triangle Pointing Up Over a Circle  30 : Upright Cross Over a Circle  31 : Rhombus Over a Circle  32 : Circle Over a Triangle Pointing Up  33 : Other Shape (See Shape Information)  34 : Tubular | | (S) EN | 1, 1 |
| Shape Information | |  |  | | (S) C | 0, 1 |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.171 Daymark**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: (1) The identifying characteristics of an aid to navigation which serve to facilitate its recognition against a daylight viewing background. On those structures that do not by themselves present an adequate viewing area to be seen at the required distance, the aid is made more visible by affixing a daymark to the structure. A daymark so affixed has a distinctive colour and shape depending on the purpose of the aid. (2) An unlighted navigational mark. | | | | | | |
| **S-10x Geo Feature: Daymark (DAYMAR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Special Purpose Mark | | (CATSPM) | 1 : Firing Danger Mark  2 : Target Mark  3 : Marker Ship Mark  4 : Degaussing Range Mark  5 : Barge Mark  6 : Cable Mark  7 : Spoil Ground Mark  8 : Outfall Mark  10 : Recording Mark  11 : Seaplane Anchorage Mark  12 : Recreation Zone Mark  14 : Mooring Mark  15 : LANBY  16 : Leading Mark  17 : Measured Distance Mark  18 : Notice Mark  19 : TSS Mark  20 : Anchoring Prohibited Mark  21 : Berthing Prohibited Mark  22 : Overtaking Prohibited Mark  23 : Two-Way Traffic Prohibited Mark  24 : Reduced Wake Mark  25 : Speed Limit Mark  26 : Stop Mark  27 : General Warning Mark  28 : Sound Ship's Siren Mark  29 : Restricted Vertical Clearance Mark  30 : Maximum Vessel's Draught Mark  31 : Restricted Horizontal Clearance Mark  32 : Strong Current Warning Mark  33 : Berthing Permitted Mark  34 : Overhead Power Cable Mark  35 : Channel Edge Gradient Mark  36 : Telephone Mark  37 : Ferry Crossing Mark  39 : Pipeline Mark  40 : Anchorage Mark  41 : Clearing Mark  42 : Control Mark  43 : Diving Mark  44 : Refuge Beacon  45 : Foul Ground Mark  46 : Yachting Mark  47 : Heliport Mark  48 : GNSS Mark  49 : Seaplane Landing Mark  50 : Entry Prohibited Mark  51 : Work in Progress Mark  52 : Mark With Unknown Purpose  53 : Wellhead Mark  54 : Channel Separation Mark  55 : Marine Farm Mark  56 : Artificial Reef Mark  57 : Ice Mark  58 : Nature Reserve Mark  60 : Wreck Mark  61 : Customs Mark  62 : Causeway Mark  63 : Wave Recorder | | EN | 0, \* |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  4 : Hard Surfaced  6 : Wooden  7 : Metal  8 : Glass Reinforced Plastic  11 : Latticed | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  12 : Illuminated | | EN | 0, \* |
| Topmark/Daymark Shape | | (TOPSHP) | 1 : Cone (Point Up)  2 : Cone (Point Down)  3 : Sphere  4 : 2 Spheres  5 : Cylinder  6 : Board  7 : X-Shaped  8 : Upright Cross  9 : Cube (Point Up)  10 : 2 Cones (Point to Point)  11 : 2 Cones (Base to Base)  12 : Rhombus  13 : 2 Cones (Points Upward)  14 : 2 Cones (Points Downward)  15 : Besom (Point Up)  16 : Besom (Point Down)  17 : Flag  18 : Sphere Over a Rhombus  19 : Square  20 : Rectangle (Horizontal)  21 : Rectangle (Vertical)  22 : Trapezium (Up)  23 : Trapezium (Down)  24 : Triangle (Point Up)  25 : Triangle (Point Down)  26 : Circle  27 : Two Upright Crosses (One Over the Other)  28 : T-Shape  29 : Triangle Pointing Up Over a Circle  30 : Upright Cross Over a Circle  31 : Rhombus Over a Circle  32 : Circle Over a Triangle Pointing Up  33 : Other Shape (See Shape Information) | | EN | 1, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Shape Information | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Orientation | |  |  | | C | 0, 1 |
| Orientation Uncertainty | |  |  | | (S) RE | 0, 1 |
| Orientation Value | | (ORIENT) |  | | (S) RE | 1, 1 |
| Direction of Impact | | (dirimp) | 1 : Upstream  2 : Downstream  3 : To the Left Bank  4 : To the Right Bank  5 : To Harbour | | EN | 0, \* |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.172 Light Float**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A boat-like structure used instead of a light buoy in waters where strong streams or currents are experienced, or when a greater elevation than that of a light buoy is necessary. | | | | | | |
| **S-10x Geo Feature: Light Float (LITFLT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Horizontal Length | | (HORLEN) |  | | RE | 0, 1 |
| Horizontal Width | | (HORWID) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 6 : Wooden  7 : Metal  11 : Latticed | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  14 : Public  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Topmark | | (TOPMAR) |  | | C | 0, 1 |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | (S) EN | 0, 99 (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe  7 : Single Colour  8 : Rectangle  9 : Triangle | | (S) EN | 0, 1 |
| Topmark/Daymark Shape | | (TOPSHP) | 1 : Cone (Point Up)  2 : Cone (Point Down)  3 : Sphere  4 : 2 Spheres  5 : Cylinder  6 : Board  7 : X-Shaped  8 : Upright Cross  9 : Cube (Point Up)  10 : 2 Cones (Point to Point)  11 : 2 Cones (Base to Base)  12 : Rhombus  13 : 2 Cones (Points Upward)  14 : 2 Cones (Points Downward)  15 : Besom (Point Up)  16 : Besom (Point Down)  17 : Flag  18 : Sphere Over a Rhombus  19 : Square  20 : Rectangle (Horizontal)  21 : Rectangle (Vertical)  22 : Trapezium (Up)  23 : Trapezium (Down)  24 : Triangle (Point Up)  25 : Triangle (Point Down)  26 : Circle  27 : Two Upright Crosses (One Over the Other)  28 : T-Shape  29 : Triangle Pointing Up Over a Circle  30 : Upright Cross Over a Circle  31 : Rhombus Over a Circle  32 : Circle Over a Triangle Pointing Up  33 : Other Shape (See Shape Information)  34 : Tubular | | (S) EN | 1, 1 |
| Shape Information | |  |  | | (S) C | 0, 1 |
| Language | |  |  | | (S) TE | 0, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 1, 1 |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.173 Light Vessel**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A distinctively marked vessel anchored or moored at a charted point, to serve as an aid to navigation. By night, it displays a characteristic light(s) and is usually equipped with other devices, such as fog signal, submarine sound signal, and radio-beacon, to assist navigation. | | | | | | |
| **S-10x Geo Feature: Light Vessel (LITVES, Lightship)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Colour | | (COLOUR) | 1 : White  2 : Black  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 1, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Horizontal Length | | (HORLEN) |  | | RE | 0, 1 |
| Horizontal Width | | (HORWID) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Nature of Construction | | (NATCON) | 6 : Wooden  7 : Metal | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Conspicuous | | (CONRAD) |  | | BO | 0, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  14 : Public  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Vertical Length | | (VERLEN) |  | | RE | 0, 1 |
| Visual Prominence | | (CONVIS) | 1 : Visually Conspicuous  2 : Not Visually Conspicuous  3 : Prominent | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.174 Retroreflector**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A means of distinguishing unlighted marks at night. Retroreflective material is secured to the mark in a particular pattern to reflect back light. | | | | | | |
| **S-10x Geo Feature: Retroreflector (RETRFL)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Colour | | (COLOUR) | 1 : White  3 : Red  4 : Green  5 : Blue  6 : Yellow  7 : Grey  8 : Brown  9 : Amber  10 : Violet  11 : Orange  12 : Magenta  13 : Pink | | EN | 0, \* (ordered) |
| Colour Pattern | | (COLPAT) | 1 : Horizontal Stripes  2 : Vertical Stripes  3 : Diagonal Stripes  4 : Squared  5 : Stripes (Direction Unknown)  6 : Border Stripe | | EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  8 : Private | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.175 Radar Reflector**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A device capable of, or intended for, reflecting radar signals. | | | | | | |
| **S-10x Geo Feature: Radar Reflector (RADRFL)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  8 : Private | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.176 Fog Signal**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A warning signal transmitted by a vessel, or aid to navigation, during periods of low visibility. Also, the device producing such a signal. | | | | | | |
| **S-10x Geo Feature: Fog Signal (FOGSIG)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Fog Signal | | (CATFOG) | 1 : Explosive  2 : Diaphone  3 : Siren  4 : Nautophone  5 : Reed  6 : Tyfon  7 : Bell  8 : Whistle  9 : Gong  10 : Horn | | EN | 1, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Signal Frequency | | (SIGFRQ) |  | | IN | 0, 1 |
| Signal Generation | | (SIGGEN) | 1 : Automatically  2 : By Wave Action  3 : By Hand  4 : By Wind  5 : Radio Activated  6 : Call Activated | | EN | 0, 1 |
| Signal Group | | (SIGGRP) |  | | TE | 0, 1 |
| Signal Period | | (SIGPER) |  | | RE | 0, 1 |
| Signal Sequence | | (SIGSEQ) |  | | C | 0, \* (ordered) |
| Signal Duration | |  |  | | (S) RE | 1, 1 |
| Signal Status | |  | 1 : Lit/Sound  2 : Eclipsed/Silent | | (S) EN | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  15 : Synchronized | | EN | 0, \* |
| Value of Maximum Range | | (VALMXR) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.177 Physical AIS Aid to Navigation**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An Automatic Identification System (AIS) message 21 transmitted from a physical Aid to Navigation, or transmitted from an AIS station for an Aid to Navigation which physically exists. | | | | | | |
| **S-10x Geo Feature: Physical AIS Aid to Navigation** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Estimated Range of Transmission | | (ESTRNG) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| MMSI Code | |  |  | | TE | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  5 : Periodic/Intermittent  7 : Temporary | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.178 Virtual AIS Aid to Navigation**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An Automatic Identification System (AIS) message 21 transmitted from an AIS station to simulate on navigation systems an Aid to Navigation which does not physically exist. | | | | | | |
| **S-10x Geo Feature: Virtual AIS Aid to Navigation (NEWOBJ)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Estimated Range of Transmission | | (ESTRNG) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| MMSI Code | |  |  | | TE | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  5 : Periodic/Intermittent  7 : Temporary | | EN | 0, 1 |
| Virtual AIS Aid to Navigation Type | |  | 1 : North Cardinal  2 : East Cardinal  3 : South Cardinal  4 : West Cardinal  5 : Port Lateral (IALA A)  6 : Starboard Lateral (IALA A)  7 : Port Lateral (IALA B)  8 : Starboard Lateral (IALA B)  9 : Isolated Danger  10 : Safe Water  11 : Special Purpose  12 : Emergency Wreck Marking | | EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 1, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.179 Radio Station**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A place equipped to transmit radio waves. Such a station may be either stationary or mobile, and may also be provided with a radio receiver. | | | | | | |
| **S-10x Geo Feature: Radio Station (RDOSTA, W/T Station)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Call Sign | | (CALSGN) |  | | TE | 0, 1 |
| Category of Radio Station | | (CATROS) | 5 : Radio Direction-Finding Station  10 : Differential GNSS  11 : Toran  14 : Chaika  19 : Radio Telephone Station  20 : AIS Base Station | | EN | 0, \* |
| Communication Channel | | (COMCHA) |  | | TE | 0, \* |
| Estimated Range of Transmission | | (ESTRNG) |  | | RE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Frequency Pair | |  |  | | C | 0, 1 |
| Frequency Shore Station Receives | | (FRQRXV) |  | | (S) IN | 0, 1 |
| Frequency Shore Station Transmits | | (SIGFRQ)  (FRQTXM) |  | | (S) IN | 1, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.180 Radar Transponder Beacon**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A transponder beacon transmitting a coded signal on radar frequency, permitting an interrogating craft to determine the bearing and range of the transponder. | | | | | | |
| **S-10x Geo Feature: Radar Transponder Beacon (RTPBCN, Radar Beacon, RACON)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Radar Transponder Beacon | | (CATRTB) | 1 : Ramark, Radar Beacon Transmitting Continuously  2 : Racon, Radar Transponder Beacon  3 : Leading Racon/Radar Transponder Beacon | | EN | 1, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Radar Wave Length | |  |  | | C | 0, 2 |
| Radar Band | |  |  | | (S) TE | 1, 1 |
| Wave Length Value | | (RadarWaveLength) |  | | (S) RE | 1, 1 |
| Sector Limit | |  |  | | C | 0, 1 |
| Sector Limit One | | (SECTR1) |  | | (S) C | 1, 1 |
| Sector Bearing | | (SECTR1)  (SECTR2) |  | | (S) RE | 1, 1 |
| Sector Line Length | |  |  | | (S) RE | 0, 1 |
| Sector Limit Two | | (SECTR2) |  | | (S) C | 1, 1 |
| Sector Bearing | | (SECTR1)  (SECTR2) |  | | (S) RE | 1, 1 |
| Sector Line Length | |  |  | | (S) RE | 0, 1 |
| Signal Group | | (SIGGRP) |  | | TE | 0, 1 |
| Signal Sequence | | (SIGSEQ) |  | | C | 0, \* (ordered) |
| Signal Duration | |  |  | | (S) RE | 1, 1 |
| Signal Status | |  | 1 : Lit/Sound  2 : Eclipsed/Silent | | (S) EN | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private | | EN | 0, \* |
| Value of Maximum Range | | (VALMXR) |  | | RE | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **NauticalInformation** | theInformation | 0, 1 |

**2.181 Pilot Boarding Place**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A location offshore where a pilot may board a vessel in preparation to piloting it through local waters. | | | | | | |
| **S-10x Geo Feature: Pilot Boarding Place (PILBOP)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Pilot Boarding Place | | (CATPIL) | 1 : Boarding by Pilot-Cruising Vessel  2 : Boarding by Helicopter  3 : Pilot Comes Out from Shore | | EN | 0, 1 |
| Category of Preference | |  | 1 : Primary  2 : Alternate | | EN | 0, 1 |
| Communication Channel | | (COMCHA) |  | | TE | 0, \* |
| Destination | |  |  | | TE | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Pilot Movement | |  | 1 : Embarkation  2 : Disembarkation  3 : Pilot Change | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  5 : Periodic/Intermittent  6 : Reserved  9 : Mandatory  16 : Watched  17 : Unwatched  28 : Buoyed | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.182 Vessel Traffic Service Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The area of any service implemented by a relevant authority primarily designed to improve safety and efficiency of traffic flow and the protection of the environment. It may range from simple information messages, to extensive organisation of the traffic involving national or regional schemes. | | | | | | |
| **S-10x Geo Feature: Vessel Traffic Service Area (ADMARE, VTS Area)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.183 Coast Guard Station**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A station at which a visual/radio/radar marine watch is kept either continuously or at certain times only. | | | | | | |
| **S-10x Geo Feature: Coast Guard Station (CGUSTA)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Communication Channel | | (COMCHA) |  | | TE | 1, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Is MRCC | | (MaritimeRescueandCoordinationCentre) |  | | BO | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  5 : Periodic/Intermittent  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation, NonStandardWorkingDay, ServiceHours** | theInformation | 0, 1 |

**2.184 Signal Station Warning**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A warning signal station is a place on shore from which warning signals are made to ships at sea. | | | | | | |
| **S-10x Geo Feature: Signal Station Warning (SISTAW)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Signal Station, Warning | | (CATSIW) | 1 : Danger  2 : Maritime Obstruction  3 : Cable  4 : Military Practice  5 : Distress  6 : Weather  7 : Storm  8 : Ice Warning  9 : Time  10 : Tide  11 : Tidal Stream  12 : Tide Gauge  13 : Tide Scale  14 : Diving  15 : Water Level Gauge  16 : Vertical Clearance Indication  18 : Depth Indication | | EN | 1, \* |
| Communication Channel | | (COMCHA) |  | | TE | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  12 : Illuminated  14 : Public  15 : Synchronized  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.185 Signal Station Traffic**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A traffic signal station is a place on shore from which signals are made to regulate the movement of traffic. | | | | | | |
| **S-10x Geo Feature: Signal Station Traffic (SISTAT)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Signal Station, Traffic | | (CATSIT) | 1 : Port Control  2 : Port Entry and Departure  3 : International Port Traffic  4 : Berthing Signal Station  5 : Dock  6 : Lock  7 : Flood Barrage Station  8 : Bridge Passage  9 : Dredging  10 : Traffic Control Light | | EN | 1, \* |
| Communication Channel | | (COMCHA) |  | | TE | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  12 : Illuminated  14 : Public  15 : Synchronized  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Direction of Impact | | (dirimp) | 1 : Upstream  2 : Downstream  3 : To the Left Bank  4 : To the Right Bank | | EN | 0, \* |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.186 Rescue Station**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A place where equipment for saving life at sea is maintained. | | | | | | |
| **S-10x Geo Feature: Rescue Station (RSCSTA, Life Saving Station)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Rescue Station | | (CATRSC) | 1 : Rescue Station with Lifeboat  2 : Rescue Station with Rocket  4 : Refuge for Shipwrecked Mariners  5 : Refuge for Intertidal Area Walkers  6 : Lifeboat Lying at a Mooring  7 : Aid Radio Station  8 : First Aid Equipment  9 : Lifebuoy, Ring Buoy, Life Ring, Life Saver | | EN | 1, \* |
| Communication Channel | | (COMCHA) |  | | TE | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  4 : Not in Use  5 : Periodic/Intermittent  7 : Temporary  8 : Private  14 : Public  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.187 Harbour Facility**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A harbour installation with a service or commercial operation of public interest. | | | | | | |
| **S-10x Geo Feature: Harbour Facility (HRBFAC)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Harbour Facility | | (CATHAF) | 1 : RoRo Terminal  3 : Ferry Terminal  4 : Fishing Harbour  5 : Yacht Harbour/Marina  6 : Naval Base  7 : Tanker Terminal  8 : Passenger Terminal  9 : Shipyard  10 : Container Terminal  11 : Bulk Terminal  12 : Ship Lift  13 : Straddle Carrier  14 : Service Harbour  15 : Pilotage Service  16 : Service and Repair  17 : Quarantine Station | | EN | 1, \* |
| Communication Channel | | (COMCHA) |  | | TE | 0, \* |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Nature of Construction | | (NATCON) | 1 : Masonry  2 : Concreted  3 : Loose Boulders  6 : Wooden  7 : Metal | | EN | 0, \* |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Product | | (PRODCT) | 1 : Oil  2 : Gas  3 : Water  4 : Stone  5 : Coal  6 : Ore  7 : Chemicals  8 : Drinking Water  9 : Milk  10 : Bauxite  11 : Coke  12 : Iron Ingots  13 : Salt  14 : Sand  15 : Timber  16 : Sawdust/Wood Chips  17 : Scrap Metal  18 : Liquefied Natural Gas  19 : Liquefied Petroleum Gas  20 : Wine  21 : Cement  22 : Grain  25 : Clay | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Restriction | | (RESTRN) | 1 : Anchoring Prohibited  2 : Anchoring Restricted  3 : Fishing Prohibited  4 : Fishing Restricted  5 : Trawling Prohibited  6 : Trawling Restricted  8 : Entry Restricted  9 : Dredging Prohibited  10 : Dredging Restricted  11 : Diving Prohibited  12 : Diving Restricted  13 : No Wake  15 : Construction Prohibited  16 : Discharging Prohibited  17 : Discharging Restricted  18 : Industrial or Mineral Exploration/Development Prohibited  19 : Industrial or Mineral Exploration/Development Restricted  20 : Drilling Prohibited  21 : Drilling Restricted  23 : Cargo Transhipment (Lightening) Prohibited  24 : Dragging Prohibited  27 : Speed Restricted  28 : Overtaking Prohibited  29 : Overtaking of Convoys by Convoys Prohibited  30 : Passing or Overtaking Prohibited  31 : Berthing Prohibited  32 : Berthing Restricted  33 : Making Fast Prohibited  34 : Making Fast Restricted  35 : Turning Prohibited  36 : Restricted Fairway Depth  37 : Restricted Fairway Width  38 : Use of Spuds Prohibited  40 : SOx Emission Restricted  41 : NOx Emission Restricted  43 : Passing or Overtaking of Convoys by Convoys Prohibited | | EN | 0, \* |
| Status | | (STATUS) | 1 : Permanent  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  9 : Mandatory  12 : Illuminated  13 : Historic  14 : Public  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Vessel Speed Limit | |  |  | | C | 0, \* |
| Vessel Class | |  |  | | (S) TE | 0, 1 |
| Speed Limit | |  |  | | (S) RE | 1, 1 |
| Speed Units | | (SUNITS) | 1 : Metres Per Second  2 : Kilometres Per Hour  3 : Miles Per Hour  4 : Knots | | (S) EN | 1, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.188 Small Craft Facility**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A place at which a service generally of interest to small craft or pleasure boats is available. | | | | | | |
| **S-10x Geo Feature: Small Craft Facility (SMCFAC)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Small Craft Facility | | (CATSCF) | 1 : Visitors Berth  2 : Nautical Club  3 : Boat Hoist  4 : Sailmaker  5 : Boatyard  6 : Public Inn  7 : Restaurant  8 : Chandler  9 : Provisions  10 : Doctor  11 : Pharmacy  12 : Water Tap  13 : Fuel Station  14 : Electricity Outlet  15 : Bottle Gas  16 : Showers  17 : Launderette  18 : Public Toilets  19 : Post Box  20 : Public Telephone  21 : Refuse Bin  22 : Car Park  23 : Parking for Boats and Trailers  24 : Caravan Site  25 : Camping Site  26 : Sewage Pump-Out Station  27 : Emergency Telephone  28 : Landing/Launching Place for Boats  30 : Scrubbing Berth  31 : Picnic Area  32 : Mechanics Workshop  33 : Guard and/or Security Service | | EN | 1, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 1 : Permanent  2 : Occasional  3 : Recommended  4 : Not in Use  5 : Periodic/Intermittent  6 : Reserved  7 : Temporary  8 : Private  9 : Mandatory  12 : Illuminated  14 : Public  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Feature/Information associations** | | | | |
| **Type** | **Association Name** | **Association Ends** | | |
| **Class** | **Role** | **Mult** |
| association | Additional information | **ContactDetails, NauticalInformation** | theInformation | 0, 1 |

**2.189 Bunker Station**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A station, at which a ship is able to bunker fuel, water or ballast or to obtain electrical power supply. | | | | | | |
| **S-10x Geo Feature: Bunker Station (bunsta)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Bunker Vessel, Availability | | (bunves) | 1 : Bunker Vessel Available  2 : No Bunker Vessel Available | | EN | 1, 1 |
| Category of Bunker Station | | (catbun) | 1 : Diesel Oil  2 : Water  3 : Ballast  4 : Power  5 : Compressed Hydrogen Bunkering  6 : Liquefied Hydrogen Bunkering  7 : Methanol Bunkering  8 : Ammonia Bunkering | | EN | 0, \* |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Power Characteristics | |  |  | | C | 0, \* |
| Category of Voltage | | (catvol) | 1 : 230V  2 : 400V | | (S) EN | 0, 1 |
| Category of Frequency | | (catfrq) | 1 : 50Hz  2 : 60Hz | | (S) EN | 0, 1 |
| Amount of Amperage | |  |  | | (S) IN | 0, 1 |
| Category of Plug | | (catplg) |  | | (S) TE | 0, 1 |
| Number of Shore Connectors | | (shrnum) |  | | (S) IN | 0, 1 |
| Allowed Consumption | | (allcon) |  | | (S) IN | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent  18 : Existence Doubtful | | EN | 0, \* |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.190 Communication Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Indicates the coverage of an area, in which a vessel has to report or may request information. | | | | | | |
| **S-10x Geo Feature: Communication Area (comare)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Communication | | (catcom) | 1 : VTS Centre  2 : VTS Sector  3 : IVS Point  4 : MIB  5 : Lock  6 : Bridge  7 : Custom  8 : Harbour  9 : WLAN Area | | EN | 0, \* |
| Communication Channel | | (COMCHA) |  | | TE | 1, \* |
| Status | | (STATUS) | 2 : Occasional  3 : Recommended  4 : Not in Use  5 : Periodic/Intermittent  8 : Private  9 : Mandatory  12 : Illuminated  14 : Public  16 : Watched  17 : Unwatched | | EN | 0, \* |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.191 Exceptional Navigation Structure**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An exceptional navigational construction like aqueduct, lift-lock, etc. | | | | | | |
| **S-10x Geo Feature: Exceptional Navigation Structure (excnst)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Exceptional Structure | | (catexs) | 1 : Lift-Lock  2 : Aqueduct  3 : Sloping Plane Lock  4 : Water Slope Lock  5 : Other | | EN | 1, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  23 : Lowest Astronomical Tide  24 : Local Datum  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Name of Sounding Datum Reference Level | | (sdrlev) |  | | TE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Sounding Datum Reference Level Value | | (sdrval) |  | | RE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, \* |
| Depth Range Minimum Value | | (DRVAL1) |  | | RE | 1, 1 |
| Horizontal Clearance Width | | (horclw) |  | | RE | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| Distance Unit of Measurement | |  | 1 : Metres  2 : Yards  3 : Kilometres  4 : Statute Miles  5 : Nautical Miles  6 : Feet  7 : Hectometres | | EN | 1, 1 |
| Waterway Distance | | (wtwdis) |  | | RE | 1, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.192 Harbour Basin**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An enclosed area of water surrounded by quay walls constructed to provide means for the transfer of cargos from and to ships. | | | | | | |
| **S-10x Geo Feature: Harbour Basin (hrbbsn)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Horizontal Length | | (HORLEN) |  | | RE | 0, 1 |
| Horizontal Width | | (HORWID) |  | | RE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, \* |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.193 Lock Basin Part**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A lock basin is divided into several lock basin parts, if this lock basin has one ground level but several gates. | | | | | | |
| **S-10x Geo Feature: Lock Basin Part (lkbspt)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Horizontal Clearance Length | |  |  | | RE | 1, 1 |
| Horizontal Clearance Width | | (horclw) |  | | RE | 1, 1 |
| Horizontal Length | | (HORLEN) |  | | RE | 0, 1 |
| Horizontal Width | | (HORWID) |  | | RE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  4 : Wingless  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, \* |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.194 Maximum Permitted Ship Dimensions**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Waterway or waterway section for which a juridical regulation with respect to the maximum permitted vessel dimensions exists. | | | | | | |
| **S-10x Geo Feature: Maximum Permitted Ship Dimensions (lg\_sdm)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Related Issue | | (lg\_rel) | 1 : Other  2 : Usage of Waterway  3 : Carriage of Equipment  4 : Task, Operation | | EN | 0, 1 |
| Description of Legal Conditions | | (lg\_des) |  | | TE | 0, 1 |
| Category of Ship (Including) | |  | 1 : All Types  2 : Other  3 : Non-Motorized Vessel  5 : Craft  6 : Vessel  7 : Inland Waterway Vessel  8 : Sea Going Ship  9 : Motor Vessel  10 : Motor Tanker  11 : Motor Cargo Vessel  12 : Canal Barge  13 : Tug  14 : Pusher  15 : Barge  16 : Tank Barge  17 : Dumb Barge  18 : Lighter  19 : Tank Lighter  20 : Cargo Lighter  21 : Ship Borne Lighter  22 : Passenger Vessel  23 : Passenger Sailing Vessel  24 : Day Trip Vessel  25 : Cabin Vessel  26 : High-Speed Vessel  27 : Floating Equipment  28 : Worksite Craft  29 : Recreational Craft  30 : Dinghy  31 : Floating Establishment  32 : Floating Object | | EN | 0, \* |
| Category of Ship (Excluding) | | (lc\_cse) | 1 : All Types  2 : Other  3 : Non-Motorized Vessel  5 : Craft  6 : Vessel  7 : Inland Waterway Vessel  8 : Sea Going Ship  9 : Motor Vessel  10 : Motor Tanker  11 : Motor Cargo Vessel  12 : Canal Barge  13 : Tug  14 : Pusher  15 : Barge  16 : Tank Barge  17 : Dumb Barge  18 : Lighter  19 : Tank Lighter  20 : Cargo Lighter  21 : Ship Borne Lighter  22 : Passenger Vessel  23 : Passenger Sailing Vessel  24 : Day Trip Vessel  25 : Cabin Vessel  26 : High-Speed Vessel  27 : Floating Equipment  28 : Worksite Craft  29 : Recreational Craft  30 : Dinghy  31 : Floating Establishment  32 : Floating Object | | EN | 0, \* |
| Assemblies of Ship (Including) | | (lc\_asi) | 1 : All Types  2 : Other  3 : Single Vessel  5 : Convoy  6 : Formation  7 : Rigid Convoy  8 : Pushed Convoy  9 : Breasted Up Formation  10 : Towed Convoy | | EN | 0, \* |
| Assemblies of Ship (Excluding) | | (lc\_ase) | 1 : All Types  2 : Other  3 : Single Vessel  5 : Convoy  6 : Formation  7 : Rigid Convoy  8 : Pushed Convoy  9 : Breasted Up Formation  10 : Towed Convoy | | EN | 0, \* |
| Category of Cargo (Including) | | (lc\_cci) | 1 : All Types  2 : Other  4 : Bulk  5 : Dry Cargo  6 : Liquid Cargo  7 : Liquid Cargo (Type N)  8 : Liquid Cargo (Type C)  9 : Gas | | EN | 0, \* |
| Category of Cargo (Excluding) | | (lc\_cce) | 1 : All Types  2 : Other  4 : Bulk  5 : Dry Cargo  6 : Liquid Cargo  7 : Liquid Cargo (Type N)  8 : Liquid Cargo (Type C)  9 : Gas | | EN | 0, \* |
| Maximal Permitted Beam | | (lg\_bme) |  | | RE | 0, 1 |
| Maximal Permitted Draught | | (lg\_drt) |  | | RE | 0, 1 |
| Maximal Permitted Water Displacement | | (lg\_wdp) |  | | RE | 0, 1 |
| Water Displacement Unit | | (lg\_wdu) | 1 : Other  2 : Cubic Metres  3 : Tonnes | | EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Publication Reference | | (lg\_pbr) |  | | TE | 0, 1 |
| Maximal Permitted Length | | (lg\_lgs) |  | | RE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.195 Maximum Permitted Vessel Speed**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Waterway or waterway section for which a juridical regulation with respect to the maximum permitted vessel speed exists. | | | | | | |
| **S-10x Geo Feature: Maximum Permitted Vessel Speed (lg\_vsp)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Related Issue | | (lg\_rel) | 1 : Other  2 : Usage of Waterway  3 : Carriage of Equipment  4 : Task, Operation | | EN | 0, 1 |
| Description of Legal Conditions | | (lg\_des) |  | | TE | 0, 1 |
| Category of Ship (Including) | |  | 1 : All Types  2 : Other  3 : Non-Motorized Vessel  5 : Craft  6 : Vessel  7 : Inland Waterway Vessel  8 : Sea Going Ship  9 : Motor Vessel  10 : Motor Tanker  11 : Motor Cargo Vessel  12 : Canal Barge  13 : Tug  14 : Pusher  15 : Barge  16 : Tank Barge  17 : Dumb Barge  18 : Lighter  19 : Tank Lighter  20 : Cargo Lighter  21 : Ship Borne Lighter  22 : Passenger Vessel  23 : Passenger Sailing Vessel  24 : Day Trip Vessel  25 : Cabin Vessel  26 : High-Speed Vessel  27 : Floating Equipment  28 : Worksite Craft  29 : Recreational Craft  30 : Dinghy  31 : Floating Establishment  32 : Floating Object | | EN | 0, \* |
| Category of Ship (Excluding) | | (lc\_cse) | 1 : All Types  2 : Other  3 : Non-Motorized Vessel  5 : Craft  6 : Vessel  7 : Inland Waterway Vessel  8 : Sea Going Ship  9 : Motor Vessel  10 : Motor Tanker  11 : Motor Cargo Vessel  12 : Canal Barge  13 : Tug  14 : Pusher  15 : Barge  16 : Tank Barge  17 : Dumb Barge  18 : Lighter  19 : Tank Lighter  20 : Cargo Lighter  21 : Ship Borne Lighter  22 : Passenger Vessel  23 : Passenger Sailing Vessel  24 : Day Trip Vessel  25 : Cabin Vessel  26 : High-Speed Vessel  27 : Floating Equipment  28 : Worksite Craft  29 : Recreational Craft  30 : Dinghy  31 : Floating Establishment  32 : Floating Object | | EN | 0, \* |
| Assemblies of Ship (Including) | | (lc\_asi) | 1 : All Types  2 : Other  3 : Single Vessel  5 : Convoy  6 : Formation  7 : Rigid Convoy  8 : Pushed Convoy  9 : Breasted Up Formation  10 : Towed Convoy | | EN | 0, \* |
| Assemblies of Ship (Excluding) | | (lc\_ase) | 1 : All Types  2 : Other  3 : Single Vessel  5 : Convoy  6 : Formation  7 : Rigid Convoy  8 : Pushed Convoy  9 : Breasted Up Formation  10 : Towed Convoy | | EN | 0, \* |
| Category of Cargo (Including) | | (lc\_cci) | 1 : All Types  2 : Other  4 : Bulk  5 : Dry Cargo  6 : Liquid Cargo  7 : Liquid Cargo (Type N)  8 : Liquid Cargo (Type C)  9 : Gas | | EN | 0, \* |
| Category of Cargo (Excluding) | | (lc\_cce) | 1 : All Types  2 : Other  4 : Bulk  5 : Dry Cargo  6 : Liquid Cargo  7 : Liquid Cargo (Type N)  8 : Liquid Cargo (Type C)  9 : Gas | | EN | 0, \* |
| Maximal Permitted Speed | | (lg\_spd) |  | | RE | 0, 1 |
| Speed Reference | | (lg\_spr) | 1 : Other  2 : Speed Over Ground  3 : Speed Through Water | | EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Publication Reference | | (lg\_pbr) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.196 Notice Mark**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A notice board or sign indicating information to the mariner. | | | | | | |
| **S-10x Geo Feature: Notice Mark** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Notice Mark | | (catnmk) | 1 : (A.1) No Entry (General Sign)  2 : (A.1.1) Sections Closed to Use, No Entry Except for Non-Motorized Small Craft  3 : (A.2) No Overtaking  4 : (A.3) No Overtaking of Convoys by Convoys  5 : (A.4) No Passing or Overtaking  6 : (A.5) No Berthing on the Side of the Waterway on Which the Sign is Placed  7 : (A.5.1) No Berthing on the Stretch of Water Whose Breadth, Measured from the Sign, is Shown in Metres on the Sign  8 : (A.6) No Anchoring or Trailing of Anchors, Cables or Chains  9 : (A.7) No Making Fast to the Bank  10 : (A.8) No Turning  11 : (A.9) Do Not Create Wash  12 : (A.10) No Passing on Left Side (In Openings of Bridges or Weirs)  13 : (A.10) No Passing on Right Side (In Openings of Bridges or Weirs)  14 : (A.12) Motorized Craft Prohibited  15 : (A.13) Sports and Pleasure Craft Prohibited  16 : (A.14) Water Skiing Prohibited  17 : (A.15) Sailing Vessels Prohibited  18 : (A.16) All Craft Other Than Motorized Vessels or Sailing Craft Prohibited  19 : (A.17) Use of Sailboards Prohibited  20 : (A.20) Water Bikes Prohibited  21 : (A.18) End of Zone Authorized for High Speed Navigation of Small Sport and Pleasure Craft  22 : (A.19) No Launching or Beaching of Vessels  23 : (B.1) Proceed in Left Direction  24 : (B.1) Proceed in Right Direction  25 : (B.2a) Move to the Side of the Fairway on Your Port Side  26 : (B.2b) Move to the Side of the Fairway on Your Starboard Side  27 : (B.3a) Keep on the Side of the Fairway on Your Port Side  28 : (B.3b) Keep on the Side of the Fairway on Your Starboard Side  29 : (B.4a) Cross Fairway to Port  30 : (B.4b) Cross Fairway to Starboard  31 : (B.5) Stop as Prescribed in the Regulations  32 : (B.6) Do Not Exceed the Speed Indicated (in km/h)  33 : (B.7) Give a Sound Signal  34 : (B.8) Keep a Particularly Sharp Lookout  35 : (B.9a) Do Not Enter the Main Waterway Until Certain that This Will Not Oblige Vessels Proceeding On It to Change their Course or Speed  36 : (B.9b) Do Not Cross the Main Waterway Until Certain that This Will Not Oblige Vessels Proceeding On It to Change their Course or Speed  37 : (B.11) Obligation to Enter Into a Radiotelephone Link on the Channel as Indicated on the Board  38 : (C.1) Depth of Water Limited  39 : (C.2) Headroom Limited  40 : (C.3) Width of Passage or Channel Limited  41 : (C.4) There Are Restrictions on Navigation  42 : (C.5) The Channel Lies at a Distance From the Left Bank  43 : (C.5) The Channel Lies at a Distance From the Right Bank  44 : (D.1a) Recommended Channel in Both Directions  45 : (D.1b) Recommended Channel Only in the Direction Indicated, Passage in the Opposite Direction Prohibited (at Bridges)  46 : (D.2) You are Recommended to Keep on Right Side (in Openings of Bridges and Weirs)  47 : (D.2) You are Recommended to Keep on Left Side (in Openings of Bridges and Weirs)  48 : (D.3) You Are Recommended to Proceed in the Left Direction  49 : (D.3) You Are Recommended to Proceed in the Right Direction  50 : (E.1) Entry Permitted (General Sign)  51 : (E.2) Overhead Cable Crossing  52 : (E.3) Weir  53 : (E.4a) Ferry-Boat Not Moving Independently  54 : (E.4b) Ferry-Boat Moving Independently  55 : (E.5) Berthing (that is Anchoring or Making Fast to the Bank) Permitted  56 : (E.5.1) Berthing Permitted on the Stretch of Water of the Breadth Measured From, and Shown on the Board in Metres  57 : (E.5.2) Berthing Permitted on the Stretch of Water Bounded by the Distances Measured From, and Shown on the Board in Metres  58 : (E.5.3) Maximum Number of Vessels Permitted to Berth Abreast  59 : (E.5.4) Berthing Area Reserved for Pushing-Navigation Vessels that are Not Required to Carry Blue Lights or Blue Cones  60 : (E.5.5) Berthing Area Reserved for Pushing-Navigation Vessels that are Required to Carry One Blue Light or One Blue Cone  61 : (E.5.6) Berthing Area Reserved for Pushing-Navigation Vessels that are Required to Carry Two Blue Lights or Two Blue Cones  62 : (E.5.7) Berthing Area Reserved for Pushing-Navigation Vessels that are Required to Carry Three Blue Lights or Three Blue Cones  63 : (E.5.8) Berthing Area Reserved for Vessels Other Than Pushing-Navigation Vessels that are Not Required to Carry Blue Lights or Blue Cones  64 : (E.5.9) Berthing Area Reserved for Vessels Other Than Pushing-Navigation Vessels that are Required to Carry One Blue Light or One Blue Cone  65 : (E.5.10) Berthing Area Reserved for Vessels Other Than Pushing-Navigation Vessels that are Required to Carry Two Blue Lights or Two Blue Cones  66 : (E.5.11) Berthing Area Reserved for Vessels Other Than Pushing-Navigation Vessels that are Required to Carry Three Blue Lights or Three Blue Cones  67 : (E.5.12) Berthing Area Reserved for All Vessels that are Not Required to Carry Blue Lights or Blue Cones  68 : (E.5.13) Berthing Area Reserved for All Vessels that are Required to Carry One Blue Light or One Blue Cone  69 : (E.5.14) Berthing Area Reserved for All Vessels that are Required to Carry Two Blue Lights or Two Blue Cones  70 : (E.5.15) Berthing Area Reserved for All Vessels that are Required to Carry Three Blue Lights or Three Blue Cones  71 : (E.6) Anchoring or Trailing of Anchors, Cables or Chains Permitted  72 : (E.7) Making Fast to the Bank Permitted  73 : (E.7.1) Berthing Area Reserved for Loading and Unloading of Vehicles  74 : (E.8) Turning Area  75 : (E.9a) Crossing With Secondary Waterway Ahead  76 : (E.9b) Secondary Waterway Ahead on the Right  77 : (E.9c) Secondary Waterway Ahead on the Left  78 : (E.9d) Secondary Waterway Ahead, Main Waterway on the Right  79 : (E.9e) Secondary Waterway Ahead, Main Waterway on the Left  80 : (E.9f) Secondary Waterway on the Left, Main Waterway on the Right  81 : (E.9g) Secondary Waterway on the Right, Main Waterway on the Left  82 : (E.9h) Secondary Waterway Ahead and on the Left, Main Waterway on the Right  83 : (E.9i) Secondary Waterway Ahead and on the Right, Main Waterway on the Left  84 : (E.10a) Crossing with Main Waterway Ahead  85 : (E.10b) Main Waterway Ahead  86 : (E.10c) Junction with Main Waterway Ahead and Right  87 : (E.10d) Junction with Main Waterway Ahead and Left  88 : (E.10e) Junction with Main Waterway Ahead and Right, Secondary Waterway on the Left  89 : (E.10f) Junction with Main Waterway Ahead and Left, Secondary Waterway on the Right  90 : (E.11) End of Prohibition or Obligation Applying to Traffic in One Direction Only, or End of a Restriction  91 : (E.13) Drinking Water Supply  92 : (E.14) Telephone  93 : (E.15) Motorized Vessels Permitted  94 : (E.16) Sport and Pleasure Craft Permitted  95 : (E.17) Water Skiing Permitted  96 : (E.18) Sailing Vessels Permitted  97 : (E.19) Craft Other Than Motorized Vessels or Sailing Craft Permitted  98 : (E.20) Use of Sailboards Permitted  99 : (E.23) Possibility of Obtaining Nautical Information by Radiotelephone on the Channel Indicated  100 : (E.24) Water Bikes Permitted  101 : (E.21) Zone Authorized for High Speed Navigation of Small Sport and Pleasure Craft  102 : (E.22) Launching or Beaching of Vessels Permitted  103 : (BR) Proceed Close to the Margin on Your Port Side  104 : (BR) Proceed Close to the Margin on Your Starboard Side  105 : (BR) Proceed in the Middle of the River  106 : (BR) Cross River to Port  107 : (BR) Cross River to Starboard  108 : (BR) Traffic Between Margins  109 : (BR) Reduce Speed  110 : Wreck Pontoon, Passage Allowed on Side Showing Red-White Sign  111 : Wreck Pontoon, Passage Allowed on Both Sides  112 : No Passing or Overtaking of Convoys  113 : Small Crafts Prohibited  114 : Attention! (Keep Caution)  115 : Fairway Crossing  116 : Shipping Inspection Point  117 : (E.25) Electrical Power Supply Point  118 : (E.26) Winter Harbour  119 : (E.26.1) Maximum Number of Vessels Permitted to Berth in Winter Harbour  120 : (E.27) Winter Shelter  121 : (E.27.1) Maximum Number of Vessels Permitted to Berth in Winter Shelter; Maximum Number of Vessels Permitted to Berth Abreast; Maximum Number of Rows of Vessels Which are Berthed Abreast  122 : (E.6.1) Use of Spuds Permitted  123 : (B.12) Obligation to Use Onshore Power Supply Point  124 : (BR) Right Pillar In Passage For Tiete-Parana Waterway  125 : (BR) Left Pillar In Passage For Tiete-Parana Waterway  126 : (BR) Best Transit Point  127 : (BR) Mandatory Stopping Point for Tiete-Parana Waterway  128 : (A.4.1) No Passing or Overtaking of Convoys by Convoys | | EN | 1, 1 |
| Additional Mark | | (addmrk) | 1 : Top (Board)  2 : Bottom (Board)  3 : Right (Triangle to the Right)  4 : Left (Triangle to the Left)  5 : Bottom (Triangle to the Bottom) | | EN | 0, \* |
| Direction of Impact | | (dirimp) | 1 : Upstream  2 : Downstream  3 : To the Left Bank  4 : To the Right Bank  5 : To Harbour | | EN | 0, \* |
| Distance of Impact, Downstream | | (disipd) |  | | IN | 0, 1 |
| Distance of Impact, Upstream | | (disipu) |  | | IN | 0, 1 |
| Distance From Notice Mark, First | | (disbk1) |  | | RE | 0, 1 |
| Distance From Notice Mark, Second | | (disbk2) |  | | RE | 0, 1 |
| Function of Notice Mark | | (fnctnm) | 1 : Prohibition Mark  2 : Regulation Mark  3 : Restriction Mark  4 : Recommendation Mark  5 : Information Mark | | EN | 1, 1 |
| Marks Navigational - System Of | | (MARSYS) | 1 : IALA A  2 : IALA B  9 : No System  10 : Other System  11 : Main European Inland Waterway Marking System  12 : Russian Inland Waterway Regulations  13 : Brazilian National Inland Waterway Regulation  15 : Paraguay-Parana Waterway - Brazilian Complementary Aids | | EN | 0, 1 |
| Orientation Value | | (ORIENT) |  | | RE | 0, 1 |
| Status | | (STATUS) | 2 : Occasional  3 : Recommended  4 : Not in Use  5 : Periodic/Intermittent  8 : Private  9 : Mandatory  12 : Illuminated  14 : Public  16 : Watched  17 : Unwatched  18 : Existence Doubtful | | EN | 0, \* |
| Bank of the Waterway | | (bnkwtw) | 1 : Left  2 : Right | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| MMSI Code | |  |  | | TE | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.197 Port Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Apart from harbours a port includes a city or borough with accommodation and facilities for landing passengers and goods and some amount of overseas trade. A port may possess a harbour but a harbour is not necessarily a port. | | | | | | |
| **S-10x Geo Feature: Port Area (prtare)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, \* |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| In Dispute | |  |  | | BO | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.198 Refuse Dump**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: At a refuse dump ships are able to unload their refuse like waste oil or black water. | | | | | | |
| **S-10x Geo Feature: Refuse Dump (refdmp)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Refuse Dump | | (catrfd) | 1 : Cargo Residue/Slop  2 : Waste Oil  3 : Grey/Black Water  4 : Domestic Refuse | | EN | 0, \* |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  3 : Under Reclamation  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 1, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, \* |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.199 Sensor**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A device that responds to a physical stimulus (as heat, light, sound, pressure, magnetism or a particular motion) and transmits a resulting impulse (as for measurement or operating a control). | | | | | | |
| **S-10x Geo Feature: Sensor (SENSOR)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Sensor | | (catsen) | 1 : Light Activated  2 : Telephone Activated  3 : Radio Activated | | EN | 1, \* |
| Function of Sensor | | (fnctsn) | 1 : Reduce Bridge Lighting | | EN | 1, \* |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, \* |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.200 Terminal**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A terminal covers that area on shore which provides buildings and constructions for the transfer of cargo or passengers from and to ships. | | | | | | |
| **S-10x Geo Feature: Terminal (termnl)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Category of Harbour Facility | | (CATHAF) | 1 : RoRo Terminal  3 : Ferry Terminal  4 : Fishing Harbour  5 : Yacht Harbour/Marina  6 : Naval Base  7 : Tanker Terminal  8 : Passenger Terminal  9 : Shipyard  10 : Container Terminal  11 : Bulk Terminal  12 : Ship Lift  13 : Straddle Carrier  14 : Service Harbour  15 : Pilotage Service  16 : Service and Repair  17 : Quarantine Station | | EN | 1, \* |
| Transshipping Goods | | (trshgd) | 1 : Containers  2 : Bulk Goods  3 : Oil  4 : Fuel  5 : Chemicals  6 : Liquid Goods  7 : Explosive Goods  8 : Fish  9 : Cars  10 : General Cargo | | EN | 0, \* |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent  18 : Existence Doubtful | | EN | 0, \* |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| In Dispute | |  |  | | BO | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.201 Turning Basin**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area of water or enlargement of a channel used for turning vessels. | | | | | | |
| **S-10x Geo Feature: Turning Basin (trnbsn)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Horizontal Clearance Value | | (HORCLR) |  | | RE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, \* |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.202 Vehicle Transfer**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A place where vehicles can be loaded or unloaded from the inland vessel with onboard or on-shore facilities. | | | | | | |
| **S-10x Geo Feature: Vehicle Transfer (vehtrf)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Height | | (HEIGHT) |  | | RE | 1, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  23 : Lowest Astronomical Tide  24 : Local Datum  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent  18 : Existence Doubtful | | EN | 0, \* |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Category of Vehicle Transfer | | (catvtr) | 1 : Official  2 : Private  3 : Suitable for Car Cranes  4 : Suitable for Car Planks  5 : Permission Required  6 : Locked Gate | | EN | 1, \* |
| Name of Vertical River Datum Reference Level | | (vcrlev) |  | | TE | 0, 1 |
| Vertical River Datum Reference Level Value | | (vcrval) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.203 Waterway Area**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An area in which uniform general information of the waterway exists. | | | | | | |
| **S-10x Geo Feature: Waterway Area (wtware)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Direction of Impact | | (dirimp) | 1 : Upstream  2 : Downstream  3 : To the Left Bank  4 : To the Right Bank  5 : To Harbour | | EN | 1, \* |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, \* |
| Information | | (INFORM) |  | | C | 0, 1 |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Category of CEMT Class | | (catccl) | 1 : 0 Small Vessels and Pleasure Craft  2 : I Peniche  3 : II Campine Barge  4 : III Dortmund-Ems Barge  5 : IV Rhine-Herne Barge  6 : Va Large Rhine Barge; 1-Barge Push-Tow Unit  7 : Vb 2-Barge Push-Tow Unit; Long Formation  8 : VIa 2-Barge Push-Tow Unit; Wide Formation  9 : VIb 4-Barge Push-Tow Unit  10 : VIc 6-Barge Push-Tow Unit  11 : No CEMT Class  12 : VII 9-Barge Push-Tow Unit | | EN | 1, \* |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.204 Waterway Axis**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The waterway axis can be defined as, for example: - The middle line of a fairway, (Definition of fairway: That part of a river, harbour; etc. where the main navigable channel for vessels of larger size lies. It is also the usual course followed by vessels entering or leaving harbours, called "ship channel". (International Maritime Dictionary, 2nd Ed.)). - The middle line of a water way (Definition of waterway: The waterway covers the entire area of a river or canal). | | | | | | |
| **S-10x Geo Feature: Waterway Axis (wtwaxs)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Feature Name | |  |  | | C | 1, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, \* |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Category of CEMT Class | | (catccl) | 1 : 0 Small Vessels and Pleasure Craft  2 : I Peniche  3 : II Campine Barge  4 : III Dortmund-Ems Barge  5 : IV Rhine-Herne Barge  6 : Va Large Rhine Barge; 1-Barge Push-Tow Unit  7 : Vb 2-Barge Push-Tow Unit; Long Formation  8 : VIa 2-Barge Push-Tow Unit; Wide Formation  9 : VIb 4-Barge Push-Tow Unit  10 : VIc 6-Barge Push-Tow Unit  11 : No CEMT Class  12 : VII 9-Barge Push-Tow Unit | | EN | 0, \* |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.205 Waterway Gauge**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: An instrument for measuring water levels. | | | | | | |
| **S-10x Geo Feature: Waterway Gauge (wtwgag)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point, surface** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Distance of Impact, Downstream | | (disipd) |  | | IN | 0, 1 |
| Distance of Impact, Upstream | | (disipu) |  | | IN | 0, 1 |
| Elevation | | (ELEVAT) |  | | RE | 0, 1 |
| Name of Sounding Datum Reference Level | | (sdrlev) |  | | TE | 0, 1 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  23 : Lowest Astronomical Tide  24 : Local Datum  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Condition | | (CONDTN) | 1 : Under Construction  2 : Ruined  5 : Planned Construction | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent  18 : Existence Doubtful | | EN | 0, \* |
| Sounding Datum Reference Level Value | | (sdrval) |  | | RE | 0, 1 |
| Distance Unit of Measurement | |  | 1 : Metres  2 : Yards  3 : Kilometres  4 : Statute Miles  5 : Nautical Miles  6 : Feet  7 : Hectometres | | EN | 0, 1 |
| Waterway Distance | | (wtwdis) |  | | RE | 0, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Category of Waterway Gauge | | (catgag) | 1 : Water Level Staff / Pole  2 : Recording Water Level Gauge  3 : Recording Water Level Gauge With Remote Access  4 : Recording Water Level Gauge With External Indicator  5 : Recording Water Level Gauge With Remote Access and Remote Indicator | | EN | 0, 1 |
| Value at Relevant High Water Level | | (higwat) |  | | RE | 0, 1 |
| Name of Relevant High Water Level | | (hignam) |  | | TE | 0, 1 |
| Value at Relevant Low Water Level | | (lowwat) |  | | RE | 0, 1 |
| Name of Relevant Low Water Level | | (lownam) |  | | TE | 0, 1 |
| Value at Relevant Mean Water Level | | (meawat) |  | | RE | 0, 1 |
| Name of Relevant Mean Water Level | | (meanam) |  | | TE | 0, 1 |
| Value at Other Locally Relevant Water Level | | (othwat) |  | | RE | 0, 1 |
| Name of Other Locally Relevant Water Level | | (othnam) |  | | TE | 0, 1 |
| Reference Gravitational Level | | (reflev) | 1 : Baltic Datum  2 : Adriatic Level  3 : Amsterdam Ordnance Datum (NAP)  4 : Mean Sea Level  5 : Other Datum  6 : National Geodetic Vertical Datum - NGVD29  7 : North American Vertical Datum - NAVD88  8 : Mean Sea Level 1912  9 : Mean Sea Level 1929  10 : Tweede Algemene Waterpassing | | EN | 0, 1 |
| Name of Vertical River Datum Reference Level | | (vcrlev) |  | | TE | 0, 1 |
| Vertical River Datum Reference Level Value | | (vcrval) |  | | RE | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**2.206 Waterway Profile**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A physically non-existent line which is normally the connection of two opposite distance marks. Waterway profiles can be used to define a special water level. | | | | | | |
| **S-10x Geo Feature: Waterway Profile (wtwprf)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: curve** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Height | | (HEIGHT) |  | | RE | 0, 1 |
| Vertical Datum | | (VERDAT)  (Datum Level)  (Reference Plane)  (Levelling Datum)  (Datum for Sounding Reduction)  (Datum for Heights) | 10 : Approximate Lowest Astronomical Tide  12 : Mean Lower Low Water  23 : Lowest Astronomical Tide  24 : Local Datum  31 : Local Low Water Reference Level  32 : Local High Water Reference Level  33 : Local Mean Water Reference Level  34 : Equivalent Height of Water (German GlW)  35 : Highest Shipping Height of Water (German HSW)  36 : Reference Low Water Level According to Danube Commission  37 : Highest Shipping Height of Water According to Danube Commission  38 : Dutch River Low Water Reference Level (OLR)  39 : Russian Project Water Level  40 : Russian Normal Backwater Level  41 : Ohio River Datum  43 : Dutch High Water Reference Level  45 : Dutch Estuary Low Water Reference Level (OLW) | | EN | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, \* |
| Name of Sounding Datum Reference Level | | (sdrlev) |  | | TE | 0, 1 |
| Sounding Datum Reference Level Value | | (sdrval) |  | | RE | 0, 1 |
| Horizontal Distance Uncertainty | | (HORACC) |  | | RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Category of Temporal Variation | |  | 4 : Likely to Change  5 : Unlikely to Change  6 : Unassessed | | EN | 0, 1 |
| Distance Unit of Measurement | |  | 1 : Metres  2 : Yards  3 : Kilometres  4 : Statute Miles  5 : Nautical Miles  6 : Feet  7 : Hectometres | | EN | 1, 1 |
| Waterway Distance | | (wtwdis) |  | | RE | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Reference Gravitational Level | | (reflev) | 1 : Baltic Datum  2 : Adriatic Level  3 : Amsterdam Ordnance Datum (NAP)  4 : Mean Sea Level  5 : Other Datum  6 : National Geodetic Vertical Datum - NGVD29  7 : North American Vertical Datum - NAVD88  8 : Mean Sea Level 1912  9 : Mean Sea Level 1929  10 : Tweede Algemene Waterpassing | | EN | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**3 Cartographic Features**

**3.207 Text Placement**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The Text Placement feature is used in association with the Feature Name attribute or a light description to optimize text positioning in ECDIS. | | | | | | |
| **S-10x Cartographic Feature: Text Placement** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: point** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Text Offset Bearing | |  |  | | IN | 1, 1 |
| Text Offset Distance | |  |  | | IN | 1, 1 |
| Text Rotation | |  |  | | BO | 0, 1 |
| Text Type | |  | 1 : Name  2 : Light Characteristic | | EN | 1, 2 |
| Scale Minimum | | (SCAMIN) |  | | IN | 1, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**4 Information types**

**4.1 Contact Details**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Information on how to reach a person or organisation by postal, internet, telephone, telex and radio systems. | | | | | | |
| **S-10x Information Type: Contact Details** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: None** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Call Sign | | (CALSGN) |  | | TE | 0, 1 |
| Communication Channel | | (COMCHA) |  | | TE | 0, \* |
| Contact Instructions | |  |  | | TE | 0, 1 |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Frequency Pair | |  |  | | C | 0, \* |
| Frequency Shore Station Receives | | (FRQRXV) |  | | (S) IN | 0, 1 |
| Frequency Shore Station Transmits | | (SIGFRQ)  (FRQTXM) |  | | (S) IN | 1, 1 |
| MMSI Code | |  |  | | TE | 0, 1 |
| Online Resource | |  |  | | C | 0, \* |
| Headline | |  |  | | (S) TE | 0, 1 |
| Linkage | |  |  | | (S) UI | 1, 1 |
| Name of Resource | |  |  | | (S) TE | 0, 1 |
| Telecommunications | |  |  | | C | 0, \* |
| Contact Instructions | |  |  | | (S) TE | 0, 1 |
| Telecommunication Identifier | |  |  | | (S) TE | 1, 1 |
| Telecommunication Service | |  | 1 : Voice  2 : Facsimile  3 : SMS  4 : Data  5 : Streamed Data  6 : Telex  7 : Telegraph  8 : Email | | (S) EN | 0, 1 |
| Address | |  |  | | C | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**4.2 Service Hours**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The time when a service is available and known exceptions. | | | | | | |
| **S-10x Information Type: Service Hours** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: None** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Schedule by Day of Week | |  |  | | C | 1, \* |
| Category of Schedule | |  | 1 : Normal Operation  2 : Closure  3 : Unmanned Operation | | (S) EN | 0, 1 |
| Time Intervals by Day of Week | |  |  | | (S) C | 1, 10 |
| Day of Week | |  | 1 : Sunday  2 : Monday  3 : Tuesday  4 : Wednesday  5 : Thursday  6 : Friday  7 : Saturday | | (S) EN | 0, 7 (ordered) |
| Day of Week is Range | |  |  | | (S) BO | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 99 (ordered) |
| Time of Day Start | |  |  | | (S) TI | 0, 99 (ordered) |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Online Resource | |  |  | | C | 0, \* |
| Headline | |  |  | | (S) TE | 0, 1 |
| Linkage | |  |  | | (S) UI | 1, 1 |
| Name of Resource | |  |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**4.3 Non-Standard Working Day**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Days when many services are not available. Often days of festivity or recreation or public holidays when normal working hours are limited, especially a national or religious festival, etc. | | | | | | |
| **S-10x Information Type: Non-Standard Working Day** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: None** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Date Fixed | |  |  | | TD | 0, \* |
| Date Variable | |  |  | | TE | 0, \* |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**4.4 Nautical Information**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: Nautical information about a related area or facility. | | | | | | |
| **S-10x Information Type: Nautical Information** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: None** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Fixed Date Range | |  |  | | C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Periodic Date Range | |  |  | | C | 0, \* |
| Date End | | (DATEND) |  | | (S) TD | 1, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 1, 1 |
| Information | | (INFORM) |  | | C | 0, \* |
| File Locator | |  |  | | (S) TE | 0, 1 |
| File Reference | | (TXTDSC)  (NTXTDS) |  | | (S) TE | 0, 1 |
| Headline | |  |  | | (S) TE | 0, 1 |
| Language | |  |  | | (S) TE | 1, 1 |
| Text | | (INFORM)  (NINFOM) |  | | (S) TE | 0, 1 |
| Pictorial Representation | | (PICREP) |  | | TE | 0, 1 |
| Feature Name | |  |  | | C | 0, \* |
| Language | |  |  | | (S) TE | 1, 1 |
| Name | | (OBJNAM)  (NOBJNM) |  | | (S) TE | 1, 1 |
| Name Usage | |  | 1 : Default Name Display  2 : Alternate Name Display  3 : No Chart Display | | (S) EN | 0, 1 |
| Interoperability Identifier | |  |  | | UN | 0, 2 |
| UN Location Code | | (unlocd) |  | | TE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**4.5 Spatial Quality**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: The indication of the quality of the locational information for features in a dataset. | | | | | | |
| **S-10x Information Type: Spatial Quality** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: None** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Quality of Horizontal Measurement | | (QUAPOS) | 4 : Approximate | | EN | 0, 1 |
| Spatial Accuracy | |  |  | | C | 0, \* |
| Fixed Date Range | |  |  | | (S) C | 0, 1 |
| Date End | | (DATEND) |  | | (S) TD | 0, 1 |
| Date Start | | (DATSTA) |  | | (S) TD | 0, 1 |
| Time of Day End | |  |  | | (S) TI | 0, 1 |
| Time of Day Start | |  |  | | (S) TI | 0, 1 |
| Horizontal Position Uncertainty | | (POSACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| Vertical Uncertainty | | (VERACC)  (SOUACC) |  | | (S) C | 0, 1 |
| Uncertainty Fixed | | (POSACC)  (SOUACC)  (VERACC) |  | | (S) RE | 1, 1 |
| Uncertainty Variable Factor | |  |  | | (S) RE | 0, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**4.6 Time Schedule - In General**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IHO Definition: A schedule listing events and the times at which they will take place. | | | | | | |
| **S-10x Information Type: Time Schedule - In General (tisdge)** | | | | | | |
| **Super Type:** | | | | | | |
| **Primitives: None** | | | | | | |
| *Real World* | *Paper Chart Symbol* | | | *ECDIS Symbol* | | |
| **S-10x Attribute** | | **S-57 Acronym** | **Allowable Encoding Value** | | **Type** | **Multiplicity** |
| Direction of Impact | | (dirimp) | 1 : Upstream  2 : Downstream  3 : To the Left Bank  4 : To the Right Bank | | EN | 0, \* |
| Reported Date | | (SORDAT) |  | | TD | 0, 1 |
| Source Indication | |  |  | | TE | 0, 1 |
| Status | | (STATUS) | 5 : Periodic/Intermittent | | EN | 0, \* |
| Average Passing Time Reference | | (aptref) |  | | TE | 0, 1 |
| Category of Time and Behaviour | | (cattab) | 1 : Operational Period  2 : Non-Operational Period | | EN | 1, 1 |
| Time Schedule Reference | | (schref) |  | | TE | 1, 1 |
| Type of Ship | | (shptyp) | 1 : General Cargo Vessel  2 : Container Vessel  3 : Tanker  4 : Sailing Vessel  5 : Fishing Vessel  6 : Special Purpose Vessel  7 : Man of War  8 : Submarine  9 : High Speed Craft  10 : Bulk Carrier  11 : Seaplane  12 : Tugboat  13 : Passenger Vessel  14 : Ferry  15 : Boat | | EN | 1, 1 |
| Use of Ship | | (useshp) | 1 : Liner Trade  2 : Occasional Professional Shipping  3 : Leisure | | EN | 1, 1 |
| INT 1 Reference:  Remarks:  Distinction: | | | | | | |

**5 Attribute and Enumerate Descriptions**

**5.1 Use of Ship**

|  |
| --- |
| IHO Definition: Indication of the way the ship is used.  1) **Liner Trade**  IHO Definition: Ship is used to carry goods on a scheduled service.  2) **Occasional Professional Shipping**  IHO Definition: Ship is occasional used for professional shipping.  3) **Leisure**  IHO Definition: Ship is used for leisure activities.  Remarks:  •No remarks. |

**5.2 Type of Ship**

|  |
| --- |
| IHO Definition: Type of ship.  1) **General Cargo Vessel**  IHO Definition: A vessel which is designed for carrying general cargo, e.g. boxes, sacks.  2) **Container Vessel**  IHO Definition: A vessel which is designed for carrying containers.  3) **Tanker**  IHO Definition: A vessel which is designed for carrying liquid goods, for example oil or water.  4) **Sailing Vessel**  IHO Definition: A vessel that is powered by the wind; often having several masts.  5) **Fishing Vessel**  IHO Definition: A vessel that is used and equipped for the fishing of living aquatic resources.  6) **Special Purpose Vessel**  IHO Definition: A vessel that fulfills special purposes; for example hovercrafts, pilot **boat**s.  7) **Man of War**  IHO Definition: Armed naval vessel.  8) **Submarine**  IHO Definition: A vessel that is capable of operating for an extended period of time underwater.  9) **High Speed Craft**  IHO Definition: A motorized vessel capable of reaching speeds over 40km/h with respect to water.  10) **Bulk Carrier**  IHO Definition: A vessel which is designed for carrying bulk goods, e.g. coal, ore or grain.  11) **Seaplane**  IHO Definition: Airplane designed to take off from and alight on water.  12) **Tugboat**  IHO Definition: A powerful small boat designed to pull or push larger ships or powerless barges.  13) **Passenger Vessel**  IHO Definition: A day trip or cabin vessel constructed and equipped to carry more than 12 passengers.  14) **Ferry**  IHO Definition: A vessel for transporting passengers, vehicles, and/or goods across a stretch of water, especially as a regular service.  15) Boat  IHO Definition: A small vessel.  Remarks:  •No remarks. |

**5.3 Time Schedule Reference**

|  |
| --- |
| IHO Definition: The string encodes the file name of an external file.  Remarks:  •No remarks. |

**5.4 Category of Time and Behaviour**

|  |
| --- |
| IHO Definition: Category of time and behaviour.  1) **Operational Period**  IHO Definition: Being in a position or adjustment to permit passage or to perform an operation.  2) **Non-Operational Period**  IHO Definition: Being in a position or adjustment to prevent passage.  Remarks:  •No remarks. |

**5.5 Average Passing Time Reference**

|  |
| --- |
| IHO Definition: The string encodes the file name of an external file.  Remarks:  •No remarks. |

**5.6 Type Of AtoN**

|  |
| --- |
| IHO Definition: The type of AtoN being referenced.  1) **Aid to Navigation**  IHO Definition: A visual, acoustical, or radio device, external to a ship, designed to assist in determining a safe course or a vessels position, or to warn of dangers and/or obstructions. Aids to navigation usually include buoys, beacons, fog signals, lights, radio beacons, leading marks, radio position fixing systems and GNSS which are chart-related and assist safe navigation.  2) **Physical AIS Aid to Navigation**  IHO Definition: An Automatic Identification System (AIS) message 21 transmitted from a physical Aid to Navigation, or transmitted from an AIS station for an Aid to Navigation which physically exists.  3) **Virtual AIS Aid to Navigation**  IHO Definition: An Automatic Identification System (AIS) message 21 transmitted from an AIS station to simulate on navigation systems an Aid to Navigation which does not physically exist.  Remarks:  •No remarks. |

**5.7 Category of Harbour Area**

|  |
| --- |
| IHO Definition: Classification of a harbour.  1) **Custom Harbour**  IHO Definition: A harbour that is administered by the customs. It may be a free harbour.  2) **Port of Refuge**  IHO Definition: A harbour that can be used to find shelter for bad environmental conditions or where efforts to mitigate larger damage or threat(s) of damage to either the vessel, her crew or the environment can be rendered.  3) **Yacht Harbour/Marina**  IHO Definition: A harbour facility for small boats, yachts, etc., where supplies, repairs, and various services are available.  4) **Fishing Harbour**  IHO Definition: A harbour with facilities for fishing boats.  5) **Private Harbour**  IHO Definition: A harbour operated by a private body.  Remarks:  •No remarks. |

**5.8 Category of Distance Mark**

|  |
| --- |
| IHO Definition: Classification of fixed and virtual distance marks.  1) **Distance Mark Not Physically Installed**  IHO Definition: A point at which a distance from an origin along a feature is given for information, but at which no specific marker exists.  2) **Visible Mark, Pole**  IHO Definition: A point at which a distance from an origin along a feature is given for information and which is marked by a pole.  3) **Visible Mark, Board**  IHO Definition: A point at which a distance from an origin along a feature is given for information and which is marked by a board.  4) **Visible Mark, Unknown Shape**  IHO Definition: A point at which a distance from an origin along a feature is given for information and which is physically marked, but the shape of the mark is not known or not given.  Remarks:  •No remarks. |

**5.9 Category of CEMT Class**

|  |
| --- |
| IHO Definition: Category of CEMT class.  1) **0 Small Vessels and Pleasure Craft**  IHO Definition: Designated for small vessels and pleasure crafts only.  2) **I Peniche**  IHO Definition: Designated for barges of type "Pniche" (west of river Elbe) or of type "Gross Finow" (east of river Elbe).  3) **II Campine Barge**  IHO Definition: Designated for barges of type "Kempenaar" (west of river Elbe) or of type "BM-500" (east of river Elbe).  4) **III Dortmund-Ems Barge**  IHO Definition: Designated for barges of type "Gustav Koenigs" (west of river Elbe) or of a similar type concerning the dimensions (east of river Elbe).  5) **IV Rhine-Herne Barge**  IHO Definition: Designated for barges of type "Johann Welker".  6) **Va Large Rhine Barge; 1-Barge Push-Tow Unit**  IHO Definition: Designated for barges of type "Large Rhine barge" or pushed convoys with one barge.  7) **Vb 2-Barge Push-Tow Unit; Long Formation**  IHO Definition: Designated for pushed convoys with two barges, long formation.  8) **VIa 2-Barge Push-Tow Unit; Wide Formation**  IHO Definition: Designated for pushed convoys with two barges, wide formation.  9) **VIb 4-Barge Push-Tow Unit**  IHO Definition: Designated for pushed convoys with four barges.  10) **VIc 6-Barge Push-Tow Unit**  IHO Definition: Designated for pushed convoys with six barges.  11) **No CEMT Class**  IHO Definition: A waterway having no classification for interoperability of large navigable waterways forming part of the Trans-European Inland Waterway network within Continental Europe and Russia.  12) **VII 9-Barge Push-Tow Unit**  IHO Definition: Designated for pushed convoys with nine barges.  Remarks:  •No remarks. |

**5.10 Vertical River Datum Reference Level Value**

|  |
| --- |
| IHO Definition: Local value of the vertical clearance reference level.  Remarks:  •No remarks. |

**5.11 Name of Vertical River Datum Reference Level**

|  |
| --- |
| IHO Definition: Name of the water level vertical clearance values are referred to.  Remarks:  •No remarks. |

**5.12 Category of Vehicle Transfer**

|  |
| --- |
| IHO Definition: Category of vehicle transfer.  1) **Official**  IHO Definition: Of or relating to an office or a post of authority.  2) **Private**  IHO Definition: Administered by an individual or corporation, rather than a State or a public body.  3) **Suitable for Car Cranes**  IHO Definition: Vehicle transfer location is suitable for car cranes.  4) **Suitable for Car Planks**  IHO Definition: Vehicle transfer location is suitable for car planks.  5) **Permission Required**  IHO Definition: The transfer of a vehicle requires permission.  6) **Locked Gate**  IHO Definition: The access to the public road is locked.  Remarks:  •No remarks. |

**5.13 Based On Fixed Marks**

|  |
| --- |
| IHO Definition: A straight route (known as a recommended track, range or leading line), which comprises: a. at least two structures (usually beacons or daymarks) and/or natural features, which may carry lights and/or top-marks. The structures/features are positioned so that when observed to be in line, a vessel can follow a known bearing with safety. (Adapted from International Association of Lighthouse Authorities - IALA Aids to Navigation Guide, 1990); or b. a single structure or natural feature, which may carry lights and/or a topmark, and a specified bearing which can be followed with safety. (S-57 Edition 3.1, Appendix A Chapter 2, Page 2.72, November 2000, as amended).  Remarks:  •No remarks. |

**5.14 Beacon Shape**

|  |
| --- |
| IHO Definition: Describes the characteristic geometric form of the beacon.  1) **Stake, Pole, Perch, Post**  IHO Definition: An elongated wood or metal pole, driven into the ground or seabed, which serves as a navigational aid or a support for a navigational aid.  2) **Withy**  IHO Definition: A tree without roots stuck or spoiled into the bottom of the sea to serve as a navigational aid.  3) **Beacon Tower**  IHO Definition: A solid structure of the order of 10 metres in height used as a navigational aid.  4) **Lattice Beacon**  IHO Definition: A structure consisting of strips of metal or wood crossed or interlaced to form a structure to serve as an aid to navigation or as a support for an aid to navigation.  5) **Pile Beacon**  IHO Definition: A long heavy timber(s) or section(s) of steel, wood, concrete, etc., forced into the seabed to serve as an aid to navigation or as a support for an aid to navigation.  6) **Cairn**  IHO Definition: A mound of stones, usually conical or pyramidal, raised as a landmark or to designate a point of importance in surveying.  7) **Buoyant Beacon**  IHO Definition: A tall spar-like beacon fitted with a permanently submerged buoyancy chamber, the lower end of the body is secured to seabed sinker either by a flexible joint or by a cable under tension.  Remarks:  •No remarks. |

**5.15 Bridge Construction**

|  |
| --- |
| IHO Definition: The bridge’s primary shape and/or construction material.  1) **Arch**  IHO Definition: A typically curved structural member spanning an opening and serving as a support (as for the wall or other weight above the opening).  2) **Viaduct**  IHO Definition: A structure consisting of a series of arches or towers supporting a roadway, waterway, etc., across a depression, etc.  3) **Pontoon Bridge**  IHO Definition: A fixed floating bridge supported by pontoons.  4) **Suspension Bridge**  IHO Definition: A fixed bridge consisting of either a roadway or a truss suspended from two or more cables which pass over towers and are anchored by backstays to a firm foundation.  5) **Transporter Bridge**  IHO Definition: Consists of towers on each side of the watercourse connected by a system of girders on which a carriage runs.  Remarks:  •No remarks. |

**5.16 Bridge Function**

|  |
| --- |
| IHO Definition: A specific role that describes the purpose of a bridge.  1) **Vehicular**  IHO Definition: Of, relating to, or designed for vehicles and especially motor vehicles.  2) **Rail**  IHO Definition: Of, relating to, or designed for vehicles that run on a guiding track(s), especially trains.  3) **Pedestrian**  IHO Definition: Of, relating to, or designed for walking.  4) **Aqueduct**  IHO Definition: A bridge supporting an artificially elevated channel, for the conveyance of water.  Remarks:  •No remarks. |

**5.17 Building Shape**

|  |
| --- |
| IHO Definition: The specific shape of the building.  5) **High-Rise Building**  IHO Definition: A building having many storeys.  6) **Pyramid**  IHO Definition: A polyhedron of which one face is a polygon of any number of sides, and the other faces are triangles with a common vertex.  7) **Cylindrical**  IHO Definition: Shaped like a cylinder, which is a solid geometrical figure generated by straight lines fixed in direction and describing with one of its points a closed curve, especially a circle.  8) **Spherical**  IHO Definition: Shaped like a sphere, which is a body the surface of which is at all points equidistant from the centre.  9) **Cubic**  IHO Definition: A shape the sides of which are six equal squares; a regular hexahedron.  Remarks:  •No remarks. |

**5.18 Buoy Shape**

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| IHO Definition: The principal shape and/or design of a buoy.  1) **Conical**  IHO Definition: The upper part of the body above the water-line, or the greater part of the superstructure, has approximately the shape or the appearance of a pointed cone with the point upwards.  2) **Can**  IHO Definition: The upper part of the body above the water-line, or the greater part of the superstructure, has the shape of a cylinder, or a truncated cone that approximates to a cylinder, with a flat end uppermost.  3) **Spherical**  IHO Definition: Shaped like a sphere, which is a body the surface of which is at all points equidistant from the centre.  4) **Pillar**  IHO Definition: The upper part of the body above the water-line, or the greater part of the superstructure is a narrow vertical structure, pillar or lattice tower.  5) **Spar**  IHO Definition: The upper part of the body above the water-line, or the greater part of the superstructure, has the form of a pole, or of a very long cylinder, floating upright.  6) **Barrel**  IHO Definition: The upper part of the body above the water-line, or the greater part of the superstructure, has the form of a barrel or cylinder floating horizontally.  7) **Superbuoy**  IHO Definition: A very large buoy designed to carry a signal light of high luminous intensity at a high elevation.  8) **Ice Buoy**  IHO Definition: A specially constructed shuttle shaped buoy which is used in ice conditions.  Remarks:  The principal shapes are those recommended in the International Association of Lighthouse Authorities - IALA System. |

**5.19 Buried Depth**

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| IHO Definition: The depth below the seabed to which an object is buried.  Remarks:  •No remarks. |

**5.20 Call Sign**

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| IHO Definition: The designated call-sign of a station (radio station, radar station, pilot, ...).  Remarks:  •No remarks. |

**5.21 Category of Airport/Airfield**

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| IHO Definition: Classification of airport/airfield based on the primary aircraft and user group.  1) **Military Aeroplane Airport**  IHO Definition: A large military airfield usually equipped with a control tower, hangars and accommodation for the receiving and discharging of passengers or cargo.  2) **Civil Aeroplane Airport**  IHO Definition: A large airfield usually equipped with a control tower, hangars and accommodation for the receiving and discharging of passengers or cargo.  3) **Military Heliport**  IHO Definition: A landing place for helicopters controlled by the military.  4) **Civil Heliport**  IHO Definition: A landing place for helicopters, often the roof of a building.  5) **Glider Airfield**  IHO Definition: An area of land set aside for the take-off and landing of gliders.  6) **Small Planes Airfield**  IHO Definition: An area of land set aside for the take-off and landing of small aeroplanes.  8) **Emergency Airfield**  IHO Definition: An area of land set aside for the take-off and landing of aeroplanes or helicopters in times of emergency.  9) **Search and Rescue Airfield**  IHO Definition: An area of land set aside for the take-off and landing of aeroplanes or helicopters in times of search and rescue.  Remarks:  •No remarks. |

**5.22 Category of Anchorage**

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| IHO Definition: Classification of an area where different use types of vessel can remain static.  1) **Unrestricted Anchorage**  IHO Definition: An area in which vessels anchor or may anchor.  2) **Deep Water Anchorage**  IHO Definition: An area in which vessels of deep draught anchor or may anchor.  3) **Tanker Anchorage**  IHO Definition: An area in which tankers anchor or may anchor.  4) **Explosives Anchorage**  IHO Definition: An area set apart for anchored ships discharging or receiving explosives.  5) **Quarantine Anchorage**  IHO Definition: An area where a vessel anchors when satisfying quarantine regulations.  6) **Seaplane Anchorage**  IHO Definition: An area in which seaplanes anchor or may anchor.  7) **Small Craft Anchorage**  IHO Definition: An area in which yachts and small boats anchor or may anchor.  8) **Small Craft Mooring Area**  IHO Definition: An area in which yachts and small boats moor.  9) **Anchorage for Periods Up To 24 Hours**  IHO Definition: An area in which vessels anchor or may anchor for periods of up to 24 hours.  10) **Anchorage for a Limited Period of Time**  IHO Definition: An area in which vessels may anchor for a period of time not to exceed a specific limit.  11) **Anchorage for Other Vessels than Pushing-Navigation Vessels**  IHO Definition: An area where other vessels than pushing-navigation vessels may anchor.  12) **Anchorage for Dry Cargo Vessels**  IHO Definition: An area where dry cargo vessels may anchor.  13) **Anchorage for Rafts**  IHO Definition: An area where rafts may anchor.  14) **Waiting Anchorage**  IHO Definition: An area in which vessels anchor or may anchor while waiting, for example, for access to a port or berth.  15) **Reported Anchorage**  IHO Definition: A location not defined by a regulatory authority that has been reported to be suitable and safe for anchoring.  16) **Anchorage for Pushing-Navigation Vessels**  IHO Definition: An area where pushing-navigation vessels may anchor.  Remarks:  •No remarks. |

**5.23 Category of Built-Up Area**

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| IHO Definition: Human **settlement** classification.  1) **Urban Area**  IHO Definition: An area predominantly occupied by man-made structures used for residential, commercial, and industrial purposes.  2) Settlement  IHO Definition: A continuously occupied concentration of tents or lightweight fixed structures (for example: huts) serving as residences.  3) **Village**  IHO Definition: A self-contained group of houses and associated buildings, usually in a country area.  4) **Town**  IHO Definition: An inhabited place larger and more regularly built and with more complete and independent local government than a village but not incorporated as a **city**.  5) City  IHO Definition: A major town inhabited by a large permanent community with all essential services.  6) **Holiday Village**  IHO Definition: A complex for holiday-makers with cottages, shops, and entertainment, on site, which is mainly populated on a seasonal basis.  Remarks:  •No remarks. |

**5.24 Category of Cable**

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| IHO Definition: Classification of the cable based on the services provided.  1) **Power Line**  IHO Definition: A cable that transmits or distributes electrical power.  3) **Transmission Line**  IHO Definition: Multiple un-insulated cables usually supported by steel lattice towers. Such features are generally more prominent than normal power lines.  4) **Telephone**  IHO Definition: A cable that transmits telephone signals.  5) **Telegraph**  IHO Definition: An apparatus, system or process for communication at a distance by electric transmission over wire.  6) **Mooring Cable**  IHO Definition: A chain or very strong fibre or wire rope used to anchor or moor vessels or buoys.  7) **Ferry**  IHO Definition: A vessel for transporting passengers, vehicles, and/or goods across a stretch of water, especially as a regular service.  8) **Fibre Optic Cable**  IHO Definition: A cable made of glass or plastic fibre designed to guide light along its length, fibre optic cables are widely used in fibre-optic communication, which permits transmission over longer distances and at higher data rates than other forms of communication.  9) **Junction Cable**  IHO Definition: A cable used for joining components of complex marine structures, for example mooring trots.  10) **Telecommunications Cable**  IHO Definition: A cable used for the transmission and reception of modulated communication waves/signals.  Remarks:  •No remarks. |

**5.25 Category of Canal**

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| IHO Definition: Classification of an artificial waterway used for travel, **drainage**, or **irrigation**.  1) **Transportation**  IHO Definition: A canal used for navigation as part of a transport system.  2) Drainage  IHO Definition: A canal used to drain excess water from surrounding land.  3) Irrigation  IHO Definition: A canal used to supply water for the purpose of irrigation.  Remarks:  •No remarks. |

**5.26 Category of Cardinal Mark**

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| IHO Definition: The four quadrants (north, east, south and west) are bounded by the true bearings NW-NE, NE-SE, SE-SW and SW-NW taken from the point of interest. A cardinal mark is named after the quadrant in which it is placed. The name of the cardinal mark indicates that it should be passed to the named side of the mark.  1) **North Cardinal Mark**  IHO Definition: Quadrant bounded by the true bearing NW-NE taken from the point of interest; it should be passed to the north side of the mark.  2) **East Cardinal Mark**  IHO Definition: Quadrant bounded by the true bearing NE-SE taken from the point of interest. It should be passed to the east side of the mark.  3) **South Cardinal Mark**  IHO Definition: Quadrant bounded by the true bearing SE-SW taken from the point of interest; it should be passed to the south side of the mark.  4) **West Cardinal Mark**  IHO Definition: Quadrant bounded by the true bearing SW-NW taken from the point of interest; it should be passed to the west side of the mark.  Remarks:  Cardinal marks are used in conjunction with the compass to indicate where a mariner will find safe navigable water.Cardinal marks do not have a distinctive shape but are normally pillar or spar. They are always painted in yellow and black horizontal bands and their distinctive double cone top-marks are always black. (Note that such top-marks are encoded as separate TOPMAR objects). Cardinal marks may also have a special system of flashing white lights and if such lights are fitted they are encoded as separate LIGHTS objects. |

**5.27 Category of Checkpoint**

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| IHO Definition: Classification of a place where vehicles or travellers are stopped for identification or inspection.  1) **Custom**  IHO Definition: Serves as a government checkpoint where customs duties are collected, the flow of goods are regulated and restrictions enforced, and shipments or vehicles are cleared for entering or leaving a country.  2) **Border**  IHO Definition: An office, at which immigration control takes place.  Remarks:  •No remarks. |

**5.28 Category of Coastline**

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| IHO Definition: Physical condition of the coastline.  1) **Steep Coast**  IHO Definition: A coast backed by rock or earth cliffs, gives a good radar return and is useful for visual identification from a considerable distance off, where cliffs alternate with low lying coast along the shoreline.  2) **Flat Coast**  IHO Definition: A level coast with no obvious topographic features.  3) **Sandy Shore**  IHO Definition: A shoreline area made up of sand, that is, loose material consisting of small but easily distinguishable, separate grains, between 0.0625 and 2.000 millimetres in diameter.  4) **Stony Shore**  IHO Definition: A shoreline area made up of rock and rock fragments ranging in size from pebbles and gravel to boulders or large rock masses.  5) **Shingly Shore**  IHO Definition: A shoreline area made up of rounded, often flat waterworn rock fragments larger than approximately 16 millimetres.  6) **Glacier, Seaward End**  IHO Definition: Projecting seaward extension of glacier, usually afloat.  7) **Mangrove**  IHO Definition: One of several genera of tropical trees or shrubs which produce many prop roots and grow along low-lying coasts into shallow water.  8) **Marshy Shore**  IHO Definition: A shoreline area made up of spongy land saturated with water. It may have a shallow covering of water, usually with a considerable amount of vegetation appearing above the surface.  9) **Coral Reef**  IHO Definition: A reef, often of large extent, composed chiefly of coral and its derivatives.  10) **Ice Coast**  IHO Definition: A vertical cliff forming the seaward edge of an ice shelf, ranging in height from 2 metres to 50 metres or more above sea level.  11) **Shelly Shore**  IHO Definition: A shoreline area made up of shells, that is, made up of the hard outside covering of marine animals.  Remarks:  •No remarks. |

**5.29 Category of Conveyor**

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| IHO Definition: Classification of conveyor used for moving goods from one location to another.  1) **Aerial Cableway**  IHO Definition: A transportation system consisting of load cables strung between pylons on which carrier units (for example: cars or buckets intended to transport people, material, and/or equipment) are suspended.  2) **Belt Conveyor**  IHO Definition: A conveyor along which material or people are transported by means of a moving belt.  3) **Flume**  IHO Definition: An artificial channel, usually an inclined chute or trough, for carrying water to furnish power, transport logs down a mountainside, etc.  4) **Lift/Elevator**  IHO Definition: Any of various mechanical devices for raising objects or materials.  Remarks:  •No remarks. |

**5.30 Category of Crane**

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| IHO Definition: Classification of machines used for hoisting and moving heavy objects.  2) **Container Crane/Gantry**  IHO Definition: A high speed, shore-based crane used in the lift-on/lift-off operation of specially constructed containers.  3) **Sheerlegs**  IHO Definition: A tripodal structure used in dockyards and harbours for stepping masts or lifting loads in to and out of vessels.  4) **Travelling Crane**  IHO Definition: A crane mounted on rails (track) that can move (usually parallel to the wharf face) in order to load and unload cargo vessels.  5) **A-Frame**  IHO Definition: A type of crane shaped like the letter 'A'.  6) **Goliath Crane**  IHO Definition: A powerful travelling crane mounted on a movable gantry of large span.  Remarks:  •No remarks. |

**5.31 Category of Dam**

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| IHO Definition: Classification of a structure acting as barrier to water flow.  1) **Weir**  IHO Definition: A **dam** erected across a river to raise the level of the water. A fence of stakes set in a river or along the shore as a trap for fish. The word is now restricted to smaller works, the larger are called dams.  2) Dam  IHO Definition: A barrier to check or confine anything in motion; particularly one constructed to hold back water and raise its level to form a reservoir, or to prevent flooding.  3) **Flood Barrage**  IHO Definition: An opening dam across a channel which, when required, is closed to control flood waters.  Remarks:  •No remarks. |

**5.32 Category of Dock**

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| IHO Definition: Classification of vessel dock.  1) **Tidal**  IHO Definition: A dock which is open to the sea and in which the water level is affected by tides.  2) **Wet Dock**  IHO Definition: A dock in which water can be maintained at any level by closing a gate when the water is at the desired level.  Remarks:  •No remarks. |

**5.33 Category of Dolphin**

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| IHO Definition: Classification of a post or group of posts, used for mooring or warping a vessel.  1) **Mooring Dolphin**  IHO Definition: A post or group of posts driven into the seabed or riverbed, used as a mooring point for vessels.  2) **Deviation Dolphin**  IHO Definition: A post or group of posts, which a vessel may swing around for compass adjustment.  3) **Berthing Dolphin**  IHO Definition: A post or group of posts driven into the seabed or riverbed, used to extend the berth of a vessel by providing extra mooring points.  4) **Fender or Breasting Dolphin**  IHO Definition: A post or group of posts driven into the seabed or riverbed, used to assist in berthing of vessels by taking up some berthing loads; keep vessels from pressing against the pier structure; or to protect structures from possible impact by ships.  Remarks:  •No remarks. |

**5.34 Category of Dumping Ground**

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| IHO Definition: Classification of an area based on the type of waste being disposed of.  2) **Chemical Waste Dumping Ground**  IHO Definition: An area at sea where chemical waste is dumped.  3) **Nuclear Waste Dumping Ground**  IHO Definition: An area at sea where nuclear waste is dumped.  4) **Explosives Dumping Ground**  IHO Definition: An area at sea where explosives are dumped.  5) **Spoil Ground**  IHO Definition: A sea area where dredged material is deposited.  6) **Vessel Dumping Ground**  IHO Definition: An area at sea where disused vessels are scuttled.  Remarks:  •No remarks. |

**5.35 Category of Fence**

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| IHO Definition: Classification of a physical boundary.  1) **Fence**  IHO Definition: A man-made barrier of relatively light structure used as an enclosure or boundary.  3) **Hedge**  IHO Definition: A continuous growth of shrubbery planted as a fence, a boundary or a wind break.  4) **Wall**  IHO Definition: A solid man-made barrier of generally heavy material used as an enclosure, boundary, or for protection.  Remarks:  •No remarks. |

**5.36 Category of Ferry**

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| IHO Definition: Classification of the manoeuvrability of the ferry vessel, not the various types of ferry vessel.  1) **Free Moving Ferry**  IHO Definition: A ferry which may have routes that vary with weather, tide and traffic.  2) **Cable Ferry**  IHO Definition: A ferry that follows a fixed route guided by a cable.  3) **Ice Ferry**  IHO Definition: A winter-time ferry which crosses a lead.  5) **High Speed Ferry**  IHO Definition: A high speed water vessel for civilian use.  Remarks:  •No remarks. |

**5.37 Category of Fishing Facility**

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| IHO Definition: Classification of fishing facility provided based on different fishing methods.  1) **Fishing Stake**  IHO Definition: Poles or stakes placed in shallow water to outline a fishing ground or to catch fish.  2) **Fish Trap**  IHO Definition: A structure (usually portable) for catching fish.  3) **Fish Weir**  IHO Definition: A fence of stakes or stones set in a river or along the shore to trap fish.  4) **Tunny Net**  IHO Definition: A net built at sea for catching tunny.  Remarks:  •No remarks. |

**5.38 Category of Fog Signal**

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| IHO Definition: Classification of the various means of generating the fog signal.  1) **Explosive**  IHO Definition: A signal produced by the firing of explosive charges.  2) **Diaphone**  IHO Definition: A diaphone uses compressed air and generally emits a powerful low-pitched sound, which often concludes with a brief sound of suddenly lowered pitch, termed the 'grunt'.  3) **Siren**  IHO Definition: A type of fog signal apparatus which produces sound by virtue of the passage of air through slots or holes in a revolving disk.  4) **Nautophone**  IHO Definition: A **horn** having a diaphragm oscillated by electricity.  5) **Reed**  IHO Definition: [1] A reed uses compressed air and emits a weak, high pitched sound. [2] Any of various water or marsh plants with a firm stem. (Concise Oxford English Dictionary)  6) **Tyfon**  IHO Definition: A diaphragm horn which operates under the influence of compressed air or steam.  7) **Bell**  IHO Definition: A ringing sound with a short range.  8) **Whistle**  IHO Definition: A distinctive sound made by a jet of air passing through an orifice. The apparatus may be operated automatically, by hand or by air being forced up a tube by waves acting on a buoy.  9) **Gong**  IHO Definition: A sound produced by vibration of a disc when struck.  10) Horn  IHO Definition: A horn uses compressed air or electricity to vibrate a diaphragm and exists in a variety of types which differ greatly in their sound and power.  Remarks:  The classification 'horn' is the generic term for fog signals 'nautophone', 'reed' and 'tyfon'. |

**5.39 Category of Fortified Structure**

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| IHO Definition: Classification of the different types of **fort**ified structure.  1) **Castle**  IHO Definition: A large fortified building or structure.  2) Fort  IHO Definition: A fortified enclosure, building, or position able to be defended against an enemy.  3) **Battery**  IHO Definition: A fortified structure on which artillery is mounted.  4) **Blockhouse**  IHO Definition: A concrete structure strengthened to give protection against enemy fire, with apertures to allow defensive gunfire.  5) **Fortified Tower**  IHO Definition: A small circular fort with very thick walls (for example Martello tower).  6) **Redoubt**  IHO Definition: An outwork or fieldwork usually square or polygonal and without flanking defences.  8) **Fortified Submarine Shelter**  IHO Definition: A fortified pen to hold submarines.  9) **Rampart**  IHO Definition: Anything serving as a bulwark or defence.  Remarks:  •No remarks. |

**5.40 Category of Gate**

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| IHO Definition: Classification of a structure that can be swung, drawn, or lowered to block an entrance or a passageway.  2) **Flood Barrage Gate**  IHO Definition: An opening gate used to control flood water.  3) **Caisson**  IHO Definition: A steel structure used for closing the entrance of locks, wet and dry docks.  4) **Lock Gate**  IHO Definition: Pair of massive hinged doors at each end of a lock.  5) **Dyke Gate**  IHO Definition: An opening gate in a dyke.  6) **Sluice**  IHO Definition: A sliding gate or other contrivance for changing the level of a body of water by controlling the flow into or out of it.  Remarks:  •No remarks. |

**5.41 Category of Harbour Facility**

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| IHO Definition: Classification of harbour use.  1) **RoRo Terminal**  IHO Definition: A terminal for roll-on roll-off ferries.  3) **Ferry Terminal**  IHO Definition: A terminal for passenger and vehicle ferries.  4) **Fishing Harbour**  IHO Definition: A harbour with facilities for fishing boats.  5) **Yacht Harbour/Marina**  IHO Definition: A harbour facility for small boats, yachts, etc., where supplies, repairs, and various services are available.  6) **Naval Base**  IHO Definition: A centre of operations for naval vessels.  7) **Tanker Terminal**  IHO Definition: A terminal for the bulk handling of liquid cargoes.  8) **Passenger Terminal**  IHO Definition: A terminal for the loading and unloading of passengers.  9) **Shipyard**  IHO Definition: A place where ships are built or repaired.  10) **Container Terminal**  IHO Definition: A terminal with facilities to load/unload or store shipping containers.  11) **Bulk Terminal**  IHO Definition: A terminal for the handling of bulk materials such as iron ore, coal, etc.  12) **Ship Lift**  IHO Definition: A platform powered by synchronous electric motors (for example syncrolift) used to lift vessels (larger than boats) in and out of the water.  13) **Straddle Carrier**  IHO Definition: A wheeled vehicle designed to lift and carry containers or vessels within its own framework. It is used for moving, and sometimes stacking, shipping containers and vessels.  14) **Service Harbour**  IHO Definition: A harbour within which the floating equipment (dredges, tugs ...) of harbour services are stationed.  15) **Pilotage Service**  IHO Definition: The services of a person who directs the movements of a vessel through pilot waters, usually a person who has demonstrated extensive knowledge of channels, aids to navigation, dangers to navigation, etc., in a particular area and is licensed for that area, are available.  16) **Service and Repair**  IHO Definition: A place where mechanical services or repairs can be undertaken to engines or other vessel equipment.  17) **Quarantine Station**  IHO Definition: A medical control center located in an isolated spot ashore where patients with contagious diseases from vessel in quarantine are taken.  Remarks:  •No remarks. |

**5.42 Category of Hulk**

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| IHO Definition: Classification of an old or unseaworthy ship used for a new function.  1) **Floating Restaurant**  IHO Definition: A permanently moored floating structure (for example: an old ship) that is used as a restaurant.  2) **Historic Ship**  IHO Definition: A ship of historical interest permanently moored as a tourist attraction.  3) **Floating Museum**  IHO Definition: A permanently moored floating structure (for example: an old ship) that is used as a museum.  4) **Floating Accommodation**  IHO Definition: A permanently moored floating structure (for example: an old ship) that is used for accommodation.  5) **Floating Breakwater**  IHO Definition: A permanently moored floating structure, often constructed from old ships, used as a breakwater.  6) **Casino**  IHO Definition: A permanently moored floating structure, such as an old ship, used as a casino boat.  7) **Training Vessel**  IHO Definition: A permanently moored floating structure, often constructed from old ships, used for training purposes.  Remarks:  •No remarks. |

**5.43 Category of Ice**

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| IHO Definition: Classification of ice.  1) **Fast Ice**  IHO Definition: Sea ice which remains fast, generally in the position where originally formed, and which may attain a considerable thickness. It is found along coasts, where it is attached to the shore, or over shoals, where it may be held in position by islands, grounded icebergs or grounded **polar ice**.  5) **Glacier**  IHO Definition: A mass of snow and ice continuously moving from higher to lower ground or, if afloat, continuously spreading.  8) Polar Ice  IHO Definition: Sea ice that is more than one year old (in contrast to winter ice). The WMO code defines polar ice as any sea ice more than one year old and more than 3 metres thick.  Remarks:  •No remarks. |

**5.44 Category of Installation Buoy**

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| IHO Definition: Classification of fixed installation buoy.  1) **Catenary Anchor Leg Mooring**  IHO Definition: Incorporates a large buoy which remains on the surface at all times and is moored by 4 or more anchors. Mooring hawsers and cargo hoses lead from a turntable on top of the buoy, so that the buoy does not turn as the ship swings to wind and stream.  2) **Single Buoy Mooring**  IHO Definition: A large mooring buoy used by tankers to load and unload in port approaches or in offshore oil and gas fields.  Remarks:  •No remarks. |

**5.45 Category of Land Region**

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| IHO Definition: General terms for describing landscapes.  1) **Fen**  IHO Definition: A type of **bog**, especially a low-lying area, wholly or partly covered with water and dominated by grass-like plants, grasses, sedges and reeds.  2) **Marsh**  IHO Definition: An area of wet, often spongy ground that is subject to frequent flooding or tidal inundations, but not considered to be continually under water. It is characterized by the growth of non woody plants and by the lack of trees.  3) Bog  IHO Definition: Wet spongy ground consisting of de**cay**ing vegetation, which retains stagnant water, too soft to bear the weight of any heavy body.  4) **Heathland**  IHO Definition: A tract of wasteland peat bog, usually covered by a low scrubby growth, but may have scattered small open water holes.  5) **Mountain Range**  IHO Definition: A series of connected and aligned mountains or mountain ridges.  6) **Lowlands**  IHO Definition: Low and relatively level land at a lower elevation than adjoining areas.  7) **Canyon Lands**  IHO Definition: A relatively narrow, deep depression with steep sides, the bottom of which generally has a continuous slope.  8) **Paddy Field**  IHO Definition: A piece of land set aside for crops which are periodically flooded (for example rice paddy).  9) **Agricultural Land**  IHO Definition: Of or pertaining to the science or practice of cultivating the soil and rearing animals.  10) **Savanna/Grassland**  IHO Definition: An open grassy plain with few or no trees in a tropical or subtropical region; a tract covered mainly by grasses that have little or no woody tissue.  11) **Parkland**  IHO Definition: A piece of ground kept for ornament and/or recreation or maintained in its natural state as a public property or area.  12) **Swamp**  IHO Definition: An area of spongy land saturated with water. It may have a shallow covering of water, usually with a considerable amount of vegetation appearing above the surface.  13) **Landslide**  IHO Definition: The sliding down of a mass of land on a mountain or cliff-side; land which has so fallen.  14) **Lava Flow**  IHO Definition: The substance that results from the cooling of molten rock.  15) **Salt Pan**  IHO Definition: Shallow pools of brackish water used for the natural evaporation of sea water to obtain salt.  16) **Moraine**  IHO Definition: Any accumulation of loose material deposited by a glacier.  17) **Crater**  IHO Definition: Bowl-shaped cavity, at the summit or on the side of a volcano.  18) **Cave**  IHO Definition: A natural subterranean chamber or series of chambers open to the earth's surface.  19) **Rock Column or Pinnacle**  IHO Definition: Any high tower or spire-shaped pillar of rock, alone or cresting a summit.  20) Cay  IHO Definition: A small insular feature usually with scant vegetation; usually of sand or coral. Often applied to smaller coral shoals.  21) **Wadi**  IHO Definition: A watercourse that is permanently dry or dry except for the rainy season.  Remarks:  •No remarks. |

**5.46 Category of Landmark**

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| IHO Definition: Classification of prominent cultural and natural features in the landscape.  1) **Cairn**  IHO Definition: A mound of stones, usually conical or pyramidal, raised as a landmark or to designate a point of importance in surveying.  2) **Cemetery**  IHO Definition: A site and associated structures devoted to the burial of the dead.  3) **Chimney**  IHO Definition: A vertical structure containing a passage or flue for discharging smoke and gases of combustion.  4) **Dish Aerial**  IHO Definition: A parabolic aerial for the receipt and transmission of high frequency radio signals.  5) **Flagstaff**  IHO Definition: A staff or pole on which flags are raised.  6) **Flare Stack**  IHO Definition: A tall structure used for burning-off waste oil or gas.  7) **Mast**  IHO Definition: A relatively tall structure usually held vertical by guy lines.  8) **Windsock**  IHO Definition: A tapered fabric sleeve mounted so as to catch and swing with the wind, thus indicating the wind direction.  9) **Monument**  IHO Definition: A structure erected and/or maintained as a memorial to a person and/or event.  10) **Column/Pillar**  IHO Definition: A cylindrical or slightly tapering body of considerably greater length than diameter erected vertically.  11) **Memorial Plaque**  IHO Definition: A slab of metal, usually ornamented, erected as a memorial to a person or event.  12) **Obelisk**  IHO Definition: A tapering shaft usually of stone or concrete, square or rectangular in section, with a pyramidal apex.  13) **Statue**  IHO Definition: A representation of a living being, sculptured, moulded, or cast in a variety of materials (for example: marble, metal, or plaster).  14) **Cross**  IHO Definition: A monument, or other structure in form of a cross.  15) **Dome**  IHO Definition: A landmark comprising a hemispherical or spheroidal shaped structure.  16) **Radar Scanner**  IHO Definition: A device used for directing a radar beam through a search pattern.  17) **Tower**  IHO Definition: A relatively tall, narrow structure that may either stand alone or may form part of another structure.  18) **Windmill**  IHO Definition: A system of vanes attached to a tower and driven by wind (excluding wind turbines).  20) **Spire/Minaret**  IHO Definition: A tall conical or pyramid-shaped structure often built on the roof or tower of a building, especially a church or mosque.  21) **Large Rock or Boulder on Land**  IHO Definition: An isolated rocky formation or a single large stone.  22) **Triangulation Mark**  IHO Definition: A recoverable point on the earth, whose geographic position has been determined by angular methods with geodetic instruments. A triangulation point is a selected point, which has been marked with a station mark, or it is a conspicuous natural or artificial feature.  23) **Boundary Mark**  IHO Definition: A marker identifying the location of a surveyed boundary line.  24) **Observation Wheel**  IHO Definition: Wheels with passenger cars mounted external to the rim and independently rotated by electric motors.  25) **Torii**  IHO Definition: A form of decorative gateway or portal, consisting of two upright wooden posts connected at the top by two horizontal crosspieces, commonly found at the entrance to Shinto temples.  26) **Bridge**  IHO Definition: (1) An elevated structure extending across or over the weather deck of a vessel, or part of such a structure. The term is sometimes modified to indicate the intended use, such as navigating bridge or signal bridge. (2) A structure erected over a depression or an obstacle such as a body of water, railroad, etc., to provide a roadway for vehicles or pedestrians.  27) **Dam**  IHO Definition: A barrier to check or confine anything in motion; particularly one constructed to hold back water and raise its level to form a reservoir, or to prevent flooding.  Remarks:  •No remarks. |

**5.47 Category of Lateral Mark**

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| IHO Definition: Classification of lateral marks in the IALA Buoyage System.  1) **Port-Hand Lateral Mark**  IHO Definition: Indicates the port boundary of a navigational channel or suggested route when proceeding in the "conventional direction of buoyage".  2) **Starboard-Hand Lateral Mark**  IHO Definition: Indicates the starboard boundary of a navigational channel or suggested route when proceeding in the "conventional direction of buoyage".  3) **Preferred Channel to Starboard Lateral Mark**  IHO Definition: At a point where a channel divides, when proceeding in the "conventional direction of buoyage", the preferred channel (or primary route) is indicated by a modified port-hand lateral mark.  4) **Preferred Channel to Port Lateral Mark**  IHO Definition: At a point where a channel divides, when proceeding in the "conventional direction of buoyage", the preferred channel (or primary route) is indicated by a modified starboard-hand lateral mark.  5) **Right-Hand Side of the Waterway**  IHO Definition: Indicates the right-hand side of the inland waterway.  6) **Left-Hand Side of the Waterway**  IHO Definition: Indicates the left-hand side of the inland waterway.  7) **Right-Hand Side of the Channel**  IHO Definition: Indicates the right-hand side of a channel of an inland waterway.  8) **Left-Hand Side of the Channel**  IHO Definition: Indicates the left-hand side of a channel of an inland waterway.  9) **Bifurcation of the Waterway**  IHO Definition: Indicates a bifurcation of the inland waterway.  10) **Bifurcation of the Channel**  IHO Definition: Indicates a bifurcation of a channel of an inland waterway.  11) **Channel Near the Right Bank**  IHO Definition: Indicates that the channel is near the right bank.  12) **Channel Near the Left Bank**  IHO Definition: Indicates that the channel is near the left bank.  13) **Channel Cross-Over to the Right Bank**  IHO Definition: Indicates that the channel crosses from the left to the right bank.  14) **Channel Cross-Over to the Left Bank**  IHO Definition: Indicates that the channel crosses from the right to the left bank.  15) **Danger Point or Obstacles at the Right-Hand Side**  IHO Definition: Indicates a danger point or obstacles at the right-hand side.  16) **Danger Point or Obstacles at the Left-Hand Side**  IHO Definition: Indicates a danger point or obstacles at the left-hand side.  17) **Turn Off at the Right-Hand Side**  IHO Definition: Indicates a turn off at the right-hand side.  18) **Turn Off at the Left-Hand Side**  IHO Definition: Indicates a turn off at the left-hand side.  19) **Junction at the Right-Hand Side**  IHO Definition: Indicates a junction at the right-hand side.  20) **Junction at the Left-Hand Side**  IHO Definition: Indicates a junction at the left-hand side.  21) **Harbour Entry at the Right-Hand Side**  IHO Definition: Indicates a harbour entry at the right-hand side.  22) **Harbour Entry at the Left-Hand Side**  IHO Definition: Indicates a harbour entry at the left-hand side.  23) **Bridge Pier Mark**  IHO Definition: Indicates a bridge pier in an inland waterway.  24) **Entry From a Lake to a Narrower Waterway, Right Bank**  IHO Definition: Indicates the right bank of the entry from a lake or a lake-like expansion to a section of the waterway which is narrower.  25) **Entry From a Lake to a Narrower Waterway, Left Bank**  IHO Definition: Indicates the left bank of the entry from a lake or a lake-like expansion to a section of the waterway which is narrower.  26) **Change Bank**  IHO Definition: Change bank.  27) **Continue Along Bank**  IHO Definition: Continue along bank.  Remarks:  There are two international buoyage regions, A and B, between which lateral marks differ. When top-marks, retro reflectors and/or lights are fitted to these marks, they are encoded as separate features. |

**5.48 Category of Light**

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| IHO Definition: Classification of different light types.  4) **Leading Light**  IHO Definition: A light associated with other lights so as to form a leading line to be followed.  5) **Aero Light**  IHO Definition: An aero light is established for aeronautical navigation and may be of higher power than marine lights and visible from well offshore.  8) **Flood Light**  IHO Definition: A broad beam light used to illuminate a structure or area.  9) **Strip Light**  IHO Definition: A light whose source has a linear form generally horizontal, which can reach a length of several metres.  10) **Subsidiary Light**  IHO Definition: A light placed on or near the support of a main light and having a special use in navigation.  11) **Spotlight**  IHO Definition: A powerful light focused so as to illuminate a small area.  12) **Front**  IHO Definition: Term used with leading lights to describe the position of the light on the lead as viewed from seaward.  13) **Rear**  IHO Definition: Term used with leading lights to describe the position of the light on the lead as viewed from seaward.  14) **Lower**  IHO Definition: Term used with leading lights to describe the position of the light on the lead as viewed from seaward.  15) **Upper**  IHO Definition: Term used with leading lights to describe the position of the light on the lead as viewed from seaward.  17) **Emergency**  IHO Definition: A light available as a backup to a main light which will be illuminated should the main light fail.  18) **Bearing Light**  IHO Definition: A light which enables its approximate bearing to be obtained without the use of a compass.  19) **Horizontally Disposed**  IHO Definition: A group of lights of identical character and almost identical position, that are disposed horizontally.  20) **Vertically Disposed**  IHO Definition: A group of lights of identical character and almost identical position, that are disposed vertically.  Remarks:  All lights are considered to be marine lights unless the category of light indicates otherwise. |

**5.49 Category of Marine Farm/Culture**

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| IHO Definition: Classification of an area of water devoted to the raising, breeding, or production of a specific aquatic animal.  1) **Crustaceans**  IHO Definition: Hard shelled animals, for example crabs or lobsters.  2) **Edible Bivalve Molluscs**  IHO Definition: A two-part hinged external shell covering that contains a soft-bodied invertebrate.  3) **Fish**  IHO Definition: Vertebrate cold blooded animal with gills, living in water.  4) **Seaweed**  IHO Definition: The general name for marine plants of the Algae class which grow in long narrow ribbons.  5) **Pearl Culture Farm**  IHO Definition: An area where pearls are artificially cultivated.  Remarks:  •No remarks. |

**5.50 Category of Military Practice Area**

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| IHO Definition: Classification of area by military use.  2) **Torpedo Exercise Area**  IHO Definition: An area within which exercises are carried out with torpedoes.  3) **Submarine Exercise Area**  IHO Definition: An area within which submarine exercises are carried out.  4) **Firing Danger Area**  IHO Definition: Areas for bombing and missile exercises.  5) **Mine-Laying Practice Area**  IHO Definition: An area within which mine laying exercises are carried out.  6) **Small Arms Firing Range**  IHO Definition: An area for shooting pistols, rifles and machine guns etc. at a target.  Remarks:  •No remarks. |

**5.51 Category of Mooring Area**

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| IHO Definition: Classification of an area in which vessels may be secured to mooring buoys.  1) **Small Craft Mooring Area**  IHO Definition: An area in which yachts and small boats moor.  2) **Mooring Area for Visitors**  IHO Definition: An area in which yachts and small boats moor.  3) **Mooring Area for Tankers**  IHO Definition: An area set aside for the mooring of tankers.  Remarks:  •No remarks. |

**5.52 Category of Navigation Line**

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| IHO Definition: Classification of route guidance given to vessels.  1) **Clearing Line**  IHO Definition: A straight line that marks the boundary between a safe and a dangerous area or that passes clear of a navigational danger.  2) **Transit Line**  IHO Definition: A line passing through one or more fixed marks.  3) **Leading Line Bearing a Recommended Track**  IHO Definition: A line passing through one or more clearly defined objects, along the path of which a vessel can approach safely up to a certain distance off.  Remarks:  •No remarks. |

**5.53 Category of Obstruction**

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| IHO Definition: Classification of objects that impede movement.  1) **Snag/Stump**  IHO Definition: A tree, branch or broken pile embedded in the ocean floor, river or lake bottom and not visible on the surface, forming thereby a hazard to vessels.  2) **Wellhead**  IHO Definition: A submarine structure projecting some distance above the seabed and capping a temporarily abandoned or suspended oil or gas well.  3) **Diffuser**  IHO Definition: A structure on an outfall through which liquids are discharged. The structure will usually project above the level of the outfall and can be an obstruction to navigation.  4) **Crib**  IHO Definition: A permanent marine structure usually designed to support or elevate pipelines; especially a structure enclosing a screening device at the offshore end of a potable water intake pipe. The structure is commonly a heavy timber enclosure that has been sunken with rocks or other debris.  5) **Fish Haven**  IHO Definition: Areas established by private interests, usually sport fishermen, to simulate natural reefs and wrecks that attract fish. The reefs are constructed by dumping assorted junk in areas which may be of very small extent or may stretch a considerable distance along a depth contour.  6) **Foul Area**  IHO Definition: An area of numerous unidentified dangers to navigation. The area serves as a warning to the mariner that all dangers are not identified individually and that navigation through the area may be hazardous.  8) **Ice Boom**  IHO Definition: Floating barriers, anchored to the bottom, used to deflect the path of floating ice in order to prevent the obstruction of locks, intakes, etc., and to prevent damage to bridge piers and other structures.  9) **Ground Tackle**  IHO Definition: Equipment such as anchors, concrete blocks, chains and cables, etc., used to position floating structures such as trot and mooring buoys etc.  10) Boom  IHO Definition: A floating barrier used to protect a river or harbour mouth or to create a sheltered area for storage purposes.  12) **Wave Energy Device**  IHO Definition: A device to extract energy from the surface motion of ocean waves or from pressure fluctuations below the surface.  13) **Subsurface Ocean Data Acquisition System**  IHO Definition: A submerged device, not being a ship, together with its appurtenant equipment, deployed at sea essentially for the purpose of collecting, storing or transmitting samples or data relating to the marine environment.  14) **Artificial Reef**  IHO Definition: A man-made structure that may mimic some of the characteristics of a natural reef, intended to attract sea life.  15) **Template**  IHO Definition: A structure placed on the seafloor below a drilling rig to guide the drill.  16) **Manifold**  IHO Definition: A large steel structure up to 20 metres in height above the seafloor, or a steel frame secured to the seafloor with piles to anchor the end of a submarine pipeline, for delivery to a production platform.  17) **Submerged Pingo**  IHO Definition: A hill of soil-covered ice pushed up by hydrostatic pressure in an area of permafrost that is located underwater.  18) **Remains of Platform**  IHO Definition: The distributed remains of a platform.  19) **Scientific Instrument**  IHO Definition: An instrument used for scientific purposes.  20) **Underwater Turbine**  IHO Definition: Any of various machines having a rotor, usually with vanes or blades, driven by the pressure, momentum, or reactive thrust of a moving fluid, as steam, water, hot gases, or air, either occurring in the form of free jets or as a fluid passing through and entirely filling a housing around the rotor and is located underwater.  21) **Active Submarine Volcano**  IHO Definition: An active seabed volcano, which may be submerged or projecting above the water at the chart sounding datum.  22) **Shark Net**  IHO Definition: A submerged net placed around beaches to reduce shark attacks on swimmers.  23) **Mangrove**  IHO Definition: One of several genera of tropical trees or shrubs which produce many prop roots and grow along low-lying coasts into shallow water.  Remarks:  •No remarks. |

**5.54 Category of Offshore Platform**

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| IHO Definition: Classification of an offshore raised structure.  1) **Oil Rig**  IHO Definition: A temporary mobile structure, either fixed or floating, used in the exploration stages of oil and gas fields.  2) **Production Platform**  IHO Definition: A term used to indicate a permanent offshore structure equipped to control the flow of oil or gas. It does not include entirely submarine structures.  3) **Observation/Research Platform**  IHO Definition: A platform from which one's surroundings or events can be observed, noted or recorded such as for scientific study.  4) **Articulated Loading Platform**  IHO Definition: A metal lattice tower, buoyant at one end and attached at the other by a universal joint to a concrete filled base on the seabed. The platform may be fitted with a helicopter platform, emergency accommodation and hawser/hose retrieval.  5) **Single Anchor Leg Mooring**  IHO Definition: A rigid frame or tube with a buoyancy device at its upper end, secured at its lower end to a universal joint on a large steel or concrete base resting on the seabed, and at its upper end to a mooring buoy by a chain or wire.  6) **Mooring Tower**  IHO Definition: A platform secured to the seabed and surmounted by a turntable to which ships moor.  7) **Artificial Island**  IHO Definition: A man-made structure usually built for the exploration or exploitation of marine resources, marine scientific research, tidal observations, etc.  8) **Floating Production, Storage and Off-Loading Vessel**  IHO Definition: An offshore facility consisting of a moored tanker/barge by which the product is extracted, stored and exported.  9) **Accommodation Platform**  IHO Definition: A platform used primarily for eating, sleeping and recreation purposes.  10) **Navigation, Communication and Control Buoy**  IHO Definition: A floating structure with control room, power and storage facilities, attached to the seabed by a flexible pipeline and cables.  11) **Floating Oil Tank**  IHO Definition: A floating structure, anchored to the seabed, for storing oil.  Remarks:  •No remarks. |

**5.55 Category of Offshore Production Area**

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| IHO Definition: Classification of an area at sea within which there are production facilities.  1) **Wind Farm**  IHO Definition: A collection of wind turbines that are collocated and are organized as a single power generation unit.  2) **Wave Farm**  IHO Definition: A collection of collocated devices which harness wave energy and are organized as a single power generation unit.  3) **Current Farm**  IHO Definition: A collection of collocated devices which harness current (for example tidal) energy and are organized as a single power generation unit.  4) **Tank Farm**  IHO Definition: A collection of collocated large-capacity tanks in which petroleum, natural gas, or liquid petrochemicals are stored.  5) **Seabed Material Extraction Area**  IHO Definition: An area in which materials forming, or under, the seabed are removed.  6) **Solar Farm**  IHO Definition: A large-scale photovoltaic system (PV system) designed for the supply of merchant power into the electricity grid. They are differentiated from most building-mounted and other decentralised solar power applications because they supply power at the utility level, rather than to a local user or users. The generic expression utility-scale solar is sometimes used to describe this type of project.  Remarks:  •No remarks. |

**5.56 Category of Oil Barrier**

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| IHO Definition: Classification of barriers used to prevent the unwanted spread of oil across the sea surface.  1) **Oil Retention (High Pressure Pipe)**  IHO Definition: A pipe with holes from which air blows. When the air bubbles reach the surface they form a barrier which prevents the spread of oil.  2) **Floating Oil Barrier**  IHO Definition: A floating tube shaped structure, with a curtain (2 metre) hanging under it, below the surface, which prevents the spread of oil.  Remarks:  •No remarks. |

**5.57 Category of Opening Bridge**

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| IHO Definition: Classification of opening structures spanning and providing passage over a gap or barrier, such as a river or roadway.  3) **Swing Bridge**  IHO Definition: A movable bridge (or span thereof) which rotates in a horizontal plane about a vertical pivot to allow the passage of vessels.  4) **Lifting Bridge**  IHO Definition: A movable bridge (or span thereof) which is capable of being lifted vertically to allow vessels to pass beneath.  5) **Bascule Bridge**  IHO Definition: A counterpoise bridge rotated in a vertical plane about an axis at one or both ends.  7) **Drawbridge**  IHO Definition: A general name for bridges of which part or the entire span of the bridge may be raised or drawn aside to allow ships to pass through.  Remarks:  •No remarks. |

**5.58 Category of Pile**

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| IHO Definition: Classification of pile, driven into the earth as a foundation or support for a structure.  1) **Stake**  IHO Definition: An elongated wood or metal pole embedded in the seabed to serve as a marker or support.  3) **Post**  IHO Definition: A vertical piece of timber, metal or concrete forced into the earth or seabed.  4) **Tripodal**  IHO Definition: A single structure comprising 3 or more piles held together (sections of heavy timber, steel or concrete), and forced into the earth or seabed.  5) **Piling**  IHO Definition: A number of piles, usually in a straight line, and usually connected or bolted together.  6) **Area of Piles**  IHO Definition: A number of piles, usually in a straight line, but not connected by structural members.  7) **Pipe**  IHO Definition: A vertical hollow cylinder of metal, wood, or other material forced into the earth or seabed.  8) **Mooring Post**  IHO Definition: A post where to which something (such as a craft) can be moored.  Remarks:  •No remarks. |

**5.59 Category of Pilot Boarding Place**

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| IHO Definition: Classification of pilot boarding method.  1) **Boarding by Pilot-Cruising Vessel**  IHO Definition: Pilot boards from a cruising vessel.  2) **Boarding by Helicopter**  IHO Definition: Pilot boards by helicopter which comes out from the shore.  3) **Pilot Comes Out from Shore**  IHO Definition: Pilot embarks from a vessel or disembarks to a vessel which comes out from the shore on request.  Remarks:  •No remarks. |

**5.60 Category of Pipeline/Pipe**

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| IHO Definition: Classification of a pipe systems use.  2) **Outfall Pipe**  IHO Definition: A pipe (generally a **sewer** or drainage pipe) discharging into the sea or a river.  3) **Intake Pipe**  IHO Definition: A pipe taking water from a river or other body of water, to drive a mill or supply a canal, waterworks, etc.  4) Sewer  IHO Definition: A pipe in a sewage system for carrying water or sewage to a disposal area.  5) **Bubbler System**  IHO Definition: A submerged pipe from which warm water bubbles, preventing the surrounding water from freezing.  6) **Supply Pipe**  IHO Definition: A pipe used for transport (supply) of gas or liquid product.  7) **Bubble Curtain**  IHO Definition: A high pressure sub-surface pipeline (usually on the seafloor) with holes emitting a curtain of air bubbles. Its uses include: the prevention of acoustic transmission through the water; preventing the spread of surface debris or floating liquids; controlling the movement of fish.  Remarks:  •No remarks. |

**5.61 Category of Preference**

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| IHO Definition: The selection of a first choice compared to other options.  1) **Primary**  IHO Definition: The preferred first choice used in normal conditions.  2) **Alternate**  IHO Definition: The preferred choice in extraordinary conditions.  Remarks:  •No remarks. |

**5.62 Category of Production Area**

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| IHO Definition: Classification of an area set aside for heavy industry.  1) **Quarry**  IHO Definition: An open-air excavation for the extraction of stone intended principally for use in construction.  2) **Mine**  IHO Definition: An excavation made in the terrain for the purpose of extracting and/or exploiting natural resources.  3) **Stockpile**  IHO Definition: A reserve stock of material, equipment or other supplies.  4) **Power Station Area**  IHO Definition: A facility including one or more buildings and equipment used for power generation.  5) **Refinery Area**  IHO Definition: A facility where petroleum and/or petroleum products are refined.  6) **Timber Yard**  IHO Definition: An open tract for the storage of wooden lumber and timbers.  7) **Factory Area**  IHO Definition: A group of buildings where goods are manufactured.  8) **Tank Farm**  IHO Definition: A collection of collocated large-capacity tanks in which petroleum, natural gas, or liquid petrochemicals are stored.  9) **Wind Farm**  IHO Definition: A collection of wind turbines that are collocated and are organized as a single power generation unit.  10) **Slag Heap/Spoil Heap**  IHO Definition: Hill of refuse from a mine, industrial plant etc. on land.  11) **Production Plant**  IHO Definition: A plant where production takes place.  12) **Solar Farm**  IHO Definition: A large-scale photovoltaic system (PV system) designed for the supply of merchant power into the electricity grid. They are differentiated from most building-mounted and other decentralised solar power applications because they supply power at the utility level, rather than to a local user or users. The generic expression utility-scale solar is sometimes used to describe this type of project.  Remarks:  •No remarks. |

**5.63 Category of Pylon**

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| IHO Definition: Classification of the pylon based on the service it is supporting.  1) **Power Transmission Pylon/Pole**  IHO Definition: A pylon or pole that supports one or more power lines.  2) **Telephone/Telegraph Pylon/Pole**  IHO Definition: A pylon or pole that supports one or more communication lines.  3) **Aerial Cableway Pylon**  IHO Definition: A tower or pylon supporting steel cables which convey cars, buckets, or other suspended carrier units.  4) **Bridge Pylon/Tower**  IHO Definition: A tower and/or pylon from which the deck of a bridge is suspended.  5) **Bridge Pier**  IHO Definition: A pillar or abutment that supports a bridge span.  6) **Pipeline Pylon**  IHO Definition: A tower or pylon supporting a suspended pipeline or pipelines.  Remarks:  •No remarks. |

**5.64 Category of Radar Station**

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| IHO Definition: Classification of radar station based on the services offered.  1) **Radar Surveillance Station**  IHO Definition: A radar station established for traffic surveillance.  2) **Coast Radar Station**  IHO Definition: A shore-based station which the mariner can contact by radio to obtain a position.  Remarks:  •No remarks. |

**5.65 Category of Radar Transponder Beacon**

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| IHO Definition: Classification of radar transponder beacon based on functionality.  1) **Ramark, Radar Beacon Transmitting Continuously**  IHO Definition: A radar marker beacon which continuously transmits a signal appearing as a radial line on a radar screen, the line indicating the direction of the beacon. Ramarks are intended primarily for marine use. The name 'ramark' is derived from the words radar marker.  2) **Racon, Radar Transponder Beacon**  IHO Definition: A radar beacon which returns a coded signal which provides identification of the beacon, as well as range and bearing. The range and bearing are indicated by the location of the first character received on the radar screen. The name 'racon' is derived from the words radar beacon.  3) **Leading Racon/Radar Transponder Beacon**  IHO Definition: A radar beacon that may be used (in conjunction with at least one other radar beacon) to indicate a leading line.  Remarks:  •No remarks. |

**5.66 Category of Radio Station**

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| IHO Definition: Classification of radio services offered by a radio station.  5) **Radio Direction-Finding Station**  IHO Definition: A radio station intended to determine only the direction of other stations by means of transmission from the latter.  10) **Differential GNSS**  IHO Definition: Differential GNSS is implemented by placing a GNSS monitor receiver at a precisely known location. Instead of computing a navigation fix, the monitor determines the range error to every GNSS satellite it can track. These ranging errors are then transmitted to local users where they are applied as corrections before computing the navigation result.  11) **Toran**  IHO Definition: An electronic position fixing system used mainly by aircraft.  14) **Chaika**  IHO Definition: A low frequency electronic position fixing system using pulsed transmissions at 100 Khz.  19) **Radio Telephone Station**  IHO Definition: The equipment needed at one station to carry on two way voice communication by radio waves only.  20) **AIS Base Station**  IHO Definition: An AIS shore station for use by competent authorities to provide AIS service, manage the data link and enable effective ship to shore / shore to ship transmission of information.  Remarks:  A radiobeacon is a radio transmitter which emits a distinctive or characteristic signal on which a bearing may be taken. |

**5.67 Category of Rescue Station**

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| IHO Definition: Classification of aid station based on life saving equipment.  1) **Rescue Station with Lifeboat**  IHO Definition: A place where equipment for saving life at sea is maintained; the type of lifeboat may vary from fast, long distance boats to inflatable inshore boats.  2) **Rescue Station with Rocket**  IHO Definition: A life saving station equipped with line-carrying rocket apparatus.  4) **Refuge for Shipwrecked Mariners**  IHO Definition: Shelter or protection from danger or distress at sea.  5) **Refuge for Intertidal Area Walkers**  IHO Definition: Shelter or protection from danger in areas exposed to extreme and sudden tides or tidal streams.  6) **Lifeboat Lying at a Mooring**  IHO Definition: A place where a lifeboat is moored ready for use.  7) **Aid Radio Station**  IHO Definition: A radio station reserved for emergency situations; might also be a public telephone.  8) **First Aid Equipment**  IHO Definition: A place where first aid equipment is available.  9) **Lifebuoy, Ring Buoy, Life Ring, Life Saver**  IHO Definition: A "kisby ring" or "perry buoy" designed to be thrown to a person in the water, to provide buoyancy and to prevent drowning.  Remarks:  •No remarks. |

**5.68 Category of Restricted Area**

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| IHO Definition: The official legal status of each kind of restricted area defines the kind of restriction(s), for example the restriction for a '**game reserve**' may be 'entering prohibited'.  1) **Offshore Safety Zone**  IHO Definition: The area around an offshore installation within which vessels are prohibited from entering without permission. Special regulations protect installations within a safety zone and vessels of all nationalities are required to respect the zone.  4) **Nature Reserve**  IHO Definition: A tract of land or water managed so as to preserve its flora, fauna, physical features, etc.  5) **Bird Sanctuary**  IHO Definition: A place where birds are bred and protected.  6) Game Reserve  IHO Definition: A place where wild animals or birds hunted for sport or food are kept undisturbed for private use.  7) **Seal Sanctuary**  IHO Definition: A place where seals are protected.  8) **Degaussing Range**  IHO Definition: An area, usually about two cables diameter, within which ships' magnetic fields may be measured; sensing instruments and cables are installed on the seabed in the range and there are cables leading from the range to a control position ashore.  9) **Military Area**  IHO Definition: An area controlled by the military in which restrictions may apply.  10) **Historic Wreck Area**  IHO Definition: An area around certain wrecks of historical importance to protect the wrecks from unauthorized interference by diving, salvage or deposition (including anchoring).  12) **Navigational Aid Safety Zone**  IHO Definition: An area around a navigational aid which vessels are prohibited from entering.  14) **Minefield**  IHO Definition: An area laid and maintained with explosive mines for defence or practice purposes.  18) **Swimming Area**  IHO Definition: An area in which people may swim and therefore vessel movement may be restricted.  19) **Waiting Area**  IHO Definition: An area reserved for vessels waiting to enter a harbour.  20) **Research Area**  IHO Definition: An area where marine research takes place.  21) **Dredging Area**  IHO Definition: An area where dredging is taking place.  22) **Fish Sanctuary**  IHO Definition: A place where fish (including shellfish and crustaceans) are protected.  23) **Ecological Reserve**  IHO Definition: A tract of land or water managed so as to preserve the relation of plants and living creatures to each other and to their surroundings.  24) **No Wake Area**  IHO Definition: An area in which a vessels' speed must be reduced in order to reduce the size of the wake it produces.  25) **Swinging Area**  IHO Definition: An area where vessels turn.  27) **Environmentally Sensitive Sea Area**  IHO Definition: A generic term which may be used to describe a wide range of areas, considered sensitive for a variety of environmental reasons.  28) **Particularly Sensitive Sea Area**  IHO Definition: An area that needs special protection through action by IMO because of its significance for regional ecological, socio-economic or scientific reasons and because it may be vulnerable to damage by international shipping activities.  29) **Disengagement Area**  IHO Definition: An area near a fairway where vessels can go to clear the way or make an about turn and possibly return to a waiting area when nautical conditions impose it.  30) **Port Security Area**  IHO Definition: An area in which defence, law and treaty enforcement, and counter-terrorism activities that fall within the port and maritime domain apply.  31) **Coral Sanctuary**  IHO Definition: A place where coral is protected.  32) **Recreation Area**  IHO Definition: An area within which recreational activities regularly take place and therefore vessel movement may be restricted.  33) **Ship Pollution Emission Control**  IHO Definition: An area within which the ship pollution emission is controlled.  Remarks:  •No remarks. |

**5.69 Category of Road**

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| IHO Definition: Classification of a road based on size.  1) **Motorway**  IHO Definition: A limited access dual carriageway road specially designed for fast long-distance traffic and subject to special regulations concerning its use. It may have more than two lanes.  2) **Major Road**  IHO Definition: A hard surfaced (metalled) road; a main through route.  3) **Minor Road**  IHO Definition: A secondary road for local traffic.  4) **Track/Path**  IHO Definition: Track - a rough path or way formed by use. Path - a way or track laid down for walking or made by continual treading.  5) **Major Street**  IHO Definition: A main road, in an urban area, for through traffic.  6) **Minor Street**  IHO Definition: A secondary road, in an urban area, for local traffic.  Remarks:  •No remarks. |

**5.70 Category of Schedule**

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| IHO Definition: The type of schedule, for instance opening, **closure**, etc.  1) **Normal Operation**  IHO Definition: The service, office, is open, fully manned, and operating normally, or the area is accessible as usual.  2) Closure  IHO Definition: The service, office, or area is closed.  3) **Unmanned Operation**  IHO Definition: The service is available but not manned.  Remarks:  •No remarks. |

**5.71 Category of Sea Area**

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| IHO Definition: Classification of an area based on its physical characteristics.  2) **Gat**  IHO Definition: A natural or artificial passage or channel through **shoal**s or steep **bank**s, or across a line of banks lying between two channels.  3) Bank  IHO Definition: An elevation of the seafloor, at depths generally less than 200 m, but sufficient for safe surface navigation, commonly found on the continental **shelf** or near an island.  4) **Deep**  IHO Definition: In oceanography, an obsolete term which was generally restricted to depths greater than 6,000 m.  5) **Bay**  IHO Definition: A wide indentation in the coastline generally smaller than a gulf and larger than a cove. For the purposes of the United Nations Convention on the Law of the Sea, a bay is a well-marked indentation whose penetration is in such proportion to the width of its mouth as to contain land locked waters and constitute more than a mere curvature of the coast.  6) **Trench**  IHO Definition: A long, deep, asymmetrical depression with relatively steep sides, that is associated with subduction.  7) **Basin**  IHO Definition: A depression of the seafloor more or less equidimensional in plan and of variable extent.  8) **Mud Flats**  IHO Definition: A level tract of land, as the bed of a dry **lake** or an area frequently uncovered at low tide. Usually in plural.  9) **Reef**  IHO Definition: A shallow elevation composed of consolidated material that may constitute a hazard to surface navigation.  10) **Ledge**  IHO Definition: A rocky formation continuous with and fringing the shore.  11) **Canyon**  IHO Definition: An elongated, narrow, steep-sided depression that generally deepens down-**slope**.  12) **Narrows**  IHO Definition: A navigable narrow part of a bay, strait, **river**, etc.  13) Shoal  IHO Definition: A shallow elevation composed of unconsolidated material that may constitute a hazard to surface navigation.  14) **Knoll**  IHO Definition: A distinct elevation with a rounded profile less than 1000m above the surrounding relief as measured from the deepest isobath that surrounds most of the feature.  15) **Ridge**  IHO Definition: An elongated elevation of varying complexity and size, generally having steep sides.  16) **Seamount**  IHO Definition: A distinct generally equidimensional elevation greater than 1000m above the surrounding relief as measured from the deepest isobath that surrounds most of the feature.  17) **Pinnacle**  IHO Definition: Any high tower or spire-shaped pillar or rock or coral, alone or cresting a summit. It may extend above the surface of the water. It may or may not be a hazard to surface navigation.  18) **Abyssal Plain**  IHO Definition: An extensive, flat, gently sloping or nearly level region at abyssal depths.  19) **Plateau**  IHO Definition: A large, relatively flat elevation that is higher than the surrounding relief with one or more relatively steep sides.  20) **Spur**  IHO Definition: A subordinate ridge protruding from a larger feature.  21) Shelf  IHO Definition: The flat or gently sloping region adjacent to a continent or around an island that extends from the low water line to a depth, generally about 200m, where there is a marked increase in downward slope.  22) **Trough**  IHO Definition: A long depression generally wide and flat bottomed with symmetrical and parallel sides.  23) **Saddle**  IHO Definition: A broad pass or col in a ridge, **rise** or other elevation.  24) **Abyssal Hill**  IHO Definition: An isolated small elevation on the deep seafloor.  25) **Apron**  IHO Definition: A gently dipping slope, with a smooth surface, commonly found around groups of islands and seamounts.  26) **Archipelagic Apron**  IHO Definition: A gentle slope with a generally smooth surface of the seafloor, characteristically found around groups of islands or seamounts.  27) **Borderland**  IHO Definition: A region adjacent to a continent, normally occupied by or bordering a shelf and sometimes emerging as islands, that is irregular or blocky in plan or profile, with depths well in excess of those typical of a shelf.  28) **Continental Margin**  IHO Definition: The zone, generally consisting of shelf, slope and **continental rise**, separating the continent from the deep seafloor or abyssal plain or plain. Occasionally a trench may be present in place of a continental rise.  29) Continental Rise  IHO Definition: A gentle slope rising from the oceanic depths towards the foot of a continental slope.  30) **Escarpment**  IHO Definition: An elongated, characteristically linear, steep slope separating horizontal or gently sloping areas of the seafloor.  31) **Fan**  IHO Definition: A relatively smooth, depositional feature continuously deepening away from a sediment source commonly located at the lower termination of a canyon or canyon system.  32) **Fracture Zone**  IHO Definition: A long narrow zone of irregular topography formed by the movement of tectonic plates associated with an offset of a spreading ridge axis, characterized by steep-sided and/or asymmetrical ridges, troughs or escarpments.  33) **Gap**  IHO Definition: A narrow break in a ridge, rise or other elevation.  34) **Guyot**  IHO Definition: A seamount having a comparatively smooth flat top.  35) Hill  IHO Definition: [1] A small isolated elevation, smaller than a mountain. [2] A distinct elevation generally of irregular shape, less than 1000m above the surrounding relief as measured from the deepest isobath that surrounds most of the feature.  36) **Hole**  IHO Definition: A depression of limited extent with all sides rising steeply from a relatively flat bottom.  37) **Levee**  IHO Definition: A depositional embankment bordering a canyon, **valley** or **sea channel**.  38) **Median Valley**  IHO Definition: The axial depression of the mid-oceanic ridge system.  39) **Moat**  IHO Definition: An annular or partially annular depression commonly located at the base of seamounts, islands and other isolated elevations.  40) **Mountains**  IHO Definition: A natural elevation of the earth's surface rising more or less abruptly from the surrounding level, and attaining an altitude which, relatively to adjacent elevations, is impressive or notable.  41) **Peak**  IHO Definition: A conical or pointed elevation on a larger feature such as a seamount.  42) **Province**  IHO Definition: A geographically distinct region with a number of shared physiographic characteristics that contrast with those in the surrounding areas. This term should be modified with the generic term that best describes the majority of features in the region, for example "Seamount" in Baja California Seamount Province.  43) Rise  IHO Definition: A broad elevation that generally rises gently and smoothly from the surrounding relief.  44) Sea Channel  IHO Definition: An elongated, meandering depression, usually occurring on a gently sloping plain or fan.  45) **Seamount Chain**  IHO Definition: Several seamounts in linear or arcuate alignment.  46) **Shelf-Edge**  IHO Definition: The line along which there is a marked increase in slope at the seaward margin of a shelf.  47) **Sill**  IHO Definition: A relatively shallow barrier between BASINS that may inhibit water movement.  48) Slope  IHO Definition: The sloping region that deepens from a shelf to the point where there is a general decrease in gradient.  49) **Terrace**  IHO Definition: A flat or gently sloping region, generally long and narrow, bounded along one edge by a steeper descending slope and along the other by a steeper ascending slope.  50) Valley  IHO Definition: An elongated depression that generally widens and deepens down-slope.  51) **Canal**  IHO Definition: An artificial waterway with no flow, or a controlled flow, used for navigation, or for draining or irrigating land (ditch).  52) Lake  IHO Definition: A large body of water entirely surrounded by land.  53) River  IHO Definition: A relatively large natural stream of water.  54) **Reach**  IHO Definition: A straight section of a river, especially a navigable river between two **bend**s; or an arm of the sea extending into the land.  55) **Intertidal Cay**  IHO Definition: A low, flat island of sand, coral, etc. awash or submerged at high water.  56) **Submarine Volcano**  IHO Definition: A seabed volcano, submerged at the chart sounding datum, which may or may not be active.  57) **Chute**  IHO Definition: An inclined plane, sloping channel, or passage down or through which things may pass.  58) **Backwater/Slough**  IHO Definition: A body of water (as an inlet or tributary) that is out of the main current of a larger body.  59) Bend  IHO Definition: A curve or change in direction of a watercourse or river.  Remarks:  •No remarks. |

**5.72 Category of Shoreline Construction**

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| IHO Definition: Classification of shoreline construction based on use.  1) **Breakwater**  IHO Definition: A structure protecting a shore area, harbour, anchorage, or basin from waves.  2) **Groyne**  IHO Definition: A low artificial wall-like structure of durable material extending from the land to seaward for a particular purpose, such as to protect the coast or to force a current to scour a channel.  3) **Mole**  IHO Definition: A form of breakwater alongside which vessels may lie on the sheltered side only; in some cases it may lie entirely within an artificial harbour, permitting vessels to lie along both sides.  4) **Pier (Jetty)**  IHO Definition: A long, narrow structure extending into the water to afford a berthing place for vessels, to serve as a promenade, etc.  5) **Promenade Pier**  IHO Definition: A pier built only for recreational purposes.  6) **Wharf**  IHO Definition: A structure serving as a berthing place for vessels.  7) **Training Wall**  IHO Definition: A wall or bank, often submerged, built to direct or confine the flow of a river or tidal current, or to promote a scour action.  8) **Rip Rap**  IHO Definition: A layer of broken rock, cobbles, boulders, or fragments of sufficient size to resist the erosive forces of flowing water and wave action.  9) **Revetment**  IHO Definition: Facing of stone or other material, either permanent or temporary, placed along the edge of a stream, river or canal to stabilize the bank and to protect it from the erosive action of the stream.  10) **Sea Wall**  IHO Definition: An embankment or wall for protection against waves or tidal action along a shore or water front.  11) **Landing Steps**  IHO Definition: Steps at the shoreline as the connection between land and water on different levels.  12) **Ramp**  IHO Definition: (1) A sloping structure which may include rails that can either be used, as a landing place, at variable water levels, for small vessels, landing ships, or a ferry boat, or for hauling a cradle carrying a vessel. (2) An accumulation of snow that forms an inclined plane between land or land ice elements and sea ice or ice shelf. Also called drift ice foot.  13) **Slipway**  IHO Definition: The prepared and usually reinforced inclined surface on which keel- and bilge-blocks are laid for supporting a vessel under construction.  14) **Fender**  IHO Definition: A protective structure designed to cushion the impact of a vessel and prevent damage.  15) **Solid Face Wharf**  IHO Definition: A wharf consisting of a solid wall of concrete, masonry, wood etc., such that the water cannot circulate freely under the wharf. The type of construction affects ship-handling; for example, a solid face wharf may give shelter from tidal streams, but under certain circumstances a cushion of water may build up between such a wharf and a ship attempting to berth at it, causing difficulties in ship handling.  16) **Open Face Wharf**  IHO Definition: A wharf supported on piles or other structures which allow free circulation of water under the wharf.  17) **Log Ramp**  IHO Definition: An inclined plane used to dump logs into the water for transport, or to haul logs out of the water for processing.  18) **Lock/Guide Wall**  IHO Definition: Permanent structure bounding a lock and including guide walls.  19) **Ice Breaker**  IHO Definition: An often wedge-like structure used for protecting a bridge pier, dock, facility, etc. from floating ice or other debris.  20) **Swimming Facility**  IHO Definition: An artificial pool or swimming enclosure, especially one in the open air, which may be constructed of wire mesh or heavy netting supported by cables, buoys or piles, for swimming in.  21) **Water Intake Structure**  IHO Definition: A structure designed to divert water from a river or channel for the purpose of water supply, hydroelectric power or irrigation.  22) **Quay**  IHO Definition: A wharf approximately parallel to the shoreline and accommodating ships on one side only, the other side being attached to the shore. It is usually of solid construction, as contrasted with the open pile construction usually used for piers.  23) **Tie-Up Wall**  IHO Definition: A section of wall designated for tying-up vessels awaiting transit. Bollards and mooring devices are available for both large and small ships.  Remarks:  •No remarks. |

**5.73 Category of Signal Station, Traffic**

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| IHO Definition: Classification of station based on the traffic service provided.  1) **Port Control**  IHO Definition: A signal station for the control of vessels within a port.  2) **Port Entry and Departure**  IHO Definition: A signal station for the control of vessels entering or leaving a port.  3) **International Port Traffic**  IHO Definition: A signal station displaying International Port Traffic signals.  4) **Berthing Signal Station**  IHO Definition: A signal station for the control of vessels when berthing.  5) **Dock**  IHO Definition: A signal station for the control of vessels entering or leaving a dock.  6) **Lock**  IHO Definition: A signal station for the control of vessels entering or leaving a lock.  7) **Flood Barrage Station**  IHO Definition: A signal station for the control of vessels wishing to pass through a flood control barrage.  8) **Bridge Passage**  IHO Definition: A signal station for the control of vessels wishing to pass under a bridge.  9) **Dredging**  IHO Definition: A signal station indicating when dredging is in progress.  10) **Traffic Control Light**  IHO Definition: Visual signal lights placed in a waterway to indicate to shipping the movements authorized at the time at which they are shown.  Remarks:  •No remarks. |

**5.74 Category of Signal Station, Warning**

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| IHO Definition: Classification of station based on the warning service provided.  1) **Danger**  IHO Definition: A signal or message warning of the presence of a danger to navigation.  2) **Maritime Obstruction**  IHO Definition: A signal or message warning of the presence of a maritime obstruction.  3) **Cable**  IHO Definition: A signal or message warning of the presence of a cable.  4) **Military Practice**  IHO Definition: A signal or message warning of activity in a military practice area.  5) **Distress**  IHO Definition: A station that may receive or transmit distress signals.  6) **Weather**  IHO Definition: A visual signal displayed to indicate a weather forecast.  7) **Storm**  IHO Definition: A signal or message conveying information about storm conditions.  8) **Ice Warning**  IHO Definition: A signal or message conveying information about ice conditions.  9) Time  IHO Definition: An accurate signal marking a specified time or time interval. It is used primarily for determining errors of timepieces. Such signals are usually sent from an observatory by radio, but visual signals are used at some ports.  10) **Tide**  IHO Definition: A signal or message conveying information on tidal conditions in the area in question.  11) **Tidal Stream**  IHO Definition: A signal or message conveying information on condition of tidal currents in the area in question.  12) **Tide Gauge**  IHO Definition: A device for measuring the height of tide. A graduated staff in a sheltered area where visual observations can be made; or it may consist of an elaborate recording instrument making a continuous graphic record of tide height against time. Such an instrument is usually actuated by a float in a pipe communicating with the sea through a small hole which filters out shorter waves.  13) **Tide Scale**  IHO Definition: A visual scale which directly shows the height of the water above chart datum or a local datum.  14) **Diving**  IHO Definition: A signal or message warning of diving activity.  15) **Water Level Gauge**  IHO Definition: A device for measuring and conveying information about the water level (non-tidal) in the area in question.  16) **Vertical Clearance Indication**  IHO Definition: An indication of the vertical clearance of a bridge, overhead cable, etc.  18) **Depth Indication**  IHO Definition: An indication of the local depth.  Remarks:  •No remarks. |

**5.75 Category of Silo/Tank**

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| IHO Definition: Classification based on the product for which a silo or tank is used.  1) **Silo in General**  IHO Definition: A large storage structure used for storing loose materials.  2) **Tank in General**  IHO Definition: A fixed structure for storing liquids.  3) **Grain Elevator**  IHO Definition: A storage building for grain. Usually a tall frame, metal or concrete structure with an especially compartmented interior.  4) **Water Tower**  IHO Definition: A tower supporting an elevated storage tank of water.  Remarks:  •No remarks. |

**5.76 Category of Slope**

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| IHO Definition: Classification of a stretch of ground forming a natural or artificial incline.  1) **Cutting**  IHO Definition: An excavation through high ground for a road, canal, etc.  2) **Embankment**  IHO Definition: A man-made raised long mound of earth or other material.  3) **Dune**  IHO Definition: A mound, ridge or **hill** of drifted material on the sea coast or in a desert.  4) Hill  IHO Definition: [1] A small isolated elevation, smaller than a mountain. [2] A distinct elevation generally of irregular shape, less than 1000m above the surrounding relief as measured from the deepest isobath that surrounds most of the feature.  5) **Pingo**  IHO Definition: A dome-shaped hill formed in a permafrost area when the hydrostatic pressure of freezing ground water causes the upheaval of a layer of frozen ground.  6) **Cliff**  IHO Definition: Land rising abruptly for a considerable distance above the water or surrounding land.  7) **Scree**  IHO Definition: A mass of detritus, forming a precipitous, strong slope upon a mountain-side. Also the material composing such a slope.  Remarks:  •No remarks. |

**5.77 Category of Small Craft Facility**

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| IHO Definition: Classification of services and facilities for the small craft user.  1) **Visitors Berth**  IHO Definition: A berth set aside for the use of visiting vessels.  2) **Nautical Club**  IHO Definition: A club for mariners generally associated with other small craft facilities.  3) **Boat Hoist**  IHO Definition: A hoist for lifting boats out of the water.  4) **Sailmaker**  IHO Definition: A place where sails are made or may be taken for repair.  5) **Boatyard**  IHO Definition: A place on shore where boats may be built, stored and repaired.  6) **Public Inn**  IHO Definition: A public house providing food, drink and accommodation.  7) **Restaurant**  IHO Definition: A commercial establishment serving food.  8) **Chandler**  IHO Definition: A dealer in ships' supplies.  9) **Provisions**  IHO Definition: A place where food and other such supplies are available.  10) **Doctor**  IHO Definition: A place where a doctor is available to provide medical attention.  11) **Pharmacy**  IHO Definition: A place where medical drugs are dispensed.  12) **Water Tap**  IHO Definition: A place where fresh water is available.  13) **Fuel Station**  IHO Definition: A place where fuel is available.  14) **Electricity Outlet**  IHO Definition: A place where a connection to an electrical supply is available.  15) **Bottle Gas**  IHO Definition: A place where bottled gas is available.  16) **Showers**  IHO Definition: A place where showers are available.  17) **Launderette**  IHO Definition: A place where there are facilities for washing clothes.  18) **Public Toilets**  IHO Definition: A place where toilets are available for public use.  19) **Post Box**  IHO Definition: A place where mail may be posted.  20) **Public Telephone**  IHO Definition: A place where a telephone is available for public use.  21) **Refuse Bin**  IHO Definition: A place where refuse may be dumped.  22) **Car Park**  IHO Definition: A place where cars may be parked.  23) **Parking for Boats and Trailers**  IHO Definition: A place on shore where boats and/or trailers may be parked.  24) **Caravan Site**  IHO Definition: A place where caravans may be parked or where caravan accommodation is provided.  25) **Camping Site**  IHO Definition: A place where visitors may pitch tents and camp.  26) **Sewage Pump-Out Station**  IHO Definition: A place where sewage may be pumped off a vessel.  27) **Emergency Telephone**  IHO Definition: A place where a telephone is available for emergency use only.  28) **Landing/Launching Place for Boats**  IHO Definition: A place where boats may be landed or launched.  30) **Scrubbing Berth**  IHO Definition: A place where vessels may berth for the purpose of careening.  31) **Picnic Area**  IHO Definition: A place where people may go to eat a picnic.  32) **Mechanics Workshop**  IHO Definition: A place where mechanical repairs can be undertaken to engines or other vessel equipment.  33) **Guard and/or Security Service**  IHO Definition: A place where a vessel is patrolled by a security service or stored in a secure lockup.  Remarks:  •No remarks. |

**5.78 Category of Special Purpose Mark**

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| IHO Definition: Classification of an aid to navigation which signifies some special purpose.  1) **Firing Danger Mark**  IHO Definition: A mark used to indicate a firing danger area, usually at sea.  2) **Target Mark**  IHO Definition: Any object toward which something is directed. The distinctive marking or instrumentation of a ground point to aid its identification on a photograph.  3) **Marker Ship Mark**  IHO Definition: A mark marking the position of a ship which is used as a target during some military exercise.  4) **Degaussing Range Mark**  IHO Definition: A mark used to indicate a degaussing range.  5) **Barge Mark**  IHO Definition: A mark of relevance to barges.  6) **Cable Mark**  IHO Definition: A mark used to indicate the position of submarine cables or the point at which they run on to the land.  7) **Spoil Ground Mark**  IHO Definition: A mark used to indicate the limit of a spoil ground.  8) **Outfall Mark**  IHO Definition: A mark used to indicate the position of an outfall or the point at which it leaves the land.  9) **ODAS**  IHO Definition: Ocean Data Acquisition System.  10) **Recording Mark**  IHO Definition: A mark used to record data for scientific purposes.  11) **Seaplane Anchorage Mark**  IHO Definition: A mark used to indicate a seaplane anchorage.  12) **Recreation Zone Mark**  IHO Definition: A mark used to indicate a recreation zone.  13) **Private Mark**  IHO Definition: A privately maintained mark.  14) **Mooring Mark**  IHO Definition: A mark indicating a mooring or moorings.  15) **LANBY**  IHO Definition: A large buoy designed to take the place of a lightship where construction of an offshore light station is not feasible.  16) **Leading Mark**  IHO Definition: Aids to navigation or other indicators so located as to indicate the path to be followed. Leading marks identify a leading line when they are in transit.  17) **Measured Distance Mark**  IHO Definition: A mark forming part of a transit indicating one end of a measured distance.  18) **Notice Mark**  IHO Definition: A notice board or sign indicating information to the mariner.  19) **TSS Mark**  IHO Definition: A mark indicating a Traffic Separation Scheme.  20) **Anchoring Prohibited Mark**  IHO Definition: A mark indicating an anchoring prohibited area.  21) **Berthing Prohibited Mark**  IHO Definition: A mark indicating that berthing is prohibited.  22) **Overtaking Prohibited Mark**  IHO Definition: A mark indicating that overtaking is prohibited.  23) **Two-Way Traffic Prohibited Mark**  IHO Definition: A mark indicating a one-way route.  24) **Reduced Wake Mark**  IHO Definition: A mark indicating that vessels must not generate excessive wake.  25) **Speed Limit Mark**  IHO Definition: A mark indicating that a speed limit applies.  26) **Stop Mark**  IHO Definition: A mark indicating the place where the bow of a ship must stop when traffic lights show red.  27) **General Warning Mark**  IHO Definition: A mark indicating that special caution must be exercised in the vicinity of the mark.  28) **Sound Ship's Siren Mark**  IHO Definition: A mark indicating that a ship should sound its siren or horn.  29) **Restricted Vertical Clearance Mark**  IHO Definition: A mark indicating the minimum vertical space available for passage.  30) **Maximum Vessel's Draught Mark**  IHO Definition: A mark indicating the maximum draught of vessel permitted.  31) **Restricted Horizontal Clearance Mark**  IHO Definition: A mark indicating the minimum horizontal space available for passage.  32) **Strong Current Warning Mark**  IHO Definition: A mark warning of strong currents.  33) **Berthing Permitted Mark**  IHO Definition: A mark indicating that berthing is allowed.  34) **Overhead Power Cable Mark**  IHO Definition: A mark indicating an overhead power cable.  35) **Channel Edge Gradient Mark**  IHO Definition: A mark indicating the gradient of the slope of a dredge channel edge.  36) **Telephone Mark**  IHO Definition: A mark indicating the presence of a telephone.  37) **Ferry Crossing Mark**  IHO Definition: A mark indicating that a ferry route crosses the ship route; often used with a 'sound ship's siren' mark.  39) **Pipeline Mark**  IHO Definition: A mark used to indicate the position of submarine pipelines or the point at which they run on to the land.  40) Anchorage Mark  IHO Definition: A mark indicating an anchorage area.  41) **Clearing Mark**  IHO Definition: A mark used to indicate a clearing line.  42) **Control Mark**  IHO Definition: A mark indicating the location at which a restriction or requirement exists.  43) **Diving Mark**  IHO Definition: A mark indicating that diving may take place in the vicinity.  44) **Refuge Beacon**  IHO Definition: A mark providing or indicating a place of safety.  45) **Foul Ground Mark**  IHO Definition: A mark indicating a foul ground.  46) **Yachting Mark**  IHO Definition: A mark installed for use by yachtsmen.  47) **Heliport Mark**  IHO Definition: A mark indicating an area where helicopters may land.  48) **GNSS Mark**  IHO Definition: A mark indicating a location at which a GNSS position has been accurately determined.  49) **Seaplane Landing Mark**  IHO Definition: A mark indicating an area where seaplanes land.  50) **Entry Prohibited Mark**  IHO Definition: A mark indicating that entry is prohibited.  51) **Work in Progress Mark**  IHO Definition: A mark indicating that work (generally construction) is in progress.  52) **Mark With Unknown Purpose**  IHO Definition: A mark whose detailed characteristics are unknown.  53) **Wellhead Mark**  IHO Definition: A mark indicating a borehole that produces or is capable of producing oil or natural gas.  54) **Channel Separation Mark**  IHO Definition: A mark indicating the point at which a channel divides separately into two channels.  55) **Marine Farm Mark**  IHO Definition: A mark indicating the existence of a fish, mussel, oyster or pearl farm/culture.  56) **Artificial Reef Mark**  IHO Definition: A mark indicating the existence or the extent of an artificial reef.  57) Ice Mark  IHO Definition: A mark, used year round, that may be submerged when ice passes through the area.  58) **Nature Reserve Mark**  IHO Definition: A mark used to define the boundary of a nature reserve.  59) **Fish Aggregating Device**  IHO Definition: A fish aggregating (or aggregation) device (FAD) is a man-made object used to attract ocean going pelagic fish such as marlin, tuna and mahi-mahi (dolphin fish). They usually consist of buoys or floats tethered to the ocean floor with concrete blocks or adrift.  60) **Wreck Mark**  IHO Definition: A mark used to indicate the existence of a wreck.  61) **Customs Mark**  IHO Definition: A mark used to indicate the existence of a customs checkpoint.  62) **Causeway Mark**  IHO Definition: A mark used to indicate the existence of a causeway.  63) **Wave Recorder**  IHO Definition: A surface following buoy used to measure wave activity.  Remarks:  A mark may be a beacon, a buoy, a signpost or may take another form. |

**5.79 Category of Temporal Variation**

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| IHO Definition: An assessment of the likelihood of change over time.  1) **Extreme Event**  IHO Definition: Indication of the possible impact of a significant event (for example hurricane, earthquake, volcanic eruption, landslide, etc), which is considered likely to have changed the seafloor or landscape significantly.  2) **Likely to Change and Significant Shoaling Expected**  IHO Definition: Continuous or frequent change (for example river siltation, sand waves, seasonal storms, icebergs, etc) that is likely to result in new significant shoaling.  3) **Likely to Change But Significant Shoaling Not Expected**  IHO Definition: Continuous or frequent change (for example sand wave shift, seasonal storms, icebergs, etc) that is not likely to result in new significant shoaling.  4) Likely to Change  IHO Definition: Continuous or frequent change to non-bathymetric features (for example river siltation, glacier creep/recession, sand dunes, buoys, marine farms, etc).  5) **Unlikely to Change**  IHO Definition: Significant change to the seafloor is not expected.  6) **Unassessed**  IHO Definition: Not having been assessed.  Remarks:  •No remarks. |

**5.80 Category of Structure**

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| IHO Definition: Classification of a covered or partially covered area where different use types of vessel can berth.  1) **Boathouse**  IHO Definition: A building or shed, usually built partly over water, for sheltering a boat or boats.  2) **Covered Bulk Terminal**  IHO Definition: A covered or partially covered terminal for the handling of bulk materials such as iron ore, coal, etc.  3) **Covered Wharf**  IHO Definition: A covered or partially covered structure serving as a berthing place for vessels.  4) **Covered Service Terminal**  IHO Definition: A covered or partially covered terminal within which the floating equipment (dredges, tugs …) of harbour services are berthed and serviced.  5) **Covered Passenger Terminal**  IHO Definition: A covered or partially covered terminal for the loading and unloading of passengers.  Remarks:  •No remarks. |

**5.81 Category of Tidal Stream**

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| IHO Definition: Classification of the alternating horizontal movement of water associated with the rise and fall of the tide caused by tide producing forces.  1) **Flood Stream**  IHO Definition: The horizontal movement of water associated with the rising tide. Flood streams generally set towards the shore, or in the direction of the tide progression.  2) **Ebb Stream**  IHO Definition: The horizontal movement of water associated with falling tide. Ebb streams generally set seaward, or in the opposite direction to the tide progression.  3) **Other Tidal Flow**  IHO Definition: Any other horizontal movement of water associated with tides, for example rotary flow.  Remarks:  •No remarks. |

**5.82 Category of Vegetation**

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| IHO Definition: Classification of the plant life of an area or region.  3) **Bush**  IHO Definition: A shrub or clump of shrubs with stems of moderate length.  4) **Deciduous Wood**  IHO Definition: A wood with trees that shed their leaves annually.  5) **Coniferous Wood**  IHO Definition: A wood with **evergreen tree**s of a group usually bearing cones, including yews, cedars and redwoods.  6) **Wood in General (inc Mixed Wood)**  IHO Definition: Growing trees densely occupying a tract of land.  11) **Reed**  IHO Definition: [1] A reed uses compressed air and emits a weak, high pitched sound. [2] Any of various water or marsh plants with a firm stem. (Concise Oxford English Dictionary)  13) **Tree in General**  IHO Definition: An individual woody perennial plant, typically having a single stem or trunk growing to a considerable height and bearing lateral branches at some distance from the ground.  14) Evergreen Tree  IHO Definition: Having green foliage all the year round.  15) **Coniferous Tree**  IHO Definition: A cone-bearing, needle-leaved or scale-leaved evergreen tree.  16) **Palm Tree**  IHO Definition: A tropical or sub-tropical tree, shrub or vine having a tall, unbranched, columnar trunk. The trunk is crowned by a tuft or large, pleated fan or feather shaped leaves with stout sheathing and often prickly petioles (stalks), the persistent bases of which frequently clothe the trunk.  17) **Nipa Palm Tree**  IHO Definition: A rare palm tree with regular branching involving equal or sub-equal division of the apex that results in forking.  18) **Casuarina Tree**  IHO Definition: A tree characterized by slender, green, often drooping branches that are deeply grooved and that bear, at intervals, whorls of tine leaves.  19) **Eucalypt Tree**  IHO Definition: An instance of a large genus of mostly very large trees (90 metres).  20) **Deciduous Tree**  IHO Definition: Sheds its leaves each year at the end of the period of growth.  22) **Filao Tree**  IHO Definition: Casuarina equisetifolia, the most widespread and well-known member of the family Casuarinaceae.  Remarks:  •No remarks. |

**5.83 Category of Water Turbulence**

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| IHO Definition: Classification of an unstable sea state.  1) **Breakers**  IHO Definition: A wave breaking on the shore, over a reef, etc. Breakers may be roughly classified into three kinds, although the categories may overlap: spilling breakers break gradually over a considerable distance; plunging breakers tend to curl over and break with a crash; and surging breakers peak up, but then instead of spilling or plunging they surge up on the beach face. The French word 'brisant' is also used for the obstacle causing the breaking of the wave.  2) **Eddies**  IHO Definition: Circular movements of water usually formed where currents pass obstructions, between two adjacent currents flowing counter to each other, or along the edge of a permanent current.  3) **Overfalls**  IHO Definition: Short, breaking waves occurring when a strong current passes over a shoal or other submarine obstruction or meets a contrary current or wind.  4) **Tide Rips**  IHO Definition: Small waves formed on the surface of water by the meeting of opposing tidal currents or by a tidal current crossing an irregular bottom. Vertical oscillation, rather than progressive waves, is characteristic of tide rips.  5) **Bombora**  IHO Definition: A wave that forms over a submerged offshore reef or rock, sometimes (in very calm weather or at high tide) nearly swelling but in other conditions breaking heavily and producing a dangerous stretch of broken water; the reef or rock itself.  6) **Under Water Turbulence**  IHO Definition: An under water turbulence.  Remarks:  •No remarks. |

**5.84 Category of Weed/Kelp**

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| IHO Definition: Classification of marine vegetation of the algae class.  1) **Kelp**  IHO Definition: A giant plant sometimes 60 metres long with no roots, it is anchored by hold-fasts or tendrils up to 10 metres long, that cling to rock. Gas filled bubbles on fronds act as floats keeping the kelp just below the surface.  2) **Seaweed**  IHO Definition: The general name for marine plants of the Algae class which grow in long narrow ribbons.  4) **Sargasso**  IHO Definition: A certain type of seaweed, or more generally, a large floating mass of this seaweed.  Remarks:  •No remarks. |

**5.85 Category of Wreck**

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| IHO Definition: Classification of a wrecked or ruined ship.  1) **Non-Dangerous Wreck**  IHO Definition: A wreck which is not considered to be dangerous to surface navigation.  2) Dangerous Wreck  IHO Definition: A wreck submerged at such a depth as to be considered dangerous to surface navigation.  3) **Distributed Remains of Wreck**  IHO Definition: A substantively decayed wreck over which it is safe to navigate but which should be avoided for anchoring, taking the ground or ground fishing.  4) **Wreck Showing Mast/Masts**  IHO Definition: Wreck of which only the mast(s) is visible at the sounding datum indicated.  5) **Wreck Showing Any Portion of Hull or Superstructure**  IHO Definition: Wreck of which any portion of the hull or superstructure is visible at the sounding datum indicated.  Remarks:  •No remarks. |

**5.86 Category of Zone of Confidence In Data**

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| IHO Definition: Classification of the zone of confidence in data within an area based on the positional accuracy, survey equipment and coverage.  1) **Zone of Confidence A1**  IHO Definition: Positional Accuracy +/- 5 metres + 5% depth; Depth Accuracy 0.5 metre + 1% depth; Full area search undertaken. Significant seafloor features detected and depths measured; Controlled, systematic survey, high position and depth accuracy achieved using DGPS or a minimum three high quality lines of position (LOP) and a multibeam, channel or mechanical sweep system.  2) **Zone of Confidence A2**  IHO Definition: Positional Accuracy +/- 20 metres; Depth Accuracy 1.0 metre + 2% depth; Full area search undertaken. Significant seafloor features detected and depths measured; Controlled, systematic survey achieving position and depth accuracy less than ZOC A1 and using a modern survey echosounder and a sonar or mechanical sweep system.  3) **Zone of Confidence B**  IHO Definition: Positional Accuracy +/- 50 metres; Depth Accuracy 1.0 metre + 2% depth; Full area search not achieved, uncharted features hazardous to surface navigation are not expected but may exist; Controlled, systematic survey achieving similar depth but lesser position accuracies than ZOCA2, using a modern survey echosounder, but no sonar or mechanical sweep system.  4) **Zone of Confidence C**  IHO Definition: Positional Accuracy +/- 500 metres; Depth Accuracy 2.0 metre + 5% depth; Full area search not achieved, depth anomalies may be expected; Low accuracy survey or data collected on an opportunity basis such as soundings on passage.  5) **Zone of Confidence D**  IHO Definition: Positional Accuracy worse than ZOC C; Depth Accuracy worse than ZOC C; Full area search not achieved, large depth anomalies may be expected; Poor quality data or data that cannot be quality assessed due to lack of information.  6) **Zone of Confidence U**  IHO Definition: The quality of the bathymetric data has yet to be assessed.  Remarks:  See S-57 Appendix A, Chapter 2, Page 2.107 for the full list of ZOC categories. |

**5.87 Colour**

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| IHO Definition: The property possessed by an object of producing different sensations on the eye as a result of the way it reflects or emits light.  1) **White**  IHO Definition: The achromatic object colour of greatest lightness characteristically perceived to belong to objects that reflect diffusely nearly all incident energy throughout the visible spectrum.  2) **Black**  IHO Definition: The achromatic color of least lightness characteristically perceived to belong to objects that neither reflect nor transmit light.  3) **Red**  IHO Definition: A color whose hue resembles that of blood or of the ruby or is that of the long-wave extreme of the visible spectrum.  4) **Green**  IHO Definition: Of the color green.  5) **Blue**  IHO Definition: A color whose hue is that of the clear sky or that of the portion of the color spectrum lying between green and **violet**.  6) **Yellow**  IHO Definition: A color whose hue resembles that of ripe lemons or sunflowers or is that of the portion of the spectrum lying between green and **orange**.  7) **Grey**  IHO Definition: Of the color grey.  8) **Brown**  IHO Definition: Any of a group of colors between red and yellow in hue, of medium to low lightness, and of moderate to low saturation.  9) **Amber**  IHO Definition: A variable color averaging a dark orange yellow.  10) Violet  IHO Definition: Any of a group of colors of reddish-blue hue, low lightness, and medium saturation.  11) Orange  IHO Definition: Any of a group of colors that are between red and yellow in hue.  12) **Magenta**  IHO Definition: A deep purplish red.  13) **Pink**  IHO Definition: Any of a group of colors bluish red to red in hue, of medium to high lightness, and of low to moderate saturation.  Remarks:  •No remarks. |

**5.88 Colour Pattern**

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| IHO Definition: A regular repeated design containing more than one colour.  1) **Horizontal Stripes**  IHO Definition: Straight bands or stripes of differing colours oriented horizontally.  2) **Vertical Stripes**  IHO Definition: Straight bands or stripes of differing colours oriented vertically.  3) **Diagonal Stripes**  IHO Definition: Straight bands or stripes of differing colours oriented diagonally (that is, not horizontally or vertically).  4) **Squared**  IHO Definition: Often referred to as checker plate, where alternate colours are used to create squares similar to a chess or draught board. The pattern may be straight or diagonal.  5) **Stripes (Direction Unknown)**  IHO Definition: Straight bands or stripes of differing colours oriented in an unknown direction.  6) **Border Stripe**  IHO Definition: A band or stripe of colour which is displayed around the outer edge of the feature, which may also form a border to an inner pattern or plain colour.  7) **Single Colour**  IHO Definition: One solid colour of uniform coverage.  8) **Rectangle**  IHO Definition: A four-sided shape that is made up of two pairs of parallel lines and that has four right angles, on a different coloured background.  9) **Triangle**  IHO Definition: A shape that is made up of three lines and three angles, on a different coloured background.  Remarks:  •No remarks. |

**5.89 Communication Channel**

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| IHO Definition: A channel number assigned to a specific radio frequency, frequencies or frequency band.  Remarks:  The expected input is the specific VHF-Channel. The attribute 'communication channel' encodes the various VHF-channels used for communication. |

**5.90 Condition**

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| IHO Definition: The various conditions of buildings and other constructions.  1) **Under Construction**  IHO Definition: Being built but not yet capable of function.  2) **Ruined**  IHO Definition: A structure in a decayed or deteriorated condition resulting from neglect or disuse, or a damaged structure in need of repair.  3) **Under Reclamation**  IHO Definition: An area of the sea, a lake or the navigable part of a river that is being reclaimed as land, usually by the dumping of earth and other material.  4) **Wingless**  IHO Definition: A windmill or wind turbine from which the vanes or turbine blades are missing.  5) **Planned Construction**  IHO Definition: Detailed planning has been completed but construction has not been initiated.  Remarks:  The default 'condition' should be considered to be completed, undamaged and working normally. |

**5.91 Contact Instructions**

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| IHO Definition: Instructions provided on how to contact a particular person, organisation or service.  Remarks:  •No remarks. |

**5.92 Data Assessment**

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| IHO Definition: The categorization of the assessment level of bathymetric data for an area.  1) **Assessed**  IHO Definition: The quality of the bathymetric data has been assessed.  2) **Assessed (Oceanic)**  IHO Definition: The quality of oceanic bathymetric data (depths deeper than 200 metres) has been assessed, however details are not required.  3) **Unassessed**  IHO Definition: Not having been assessed.  Remarks:  •No remarks. |

**5.93 Date Disused**

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| IHO Definition: The date that an entity ceases to be used.  Remarks:  •No remarks. |

**5.94 Date End**

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| IHO Definition: The latest date on which an object (for example a buoy) will be present.  Remarks:  The Date End should be encoded using 4 digits for the calendar year (YYYY), 2 digits for the month (MM) (for example April = 04) and 2 digits for the day (DD). When no specific month and/or day is required/known, indication of the month and/or day is omitted, and replaced with dashes (-). When no specific year is required (that is, the event or date range ends at the same time each year) the following two cases may be considered:- same day each year: ----MMDD- same month each year: ----MM--This conforms to ISO 8601: 2004. Date End indicates the latest date of an event or the end of a date range. It is used to indicate the end of a fixed date range, the end of a periodic date range, or the removal or cancellation of a feature at a specific date in the future. |

**5.95 Date Fixed**

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| IHO Definition: The date of an event.  Remarks:  •No remarks. |

**5.96 Date Start**

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| IHO Definition: The earliest date on which an object (for example a buoy) will be present.  Remarks:  The Date Start should be encoded using 4 digits for the calendar year (YYYY), 2 digits for the month (MM) (for example April = 04) and 2 digits for the day (DD). When no specific month and/or day is required/known, indication of the month and/or day is omitted, and replaced with dashes (-). When no specific year is required (that is, the event or date range ends at the same time each year) the following two cases may be considered:- same day each year: ----MMDD- same month each year: ----MM--This conforms to ISO 8601: 2004. Date Start indicates the earliest date of an event or the start of a date range. It is used to indicate the start of a fixed date range, the start of a periodic date range, or the deployment or implementation of a feature at a specific date in the future. |

**5.97 Date Variable**

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| IHO Definition: A day which is not fixed in the Gregorian calendar.  Remarks:  Examples: The fourth Thursday in November; new moon day of Kartika (Diwali); Easter Sunday. |

**5.98 Day of Week**

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| IHO Definition: Any one of seven days in a week.  1) **Sunday**  IHO Definition: The day of the week following **Saturday** and preceding **Monday**.  2) Monday  IHO Definition: The day of the week following Sunday and preceding **Tuesday**.  3) Tuesday  IHO Definition: The day of the week following Monday and preceding **Wednesday**.  4) Wednesday  IHO Definition: The day of the week following Tuesday and preceding **Thursday**.  5) Thursday  IHO Definition: The day of the week following Wednesday and preceding **Friday**.  6) Friday  IHO Definition: The day of the week following Thursday and preceding Saturday.  7) Saturday  IHO Definition: The day of the week following Friday and preceding Sunday.  Remarks:  •No remarks. |

**5.99 Day of Week is Range**

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| IHO Definition: A statement expressing if the days of the week identified define a range or not.  Remarks:  A True value is an indication that the identified days of the week define a range between and inclusive of those days. |

**5.100 Default Clearance Depth**

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| IHO Definition: The depth value determined for an underwater hazard of unknown depth, based on the depth of the surrounding area.  Remarks:  •No remarks. |

**5.101 Depth Range Maximum Value**

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| IHO Definition: The maximum (deepest) value of a depth range.  Remarks:  Where the area dries, the value is negative or zero (0). |

**5.102 Depth Range Minimum Value**

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| IHO Definition: The minimum (shoalest) value of a depth range.  Remarks:  Where the area dries, the value is negative. |

**5.103 Destination**

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| IHO Definition: The place or general direction to which a vessel is going or directed.  Remarks:  In addition to a place name of a port, harbour area or terminal, the place could include generalities such as The north-west, or upriver. |

**5.104 Distance Mark Visible**

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| IHO Definition: A statement indicating whether a distance mark is visible or not.  Remarks:  •No remarks. |

**5.105 Distance Unit of Measurement**

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| IHO Definition: A specified amount of a quantity, as of length, by comparison with which any other quantity of the same kind is measured or estimated.  1) **Metres**  IHO Definition: The basic unit of length in the International System of Units (SI) system.  2) **Yards**  IHO Definition: A common unit of linear measure in English-speaking countries, equal to 3 **feet** or 36 inches, and equivalent to 0.9144 metre.  3) **Kilometres**  IHO Definition: A unit of length, the common measure of distances equal to 1000 metres, and equivalent to 3280.8 feet or 0.621 mile.  4) **Statute Miles**  IHO Definition: A unit equal to 5280 feet.  5) **Nautical Miles**  IHO Definition: A unit of length equal to 1,852 metres. This value was approved by the International Hydrographic Conference of 1929 and has been adopted by nearly all maritime states.  6) Feet  IHO Definition: A unit of length equal to 12 inches, 1/6 of a fathom, or 30.480 centimetres.  7) **Hectometres**  IHO Definition: Heights/lengths are specified in hectometres (100 metres).  Remarks:  •No remarks. |

**5.106 Dredged Date**

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| IHO Definition: The date that dredging occurred.  Remarks:  Dredged date indicates the latest date of dredging (which may be the latest known date if the dredged area is not maintained), or the date of the latest control survey confirming the depth in a maintained dredged area. |

**5.107 Elevation**

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| IHO Definition: The altitude of the ground level of a feature, measured from a specified vertical datum.  Remarks:  •No remarks. |

**5.108 Estimated Range of Transmission**

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| IHO Definition: The estimated range of a non-optical electromagnetic transmission.  Remarks:  The estimated range (distance) assumes 'in vacuo' transmission and a standard antenna height of 5 metres. Thus it gives a hint to the mariner whether they are likely to receive transmission at a certain distance from an object. |

**5.109 Exhibition Condition of Light**

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| IHO Definition: The outward display of the light.  1) **Light Shown Without Change of Character**  IHO Definition: A light shown throughout the 24 hours without change of character.  2) **Daytime Light**  IHO Definition: A light which is only exhibited by day.  3) **Fog Light**  IHO Definition: A light which is exhibited in fog or conditions of reduced visibility.  4) **Night Light**  IHO Definition: A light which is only exhibited at night.  Remarks:  •No remarks. |

**5.110 Exposition of Sounding**

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| IHO Definition: Indicates the relationship of the depth of a feature to the range of depth of the surrounding depth area.  1) **Within the Range of Depth of the Surrounding Depth Area**  IHO Definition: The depth corresponds to the depth range of the surrounding depth area; that is, the depth is not shoaler than the minimum depth of the surrounding depth area or deeper than the maximum depth of the surrounding depth area.  2) **Shoaler Than the Range of Depth of the Surrounding Depth Area**  IHO Definition: The depth is shoaler than the minimum depth of the surrounding depth area.  3) **Deeper Than the Range of Depth of the Surrounding Depth Area**  IHO Definition: The depth is deeper than the maximum depth of the surrounding depth area.  Remarks:  These objects could be a potential danger for navigation. |

**5.111 File Locator**

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| IHO Definition: The location of a fragment of text or other information in a support file.  Remarks:  Application schemas must describe how the associated file is identified. The associated file will commonly be named in a file reference co-attribute of the same complex attribute. Each DCEG must specify requirements for the format of the associated file and the semantics of file locator. For example, the value of file locator may be an HTML ID in an HTML file, line number in a text file) or a bookmark in a PDF file. |

**5.112 File Reference**

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| IHO Definition: The file name of an externally referenced text file.  Remarks:  •No remarks. |

**5.113 Flare Bearing**

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| IHO Definition: The bearing about which the light flare symbol is rotated to be displayed in ECDIS.  Remarks:  The initial flare bearing is calculated by ENC production software systems. The attribute flare bearing may also be populated manually to cartographically align the light flare along, for example, a transit or leading line (noting that the in such cases the bearing to be encoded will be the reciprocal (+/- 180 degrees) of the bearing encoded for the navigational line). |

**5.114 Flare Stack**

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| IHO Definition: A tall structure used for burning-off waste oil or gas.  Remarks:  •No remarks. |

**5.115 Frequency Shore Station Receives**

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| IHO Definition: The shore station receiver frequency.  Remarks:  Examples: 4379.1 kHz becomes 043791; 13162.8 kHz becomes 131628. |

**5.116 Frequency Shore Station Transmits**

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| IHO Definition: The shore station transmitter frequency.  Remarks:  Examples: 4379.1 kHz becomes 043791; 13162.8 kHz becomes 131628. |

**5.117 Full Seafloor Coverage Achieved**

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| IHO Definition: Expression stating if full seafloor coverage has been achieved in the area covered by hydrographic surveys.  Remarks:  Full seafloor coverage achieved applies to both the spatial completeness of feature detection and to the spatial completeness of the measurement of the regular seafloor. The former is further specified by the complex attribute features detected, the latter by the attributes depth range maximum value and depth range minimum value. |

**5.118 Function**

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| IHO Definition: A specific role that describes a feature.  2) **Harbour-Masters Office**  IHO Definition: A local official who has charge of mooring and berthing of vessels, collecting harbour fees, etc.  3) **Customs Office**  IHO Definition: Serves as a government office where customs duties are collected, the flow of goods are regulated and restrictions enforced, and shipments or vehicles are cleared for entering or leaving a country.  4) **Health Office**  IHO Definition: The office which is charged with the administration of health laws and sanitary inspections.  5) **Hospital**  IHO Definition: An institution or establishment providing medical or surgical treatment for the ill or wounded.  6) **Post Office**  IHO Definition: The public department, agency or organisation responsible primarily for the collection, transmission and distribution of mail.  7) **Hotel**  IHO Definition: An establishment, especially of a comfortable or luxurious kind, where paying visitors are provided with accommodation, meals and other services.  8) **Railway Station**  IHO Definition: A building with platforms where trains arrive, load, discharge and depart.  9) **Police Station**  IHO Definition: The headquarters of a local police force and that is where those under arrest are first charged.  10) **Water-Police Station**  IHO Definition: The headquarters of a local water-police force.  11) **Pilot Office**  IHO Definition: The office or headquarters of pilots; the place where the services of a pilot may be obtained.  12) **Pilot Lookout**  IHO Definition: A distinctive structure or place on shore from which personnel keep watch upon events at sea or along the coast.  13) **Bank Office**  IHO Definition: An office for custody, deposit, loan, exchange or issue of money.  14) **Headquarters for District Control**  IHO Definition: The quarters of an executive officer (director, manager, etc.) with responsibility for an **administrative** area.  15) **Transit Shed/Warehouse**  IHO Definition: A building or part of a building for storage of wares or goods.  16) **Factory**  IHO Definition: A building or buildings with equipment for manufacturing; a workshop.  17) **Power Station**  IHO Definition: A stationary plant containing apparatus for large scale conversion of some form of energy (such as hydraulic, steam, chemical or nuclear energy) into electrical energy.  18) Administrative  IHO Definition: A building for the management of affairs.  19) **Educational Facility**  IHO Definition: An establishment for teaching and learning (for example school, college, university, etc).  20) **Church**  IHO Definition: A building for public Christian worship.  21) **Chapel**  IHO Definition: A place for Christian worship other than a parish, cathedral or church, especially one attached to a private house or institution.  22) **Temple**  IHO Definition: A building for public Jewish worship.  23) **Pagoda**  IHO Definition: A Hindu or **Buddhist temple** or sacred building.  24) **Shinto Shrine**  IHO Definition: A building for public Shinto worship.  25) Buddhist Temple  IHO Definition: A building for public Buddhist worship.  26) **Mosque**  IHO Definition: A Muslim place of worship.  27) **Marabout**  IHO Definition: A shrine marking the burial place of a Muslim holy man.  28) Lookout  IHO Definition: Keeping a watch upon events at sea or along the coast.  29) **Communication**  IHO Definition: Transmitting and/or receiving electronic communication signals.  30) **Television**  IHO Definition: A system for reproducing on a screen visual images transmitted (usually with sound) by **radio** signals.  31) Radio  IHO Definition: Transmitting and/or receiving radio-frequency electromagnetic waves as a means of communication.  32) **Radar**  IHO Definition: A method, system or technique of using beamed, reflected, and timed radio waves for detecting, locating, or tracking objects, and for measuring altitudes.  33) **Light Support**  IHO Definition: A structure serving as a support for one or more lights.  34) **Microwave**  IHO Definition: Broadcasting and receiving signals using microwaves.  35) **Cooling**  IHO Definition: Generation of chilled liquid and/or gas for cooling purposes.  36) **Observation**  IHO Definition: A place from which the surroundings can be observed but at which a watch is not habitually maintained.  37) **Timeball**  IHO Definition: A visual time signal in the form of a ball.  38) **Clock**  IHO Definition: Instrument for measuring time and recording hours.  39) Control  IHO Definition: Used to control the flow of traffic within a specified range of an installation.  40) **Airship Mooring**  IHO Definition: Equipment or structure to secure an airship.  41) **Stadium**  IHO Definition: An arena for holding and viewing events.  42) **Bus Station**  IHO Definition: A building where buses and coaches regularly stop to take on and/or let off passengers, especially for long-distance travel.  44) **Sea Rescue Control**  IHO Definition: A unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.  45) **Observatory**  IHO Definition: A building designed and equipped for making observations of astronomical, meteorological, or other natural phenomena.  46) **Ore Crusher**  IHO Definition: A building or structure used to crush ore.  47) **Boathouse**  IHO Definition: A building or shed, usually built partly over water, for sheltering a boat or boats.  48) **Pumping Station**  IHO Definition: A facility to move solids, liquids or gases by means of pressure or suction.  Remarks:  •No remarks. |

**5.119 Headline**

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| IHO Definition: Words set at the head of a passage or page to introduce or categorize.  Remarks:  •No remarks. |

**5.120 Height**

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| IHO Definition: The value of the vertical distance to the highest point of the feature, measured from a specified vertical datum.  Remarks:  Height must not be used for floating objects. |

**5.121 Horizontal Clearance Length**

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| IHO Definition: The length of a feature, such as a lock or basin, which is available for safe navigation. This may, or may not, be the same as the total physical length of the feature.  Remarks:  •No remarks. |

**5.122 Horizontal Clearance Value**

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| IHO Definition: The physical horizontal clearance distance between two points on a feature, such as a bridge span, dock, gate, lock or tunnel.  Remarks:  •No remarks. |

**5.123 Horizontal Clearance Width**

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| IHO Definition: The width of a feature, such as a lock or basin, which is available for safe navigation. This may, or may not, be the same as the total physical width of the feature.  Remarks:  •No remarks. |

**5.124 Horizontal Distance Uncertainty**

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| IHO Definition: The best estimate of the horizontal accuracy of horizontal clearances and distances.  Remarks:  The error is assumed to be positive and negative. The plus/minus character must not be encoded. |

**5.125 Horizontal Length**

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| IHO Definition: A measurement of the longer of two linear axis.  Remarks:  •No remarks. |

**5.126 Horizontal Width**

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| IHO Definition: A measurement of the shorter of two linear axis.  Remarks:  •No remarks. |

**5.127 Ice Factor**

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| IHO Definition: The value of the maximum variation in the vertical clearance of an overhead cable due to an accumulation of ice.  Remarks:  •No remarks. |

**5.128 IMO Adopted**

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| IHO Definition: A defined maritime traffic route that has been adopted as an IMO routeing measure.  Remarks:  •No remarks. |

**5.129 In Dispute**

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| IHO Definition: A statement that expresses if an area is in a jurisdictional dispute.  Remarks:  •No remarks. |

**5.130 Interoperability Identifier**

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| IHO Definition: A common unique identifier for entities which describe a single real-world feature, and which is used to identify instances of the feature in end-user systems where the feature may be included in multiple data product types.  Remarks:  •No remarks. |

**5.131 In the Water**

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| IHO Definition: An indication if the feature is located in or over navigable water.  Remarks:  A True value is an indication that the feature is to be included in the ECDIS Base Display viewing group. |

**5.132 Is MRCC**

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| IHO Definition: A statement that expresses if a Coast Guard station performs the function of a Maritime Rescue and Coordination Centre.  Remarks:  A True value is an indication that an encoded Coast Guard station performs the function of a Maritime Rescue and Coordination Centre. |

**5.133 Jurisdiction**

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| IHO Definition: The jurisdiction applicable to an administrative area.  1) **International**  IHO Definition: Involving more than one country; covering more than one national area.  2) National  IHO Definition: An area administered or controlled by a single nation.  3) **National Sub-Division**  IHO Definition: An area smaller than the nation in which it lies.  Remarks:  •No remarks. |

**5.134 Language**

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| IHO Definition: The method of human communication, either spoken or written, consisting of the use of words in a structured and conventional way.  Remarks:  The language is encoded by a 3 character code following ISO 639-2/T. |

**5.135 Least Depth of Detected Features Measured**

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| IHO Definition: Expression stating if the least depth of detected features in an area was measured.  Remarks:  A feature in this context is any object, whether man-made or not, projecting above the sea floor, which may be a danger for surface navigation (reference: IHO publication S-44).- least depth of detected features measured does not describe the least depth of features that were actually detected during a hydrographic survey, but the ability of the survey to detect the least depth of features with a maximum uncertainty as defined in IHO publication S-44. |

**5.136 Lifting Capacity**

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| IHO Definition: The specific safe lifting capacity of a feature.  Remarks:  •No remarks. |

**5.137 Light Characteristic**

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| IHO Definition: The distinct character, such as **fixed**, **flashing**, or **occulting**, which is given to each light to avoid confusion with neighbouring ones.  1) Fixed  IHO Definition: A signal light that shows continuously, in any given direction, with constant luminous intensity and colour.  2) Flashing  IHO Definition: A rhythmic light in which the total duration of light in a period is clearly shorter than the total duration of darkness and all the appearances of light are of equal duration.  3) **Long-Flashing**  IHO Definition: A single-flashing light in which an appearance of light of not less than two seconds duration is regularly repeated.  4) **Quick-Flashing**  IHO Definition: A rhythmic light in which flashes are repeated at a rate of not less than 50 flashes per minutes but less than 80 flashes per minutes. It may be: - Continuous quick-flashing: A quick-flashing light in which a flash is regularly repeated. - Group quick-flashing: A quick-flashing light in which a group of two or more flashes, which are specified in number, is regularly repeated.  5) **Very Quick-Flashing**  IHO Definition: A rhythmic light in which flashes are repeated at a rate of not less than 80 flashes per minute but less than 160 flashes per minute. It may be:- Continuous very quick-flashing: A very quick-flashing light in which a flash is regularly repeated.- Group very quick-flashing: A very quick-flashing light in which a group of two or more flashes, which are specified in number, is regularly repeated.  6) **Continuous Ultra Quick-Flashing**  IHO Definition: A rhythmic light in which flashes are regularly repeated at a rate of not less than 160 flashes per minute.  7) **Isophased**  IHO Definition: A light with all durations of light and darkness equal.  8) Occulting  IHO Definition: A rhythmic light in which the total duration of light in a period is clearly longer than the total duration of darkness and all the eclipses are of equal duration. It may be: - Single-occulting: An occulting light in which an eclipse is regularly repeated. - Group-occulting: An occulting light in which a group of two or more eclipses, which are specified in number, is regularly repeated. - Composite group-occulting: An occulting light in which a sequence of groups of one or more eclipses, which are specified in number, is regularly repeated, and the groups comprise different numbers of eclipses.  9) **Interrupted Quick Flashing**  IHO Definition: A quick light in which the sequence of flashes is interrupted by regularly repeated eclipses of constant and long duration.  10) **Interrupted Very Quick Flashing**  IHO Definition: A light in which the very rapid alterations of light and darkness are interrupted at regular intervals by eclipses of long duration.  11) **Interrupted Ultra Quick-Flashing**  IHO Definition: A light in which the ultra quick flashes (160 or more per minute) are interrupted at regular intervals by eclipses of long duration.  12) **Morse**  IHO Definition: A rhythmic light in which appearances of light of two clearly different durations are grouped to represent a character or characters in the Morse code.  13) **Fixed and Flash**  IHO Definition: A rhythmic light in which a fixed light is combined with a flashing light of higher luminous intensity.  14) **Flash and Long-Flash**  IHO Definition: A rhythmic light in which a flashing light is combined with a long-flashing light of higher luminous intensity.  15) **Occulting and Flash**  IHO Definition: A rhythmic light in which an occulting light is combined with a flashing light of higher luminous intensity.  16) **Fixed and Long-Flash**  IHO Definition: A rhythmic light in which a fixed light is combined with a long-flashing light of higher luminous intensity.  17) **Occulting Alternating**  IHO Definition: An alternating light in which the total duration of light in each period is clearly longer than the total duration of darkness and in which the intervals of darkness (occultations) are all of equal duration.  18) **Long-Flash Alternating**  IHO Definition: An alternating single-flashing light in which an appearance of light of not less than two seconds duration is regularly repeated.  19) Flash Alternating  IHO Definition: An alternating rhythmic light in which the total duration of light in a period is clearly shorter than the total duration of darkness and all the appearances of light are of equal duration.  20) **Group Alternating**  IHO Definition: Occulting light in which the occultations are combined in groups, each group including the same number of occultations, and in which the groups are repeated at regular intervals.  25) **Quick-Flash Plus Long-Flash**  IHO Definition: A rhythmic light in which a group of quick flashes is followed by one or more long flashes in a regularly repeated sequence with a regular periodicity.  26) **Very Quick-Flash Plus Long-Flash**  IHO Definition: A rhythmic light in which a group of very quick flashes is followed by one or more long flashes in a regularly repeated sequence with a regular periodicity.  27) **Ultra Quick-Flash Plus Long-Flash**  IHO Definition: A rhythmic light in which a group of ultra quick flashes is followed by one or more long flashes in a regularly repeated sequence with a regular periodicity.  28) Alternating  IHO Definition: A signal light that shows continuously, in any given direction, two or more colours in a regularly repeated sequence with a regular periodicity.  29) **Fixed and Alternating Flashing**  IHO Definition: A rhythmic light in which a fixed light is combined with a flashing light of higher luminous intensity and different colour.  Remarks:  •No remarks. |

**5.138 Light Visibility**

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| IHO Definition: The specific visibility of a light, with respect to the light's intensity and ease of recognition.  1) **High Intensity**  IHO Definition: Non-marine lights with a higher power than marine lights and visible from well off shore (often 'Aero' lights).  2) **Low Intensity**  IHO Definition: Non-marine lights with lower power than marine lights.  3) **Faint**  IHO Definition: A decrease in the apparent intensity of a light which may occur in the case of partial obstructions.  4) **Intensified**  IHO Definition: A light in a sector is intensified (that is, has longer range than other sectors).  5) **Unintensified**  IHO Definition: A light in a sector is unintensified (that is, has shorter range than other sectors).  6) **Visibility Deliberately Restricted**  IHO Definition: A light sector is deliberately reduced in intensity, for example to reduce its effect on a built-up area.  7) **Obscured**  IHO Definition: Said of the arc of a light sector designated by its limiting bearings in which the light is not visible from seaward.  8) **Partially Obscured**  IHO Definition: This value specifies that parts of the sector are obscured.  9) **Visible in Line of Range**  IHO Definition: Lights that must be in line to be visible.  Remarks:  •No remarks. |

**5.139 Line Spacing Maximum**

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| IHO Definition: The maximum distance between hydrographic survey lines.  Remarks:  •No remarks. |

**5.140 Line Spacing Minimum**

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| IHO Definition: The minimum distance between hydrographic survey lines.  Remarks:  •No remarks. |

**5.141 Linkage**

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| IHO Definition: Location (address) for online access using a URL/URI address or similar addressing scheme.  Remarks:  •No remarks. |

**5.142 Magnetic Anomaly Value**

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| IHO Definition: The value of the deviation from the normal magnetic variation.  Remarks:  The deviation is assumed to be positive and negative by default. The plus/minus character must not be encoded. |

**5.143 Reference Direction**

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| IHO Definition: A direction used as a basis for comparison of other directions.  1) **North**  IHO Definition: 348.75-011.25 degrees (true north).  5) **East**  IHO Definition: 078.75-101.25 degrees.  9) **South**  IHO Definition: 168.75-191.25 degrees.  13) **West**  IHO Definition: 258.75-281.25 degrees.  Remarks:  •No remarks. |

**5.144 Major Light**

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| IHO Definition: A statement expressing if a light is considered to be a major light in terms of ECDIS display in a particular area.  Remarks:  Major light is only intended to provide an indication to the ECDIS that the light is considered to be an important light in terms of its display. As such this is a cartographic attribute to aid the compiler in determining the most appropriate display for a light; it is not intended to be used as a formal classification method for lights. |

**5.145 Marks Navigational - System Of**

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| IHO Definition: The system of navigational buoyage a region complies with.  1) **IALA A**  IHO Definition: Navigational aids conform to the International Association of Lighthouse Authorities - IALA A system.  2) **IALA B**  IHO Definition: Navigational aids conform to the International Association of Lighthouse Authorities - IALA B system.  9) **No System**  IHO Definition: Navigational aids do not conform to any defined system.  10) **Other System**  IHO Definition: Navigational aids conform to a defined system other than International Association of Lighthouse Authorities - IALA.  11) **Main European Inland Waterway Marking System**  IHO Definition: Navigational aids as required in international, national or regional regulations that contain the same navigational aids as the European Code for Inland Waterways of UNECE, or if there is no regulation for a waterway, navigational aids as recommended in the European Code for Inland Waterways of UNECE  12) **Russian Inland Waterway Regulations**  IHO Definition: Navigational aids conform to the Russian inland waterway regulations.  13) **Brazilian National Inland Waterway Regulation**  IHO Definition: Navigational aids conform to the Brazilian national inland waterway regulation  15) **Paraguay-Parana Waterway - Brazilian Complementary Aids**  IHO Definition: Navigational aids conform to the Brazilian complementary aids on the Paraguay-Parana waterway.  Remarks:  •No remarks. |

**5.146 Maximum Display Scale**

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| IHO Definition: The value considered by the Data Producer to be the maximum (largest) scale at which the data is to be displayed before it can be considered to be “grossly overscaled”.  Remarks:  •No remarks. |

**5.147 Maximum Permitted Draught**

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| IHO Definition: The maximum draught of a vessel permitted along a route, in a channel or dock, at a berth, or over a submerged feature.  Remarks:  •No remarks. |

**5.148 Maximum Permitted Vessel Length**

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| IHO Definition: The maximum length of a vessel permitted in a channel or dock, at a berth, or at an anchorage or mooring.  Remarks:  •No remarks. |

**5.149 Measured Distance**

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| IHO Definition: A course at sea, whose ends are indicated by ranges ashore, and whose length has been accurately measured for determining the speed of vessels.  Remarks:  •No remarks. |

**5.150 Measurement Distance Maximum**

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| IHO Definition: The maximum spacing of the principal measurement lines of a hydrographic survey.  Remarks:  •No remarks. |

**5.151 Measurement Distance Minimum**

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| IHO Definition: The minimum spacing of the principal measurement lines of a hydrographic survey.  Remarks:  •No remarks. |

**5.152 Minimum Display Scale**

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| IHO Definition: The smallest intended viewing scale for the data.  Remarks:  •No remarks. |

**5.153 MMSI Code**

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| IHO Definition: The Maritime Mobile Service Identity (MMSI) Code is formed of a series of nine digits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations, coast stations, coast earth stations, and group calls. These identities are formed in such a way that the identity or part thereof can be used by telephone and telex subscribers connected to the general telecommunications network principally to call ships automatically.  Remarks:  •No remarks. |

**5.154 Moire Effect**

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| IHO Definition: A short range (up to 2km) type of directional light. Sodium lighting gives a yellow background to a screen on which a vertical black line will be seen by an observer on the centre line.  Remarks:  •No remarks. |

**5.155 Multiplicity Known**

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| IHO Definition: The number of features of identical character that exist as a co-located group is or is not known.  Remarks:  •No remarks. |

**5.156 Name**

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| IHO Definition: The individual name of a feature.  Remarks:  •No remarks. |

**5.157 Name of Resource**

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| IHO Definition: Name of the online resource.  Remarks:  •No remarks. |

**5.158 Name Usage**

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| IHO Definition: Classification of the type and display level of the name of a feature in an end-user system.  1) **Default Name Display**  IHO Definition: The name is intended to be displayed when the end-user system is set to the default name/text display setting.  2) **Alternate Name Display**  IHO Definition: The name is intended to be displayed when the end-user system is set to an alternate name/text display setting, for example an alternate language.  3) **No Chart Display**  IHO Definition: The name or text is not intended to be displayed.  Remarks:  •No remarks. |

**5.159 Nationality**

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| IHO Definition: Identifier of membership of a particular nation.  Remarks:  •No remarks. |

**5.160 Nature of Construction**

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| IHO Definition: The building's primary construction material.  1) **Masonry**  IHO Definition: Constructed of stones or bricks, usually quarried, shaped, and mortared.  2) **Concreted**  IHO Definition: Constructed of concrete, a material made of sand and gravel that is united by cement into a hardened mass used for roads, foundations, etc.  3) **Loose Boulders**  IHO Definition: Constructed from large stones or blocks of concrete, often placed loosely for protection against waves or water turbulence.  4) **Hard Surfaced**  IHO Definition: Constructed with a surface of hard material, usually a term applied to roads surfaced with asphalt or concrete.  5) **Unsurfaced**  IHO Definition: Constructed with no extra protection, usually a term applied to roads not surfaced with a hard material.  6) **Wooden**  IHO Definition: Constructed from wood.  7) **Metal**  IHO Definition: Constructed from metal.  8) **Glass Reinforced Plastic**  IHO Definition: Constructed from a plastic material strengthened with fibres of glass.  9) **Painted**  IHO Definition: The application of paint to some other construction or natural feature.  11) **Latticed**  IHO Definition: A structure of crossed wooden or metal strips usually arranged to form a diagonal pattern of open spaces between the strips.  12) Glass  IHO Definition: [1] Any artificial or natural substance having similar properties and composition, as fused borax, obsidian, or the like. [2] Something made of such a substance, as a windowpane.  Remarks:  •No remarks. |

**5.161 Nature of Surface**

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| IHO Definition: The general material which the land surface or the seabed is composed.  1) **Mud**  IHO Definition: Soft, wet earth.  2) **Clay**  IHO Definition: (Particles of less than 0.002mm); stiff, sticky earth that becomes hard when baked.  3) **Silt**  IHO Definition: An unconsolidated sediment whose particles range in size from 0.0039 to 0.0625 millimetres in diameter (between clay and **sand** size).  4) Sand  IHO Definition: Loose material consisting of small but easily distinguishable, separate grains, between 0.0625 and 2.000 millimetres in diameter.  5) **Stone**  IHO Definition: A general term for **rock** and rock fragments ranging in size from **pebbles** and **gravel** to **boulder**s or large rock masses.  6) Gravel  IHO Definition: (Particles of 2.0 - 4.0mm); small stones with coarse sand.  7) Pebbles  IHO Definition: A small stone worn smooth and rounded by the action of water, sand, ice, etc. ranging in diameter between 4 and 64 millimetres.  8) **Cobbles**  IHO Definition: A naturally rounded stone larger than a pebble.  9) Rock  IHO Definition: Any formation of natural origin that constitutes an integral part of the lithosphere. The natural occurring material that forms firm, hard, and solid masses.  11) **Lava**  IHO Definition: The fluid or semi-fluid matter flowing from a volcano. The substance that results from the cooling of the molten rock. Part of the ocean bed is composed of lava.  14) **Coral**  IHO Definition: Hard calcareous skeletons of many tribes of marine polyps.  17) **Shells**  IHO Definition: The hard outside covering of an animal. Part of the ocean bed is composed of numerous shells of marine animals.  18) Boulder  IHO Definition: A rounded rock with diameter of 256 millimetres or larger.  Remarks:  Mud, sand, stone, rock are terms used for the general description. Clay, silt, gravel, pebbles, cobbles are more specific terms related to particle size. |

**5.162 Nature of Surface - Qualifying Terms**

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| IHO Definition: The nature of various forms of natural surface materials in terms of their size, morphology and consistency.  1) **Fine**  IHO Definition: Falls within the smallest size continuum for a particular nature of surface term.  2) **Medium**  IHO Definition: Falls within the moderate size continuum for a particular nature of surface term.  3) **Coarse**  IHO Definition: Falls within the largest size continuum for a particular nature of surface term.  4) **Broken**  IHO Definition: Fractured or in pieces.  5) **Sticky**  IHO Definition: Having an adhesive or glue like property.  6) **Soft**  IHO Definition: Not **hard** or firm.  7) **Stiff**  IHO Definition: Not pliant; thick, resistant to flow.  8) **Volcanic**  IHO Definition: Composed of or containing material ejected from a volcano.  9) **Calcareous**  IHO Definition: Composed of or containing calcium or calcium carbonate.  10) Hard  IHO Definition: Firm; usually refers to an area of the seafloor not covered by unconsolidated sediment.  Remarks:  •No remarks. |

**5.163 Number of Features**

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| IHO Definition: The number of features of identical character that exist as a co-located group.  Remarks:  •No remarks. |

**5.164 Opening Bridge**

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| IHO Definition: A bridge that is closed when set for carrying road traffic and open when set to permit marine traffic to pass through the waterway it crosses. Modern opening (movable) bridges are either bascule, vertical lift or swing.  Remarks:  •No remarks. |

**5.165 Orientation Uncertainty**

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| IHO Definition: The best estimate of the accuracy of a bearing.  Remarks:  •No remarks. |

**5.166 Orientation Value**

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| IHO Definition: The angular distance measured from true north to the major axis of the feature.  Remarks:  •No remarks. |

**5.167 Pictorial Representation**

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| IHO Definition: The file name of an externally referenced picture file.  Remarks:  The 'pictorial representation' could be a drawing or a photo. The string encodes the file name of an external graphic file (pixel/vector). |

**5.168 Pilot Movement**

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| IHO Definition: Classification of pilot activity by arrival, departure, or change of pilot. It may also describe the place where the pilot's advice begins, ends, or is transferred to a different pilot.  1) **Embarkation**  IHO Definition: The place where vessels not being navigated according to a pilot's instructions pick up a pilot while in transit from sea to a port or constricted waters for future navigation under pilot instructions.  2) **Disembarkation**  IHO Definition: The place where vessels being navigated under a pilot's instructions in transit from sea to a port or constricted waters drop the pilot and proceed without being subject to pilot instructions.  3) **Pilot Change**  IHO Definition: The place where vessels being navigated under a pilot's instructions drop off the pilot and pick up a different pilot for future navigation under pilot's instructions.  Remarks:  •No remarks. |

**5.169 Product**

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| IHO Definition: The various substances which are transported, st**ore**d or exploited.  1) **Oil**  IHO Definition: A thick, slippery liquid that will not dissolve in **water**, usually petroleum based in the context of storage tanks.  2) **Gas**  IHO Definition: A substance with particles that can move freely, usually a fuel substance in the context of storage tanks.  3) Water  IHO Definition: A colourless, odourless, tasteless liquid that is a compound of hydrogen and oxygen.  4) **Stone**  IHO Definition: A general term for rock and rock fragments ranging in size from pebbles and gravel to boulders or large rock masses.  5) **Coal**  IHO Definition: A hard black mineral that is burned as fuel.  6) Ore  IHO Definition: A solid rock or mineral from which metal is obtained.  7) **Chemicals**  IHO Definition: Any substance obtained by or used in a chemical process.  8) **Drinking Water**  IHO Definition: Water that is suitable for human consumption.  9) **Milk**  IHO Definition: A white fluid secreted by female mammals as food for their young.  10) **Bauxite**  IHO Definition: A mineral from which aluminum is obtained.  11) **Coke**  IHO Definition: A solid substance obtained after gas and tar have been extracted from coal, used as a fuel.  12) **Iron Ingots**  IHO Definition: An oblong lump of cast iron metal.  13) **Salt**  IHO Definition: Sodium chloride obtained from mines or by the evaporation of sea water.  14) **Sand**  IHO Definition: Loose material consisting of small but easily distinguishable, separate **grain**s, between 0.0625 and 2.000 millimetres in diameter.  15) **Timber**  IHO Definition: Wood prepared for use in building or carpentry.  16) **Sawdust/Wood Chips**  IHO Definition: Powdery fragments of wood made in sawing timber or coarse chips produced for use in manufacturing pressed board.  17) **Scrap Metal**  IHO Definition: Discarded metal suitable for being reprocessed.  18) **Liquefied Natural Gas**  IHO Definition: Natural gas that has been liquefied for ease of transport by cooling the gas to -162 Celsius.  19) **Liquefied Petroleum Gas**  IHO Definition: A compressed gas consisting of flammable light hydrocarbons and derived from petroleum.  20) **Wine**  IHO Definition: The fermented ju**ice** of grapes.  21) **Cement**  IHO Definition: A substance made of powdered lime and **clay**, mixed with water.  22) Grain  IHO Definition: A small hard seed, especially that of any cereal plant such as wheat, rice, corn, rye etc.  23) **Electricity**  IHO Definition: Electric charge or current.  24) Ice  IHO Definition: The solid form of water.  25) Clay  IHO Definition: (Particles of less than 0.002mm); stiff, sticky earth that becomes hard when baked.  Remarks:  •No remarks. |

**5.170 Quality of Horizontal Measurement**

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| IHO Definition: The degree of reliability attributed to a position.  4) **Approximate**  IHO Definition: A position that is considered to be less than third-order accuracy, but is generally considered to be within 30.5 metres of its correct geographic location. Also may apply to a feature whose position does not remain fixed.  Remarks:  •No remarks. |

**5.171 Quality of Vertical Measurement**

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| IHO Definition: The reliability of the value of a sounding.  1) **Depth Known**  IHO Definition: The depth from the chart datum to the seabed (or to the top of a drying feature) is known.  2) **Depth or Least Depth Unknown**  IHO Definition: The depth from chart datum to the seabed, or the shoalest depth of the feature is unknown.  3) **Doubtful Sounding**  IHO Definition: A depth that may be less than indicated.  4) **Unreliable Sounding**  IHO Definition: A depth that is considered to be an unreliable value.  6) **Least Depth Known**  IHO Definition: The shoalest depth over a feature is of known value.  7) **Least Depth Unknown, Safe Clearance at Value Shown**  IHO Definition: The least depth over a feature is unknown, but there is considered to be safe clearance at this depth.  8) **Value Reported (Not Surveyed)**  IHO Definition: Depth value obtained from a report, but not fully surveyed.  9) **Value Reported (Not Confirmed)**  IHO Definition: Depth value obtained from a report, which it has not been possible to confirm.  10) **Maintained Depth**  IHO Definition: The depth at which a channel is kept by human influence, usually by dredging.  11) **Not Regularly Maintained**  IHO Definition: Depths may be altered by human influence, but will not be routinely maintained.  Remarks:  •No remarks. |

**5.172 Radar Band**

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| IHO Definition: The band code character of the electromagnetic spectrum within which radar wave lengths lie.  Remarks:  •No remarks. |

**5.173 Radar Conspicuous**

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| IHO Definition: A feature which returns a strong radar echo.  Remarks:  •No remarks. |

**5.174 Radius**

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| IHO Definition: The vector extending from the centre to the periphery of a circular or spherical feature.  Remarks:  •No remarks. |

**5.175 Reference Location**

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| IHO Definition: Information relating to the point of origin for a measured distance as indicated on a distance mark.  Remarks:  •No remarks. |

**5.176 Reference Tide**

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| IHO Definition: The reference tide to which the series of tidal stream values apply.  1) **High Water**  IHO Definition: The highest level reached at a place by the water surface in one oscillation.  2) **Low Water**  IHO Definition: The lowest level reached at a place by the water surface in one oscillation.  Remarks:  •No remarks. |

**5.177 Reference Tide Type**

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| IHO Definition: The type of tide range (that is, **mean** spring tide, mean neap tide or mean tide) for which a set of tidal stream rates and directions apply.  1) **Springs**  IHO Definition: The tides of increased range occurring near the times of full moon and new moon.  2) **Neaps**  IHO Definition: The tides of decreased range occurring near the times of first and last quarter.  3) Mean  IHO Definition: The tides of mean range occurring between spring and neap tides.  Remarks:  •No remarks. |

**5.178 Reference Year for Magnetic Variation**

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| IHO Definition: The reference calendar year for magnetic variation values.  Remarks:  •No remarks. |

**5.179 Regulation Citation**

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| IHO Definition: The regulation citation for a feature.  Remarks:  •No remarks. |

**5.180 Reported Date**

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| IHO Definition: The date that the item was observed, done, or investigated.  Remarks:  •No remarks. |

**5.181 Restriction**

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| IHO Definition: The official legal statute of each kind of restricted area.  1) **Anchoring Prohibited**  IHO Definition: An area within which anchoring is not permitted.  2) **Anchoring Restricted**  IHO Definition: A specified area designated by appropriate authority, within which anchoring is restricted in accordance with certain specified conditions.  3) **Fishing Prohibited**  IHO Definition: An area within which fishing is not permitted.  4) **Fishing Restricted**  IHO Definition: A specified area designated by appropriate authority, within which fishing is restricted in accordance with certain specified conditions.  5) **Trawling Prohibited**  IHO Definition: An area within which trawling is not permitted.  6) **Trawling Restricted**  IHO Definition: A specified area designated by appropriate authority, within which trawling is restricted in accordance with certain specified conditions.  7) **Entry Prohibited**  IHO Definition: [1] An area shown on charts within which navigation and/or anchoring is prohibited. [2] In aviation terminology, a specified area within the land areas of a state or territorial waters adjacent thereto over which the flight of aircraft is prohibi­ted.  8) **Entry Restricted**  IHO Definition: A specified area designated by appropriate authority, within which navigation is restricted in accordance with certain specified conditions.  9) **Dredging Prohibited**  IHO Definition: An area within which dredging is not permitted.  10) **Dredging Restricted**  IHO Definition: A specified area designated by appropriate authority, within which dredging is restricted in accordance with certain specified conditions.  11) **Diving Prohibited**  IHO Definition: An area within which diving is not permitted.  12) **Diving Restricted**  IHO Definition: A specified area designated by appropriate authority, within which diving is restricted in accordance with certain specified conditions.  13) **No Wake**  IHO Definition: Mariners must adjust the speed of their vessels to reduce the wave or wash which may cause erosion or disturb moored vessels.  14) **Area To Be Avoided**  IHO Definition: An IMO declared routeing measure comprising an area within defined limits in which either navigation is particularly hazardous or it is exceptionally important to avoid casualties and which should be avoided by all ships, or certain classes of ships.  15) **Construction Prohibited**  IHO Definition: The erection of permanent or temporary fixed structures or artificial islands is prohibited.  16) **Discharging Prohibited**  IHO Definition: An area within which discharging or dumping is prohibited.  17) **Discharging Restricted**  IHO Definition: A specified area designated by an appropriate authority, within which discharging or dumping is restricted in accordance with specified conditions.  18) **Industrial or Mineral Exploration/Development Prohibited**  IHO Definition: An area within which industrial or mineral exploration and development are prohibited.  19) **Industrial or Mineral Exploration/Development Restricted**  IHO Definition: A specified area designated by an appropriate authority, within which industrial or mineral exploration and development is restricted in accordance with certain specified conditions.  20) **Drilling Prohibited**  IHO Definition: An area within which excavating a hole on the seabed with a drill is prohibited.  21) **Drilling Restricted**  IHO Definition: A specified area designated by an appropriate authority, within which excavating a hole on the seabed with a drill is restricted in accordance with certain specified conditions.  22) **Removal of Historical Artefacts Prohibited**  IHO Definition: An area within which the removal of historical artefacts is prohibited.  23) **Cargo Transhipment (Lightening) Prohibited**  IHO Definition: An area in which cargo transhipment (lightening) is prohibited.  24) **Dragging Prohibited**  IHO Definition: An area in which the dragging of anything along the seabed, for example bottom trawling, is prohibited.  25) **Stopping Prohibited**  IHO Definition: An area in which a vessel is prohibited from stopping.  26) **Landing Prohibited**  IHO Definition: An area in which landing is prohibited.  27) **Speed Restricted**  IHO Definition: An area within which speed is restricted.  28) **Overtaking Prohibited**  IHO Definition: A specified area designated by appropriate authority, within which overtaking is generally prohibited.  29) **Overtaking of Convoys by Convoys Prohibited**  IHO Definition: A specified area designated by appropriate authority, within which overtaking between convoys is prohibited.  30) **Passing or Overtaking Prohibited**  IHO Definition: A specified area designated by appropriate authority, within which passing or overtaking is generally prohibited.  31) **Berthing Prohibited**  IHO Definition: A specified area designated by appropriate authority, within which vessels, assemblies of floating material or floating establishments may not berth.  32) **Berthing Restricted**  IHO Definition: A specified area designated by appropriate authority, within which berthing is restricted.  33) **Making Fast Prohibited**  IHO Definition: A specified area designated by appropriate authority, within which vessels, assemblies of floating material or floating establishments may not make fast to the bank.  34) **Making Fast Restricted**  IHO Definition: A specified area designated by appropriate authority, within which making fast to the bank is restricted.  35) **Turning Prohibited**  IHO Definition: A specified area designated by appropriate authority, within which all turning is generally prohibited.  36) **Restricted Fairway Depth**  IHO Definition: An area within which the fairway depth is restricted.  37) **Restricted Fairway Width**  IHO Definition: An area within which the fairway width is restricted.  38) **Use of Spuds Prohibited**  IHO Definition: The use of anchoring spuds (telescopic piles) is prohibited.  39) **Swimming Prohibited**  IHO Definition: An area in which swimming is prohibited.  40) **SOx Emission Restricted**  IHO Definition: An area within which the emission of SOx is restricted.  41) **NOx Emission Restricted**  IHO Definition: An area within which the emission of NOx is restricted.  42) **Power-Driven Vessels Prohibited**  IHO Definition: An area within which any vessel propelled by machinery is prohibited.  43) **Passing or Overtaking of Convoys by Convoys Prohibited**  IHO Definition: A specified area designated by appropriate authority, within which passing or overtaking of convoys by convoys is prohibited  Remarks:  Defines the kind of restriction(s), for example, the restriction for 'a game preserve' may be 'entry prohibited', the restriction for an 'anchoring prohibition' is 'anchoring prohibited'. The complete information about the restriction(s), actually held in handbooks or other publications, may be encoded using an Information type. |

**5.182 Scale Minimum**

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| IHO Definition: The minimum scale at which the feature may be used for example for ECDIS presentation.  Remarks:  The modulus of the scale is indicated, that is 1:1 250 000 is encoded as 1250000. |

**5.183 Scale Value Maximum**

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| IHO Definition: The largest scale for the range of survey scale.  Remarks:  The modulus of the scale is indicated, that is 1:25 000 is encoded as 25000. |

**5.184 Scale Value Minimum**

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| IHO Definition: The smallest scale for the range of survey scale.  Remarks:  The modulus of the scale is indicated, that is 1:250 000 is encoded as 250000. |

**5.185 Sector Bearing**

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| IHO Definition: A sector is the part of a circle between two straight lines drawn from the centre to the circumference. Sector bearing specifies the limit of the sector.  Remarks:  The values given to the common limits of adjacent sectors should be identical. The orientation of bearing is from seaward to the central object. This conforms with the method used in 'List of Lights' publications. A generic term such as 'to shore' cannot be used; a specific bearing must be encoded. Where a light sector limit is defined as 'to the shore', it should be encoded using a value that ensures that, when the limit is drawn, it will fall entirely on land. |

**5.186 Sector Arc Extension**

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| IHO Definition: An indication that the default radius of a sector arc is to be extended by 5mm.  Remarks:  •No remarks. |

**5.187 Sector Line Length**

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| IHO Definition: A sector is the part of a circle between two straight lines drawn from the centre to the circumference. Sector line length specifies the displayed length of the line, in ground units, defining the limit of the sector.  Remarks:  •No remarks. |

**5.188 Signal Duration**

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| IHO Definition: The time occupied by a single instance of light/sound or eclipse/silence in a signal sequence.  Remarks:  •No remarks. |

**5.189 Signal Frequency**

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| IHO Definition: The frequency of a signal.  Remarks:  •No remarks. |

**5.190 Signal Generation**

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| IHO Definition: The mechanism used to generate a fog or light signal.  1) **Automatically**  IHO Definition: Signal generation is initiated by a self regulating mechanism such as a timer or light sensor.  2) **By Wave Action**  IHO Definition: The signal is generated by the motion of the sea surface such as a bell in a buoy.  3) **By Hand**  IHO Definition: The signal is generated by a manually operated mechanism such as a hand cranked siren.  4) **By Wind**  IHO Definition: The signal is generated by the motion of air such as a wind driven whistle.  5) **Radio Activated**  IHO Definition: Activated by radio signal.  6) **Call Activated**  IHO Definition: Activated by making a call to a manned station.  Remarks:  •No remarks. |

**5.191 Signal Group**

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| IHO Definition: The number of signals, the combination of signals or the morse character(s) within one period of full sequence.  Remarks:  •No remarks. |

**5.192 Signal Period**

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| IHO Definition: The time occupied by an entire cycle of intervals of light and eclipse.  Remarks:  •No remarks. |

**5.193 Signal Status**

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| IHO Definition: The indication of an element of a signal sequence being a period of light/sound or eclipse/silence.  1) **Lit/Sound**  IHO Definition: The indication of an element of a signal sequence being a period of light or sound.  2) **Eclipsed/Silent**  IHO Definition: The indication of an element of a signal sequence being a period of eclipse or silence.  Remarks:  •No remarks. |

**5.194 Significant Features Detected**

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| IHO Definition: A statement expressing if significant features have or have not been detected in the course of a survey.  Remarks:  A feature in this context is any object, whether manmade or not, projecting above the sea floor, which may be a danger for surface navigation (reference: IHO publication S-44). Significant features detected does not describe if significant features were actually detected during a hydrographic survey, but whether the survey had the capacity to detect significant features. |

**5.195 Size of Features Detected**

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| IHO Definition: The size of detected bathymetric features in an area.  Remarks:  A feature in this context is any object, whether man-made or not, projecting above the sea floor, which may be a danger for surface navigation (reference: IHO publication S-44).- least depth of detected features measured does not describe the least depth of features that were actually detected during a hydrographic survey, but the ability of the survey to detect the least depth of features with a maximum uncertainty as defined in IHO publication S-44. |

**5.196 Source**

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| IHO Definition: The publication, document, or reference work from which information comes or is acquired.  Remarks:  May be populated with the corresponding paper chart Notice to Mariners numbers, although other references are permitted. |

**5.197 Speed Limit**

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| IHO Definition: The maximum allowed rate of travel in an area.  Remarks:  •No remarks. |

**5.198 Speed Maximum**

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| IHO Definition: Rate of motion. The terms speed and velocity are often used interchangeably, but speed is a scalar, having magnitude only, while velocity is a vector quantity, having both magnitude and direction. Speed maximum is the maximum rate of travel that can occur.  Remarks:  •No remarks. |

**5.199 Speed Minimum**

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| IHO Definition: Rate of motion. The terms speed and velocity are often used interchangeably, but speed is a scalar, having magnitude only, while velocity is a vector quantity, having both magnitude and direction. Speed minimum is the minimum rate of travel that can occur.  Remarks:  •No remarks. |

**5.200 Speed Units**

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| IHO Definition: The units for description of speed.  1) **Metres Per Second**  IHO Definition: An SI derived unit of both speed (scalar) and velocity (vector quantity which specifies both magnitude and a specific direction), defined by distance in metres divided by time in seconds.  2) **Kilometres Per Hour**  IHO Definition: A unit of speed, expressing the number of kilometres travelled in one hour.  3) **Miles Per Hour**  IHO Definition: An imperial and United States customary unit of speed expressing the number of statute miles covered in one hour.  4) **Knots**  IHO Definition: A nautical unit of speed. One knot is one nautical mile per hour. The name is derived from the knots in the log line.  Remarks:  Defines the units of speed for other attributes for the object to which speedUnits is assigned. |

**5.201 Station Name**

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| IHO Definition: The name of the reference tide station with reference water level for tidal stream panel observations.  Remarks:  •No remarks. |

**5.202 Station Number**

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| IHO Definition: The identification number of the reference tide station with reference water level for tidal stream panel observations.  Remarks:  •No remarks. |

**5.203 Status**

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| IHO Definition: The condition of an object at a given instant in time.  1) **Permanent**  IHO Definition: Intended to last or function indefinitely.  2) **Occasional**  IHO Definition: Acting on special occasions; happening irregularly.  3) **Recommended**  IHO Definition: Presented as worthy of confidence, acceptance, use, etc.  4) **Not in Use**  IHO Definition: Use has ceased, but the facility still exists intact; disused.  5) **Periodic/Intermittent**  IHO Definition: Recurring at intervals.  6) **Reserved**  IHO Definition: Set apart for some specific use.  7) **Temporary**  IHO Definition: Meant to last only for a time.  8) **Private**  IHO Definition: Administered by an individual or corporation, rather than a State or a **public** body.  9) **Mandatory**  IHO Definition: Compulsory; enforced.  11) **Extinguished**  IHO Definition: No longer lit.  12) **Illuminated**  IHO Definition: Lit by flood lights, strip lights, etc.  13) **Historic**  IHO Definition: Famous in history; of historical interest.  14) Public  IHO Definition: Belonging to, available to, used or shared by, the community as a whole and not restricted to private use.  15) **Synchronized**  IHO Definition: Occur at a time, coincide in point of time, be contemporary or simultaneous.  16) **Watched**  IHO Definition: Looked at or observed over a period of time especially so as to be aware of any movement or change.  17) **Unwatched**  IHO Definition: Usually automatic in operation, without any permanently-stationed personnel to superintend it.  18) **Existence Doubtful**  IHO Definition: A feature that has been reported but has not been definitely determined to exist.  28) **Buoyed**  IHO Definition: Marked by buoys.  Remarks:  •No remarks. |

**5.204 Stream Depth**

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| IHO Definition: The depth below the sea surface to which the tidal stream data refers relative to the sounding datum.  Remarks:  •No remarks. |

**5.205 Surrounding Depth**

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| IHO Definition: The depth value determined for seabed around an underwater hazard, based on the depth of the surrounding area.  Remarks:  The value for surrounding depth is determined from the attribute depth range minimum value for the surrounding encoded Depth Area. For an area feature covered by more than one depth area, the surrounding depth is determined as the depth range minimum attribute value of the deeper of the depth areas covering the feature. |

**5.206 Survey Authority**

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| IHO Definition: The authority which was responsible for the survey.  Remarks:  Encodes the name of the source survey authority. (Examples: Hydrographic Service, Royal Australian Navy; Port of Melbourne Authority.) |

**5.207 Survey Type**

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| IHO Definition: Classification of the different survey types.  1) **Reconnaissance/Sketch Survey**  IHO Definition: A survey made (due to lack of time or facilities) to a lower degree of accuracy and detail than the chosen scale would normally indicate.  2) **Controlled Survey**  IHO Definition: A thorough survey usually conducted with reference to guidelines.  4) **Examination Survey**  IHO Definition: A survey principally aimed at the investigation of underwater obstructions and dangers.  5) **Passage Survey**  IHO Definition: A survey where soundings are acquired by vessels on passage.  6) **Remotely Sensed**  IHO Definition: A survey where features have been positioned and delimited using remote sensing techniques.  7) **Full Coverage**  IHO Definition: A survey achieving 100% coverage using systematic, controlled techniques providing full seafloor coverage or full coverage to a defined depth and an investigation of all contacts.  8) **Systematic Survey**  IHO Definition: A controlled survey but full coverage may not have been achieved.  9) **Non-Systematic Survey**  IHO Definition: A survey of lower quality than a full coverage and systematic survey. Such surveys may be further categorized as reconnaissance, sketch, track, passage, remotely sensed and **spot-sounding survey**s.  10) **Inadequately Surveyed**  IHO Definition: Not surveyed to modern standards; or due to its age, scale, or positional or vertical uncertainties is not suitable to the type of navigation expected in the area.  11) Spot-Sounding Survey  IHO Definition: A survey that uses a regular (for example grid) or irregular pattern of soundings obtained one at a time, and normally with very wide spacing.  12) **Acoustically Swept Survey**  IHO Definition: A controlled, systematic survey to standard accuracy; using modern survey echo sounder with sonar sweep.  13) **Mechanically Swept Survey**  IHO Definition: Swept areas where the clearance depth is accurately known but the actual seabed depth is not accurately known.  Remarks:  •No remarks. |

**5.208 Update Number**

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| IHO Definition: Update number of the ENC being referenced.  Remarks:  •No remarks. |

**5.209 Update Type**

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| IHO Definition: An action performed when the contents of a dataset are changed.  1) **Insert**  IHO Definition: To put or introduce into the body of something.  2) **Delete**  IHO Definition: To eliminate especially by removing, cutting out or erasing.  3) **Modify**  IHO Definition: To make basic or fundamental changes to the characteristics of something, often to give a new orientation to or to serve a new end.  4) **Move**  IHO Definition: To change the place or position of something.  Remarks:  •No remarks. |

**5.210 Swept Date**

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| IHO Definition: The date that the area was swept by a survey.  Remarks:  •No remarks. |

**5.211 Technique of Vertical Measurement**

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| IHO Definition: Survey method used to obtain depth information.  1) **Found by Echo Sounder**  IHO Definition: The depth was measured by using an instrument that determines depth of water by measuring the time interval between emission of a sonic or ultrasonic signal and return of its echo from the bottom.  2) **Found by Side Scan Sonar**  IHO Definition: The depth was computed from a record produced by active sonar in which fixed acoustic beams are directed into the water perpendicularly to the direction of travel to scan the seabed and generate a record of the seabed configuration.  3) **Found by Multi Beam**  IHO Definition: The depth was measured by using a wide swath echo sounder that uses multiple beams to measure depths directly below and transverse to the ship's track.  4) **Found by Diver**  IHO Definition: The depth was determined by a person skilled in the practice of diving.  5) **Found by Lead Line**  IHO Definition: The depth was measured by using a line, graduated with attached marks and fastened to a sounding lead.  6) **Swept by Wire-Drag**  IHO Definition: The given area was determined to be free from navigational dangers to a certain depth by towing a buoyed wire at the desired depth by two launches, or a least depth was identified using the same technique.  8) **Swept by Vertical Acoustic System**  IHO Definition: The given area has been swept using a system comprised of multiple echo sounder transducers attached to booms deployed from the survey vessel.  9) **Found by Electromagnetic Sensor**  IHO Definition: The depth was determined by using an instrument that compares electromagnetic signals.  10) **Photogrammetry**  IHO Definition: The science or art of obtaining reliable measurements from photographs.  11) **Satellite Imagery**  IHO Definition: The depth was determined by using instruments placed aboard an artificial satellite.  12) **Found by Levelling**  IHO Definition: The depth was determined by using levelling techniques to find the elevation of the point relative to a datum.  13) **Swept by Side Scan Sonar**  IHO Definition: The given area was determined to be free from navigational dangers to a certain depth by towing a side scan sonar.  15) **Found by LIDAR**  IHO Definition: The depth was measured by using an instrument that measures distance by emitting timed pulses of laser light and measuring the time between emission and reception of the reflected pulses.  16) **Synthetic Aperture Radar**  IHO Definition: A radar with a synthetic aperture antenna which is composed of a large number of elementary transducing elements. The signals are electronically combined into a resulting signal equivalent to that of a single antenna of a given aperture in a given direction.  17) **Hyperspectral Imagery**  IHO Definition: Term used to describe the imagery derived from subdividing the electromagnetic spectrum into very narrow bandwidths. These narrow bandwidths may be combined with or subtracted from each other in various ways to form images useful in precise terrain or target analysis.  18) **Mechanically Swept**  IHO Definition: The given area was determined to be free from navigational dangers to a certain depth by towing a line or object below the surface at the desired depth; or least depth(s) and position(s) within an area was identified using the same technique.  Remarks:  •No remarks. |

**5.212 Telecommunication Identifier**

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| IHO Definition: An identifier, such as words, numbers, letters, symbols, or any combination of those used to establish a contact to a particular person, organisation or service.  Remarks:  •No remarks. |

**5.213 Telecommunication Service**

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| IHO Definition: Classification of methods of communication over a distance by electrical, electronic, or electromagnetic means.  1) **Voice**  IHO Definition: The transfer or exchange of information by using sounds that are being made by mouth and throat when speaking.  2) **Facsimile**  IHO Definition: A system of transmitting and reproducing graphic matter (as printing or still pictures) by means of signals sent over telephone lines.  3) **SMS**  IHO Definition: Short Message Service is a form of text messaging communication on phones and mobile phones.  4) **Data**  IHO Definition: A representation of facts, concepts or instructions in a formalised manner suitable for communication, interpretation or processing.  5) **Streamed Data**  IHO Definition: Data that is constantly received by and presented to an end-user while being delivered by a provider.  6) **Telex**  IHO Definition: A system of communication in which messages are sent over long distances by using a telephone system and are printed by using a special machine (called a teletypewriter).  7) **Telegraph**  IHO Definition: An apparatus, system or process for communication at a distance by electric transmission over wire.  8) **Email**  IHO Definition: Messages and other data exchanged between individuals using computers in a network.  Remarks:  •No remarks. |

**5.214 Text**

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| IHO Definition: A non-formatted digital text string.  Remarks:  Should be used, for example, to hold the information that is for short cautionary or explanatory notes. Therefore, text populated in text must not exceed 300 characters. Text may be in English, or in a national language. No formatting of text is possible within text. If formatted text, or text strings exceeding 300 characters, is required, then an alternate concept should be used. |

**5.215 Text Offset Bearing**

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| IHO Definition: The angular distance measured from true north that text associated with a feature is positioned from the feature in an end-user system.  Remarks:  •No remarks. |

**5.216 Text Offset Distance**

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| IHO Definition: The distance that text associated with a feature is positioned from the feature in an end-user system.  Remarks:  •No remarks. |

**5.217 Text Rotation**

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| IHO Definition: A statement that expresses if text associated with a feature is to be rotated in the ECDIS display or not.  Remarks:  •No remarks. |

**5.218 Text Type**

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| IHO Definition: The attribute from which a text string is derived.  1) **Name**  IHO Definition: The individual name of a feature.  2) **Light Characteristic**  IHO Definition: The distinct character, such as fixed, flashing, or occulting, which is given to each light to avoid confusion with neighbouring ones.  Remarks:  •No remarks. |

**5.219 Time of Day End**

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| IHO Definition: The time corresponding to the end of an active period.  Remarks:  The time of day end must be encoded using 2 digits for the hour (hh), 2 digits for the minutes(mm) and 2 digits for the seconds (ss). This conforms to ISO 8601:2004. |

**5.220 Time of Day Start**

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| IHO Definition: The time corresponding to the start of an active period.  Remarks:  The time of day start must be encoded using 2 digits for the hour (hh), 2 digits for the minutes(mm) and 2 digits for the seconds (ss). This conforms to ISO 8601:2004. |

**5.221 Time Relative to Tide**

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| IHO Definition: The time difference relative to the reference tide.  Remarks:  Positive values are time after the referenced tide, negative values are time before the referenced tide. |

**5.222 Topmark/Daymark Shape**

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| IHO Definition: The shape a topmark or daymark exhibits.  1) **Cone (Point Up)**  IHO Definition: Is where the vertex points up.  2) **Cone (Point Down)**  IHO Definition: Is where the vertex points down.  3) **Sphere**  IHO Definition: A curved surface all points of which are equidistant from a fixed point within, called the centre.  4) **2 Spheres**  IHO Definition: Two spheres, one above the other. Two black spheres are commonly used as an International Association of Lighthouse Authorities - IALA topmark (isolated danger).  5) **Cylinder**  IHO Definition: A solid geometrical figure generated by straight lines fixed in direction and describing with one of point a closed curve, especially a **circle** (in which case the figure is circular cylinder, its ends being parallel circles).  6) **Board**  IHO Definition: Usually of rectangular shape, made from timber or metal and used to provide a contrast with the natural background of a daymark. The actual daymark is often painted on to this board.  7) **X-Shaped**  IHO Definition: Having a shape or a cross-section like the capital letter X.  8) **Upright Cross**  IHO Definition: A cross with one vertical member and one horizontal member; that is, similar in shape to the character '+'.  9) **Cube (Point Up)**  IHO Definition: A cube standing on one of its vertexes. A cube is a solid contained by six equal **square**s, a regular hexahedron.  10) **2 Cones (Point to Point)**  IHO Definition: 2 cones, one above the other, with their vertices together in the centre.  11) **2 Cones (Base to Base)**  IHO Definition: 2 cones, one above the other, with their bases together in the centre and their vertices pointing up and down.  12) **Rhombus**  IHO Definition: A plane figure having four equal sides and equal opposite angles (two acute and two obtuse); an oblique equilateral parallelogram.  13) **2 Cones (Points Upward)**  IHO Definition: 2 cones, one above the other, with their vertices pointing up.  14) **2 Cones (Points Downward)**  IHO Definition: 2 cones, one above the other, with their vertices pointing down.  15) **Besom (Point Up)**  IHO Definition: A bundle of rods or twigs. A besom, point up is where the thicker (untied) end of the besom is at the bottom.  16) **Besom (Point Down)**  IHO Definition: A bundle of rods or twigs. A besom, point down is where the thinner (tied) end of the besom is at the bottom.  17) **Flag**  IHO Definition: A flag mounted on a short pole.  18) **Sphere Over a Rhombus**  IHO Definition: A sphere located above a rhombus.  19) Square  IHO Definition: A plane figure with four right angles and four equal straight sides.  20) **Rectangle (Horizontal)**  IHO Definition: A horizontal rectangle is where the two longer opposite sides are standing horizontally.  21) **Rectangle (Vertical)**  IHO Definition: A rectangle is a plane figure with four right angles and four straight sides, opposite sides being parallel and equal in length. A vertical rectangle is where the two longer opposite sides are standing vertically.  22) **Trapezium (Up)**  IHO Definition: A quadrilateral having one pair of opposite sides parallel, and which stands on its longer parallel side.  23) **Trapezium (Down)**  IHO Definition: A quadrilateral having one pair of opposite sides parallel, and which stands on its shorter parallel side.  24) **Triangle (Point Up)**  IHO Definition: A figure having three angles and three sides, and which has a vertex at the top.  25) **Triangle (Point Down)**  IHO Definition: A figure having three angles and three sides, and which has a side at the top.  26) Circle  IHO Definition: A perfectly round plane figure whose circumference is everywhere equidistant from its centre.  27) **Two Upright Crosses (One Over the Other)**  IHO Definition: Two upright crosses, generally vertically disposed one above the other.  28) **T-Shape**  IHO Definition: Having a shape like the capital letter T.  29) **Triangle Pointing Up Over a Circle**  IHO Definition: A triangle, vertex uppermost, located above a circle.  30) **Upright Cross Over a Circle**  IHO Definition: An upright cross located above a circle.  31) **Rhombus Over a Circle**  IHO Definition: A rhombus located above a circle.  32) **Circle Over a Triangle Pointing Up**  IHO Definition: A circle located over a triangle, vertex uppermost.  33) **Other Shape (See Shape Information)**  IHO Definition: An uncommon and/or non-standardized shape as textually described using an associated attribute.  34) **Tubular**  IHO Definition: Having the form of or consisting of a tube.  Remarks:  •No remarks. |

**5.223 Traffic Flow**

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| IHO Definition: Direction of vessels passing a reference point.  1) **Inbound**  IHO Definition: Traffic flow in a general direction toward a port or similar destination.  2) **Outbound**  IHO Definition: Traffic flow in a general direction away from a port or similar point of origin.  3) **One-Way**  IHO Definition: Traffic flow in one general direction only.  4) **Two-Way**  IHO Definition: Traffic flow in two generally opposite directions.  Remarks:  •No remarks. |

**5.224 Uncertainty Fixed**

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| IHO Definition: The best estimate of the fixed horizontal or vertical accuracy component for positions, depths, heights, vertical distances and vertical clearances.  Remarks:  •No remarks. |

**5.225 Uncertainty Variable Factor**

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| IHO Definition: The factor to be applied to the variable component of an uncertainty equation so as to provide the best estimate of the variable horizontal or vertical accuracy component for positions, depths, heights, vertical distances and vertical clearances.  Remarks:  •No remarks. |

**5.226 Underlying Layer**

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| IHO Definition: The position of the seabed type within the layers of the seabed.  Remarks:  •No remarks. |

**5.227 Value of Annual Change in Magnetic Variation**

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| IHO Definition: The annual change in magnetic variation values.  Remarks:  A positive value; that is, unsigned, indicates a change in an easterly direction and a negative value indicates a change in a westerly direction. |

**5.228 Value of Depth Contour**

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| IHO Definition: The depth of a sea bottom contour.  Remarks:  Drying contours are indicated by a negative value. |

**5.229 Value of Magnetic Variation**

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| IHO Definition: The angle between the magnetic and geographical meridians at any place, expressed in degrees east or west to indicate the direction of magnetic north from true north.  Remarks:  A positive value; that is, unsigned, indicates variation in an easterly direction and a negative value indicates variation in a westerly direction. |

**5.230 Value of Maximum Range**

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| IHO Definition: The extreme distance at which a feature can be seen or a signal detected.  Remarks:  Does not apply to lights where the "value of nominal range" should be used. |

**5.231 Value of Nominal Range**

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| IHO Definition: The luminous range of a light in a homogenous atmosphere in which the meteorological visibility is 10 sea miles.  Remarks:  •No remarks. |

**5.232 Value of Sounding**

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| IHO Definition: The value of the measurement of a sounding relative to the chart datum.  Remarks:  A drying height is indicated by a negative value. |

**5.233 Vertical Clearance Unlimited**

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| IHO Definition: A statement that expresses if the vertical clearance for a feature in the open position, such as a bridge span, is unlimited.  Remarks:  •No remarks. |

**5.234 Vertical Clearance Value**

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| IHO Definition: The vertical clearance measured from the horizontal plane towards the feature overhead.  Remarks:  •No remarks. |

**5.235 Vertical Datum**

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| IHO Definition: The reference level used for expressing the vertical measurements of points on the earth's surface. Also called datum level, reference plane, levelling datum, datum for sounding reduction, datum for heights.  1) **Mean Low Water Springs**  IHO Definition: The average height of the low waters of spring tides. This level is used as a tidal datum in some areas.  2) **Mean Lower Low Water Springs**  IHO Definition: The average height of lower low water springs at a place.  3) **Mean Sea Level**  IHO Definition: The average height of the surface of the sea at a tide station for all stages of the tide over a 19-year period, usually determined from hourly height readings measured from a fixed predetermined reference level.  4) **Lowest Low Water**  IHO Definition: An arbitrary level conforming to the lowest tide observed at a place, or somewhat lower.  5) Mean Low Water  IHO Definition: The average height of all low waters at a place over a 19-year period.  6) **Lowest Low Water Springs**  IHO Definition: An arbitrary level conforming to the lowest water level observed at a place at spring tides during a period of time shorter than 19 years.  7) **Approximate Mean Low Water Springs**  IHO Definition: An arbitrary level, usually within 0.3m from that of Mean Low Water Springs (MLWS).  8) **Indian Spring Low Water**  IHO Definition: An arbitrary tidal datum approximating the level of the mean of the lower low water at spring tides. It was first used in waters surrounding India.  9) Low Water Springs  IHO Definition: An arbitrary level, approximating that of mean low water springs (MLWS).  10) **Approximate Lowest Astronomical Tide**  IHO Definition: An arbitrary level, usually within 0.3m from that of Lowest Astronomical Tide (LAT).  11) **Nearly Lowest Low Water**  IHO Definition: An arbitrary level approximating the lowest water level observed at a place, usually equivalent to the Indian Spring Low Water (ISLW).  12) Mean Lower Low Water  IHO Definition: The average height of the lower low waters at a place over a 19-year period.  13) Low Water  IHO Definition: The lowest level reached at a place by the water surface in one oscillation.  14) Approximate Mean Low Water  IHO Definition: An arbitrary level, usually within 0.3m from that of Mean Low Water (MLW).  15) **Approximate Mean Lower Low Water**  IHO Definition: An arbitrary level, usually within 0.3m from that of Mean Lower Low Water (MLLW).  16) **Mean High Water**  IHO Definition: The average height of all high waters at a place over a 19-year period.  17) **Mean High Water Springs**  IHO Definition: The average height of the high waters of spring tides.  18) High Water  IHO Definition: The highest level reached at a place by the water surface in one oscillation.  19) **Approximate Mean Sea Level**  IHO Definition: An arbitrary level, usually within 0.3m from that of Mean Sea Level (MSL).  20) High Water Springs  IHO Definition: An arbitrary level, approximating that of mean high water springs (MHWS).  21) **Mean Higher High Water**  IHO Definition: The average height of higher high waters at a place over a 19-year period.  22) **Equinoctial Spring Low Water**  IHO Definition: The level of low water springs near the time of an equinox.  23) Lowest Astronomical Tide  IHO Definition: The lowest tide level which can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions.  24) **Local Datum**  IHO Definition: An arbitrary datum defined by a local harbour authority, from which levels and tidal heights are measured by this authority.  25) **International Great Lakes Datum 1985**  IHO Definition: A vertical reference system with its zero based on the **mean water level** at Rimouski/Pointe-au-Père, Quebec, over the period 1970 to 1988.  26) Mean Water Level  IHO Definition: The average of all hourly water levels over the available period of record.  27) **Lower Low Water Large Tide**  IHO Definition: The average of the lowest low waters, one from each of 19 years of observations.  28) **Higher High Water Large Tide**  IHO Definition: The average of the highest high waters, one from each of 19 years of observations.  29) **Nearly Highest High Water**  IHO Definition: An arbitrary level approximating the highest water level observed at a place, usually equivalent to the high water springs.  30) **Highest Astronomical Tide**  IHO Definition: The highest tidal level which can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions.  31) **Local Low Water Reference Level**  IHO Definition: Low water reference level of the local area.  32) **Local High Water Reference Level**  IHO Definition: High water reference level of the local area.  33) **Local Mean Water Reference Level**  IHO Definition: Mean water reference level of the local area.  34) **Equivalent Height of Water (German GlW)**  IHO Definition: A low water level which is the result of a defined low water discharge - called "equivalent discharge".  35) **Highest Shipping Height of Water (German HSW)**  IHO Definition: Upper limit of water levels where navigation is allowed.  36) **Reference Low Water Level According to Danube Commission**  IHO Definition: The water level at a discharge, which is exceeded 94 % of the year within a period of 30 years.  37) **Highest Shipping Height of Water According to Danube Commission**  IHO Definition: The water level at a discharge, which is exceeded 1% of the year within a period of 30 years.  38) **Dutch River Low Water Reference Level (OLR)**  IHO Definition: The water level at a discharge, which is exceeded 95% of the year within a period of 20 years.  39) **Russian Project Water Level**  IHO Definition: Conditional low water level with established probability.  40) **Russian Normal Backwater Level**  IHO Definition: Highest water level derived from the upper backwater stream in watercourse or reservoir under the normal operational conditions.  41) **Ohio River Datum**  IHO Definition: The Ohio River datum.  43) **Dutch High Water Reference Level**  IHO Definition: Dutch High Water Reference Level.  44) **Baltic Sea Chart Datum 2000**  IHO Definition: The datum refers to each Baltic country's realization of the European Vertical Reference System (EVRS) with land-uplift epoch 2000, which is connected to the Normaal Amsterdams Peil (NAP).  45) **Dutch Estuary Low Water Reference Level (OLW)**  IHO Definition: Dutch Estuary Low Water Reference Level (OLW)  Remarks:  •No remarks. |

**5.236 Vertical Length**

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| IHO Definition: The total vertical length of a feature.  Remarks:  For floating objects: the vertical distance from the surface of water to the highest point of that object. For fixed objects: the vertical distance from seabed or ground to the highest point of that object. For objects on top of other objects: the vertical distance from the lowest to the highest point of that object. Vertical length measurements do not require a datum. |

**5.237 Vessel Class**

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| IHO Definition: The classification of a vessel, normally as defined by length or gross tonnage.  Remarks:  •No remarks. |

**5.238 Virtual AIS Aid to Navigation Type**

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| IHO Definition: A purpose of a virtual AIS Aid to Navigation.  1) **North Cardinal**  IHO Definition: Indicates that it should be passed to the north side of the aid.  2) **East Cardinal**  IHO Definition: Indicates that it should be passed to the east side of the aid.  3) **South Cardinal**  IHO Definition: Indicates that it should be passed to the south side of the aid.  4) **West Cardinal**  IHO Definition: Indicates that it should be passed to the west side of the aid.  5) **Port Lateral (IALA A)**  IHO Definition: Indicates the port boundary of a navigational channel or suggested route when proceeding in the “conventional direction of buoyage” in the IALA A system.  6) **Starboard Lateral (IALA A)**  IHO Definition: Indicates the starboard boundary of a navigational channel or suggested route when proceeding in the “conventional direction of buoyage” in the IALA A system.  7) **Port Lateral (IALA B)**  IHO Definition: Indicates the port boundary of a navigational channel or suggested route when proceeding in the “conventional direction of buoyage” in the IALA B system.  8) **Starboard Lateral (IALA B)**  IHO Definition: Indicates the starboard boundary of a navigational channel or suggested route when proceeding in the “conventional direction of buoyage” in the IALA B system.  9) **Isolated Danger**  IHO Definition: A mark used alone to indicate a dangerous reef or shoal. The mark may be passed on either hand.  10) **Safe Water**  IHO Definition: Indicates that there is navigable water around the mark.  11) **Special Purpose**  IHO Definition: A special purpose aid is primarily used to indicate an area or feature, the nature of which is apparent from reference to a chart, Sailing Directions or Notice to Mariners.  12) **Emergency Wreck Marking**  IHO Definition: A mark used to indicate the existence of a recent wreck.  Remarks:  •No remarks. |

**5.239 Visitors Mooring**

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| IHO Definition: A mooring set aside for the use of visiting vessels.  Remarks:  •No remarks. |

**5.240 Visual Prominence**

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| IHO Definition: The extent to which a feature, either natural or artificial, is visible from seaward.  1) **Visually Conspicuous**  IHO Definition: Term applied to an object either natural or artificial which is distinctly and notably visible from seaward.  2) **Not Visually Conspicuous**  IHO Definition: An object that may be visible from seaward, but cannot be used as a fixing mark and is not conspicuous.  3) **Prominent**  IHO Definition: Objects which are easily identifiable, but do not justify being classed as conspicuous.  Remarks:  •No remarks. |

**5.241 Water Level Effect**

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| IHO Definition: The effect of the surrounding water on an object.  1) **Partly Submerged at High Water**  IHO Definition: Partially covered and partially dry at high water.  2) **Always Dry**  IHO Definition: Not covered at high water under average meteorological conditions.  3) **Always Under Water/Submerged**  IHO Definition: Remains covered by water at all times under average meteorological conditions.  4) **Covers and Uncovers**  IHO Definition: Expression intended to indicate an area of a reef or other projection from the bottom of a body of water which periodically extends above and is submerged below the surface. Also referred to as dries or uncovers.  5) **Awash**  IHO Definition: Flush with, or washed by the waves at low water under average meteorological conditions.  6) **Subject to Inundation or Flooding**  IHO Definition: An area periodically covered by flood water, excluding tidal waters.  7) **Floating**  IHO Definition: Resting or moving on the surface of a liquid without sinking.  8) **Above Mean Water Level**  IHO Definition: Above a water level called "Mean Water" which is the arithmetic mean value of all water levels within a certain period of time.  9) **Below Mean Water Level**  IHO Definition: Below a water level called "mean water", which is the arithmetic mean value of all water levels within a certain period of time.  Remarks:  •No remarks. |

**5.242 Waterway Distance**

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| IHO Definition: [1] The distance measured from an origin of a river or canal. [2] The length of the space between two points along a waterway.  Remarks:  •No remarks. |

**5.243 Wave Length Value**

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| IHO Definition: The distance between two successive peaks (or other points of identical phase) on an electromagnetic wave.  Remarks:  •No remarks. |

**5.244 Category of Cargo**

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| IHO Definition: Classification of the different types of cargo that a ship may be carrying.  1) **Bulk**  IHO Definition: Unpacked homogenous cargo poured loose in a certain space of a vessel, for example oil or grain.  2) **Container**  IHO Definition: One of a number of standard sized cargo carrying units, secured using standard corner attachments and bar.  3) **General**  IHO Definition: **Break bulk cargo** normally loaded by crane.  4) **Liquid**  IHO Definition: Any cargo loaded by pipeline.  5) **Passenger**  IHO Definition: A fee paying traveller.  6) **Livestock**  IHO Definition: Live animals carried in bulk.  7) **Dangerous or Hazardous**  IHO Definition: Dangerous or hazardous cargo as described by the IMO International Maritime Dangerous Goods code.  8) **Heavy Lift**  IHO Definition: Indivisible heavy items of weight generally over 100 tons, and width or height greater than 100 metres.  9) **Ballast**  IHO Definition: Material carried by a ship to ensure its stability.  10) **Dry Bulk Cargo**  IHO Definition: Commodity cargo that is transported unpackaged in large quantities. These types of goods usually need to be kept dry during the whole transportation period.  11) **Liquid Bulk Cargo**  IHO Definition: Liquids or gases that are transported in bulk and carried unpackaged.  12) **Reefer Container Cargo**  IHO Definition: Cargo transported in refrigerated containers, generally perishable commodities which require temperature-controlled transportation, such as fruit, meat, fish, vegetables, dairy products and other foods.  13) **Ro-Ro Cargo**  IHO Definition: Wheeled cargo, such as cars, busses, trucks, agricultural vehicles and cranes, that are driven on and off the ship on their own wheels or using a platform vehicle, such as a self-propelled modular transporter.  14) **Project Cargo**  IHO Definition: Project cargo is a term used to broadly describe the national or international transportation of large, heavy, high value, or critical (to the project they are intended for) pieces of equipment. Also commonly referred to as heavy lift, this includes shipments made of various components which need disassembly for shipment and reassembly after delivery.  15) Break Bulk Cargo  IHO Definition: Goods that are stowed on board ship in individually counted units, and not in intermodal containers nor in bulk as with oil or grain.  Remarks:  If item 7 is used, the nature of dangerous or hazardous cargoes can be amplified with category of dangerous or hazardous cargo. |

**5.245 Minimum Berth Depth**

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| IHO Definition: The least depth of the body of water at the berth or in a berth pocket adjacent to the berth.  Remarks:  The minimum depth is measured from a specified sounding datum. A berth pocket is the body of water at a berth or anchor berth, of adequate dimensions to allow a vessel to make fast to the shore, mooring buoys, berthing dolphins or to anchor. |

**5.246 Optimum Display Scale**

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| IHO Definition: The largest intended viewing scale for the data.  Remarks:  •No remarks. |

**5.247 Bunker Vessel, Availability**

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| IHO Definition: Indication of the availability of a bunker vessel.  1) **Bunker Vessel Available**  IHO Definition: A bunker vessel is available.  2) **No Bunker Vessel Available**  IHO Definition: A bunker vessel is not available.  Remarks:  •No remarks. |

**5.248 Category of Bunker Station**

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| IHO Definition: Category of bunker station.  1) **Diesel Oil**  IHO Definition: Diesel oil available.  2) **Water**  IHO Definition: A colourless, odourless, tasteless liquid that is a compound of hydrogen and oxygen.  3) **Ballast**  IHO Definition: Material carried by a ship to ensure its stability.  4) **Power**  IHO Definition: Power supply available.  5) **Compressed Hydrogen Bunkering**  IHO Definition: Transfer of compressed hydrogen to the fuel tanks of a ship.  6) **Liquefied Hydrogen Bunkering**  IHO Definition: Transfer of liquefied hydrogen to the fuel tanks of a ship.  7) **Methanol Bunkering**  IHO Definition: Transfer of methanol to the fuel tanks of a ship.  8) **Ammonia Bunkering**  IHO Definition: Transfer of ammonia to the fuel tanks of a ship.  Remarks:  •No remarks. |

**5.249 UN Location Code**

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| IHO Definition: Used to encode the UN Location Code (http://www.unece.org/cefact/locode/service/location.html) or - in Europe - the Inland Ship Reporting Standard (ISRS) Code.  Remarks:  The ISRS Code exists of: - UN country code (2 digits), - UN Location code (3 digits, "XXX" if not available), - Fairway section number (5 numerical digits, to be determined by the national authority; a side branch should have an own section number, when there are special restrictions, e.g. bridges), - terminal code or passage point code (5 alphanumerical digits, "00000" if not available), - fairway section hectometre (5 numerical digits, hectometre at the centre of the area, "00000" if not available). If the ISRS code is not available, the code of the Nordersoft RIS-Index may be used. |

**5.250 Source Indication**

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| IHO Definition: Information about the source document, publication, or reference from which object data or textual material included or referenced in a dataset are derived.  Remarks:  Content of featureName is source authority name. |

**5.251 Category of Communication**

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| IHO Definition: Category of communication.  1) **VTS Centre**  IHO Definition: The centre from which Vessel Traffic Services are operated. A VTS is a service implemented by a competent authority, designed to improve the safety and efficiency of vessel traffic and to protect the environment. The services should have the capability to interact with the traffic and to respond to traffic situations developing in the area.  2) **VTS Sector**  IHO Definition: The service area of a VTS centre.  3) **IVS Point**  IHO Definition: A reporting point of the "Informatie en Volgsysteem voor de Scheepvaart" in the Netherlands.  4) **MIB**  IHO Definition: A reporting point of the "Melde- und Informationssystem Binnenschifffahrt" in Germany.  5) **Lock**  IHO Definition: A signal station for the control of vessels entering or leaving a lock.  6) **Bridge**  IHO Definition: (1) An elevated structure extending across or over the weather deck of a vessel, or part of such a structure. The term is sometimes modified to indicate the intended use, such as navigating bridge or signal bridge. (2) A structure erected over a depression or an obstacle such as a body of water, railroad, etc., to provide a roadway for vehicles or pedestrians.  7) **Custom**  IHO Definition: Serves as a government checkpoint where customs duties are collected, the flow of goods are regulated and restrictions enforced, and shipments or vehicles are cleared for entering or leaving a country.  8) **Harbour**  IHO Definition: A reporting point of a harbour.  9) **WLAN Area**  IHO Definition: An area where free wireless network is available.  Remarks:  •No remarks. |

**5.252 Category of Exceptional Structure**

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| IHO Definition: Category of exceptional navigational structure.  1) **Lift-Lock**  IHO Definition: A lock of which the lock chamber itself is lifted vertically to level with the next waterway section.  2) **Aqueduct**  IHO Definition: A bridge supporting an artificially elevated channel, for the conveyance of water.  3) **Sloping Plane Lock**  IHO Definition: A lock of which the lock chamber itself travels over a sloping plane to level with the next waterway section.  4) **Water Slope Lock**  IHO Definition: In French "Pente d'Eau". A lock of which the lock chamber is formed by a sloping plane and moving gate, which is pushing a triangular section of water up along the slope to level with the next waterway section.  5) **Other**  IHO Definition: Being the one or ones distinct from that or those first mentioned or implied.  Remarks:  •No remarks. |

**5.253 Name of Sounding Datum Reference Level**

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| IHO Definition: Name of the water level depth values are referred to.  Remarks:  •No remarks. |

**5.254 Sounding Datum Reference Level Value**

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| IHO Definition: Local value of the sounding datum reference level.  Remarks:  •No remarks. |

**5.255 Related Issue**

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| IHO Definition: Indication of the related legal issue.  1) **Other**  IHO Definition: Being the one or ones distinct from that or those first mentioned or implied.  2) **Usage of Waterway**  IHO Definition: An issue that is related to the usage of the waterway.  3) **Carriage of Equipment**  IHO Definition: The legal issue for the vessel is related to the carriage of equipment.  4) **Task, Operation**  IHO Definition: A usually assigned piece of work, or a specific work process, often to be finished within a certain time.  Remarks:  •No remarks. |

**5.256 Description of Legal Conditions**

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| IHO Definition: Additional textual information which is related to the numerical description of the particular article/clause of the applicable law/regulation.  Remarks:  •No remarks. |

**5.257 Category of Ship (Including)**

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| IHO Definition: Including list of categories of ship for the applicability of a feature.  1) **All Types**  IHO Definition: The sum of all of the different kinds (or sorts or types) of an entity.  2) **Other**  IHO Definition: Being the one or ones distinct from that or those first mentioned or implied.  3) **Non-Motorized Vessel**  IHO Definition: A vessel that is not propelled by an internal combustion engine, such as vessels propelled by wind or manual methods such as rowing or pedalling.  5) **Craft**  IHO Definition: A vessel or item of **floating equipment**.  6) Vessel  IHO Definition: An **inland waterway vessel** or **sea going ship**.  7) Inland Waterway Vessel  IHO Definition: A vessel intended solely or mainly for navigation on inland waterways.  8) Sea Going Ship  IHO Definition: A vessel certificated for sea-going service.  9) **Motor Vessel**  IHO Definition: A **motor cargo vessel** or a **motor tanker**.  10) Motor Tanker  IHO Definition: A vessel intended for the carriage of goods in fixed tanks and built to navigate independently under its own motive power.  11) Motor Cargo Vessel  IHO Definition: A vessel, other than a motor tanker, intended for the carriage of goods and built to navigate independently under its own motive power.  12) **Canal Barge**  IHO Definition: An inland waterway vessel not exceeding 38.5 m in length and 5.05 m in breadth and usually operating on the Rhine-Rhone-Canal.  13) **Tug**  IHO Definition: A vessel specially built to perform towing operations.  14) **Pusher**  IHO Definition: A vessel specially built to propel a pushed convoy.  15) Barge  IHO Definition: A **dumb barge** or **tank barge**.  16) Tank Barge  IHO Definition: A vessel intended for the carriage of goods in fixed tanks and built to be towed, either having no motive power of its own or having only sufficient motive power to perform restricted manoeuvres.  17) Dumb Barge  IHO Definition: A vessel, other than a tank barge, intended for the carriage of goods and built to be towed, either having no motive power of its own or having only sufficient motive power to perform restricted manoeuvres.  18) **Lighter**  IHO Definition: A **tank lighter**, **cargo lighter** or **ship borne lighter**.  19) Tank Lighter  IHO Definition: A vessel intended for the carriage of goods in fixed tanks, built or specially modified to be pushed, either having no motive power of its own or having only sufficient motive power to perform restricted manoeuvres when not part of a pushed convoy.  20) Cargo Lighter  IHO Definition: A vessel, other than a tank lighter, intended for the carriage of goods and built or specially modified to be pushed, either having no motive power of its own or having only sufficient motive power to perform restricted manoeuvres when not part of a pushed convoy.  21) Ship Borne Lighter  IHO Definition: A lighter built to be carried aboard sea going ships and to navigate on inland waterways.  22) **Passenger Vessel**  IHO Definition: A day trip or **cabin vessel** constructed and equipped to carry more than 12 passengers.  23) **Passenger Sailing Vessel**  IHO Definition: A passenger vessel fitted out mainly with a view to propulsion under sail.  24) **Day Trip Vessel**  IHO Definition: A passenger vessel without overnight passenger cabins.  25) Cabin Vessel  IHO Definition: A passenger vessel with overnight passenger cabins.  26) **High-Speed Vessel**  IHO Definition: A motorized vessel capable of reaching speeds over 40km/h with respect to water.  27) Floating Equipment  IHO Definition: A floating installation carrying working gear such as cranes, dredging equipment, pile drivers or elevators.  28) **Worksite Craft**  IHO Definition: A vessel, appropriately built and equipped for use at worksites, such as a reclamation barge, hopper or pontoon barge, pontoon or stone-dumping vessel.  29) **Recreational Craft**  IHO Definition: A vessel other than a passenger vessel, intended for sport or pleasure.  30) **Dinghy**  IHO Definition: A boat for use in transport, rescue, salvage and work duties.  31) **Floating Establishment**  IHO Definition: Any floating installation not normally intended to be moved, such as a swimming bath, dock, jetty or boathouse.  32) **Floating Object**  IHO Definition: A raft or other structure, object or assembly capable of navigation, not being a vessel or floating equipment or establishment.  Remarks:  •No remarks. |

**5.258 Category of Ship (Excluding)**

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| IHO Definition: Excluding list of categories of ship for the applicability of a feature.  1) **All Types**  IHO Definition: The sum of all of the different kinds (or sorts or types) of an entity.  2) **Other**  IHO Definition: Being the one or ones distinct from that or those first mentioned or implied.  3) **Non-Motorized Vessel**  IHO Definition: A vessel that is not propelled by an internal combustion engine, such as vessels propelled by wind or manual methods such as rowing or pedalling.  5) **Craft**  IHO Definition: A vessel or item of **floating equipment**.  6) Vessel  IHO Definition: An **inland waterway vessel** or **sea going ship**.  7) Inland Waterway Vessel  IHO Definition: A vessel intended solely or mainly for navigation on inland waterways.  8) Sea Going Ship  IHO Definition: A vessel certificated for sea-going service.  9) **Motor Vessel**  IHO Definition: A **motor cargo vessel** or a **motor tanker**.  10) Motor Tanker  IHO Definition: A vessel intended for the carriage of goods in fixed tanks and built to navigate independently under its own motive power.  11) Motor Cargo Vessel  IHO Definition: A vessel, other than a motor tanker, intended for the carriage of goods and built to navigate independently under its own motive power.  12) **Canal Barge**  IHO Definition: An inland waterway vessel not exceeding 38.5 m in length and 5.05 m in breadth and usually operating on the Rhine-Rhone-Canal.  13) **Tug**  IHO Definition: A vessel specially built to perform towing operations.  14) **Pusher**  IHO Definition: A vessel specially built to propel a pushed convoy.  15) Barge  IHO Definition: A **dumb barge** or **tank barge**.  16) Tank Barge  IHO Definition: A vessel intended for the carriage of goods in fixed tanks and built to be towed, either having no motive power of its own or having only sufficient motive power to perform restricted manoeuvres.  17) Dumb Barge  IHO Definition: A vessel, other than a tank barge, intended for the carriage of goods and built to be towed, either having no motive power of its own or having only sufficient motive power to perform restricted manoeuvres.  18) **Lighter**  IHO Definition: A **tank lighter**, **cargo lighter** or **ship borne lighter**.  19) Tank Lighter  IHO Definition: A vessel intended for the carriage of goods in fixed tanks, built or specially modified to be pushed, either having no motive power of its own or having only sufficient motive power to perform restricted manoeuvres when not part of a pushed convoy.  20) Cargo Lighter  IHO Definition: A vessel, other than a tank lighter, intended for the carriage of goods and built or specially modified to be pushed, either having no motive power of its own or having only sufficient motive power to perform restricted manoeuvres when not part of a pushed convoy.  21) Ship Borne Lighter  IHO Definition: A lighter built to be carried aboard sea going ships and to navigate on inland waterways.  22) **Passenger Vessel**  IHO Definition: A day trip or **cabin vessel** constructed and equipped to carry more than 12 passengers.  23) **Passenger Sailing Vessel**  IHO Definition: A passenger vessel fitted out mainly with a view to propulsion under sail.  24) **Day Trip Vessel**  IHO Definition: A passenger vessel without overnight passenger cabins.  25) Cabin Vessel  IHO Definition: A passenger vessel with overnight passenger cabins.  26) **High-Speed Vessel**  IHO Definition: A motorized vessel capable of reaching speeds over 40km/h with respect to water.  27) Floating Equipment  IHO Definition: A floating installation carrying working gear such as cranes, dredging equipment, pile drivers or elevators.  28) **Worksite Craft**  IHO Definition: A vessel, appropriately built and equipped for use at worksites, such as a reclamation barge, hopper or pontoon barge, pontoon or stone-dumping vessel.  29) **Recreational Craft**  IHO Definition: A vessel other than a passenger vessel, intended for sport or pleasure.  30) **Dinghy**  IHO Definition: A boat for use in transport, rescue, salvage and work duties.  31) **Floating Establishment**  IHO Definition: Any floating installation not normally intended to be moved, such as a swimming bath, dock, jetty or boathouse.  32) **Floating Object**  IHO Definition: A raft or other structure, object or assembly capable of navigation, not being a vessel or floating equipment or establishment.  Remarks:  •No remarks. |

**5.259 Assemblies of Ship (Including)**

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| IHO Definition: Including list of assemblies of ships for the applicability of a feature.  1) **All Types**  IHO Definition: The sum of all of the different kinds (or sorts or types) of an entity.  2) **Other**  IHO Definition: Being the one or ones distinct from that or those first mentioned or implied.  3) **Single Vessel**  IHO Definition: A single vessel (no assembly or **formation**).  5) **Convoy**  IHO Definition: A rigid or **towed convoy** of craft.  6) Formation  IHO Definition: The manner in which a convoy is assembled.  7) **Rigid Convoy**  IHO Definition: A **pushed convoy** or **breasted up formation**.  8) Pushed Convoy  IHO Definition: A rigid assembly of craft of which at least one is positioned in front of the craft providing the power for propelling the convoy, known as the "pusher(s)"; a convoy composed of a pusher craft and a pushed craft coupled so as to permit guided articulation is also considered as rigid.  9) Breasted Up Formation  IHO Definition: An assembly of craft coupled rigidly side by side, none of which is positioned in front of the craft propelling the assembly.  10) Towed Convoy  IHO Definition: An assembly of one or more craft, floating establishments or floating installations towed by one or more self-propelled craft forming part of the convoy.  Remarks:  •No remarks. |

**5.260 Assemblies of Ship (Excluding)**

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| IHO Definition: Excluding list of assemblies of ships for the applicability of a feature.  1) **All Types**  IHO Definition: The sum of all of the different kinds (or sorts or types) of an entity.  2) **Other**  IHO Definition: Being the one or ones distinct from that or those first mentioned or implied.  3) **Single Vessel**  IHO Definition: A single vessel (no assembly or **formation**).  5) **Convoy**  IHO Definition: A rigid or **towed convoy** of craft.  6) Formation  IHO Definition: The manner in which a convoy is assembled.  7) **Rigid Convoy**  IHO Definition: A **pushed convoy** or **breasted up formation**.  8) Pushed Convoy  IHO Definition: A rigid assembly of craft of which at least one is positioned in front of the craft providing the power for propelling the convoy, known as the "pusher(s)"; a convoy composed of a pusher craft and a pushed craft coupled so as to permit guided articulation is also considered as rigid.  9) Breasted Up Formation  IHO Definition: An assembly of craft coupled rigidly side by side, none of which is positioned in front of the craft propelling the assembly.  10) Towed Convoy  IHO Definition: An assembly of one or more craft, floating establishments or floating installations towed by one or more self-propelled craft forming part of the convoy.  Remarks:  •No remarks. |

**5.261 Category of Cargo (Including)**

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| IHO Definition: Including list of categories of cargo for the applicability of a feature.  1) **All Types**  IHO Definition: The sum of all of the different kinds (or sorts or types) of an entity.  2) **Other**  IHO Definition: Being the one or ones distinct from that or those first mentioned or implied.  4) **Bulk**  IHO Definition: Unpacked homogenous cargo poured loose in a certain space of a vessel, for example oil or grain.  5) **Dry Cargo**  IHO Definition: Goods, such as coal, metals, and grain, that are not liquid and are carried in large quantities by ship or in another large vehicle.  6) **Liquid Cargo**  IHO Definition: Commodities that are shipped in a liquefied state, by vessels designed to handle liquids.  7) **Liquid Cargo (Type N)**  IHO Definition: Commodities that are shipped in a liquefied state, by Type N vessels designed to handle liquids.  8) **Liquid Cargo (Type C)**  IHO Definition: Commodities that are shipped in a liquefied state, by Type C vessels designed to handle liquids.  9) **Gas**  IHO Definition: A substance with particles that can move freely, usually a fuel substance in the context of storage tanks.  Remarks:  •No remarks. |

**5.262 Category of Cargo (Excluding)**

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| IHO Definition: Excluding list of categories of cargo for the applicability of a feature.  1) **All Types**  IHO Definition: The sum of all of the different kinds (or sorts or types) of an entity.  2) **Other**  IHO Definition: Being the one or ones distinct from that or those first mentioned or implied.  4) **Bulk**  IHO Definition: Unpacked homogenous cargo poured loose in a certain space of a vessel, for example oil or grain.  5) **Dry Cargo**  IHO Definition: Goods, such as coal, metals, and grain, that are not liquid and are carried in large quantities by ship or in another large vehicle.  6) **Liquid Cargo**  IHO Definition: Commodities that are shipped in a liquefied state, by vessels designed to handle liquids.  7) **Liquid Cargo (Type N)**  IHO Definition: Commodities that are shipped in a liquefied state, by Type N vessels designed to handle liquids.  8) **Liquid Cargo (Type C)**  IHO Definition: Commodities that are shipped in a liquefied state, by Type C vessels designed to handle liquids.  9) **Gas**  IHO Definition: A substance with particles that can move freely, usually a fuel substance in the context of storage tanks.  Remarks:  •No remarks. |

**5.263 Maximal Permitted Beam**

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| IHO Definition: The maximal permitted beam (width of a ship's hull) of a vessel or convoy according to the particular article/clause of the applicable law/regulation.  Remarks:  •No remarks. |

**5.264 Maximal Permitted Draught**

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| IHO Definition: The maximal permitted draught of a vessel or convoy according to the particular article/clause of the applicable law/regulation.  Remarks:  •No remarks. |

**5.265 Maximal Permitted Water Displacement**

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| IHO Definition: The maximal permitted water displacement of a vessel or convoy according to the particular article/clause of the applicable law/regulation.  Remarks:  •No remarks. |

**5.266 Water Displacement Unit**

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| IHO Definition: Units of measure for water displacement.  1) **Other**  IHO Definition: Being the one or ones distinct from that or those first mentioned or implied.  2) **Cubic Metres**  IHO Definition: A unit of volume equal to a cube one metre long on each side.  3) **Tonnes**  IHO Definition: Commonly referred to as the metric ton in Canada, the United Kingdom and the United States, is a non-SI metric unit of mass equal to 1,000 kilograms or one megagram (symbol: Mg). It is equivalent to approximately 2,204.6 pounds, 1.102 short tons (US) or 0.984 long tons (UK). Although not part of the SI, the tonne is accepted for use with SI units and prefixes by the International Committee for Weights and Measures.  Remarks:  •No remarks. |

**5.267 Publication Reference**

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| IHO Definition: Waterway or waterway section for which a juridical regulation with respect to the maximum permitted vessel dimensions exists.  Remarks:  •No remarks. |

**5.268 Maximal Permitted Length**

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| IHO Definition: The maximal permitted length of a vessel or convoy according to the particular article/clause of the applicable law/regulation.  Remarks:  •No remarks. |

**5.269 Maximal Permitted Speed**

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| IHO Definition: The maximal permitted vessel speed according to the particular article/clause of the applicable law/regulation.  Remarks:  •No remarks. |

**5.270 Speed Reference**

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| IHO Definition: Indicates the type of speed measurement.  1) **Other**  IHO Definition: Being the one or ones distinct from that or those first mentioned or implied.  2) **Speed Over Ground**  IHO Definition: The vessel's actual speed, determined by dividing the distance between successive fixes by the time between the fixes.  3) **Speed Through Water**  IHO Definition: The vessel's actual speed, determined by subtracting the speed over ground by the current speed.  Remarks:  •No remarks. |

**5.271 Category of Notice Mark**

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| IHO Definition: Category of notice mark.  1) **(A.1) No Entry (General Sign)**  IHO Definition: Prohibition mark A.1: No entry.  2) **(A.1.1) Sections Closed to Use, No Entry Except for Non-Motorized Small Craft**  IHO Definition: Sections closed to use, no entry except for non-motorized small craft.  3) **(A.2) No Overtaking**  IHO Definition: Prohibition mark A.2: No overtaking.  4) **(A.3) No Overtaking of Convoys by Convoys**  IHO Definition: Prohibition mark A.3: No overtaking of convoys by convoys.  5) **(A.4) No Passing or Overtaking**  IHO Definition: Prohibition mark A.4: No passing or overtaking.  6) **(A.5) No Berthing on the Side of the Waterway on Which the Sign is Placed**  IHO Definition: Prohibition mark A.5: No berthing (i.e. no anchoring or making fast to the bank) on the side of the waterway on which the sign is placed.  7) **(A.5.1) No Berthing on the Stretch of Water Whose Breadth, Measured from the Sign, is Shown in Metres on the Sign**  IHO Definition: Prohibition mark A.5.1: No berthing on the stretch of water whose breadth, measured from the sign, is shown in metres on the sign.  8) **(A.6) No Anchoring or Trailing of Anchors, Cables or Chains**  IHO Definition: Prohibition mark A.6: No anchoring or trailing of anchors, cables or chains on the side of the waterway on which the sign is placed.  9) **(A.7) No Making Fast to the Bank**  IHO Definition: Prohibition mark A.7: No making fast to the bank on the side of the waterway on which the sign is placed.  10) **(A.8) No Turning**  IHO Definition: Prohibition mark A.8: No turning.  11) **(A.9) Do Not Create Wash**  IHO Definition: Prohibition mark A.9: Do not create wash likely to cause damage.  12) **(A.10) No Passing on Left Side (In Openings of Bridges or Weirs)**  IHO Definition: Prohibition mark A.10: No passing on the left side outside the area marked (in openings of bridges or weirs).  13) **(A.10) No Passing on Right Side (In Openings of Bridges or Weirs)**  IHO Definition: Prohibition mark A.10: No passing on the right side (in openings of bridges or weirs).  14) **(A.12) Motorized Craft Prohibited**  IHO Definition: Prohibition mark A.12: Motorized craft prohibited.  15) **(A.13) Sports and Pleasure Craft Prohibited**  IHO Definition: Prohibition mark A.13: Sports and pleasure craft prohibited.  16) **(A.14) Water Skiing Prohibited**  IHO Definition: Prohibition mark A.14: Water skiing prohibited.  17) **(A.15) Sailing Vessels Prohibited**  IHO Definition: Prohibition mark A.15: Sailing vessels prohibited.  18) **(A.16) All Craft Other Than Motorized Vessels or Sailing Craft Prohibited**  IHO Definition: Prohibition mark A.16: All craft other than motorized vessels or sailing craft prohibited.  19) **(A.17) Use of Sailboards Prohibited**  IHO Definition: Prohibition mark A.17: Use of sailboards prohibited.  20) **(A.20) Water Bikes Prohibited**  IHO Definition: Prohibition mark A.20: Water bikes prohibited.  21) **(A.18) End of Zone Authorized for High Speed Navigation of Small Sport and Pleasure Craft**  IHO Definition: Prohibition mark A.18: End of zone authorized for high speed navigation of small sport and pleasure craft.  22) **(A.19) No Launching or Beaching of Vessels**  IHO Definition: Prohibition mark A.19: No launching or beaching of vessels.  23) **(B.1) Proceed in Left Direction**  IHO Definition: Regulation mark B.1: Proceed in the left direction as shown by the arrow.  24) **(B.1) Proceed in Right Direction**  IHO Definition: Regulation mark B.1: Proceed in the right direction as shown by the arrow.  25) **(B.2a) Move to the Side of the Fairway on Your Port Side**  IHO Definition: Regulation mark B.2a: Move to the side of the fairway on your port side.  26) **(B.2b) Move to the Side of the Fairway on Your Starboard Side**  IHO Definition: Regulation mark B.2b: Move to the side of the fairway on your starboard side.  27) **(B.3a) Keep on the Side of the Fairway on Your Port Side**  IHO Definition: Regulation mark B.3a: Keep to the side of the fairway on your port side.  28) **(B.3b) Keep on the Side of the Fairway on Your Starboard Side**  IHO Definition: Regulation mark B.3b: Keep to the side of the fairway on your starboard side.  29) **(B.4a) Cross Fairway to Port**  IHO Definition: Regulation mark B.4a: Cross fairway to port.  30) **(B.4b) Cross Fairway to Starboard**  IHO Definition: Regulation mark B.4b: Cross fairway to starboard.  31) **(B.5) Stop as Prescribed in the Regulations**  IHO Definition: Regulation mark B.5: Stop as prescribed in the regulations.  32) **(B.6) Do Not Exceed the Speed Indicated (in km/h)**  IHO Definition: Regulation mark B.6: Do not exceed the speed indicated (in km/h).  33) **(B.7) Give a Sound Signal**  IHO Definition: Regulation mark B.7: Give a sound signal.  34) **(B.8) Keep a Particularly Sharp Lookout**  IHO Definition: Regulation mark B.8: Keep a particularly sharp lookout.  35) **(B.9a) Do Not Enter the Main Waterway Until Certain that This Will Not Oblige Vessels Proceeding On It to Change their Course or Speed**  IHO Definition: Regulation mark B.9a: Do not enter the main waterway until certain that this will not oblige vessels proceeding on it to change their course or speed.  36) **(B.9b) Do Not Cross the Main Waterway Until Certain that This Will Not Oblige Vessels Proceeding On It to Change their Course or Speed**  IHO Definition: Regulation mark B.9b: Do not cross the main waterway until certain that this will not oblige vessels proceeding on it to change their course or speed.  37) **(B.11) Obligation to Enter Into a Radiotelephone Link on the Channel as Indicated on the Board**  IHO Definition: Regulation mark B.11: Obligation to enter into a radiotelephone link on the channel as indicated on the board.  38) **(C.1) Depth of Water Limited**  IHO Definition: Restriction mark C.1: Depth of water limited.  39) **(C.2) Headroom Limited**  IHO Definition: Restriction mark C.2: Headroom limited.  40) **(C.3) Width of Passage or Channel Limited**  IHO Definition: Restriction mark C.3: Width of passage or channel limited.  41) **(C.4) There Are Restrictions on Navigation**  IHO Definition: Restriction mark C.4: There are restrictions on navigation: See the information plate below the main sign.  42) **(C.5) The Channel Lies at a Distance From the Left Bank**  IHO Definition: Restriction mark C.5: The channel lies at a distance from the left bank; the figure shown on the sign indicates the distance in metres, measured from the sign, to which vessels should keep.  43) **(C.5) The Channel Lies at a Distance From the Right Bank**  IHO Definition: Restriction mark C.5: The channel lies at a distance from the right bank; the figure shown on the sign indicates the distance in metres, measured from the sign, to which vessels should keep.  44) **(D.1a) Recommended Channel in Both Directions**  IHO Definition: Recommendation mark D.1a: Recommended channel in both directions.  45) **(D.1b) Recommended Channel Only in the Direction Indicated, Passage in the Opposite Direction Prohibited (at Bridges)**  IHO Definition: Recommendation mark D.1b: Recommended channel only in the direction indicated, passage in the opposite direction prohibited (at bridges).  46) **(D.2) You are Recommended to Keep on Right Side (in Openings of Bridges and Weirs)**  IHO Definition: Recommendation mark D.2: You are recommended to keep on right side (in openings of bridges and weirs).  47) **(D.2) You are Recommended to Keep on Left Side (in Openings of Bridges and Weirs)**  IHO Definition: Recommendation mark D.2: You are recommended to keep on left side (in openings of bridges and weirs).  48) **(D.3) You Are Recommended to Proceed in the Left Direction**  IHO Definition: Recommendation mark D.3: You are recommended to proceed in the left direction.  49) **(D.3) You Are Recommended to Proceed in the Right Direction**  IHO Definition: Recommendation mark D.3: You are recommended to proceed in the right direction.  50) **(E.1) Entry Permitted (General Sign)**  IHO Definition: Information mark E.1: Entry permitted (general sign).  51) **(E.2) Overhead Cable Crossing**  IHO Definition: Information mark E.2: Overhead cable crossing.  52) **(E.3) Weir**  IHO Definition: Information mark E.3: Weir.  53) **(E.4a) Ferry-Boat Not Moving Independently**  IHO Definition: Information mark E.4a: Ferry-boat not moving independently.  54) **(E.4b) Ferry-Boat Moving Independently**  IHO Definition: Information mark E.4b: Ferry-boat moving independently.  55) **(E.5) Berthing (that is Anchoring or Making Fast to the Bank) Permitted**  IHO Definition: Information mark E.5: Berthing (i.e. anchoring or making fast to the bank) permitted.  56) **(E.5.1) Berthing Permitted on the Stretch of Water of the Breadth Measured From, and Shown on the Board in Metres**  IHO Definition: Information mark E.5.1: Berthing permitted on the stretch of water of the breadth measured from, and shown on the board in metres.  57) **(E.5.2) Berthing Permitted on the Stretch of Water Bounded by the Distances Measured From, and Shown on the Board in Metres**  IHO Definition: Information mark E.5.2: Berthing permitted on the stretch of water bounded by the distances measured from, and shown on the board in metres.  58) **(E.5.3) Maximum Number of Vessels Permitted to Berth Abreast**  IHO Definition: Information mark E.5.3: Maximum number of vessels permitted to berth abreast on the side of the waterway on which the sign is placed.  59) **(E.5.4) Berthing Area Reserved for Pushing-Navigation Vessels that are Not Required to Carry Blue Lights or Blue Cones**  IHO Definition: Information mark E.5.4: Berthing area reserved for pushing-navigation vessels that are not required to carry the marking prescribed in article 3.14 on the side of the waterway on which the sign is placed.  60) **(E.5.5) Berthing Area Reserved for Pushing-Navigation Vessels that are Required to Carry One Blue Light or One Blue Cone**  IHO Definition: Information mark E.5.5: Berthing area reserved for pushing-navigation vessels that are required to carry one blue light or one blue cone under article 3.14, paragraph 1, on the side of the waterway on which the sign is placed.  61) **(E.5.6) Berthing Area Reserved for Pushing-Navigation Vessels that are Required to Carry Two Blue Lights or Two Blue Cones**  IHO Definition: Information mark E.5.6: Berthing area reserved for pushing-navigation vessels that are required to carry two blue lights or two blue cones under article 3.14, paragraph 2, on the side of the waterway on which the sign is placed.  62) **(E.5.7) Berthing Area Reserved for Pushing-Navigation Vessels that are Required to Carry Three Blue Lights or Three Blue Cones**  IHO Definition: Information mark E.5.7: Berthing area reserved for pushing-navigation vessels that are required to carry three blue lights or three blue cones under article 3.14, paragraph 3, on the side of the waterway on which the sign is placed.  63) **(E.5.8) Berthing Area Reserved for Vessels Other Than Pushing-Navigation Vessels that are Not Required to Carry Blue Lights or Blue Cones**  IHO Definition: Information mark E.5.8: Berthing area reserved for vessels other than pushing-navigation vessels that are not required to carry the marking prescribed in article 3.14 on the side of the waterway on which the sign is placed.  64) **(E.5.9) Berthing Area Reserved for Vessels Other Than Pushing-Navigation Vessels that are Required to Carry One Blue Light or One Blue Cone**  IHO Definition: Information mark E.5.9: Berthing area reserved for vessels other than pushing-navigation vessels that are required to carry one blue light or one blue cone under article 3.14, paragraph 1, on the side of the waterway on which the sign is placed.  65) **(E.5.10) Berthing Area Reserved for Vessels Other Than Pushing-Navigation Vessels that are Required to Carry Two Blue Lights or Two Blue Cones**  IHO Definition: Information mark E.5.10: Berthing area reserved for vessels other than pushing-navigation vessels that are required to carry two blue lights or two blue cones under article 3.14, paragraph 2, on the side of the waterway on which the sign is placed.  66) **(E.5.11) Berthing Area Reserved for Vessels Other Than Pushing-Navigation Vessels that are Required to Carry Three Blue Lights or Three Blue Cones**  IHO Definition: Information mark E.5.11: Berthing area reserved for vessels other than pushing-navigation vessels that are required to carry three blue lights or three blue cones under article 3.14, paragraph 3, on the side of the waterway on which the sign is placed.  67) **(E.5.12) Berthing Area Reserved for All Vessels that are Not Required to Carry Blue Lights or Blue Cones**  IHO Definition: Information mark E.5.12: Berthing area reserved for all vessels that are not required to carry the marking prescribed in article 3.14, on the side of the waterway on which the sign is placed.  68) **(E.5.13) Berthing Area Reserved for All Vessels that are Required to Carry One Blue Light or One Blue Cone**  IHO Definition: Information mark E.5.13: Berthing area reserved for all vessels that are required to carry one blue light or one blue cone under article 3.14, paragraph 1, on the side of the waterway on which the sign is placed.  69) **(E.5.14) Berthing Area Reserved for All Vessels that are Required to Carry Two Blue Lights or Two Blue Cones**  IHO Definition: Information mark E.5.14: Berthing area reserved for all vessels that are required to carry two blue lights or two blue cones on the side of the waterway on which the sign is placed.  70) **(E.5.15) Berthing Area Reserved for All Vessels that are Required to Carry Three Blue Lights or Three Blue Cones**  IHO Definition: Information mark E.5.15: Berthing area reserved for all vessels that are required to carry three blue lights or three blue cones under article 3.14, paragraph 3, on the side of the waterway on which the sign is placed.  71) **(E.6) Anchoring or Trailing of Anchors, Cables or Chains Permitted**  IHO Definition: Information mark E.6: Anchoring (see article 7.03, para. 2) or trailing of anchors, cables or chains permitted on the side of the waterway on which the sign is placed.  72) **(E.7) Making Fast to the Bank Permitted**  IHO Definition: Information mark E.7: Making fast to the bank permitted on the side of the waterway on which the sign is placed.  73) **(E.7.1) Berthing Area Reserved for Loading and Unloading of Vehicles**  IHO Definition: Information mark E.7.1: Berthing area reserved for loading and unloading vehicles. (Maximum duration of berthing permitted may be added on an information plate below the board).  74) **(E.8) Turning Area**  IHO Definition: Information mark E.8: Turning area.  75) **(E.9a) Crossing With Secondary Waterway Ahead**  IHO Definition: Information mark E.9a: Crossing with secondary waterway ahead.  76) **(E.9b) Secondary Waterway Ahead on the Right**  IHO Definition: Information mark E.9b: Secondary waterway ahead on the right.  77) **(E.9c) Secondary Waterway Ahead on the Left**  IHO Definition: Information mark E.9c: Secondary waterway ahead on the left.  78) **(E.9d) Secondary Waterway Ahead, Main Waterway on the Right**  IHO Definition: Information mark E.9d: Secondary waterway ahead, main waterway on the right.  79) **(E.9e) Secondary Waterway Ahead, Main Waterway on the Left**  IHO Definition: Information mark E.9e: Secondary waterway ahead, main waterway on the left.  80) **(E.9f) Secondary Waterway on the Left, Main Waterway on the Right**  IHO Definition: Information mark E.9f: Secondary waterway on the left, main waterway on the right.  81) **(E.9g) Secondary Waterway on the Right, Main Waterway on the Left**  IHO Definition: Information mark E.9g: Secondary waterway on the right, main waterway on the left.  82) **(E.9h) Secondary Waterway Ahead and on the Left, Main Waterway on the Right**  IHO Definition: Information mark E.9h: Secondary waterway ahead and on the left, main waterway on the right.  83) **(E.9i) Secondary Waterway Ahead and on the Right, Main Waterway on the Left**  IHO Definition: Information mark E.9i: Secondary waterway ahead and on the right, main waterway on the left.  84) **(E.10a) Crossing with Main Waterway Ahead**  IHO Definition: Information mark E.10a: Crossing with main waterway ahead.  85) **(E.10b) Main Waterway Ahead**  IHO Definition: Information mark E.10b: Main waterway ahead.  86) **(E.10c) Junction with Main Waterway Ahead and Right**  IHO Definition: Information mark E.10c: Junction with main waterway ahead and right.  87) **(E.10d) Junction with Main Waterway Ahead and Left**  IHO Definition: Information mark E.10d: Junction with main waterway ahead and left.  88) **(E.10e) Junction with Main Waterway Ahead and Right, Secondary Waterway on the Left**  IHO Definition: Information mark E.10e: Junction with main waterway ahead and right, secondary waterway on the left.  89) **(E.10f) Junction with Main Waterway Ahead and Left, Secondary Waterway on the Right**  IHO Definition: Information mark E.10f: Junction with main waterway ahead and left, secondary waterway on the right.  90) **(E.11) End of Prohibition or Obligation Applying to Traffic in One Direction Only, or End of a Restriction**  IHO Definition: Information mark E.11: End of prohibition or obligation applying to traffic in one direction only, or end of a restriction.  91) **(E.13) Drinking Water Supply**  IHO Definition: Information mark E.13: Drinking water supply.  92) **(E.14) Telephone**  IHO Definition: Information mark E.14: Telephone.  93) **(E.15) Motorized Vessels Permitted**  IHO Definition: Information mark E.15: Motorized vessels permitted.  94) **(E.16) Sport and Pleasure Craft Permitted**  IHO Definition: Information mark E.16: Sport and pleasure craft permitted.  95) **(E.17) Water Skiing Permitted**  IHO Definition: Information mark E.17: Water skiing permitted.  96) **(E.18) Sailing Vessels Permitted**  IHO Definition: Information mark E.18: Sailing vessels permitted.  97) **(E.19) Craft Other Than Motorized Vessels or Sailing Craft Permitted**  IHO Definition: Information mark E.19: Craft other than motorized vessels or sailing craft permitted.  98) **(E.20) Use of Sailboards Permitted**  IHO Definition: Information mark E.20: Use of sailboards permitted.  99) **(E.23) Possibility of Obtaining Nautical Information by Radiotelephone on the Channel Indicated**  IHO Definition: Information mark E.23: Possibility of obtaining nautical information by radiotelephone on the channel indicated.  100) **(E.24) Water Bikes Permitted**  IHO Definition: Information mark E.24: Water bikes permitted.  101) **(E.21) Zone Authorized for High Speed Navigation of Small Sport and Pleasure Craft**  IHO Definition: Information mark E.21: Zone authorized for high speed navigation of small sport and pleasure craft.  102) **(E.22) Launching or Beaching of Vessels Permitted**  IHO Definition: Information mark E.22: Launching or beaching of small craft permitted.  103) **(BR) Proceed Close to the Margin on Your Port Side**  IHO Definition: Regulation mark (BR): Proceed close to margin on your port side.  104) **(BR) Proceed Close to the Margin on Your Starboard Side**  IHO Definition: Regulation mark (BR): Proceed close to margin on your starboard side.  105) **(BR) Proceed in the Middle of the River**  IHO Definition: Regulation mark (BR): Proceed in the middle of the river.  106) **(BR) Cross River to Port**  IHO Definition: Regulation mark (BR): Cross river to port.  107) **(BR) Cross River to Starboard**  IHO Definition: Regulation mark (BR): Cross river to starboard.  108) **(BR) Traffic Between Margins**  IHO Definition: Information mark (BR): Traffic between margins.  109) **(BR) Reduce Speed**  IHO Definition: Regulation mark (BR): Reduce speed.  110) **Wreck Pontoon, Passage Allowed on Side Showing Red-White Sign**  IHO Definition: A red-white sign shown on a wreck pontoon to indicate the side on which passage is permitted (without wash of waves) and a red sign on the side on which passage is not permitted.  111) **Wreck Pontoon, Passage Allowed on Both Sides**  IHO Definition: Red-white signs shown on a wreck pontoon to indicate that passage is permitted on both sides (without wash of waves).  112) **No Passing or Overtaking of Convoys**  IHO Definition: Russian notice mark: 1.2, no passing or overtaking of convoys  113) **Small Crafts Prohibited**  IHO Definition: Russian notice mark: 1.5, small crafts prohibited.  114) **Attention! (Keep Caution)**  IHO Definition: Russian notice mark: 2.1, Attention! (keep caution)  115) **Fairway Crossing**  IHO Definition: Russian notice mark: 2.2, fairway crossing.  116) **Shipping Inspection Point**  IHO Definition: Russian notice mark: 3.3, shipping inspection point.  117) **(E.25) Electrical Power Supply Point**  IHO Definition: Information mark E.25: Electrical power supply point.  118) **(E.26) Winter Harbour**  IHO Definition: Information mark E.26: Winter harbour.  119) **(E.26.1) Maximum Number of Vessels Permitted to Berth in Winter Harbour**  IHO Definition: Information mark E.26.1: maximum number of vessels permitted to berth in winter harbour.  120) **(E.27) Winter Shelter**  IHO Definition: Information mark E.27: Winter shelter.  121) **(E.27.1) Maximum Number of Vessels Permitted to Berth in Winter Shelter; Maximum Number of Vessels Permitted to Berth Abreast; Maximum Number of Rows of Vessels Which are Berthed Abreast**  IHO Definition: Information mark E.27.1: Maximum number of vessels permitted to berth in winter shelter; maximum number of vessels permitted to berth abreast; maximum number of rows of vessels which are berthed abreast.  122) **(E.6.1) Use of Spuds Permitted**  IHO Definition: Information mark E.6.1: Use of spuds permitted.  123) **(B.12) Obligation to Use Onshore Power Supply Point**  IHO Definition: Regulation mark B.12: Obligation to use onshore power supply point.  124) **(BR) Right Pillar In Passage For Tiete-Parana Waterway**  IHO Definition: Regulation mark (BR): Right pillar in passage for Tiete-Parana Waterway (at bridges)  125) **(BR) Left Pillar In Passage For Tiete-Parana Waterway**  IHO Definition: Regulation mark (BR): Left pillar in passage for Tiete-Parana Waterway  126) **(BR) Best Transit Point**  IHO Definition: Information mark (BR): Best Transit Point  127) **(BR) Mandatory Stopping Point for Tiete-Parana Waterway**  IHO Definition: Regulation mark (BR): Mandatory Stopping Point for Tiete-Parana Waterway  128) **(A.4.1) No Passing or Overtaking of Convoys by Convoys**  IHO Definition: Prohibtion Mark A.4.1: No passing or overtaking by convoys  Remarks:  •No remarks. |

**5.272 Additional Mark**

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| IHO Definition: Shape and position of an additional board on a notice mark.  1) **Top (Board)**  IHO Definition: A rectangular board at the top of the main sign.  2) **Bottom (Board)**  IHO Definition: A rectangular board at the bottom of the main sign.  3) **Right (Triangle to the Right)**  IHO Definition: A triangular board at the right side of the main sign.  4) **Left (Triangle to the Left)**  IHO Definition: A triangular board at the left side of the main sign.  5) **Bottom (Triangle to the Bottom)**  IHO Definition: A triangular board at the bottom of the main sign.  Remarks:  The kind and location of an additional mark at a notice mark. |

**5.273 Direction of Impact**

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| IHO Definition: Direction of impact.  1) **Upstream**  IHO Definition: Toward the source of a stream.  2) **Downstream**  IHO Definition: In the direction of flow of a current or stream  3) **To the Left Bank**  IHO Definition: Toward the left side of the bank.  4) **To the Right Bank**  IHO Definition: Toward the right side of the bank.  5) **To Harbour**  IHO Definition: To a harbour.  Remarks:  •No remarks. |

**5.274 Distance of Impact, Downstream**

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| IHO Definition: Downstream distance of the impact of an area, which is signed by notice marks. The distance is normally given on an additional mark left and/or right of the notice mark.  Remarks:  •No remarks. |

**5.275 Distance of Impact, Upstream**

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| IHO Definition: Upstream distance of the impact of an area, which is signed by notice marks. The distance is normally given on an additional mark left and/or right of the notice mark.  Remarks:  •No remarks. |

**5.276 Distance From Notice Mark, First**

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| IHO Definition: Minimum distance of the impact of an area, which is signed by notice marks. The distance is measured from the notice mark rectangular to the bank.  Remarks:  •No remarks. |

**5.277 Distance From Notice Mark, Second**

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| IHO Definition: Maximum distance of the impact of an area, which is signed by notice marks. The distance is measured from the notice mark rectangular to the bank.  Remarks:  •No remarks. |

**5.278 Function of Notice Mark**

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| IHO Definition: Function of a notice mark.  1) **Prohibition Mark**  IHO Definition: Marks which indicate a prohibition.  2) **Regulation Mark**  IHO Definition: Marks which indicate a regulation.  3) **Restriction Mark**  IHO Definition: Marks which indicate a restriction.  4) **Recommendation Mark**  IHO Definition: Marks which indicate a recommendation.  5) **Information Mark**  IHO Definition: Marks with general information.  Remarks:  •No remarks. |

**5.279 Bank of the Waterway**

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| IHO Definition: Bank of the river (waterway).  1) **Left**  IHO Definition: Of, relating to, or located on or near the side of a person or thing that is turned toward the west when the subject is facing north (opposed to **right**).  2) Right  IHO Definition: Of, relating to, or located on or near the side of a person or thing that is turned toward the east when the subject is facing north (opposed to left).  Remarks:  •No remarks. |

**5.280 Category of Refuse Dump**

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| IHO Definition: Category of refuse dump.  1) **Cargo Residue/Slop**  IHO Definition: A facility where vessels can dispose of cargo residues and/or slops.  2) **Waste Oil**  IHO Definition: A facility where vessels can dispose of waste oil.  3) **Grey/Black Water**  IHO Definition: A facility where vessels can dispose of grey and/or black waste water.  4) **Domestic Refuse**  IHO Definition: A facility where vessels can dispose of domestic refuse.  Remarks:  •No remarks. |

**5.281 Category of Sensor**

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| IHO Definition: Category of sensor.  1) **Light Activated**  IHO Definition: A sensor which is activated by a spotlight.  2) **Telephone Activated**  IHO Definition: A sensor which is activated by telephone.  3) **Radio Activated**  IHO Definition: Activated by radio signal.  Remarks:  •No remarks. |

**5.282 Function of Sensor**

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| IHO Definition: Function of sensor.  1) **Reduce Bridge Lighting**  IHO Definition: Reduce decorative bridge lighting.  Remarks:  •No remarks. |

**5.283 Transshipping Goods**

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| IHO Definition: List of goods, which can be transshipped.  1) **Containers**  IHO Definition: Boxes for cargo transport with standardized dimensions.  2) **Bulk Goods**  IHO Definition: Unpacked bulk cargo in the same or a similar kind of nature (homogeneous).  3) **Oil**  IHO Definition: A thick, slippery liquid that will not dissolve in water, usually petroleum based in the context of storage tanks.  4) **Fuel**  IHO Definition: Liquid fuel, e.g. gasoline, diesel.  5) **Chemicals**  IHO Definition: Any substance obtained by or used in a chemical process.  6) **Liquid Goods**  IHO Definition: Fluids whose shape is usually determined by the container it fills.  7) **Explosive Goods**  IHO Definition: Goods that undergoes decomposition or combustion with great rapidity, evolving much heat and producing a large volume of gas.  8) **Fish**  IHO Definition: Vertebrate cold blooded animal with gills, living in water.  9) **Cars**  IHO Definition: Wheeled vehicles.  10) **General Cargo**  IHO Definition: General cargo.  Remarks:  •No remarks. |

**5.284 Category of Voltage**

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| IHO Definition: The electrical voltage provided by the power supply station.  1) **230V**  IHO Definition: 230 Volts  2) **400V**  IHO Definition: 400 Volts.  Remarks:  •No remarks. |

**5.285 Category of Frequency**

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| IHO Definition: The electrical frequency provided by the power supply station.  1) **50Hz**  IHO Definition: 50 Hertz  2) **60Hz**  IHO Definition: 60 Hertz  Remarks:  •No remarks. |

**5.286 Amount of Amperage**

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| IHO Definition: The maximum electric amperage possible.  Remarks:  •No remarks. |

**5.287 Category of Plug**

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| IHO Definition: The type of plug(s) available at the power supply station.  Remarks:  •No remarks. |

**5.288 Number of Shore Connectors**

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| IHO Definition: The number of shore connectors available at the power supply station.  Remarks:  •No remarks. |

**5.289 Allowed Consumption**

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| IHO Definition: The maximum allowed power that may be used by the vessel  Remarks:  •No remarks. |

**5.290 Reference Gravitational Level**

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| IHO Definition: Gravitational reference level.  1) **Baltic Datum**  IHO Definition: The unified State system for absolute heights reckoning from Kronshtadt Tide-gauge Datum that is accepted in Russian Federation.  2) **Adriatic Level**  IHO Definition: The average height of the surface of the Adriatic Sea at the tide station of Trieste in Italy.  3) **Amsterdam Ordnance Datum (NAP)**  IHO Definition: Dutch gravitational reference level that is approximately the average summer height of the North Sea.  4) **Mean Sea Level**  IHO Definition: The average height of the surface of the sea at a tide station for all stages of the tide over a 19-year period, usually determined from hourly height readings measured from a fixed predetermined reference level.  5) **Other Datum**  IHO Definition: Other gravitational reference level.  6) **National Geodetic Vertical Datum - NGVD29**  IHO Definition: The name, after May 10, 1973, of the Sea Level Datum of 1929.  7) **North American Vertical Datum - NAVD88**  IHO Definition: The vertical control datum established in 1991 by the minimum-constraint adjustment of the Canadian-Mexican-U.S. leveling observations.  8) **Mean Sea Level 1912**  IHO Definition: A vertical control datum established for vertical control in the United States by the general adjustment of 1912.  9) **Mean Sea Level 1929**  IHO Definition: A vertical control datum established for vertical control in the United States by the general adjustment of 1929.  10) **Tweede Algemene Waterpassing**  IHO Definition: All heights in Belgium are referenced to TAW.  Remarks:  •No remarks. |

**5.291 Category of Waterway Gauge**

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| IHO Definition: Category of waterway gauge.  1) **Water Level Staff / Pole**  IHO Definition: Level indicator consisting of a calibrated staff/pole and the associated bench mark.  2) **Recording Water Level Gauge**  IHO Definition: Analog or digital water level measuring and recording device.  3) **Recording Water Level Gauge With Remote Access**  IHO Definition: Recording water level gauge providing information remotely by any method.  4) **Recording Water Level Gauge With External Indicator**  IHO Definition: Recording gauge providing information of the water level via a large external indicator.  5) **Recording Water Level Gauge With Remote Access and Remote Indicator**  IHO Definition: Recording gauge providing information remotely by any method and providing information of the water level via a large external indicator.  Remarks:  •No remarks. |

**5.292 Value at Relevant High Water Level**

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| IHO Definition: Value at waterway gauge in case of exact high water level (according to official regulations at the specific section of waterway).  Remarks:  •No remarks. |

**5.293 Name of Relevant High Water Level**

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| IHO Definition: Name of the water level, which is used for the attribute valueAtRelevantHighWaterLevel including version identification, for example year of issue or period.  Remarks:  •No remarks. |

**5.294 Value at Relevant Low Water Level**

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| IHO Definition: Value at waterway gauge in case of exact low water level (according to official regulations at the specific section of waterway).  Remarks:  •No remarks. |

**5.295 Name of Relevant Low Water Level**

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| IHO Definition: Name of the water level, which is used for the attribute valueAtRelevantLowWaterLevel including version identification, for example year of issue or period.  Remarks:  •No remarks. |

**5.296 Value at Relevant Mean Water Level**

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| IHO Definition: Value at waterway gauge in case of exact mean water level (according to official regulations at the specific section of waterway).  Remarks:  •No remarks. |

**5.297 Name of Relevant Mean Water Level**

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| IHO Definition: Name of the water level, which is used for the attribute valueAtRelevantMeanWaterLevel including version identification, for example year of issue or period.  Remarks:  •No remarks. |

**5.298 Value at Other Locally Relevant Water Level**

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| IHO Definition: Value at waterway gauge in case of a specific water level, which is locally of importance or of interest for navigation.  Remarks:  •No remarks. |

**5.299 Name of Other Locally Relevant Water Level**

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| IHO Definition: Name of the water level, which is used for the attribute valueAtOtherLocallyRelevantWaterLevel including version identification, for example year of issue or period.  Remarks:  •No remarks. |

**5.300 Elevation of Water Level**

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| IHO Definition: Elevation of the water level of a specified object point measured from the reference gravitational level defined in reflev.  Remarks:  •No remarks. |

**5.301 Reference Gauge**

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| IHO Definition: The ISRS code of the gauge, or the acronym of the gauge, which can be used to calculate the vertical clearance.  Remarks:  •No remarks. |

**5.302 Category of Berth**

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| IHO Definition: Category of berth.  1) **Loading**  IHO Definition: A place where vessels may berth for loading cargo.  2) **Unloading**  IHO Definition: A place where vessels may berth for unloading cargo.  3) **Overnight Accommodation**  IHO Definition: Berths that are suitable/ meant for berthing overnight.  4) **Berth for Pushing-Navigation Vessels**  IHO Definition: A place where pushing-navigation vessels may berth.  5) **Berth for Other Vessels Than Pushing-Navigation Vessels**  IHO Definition: A place where other vessels than pushing-navigation vessels may berth.  6) **Fleeting Area**  IHO Definition: A legally permitted area in or near the waterway designated for temporary barge mooring.  7) **First Class Landing**  IHO Definition: A federally designated area that provides tie-ups and at least 9 feet (2.7m) of water depth during low water level.  8) **Second Class Landing**  IHO Definition: A federally designated area that provides tie-ups and at least 9 feet (2.7m) of water depth normal pool level.  9) **Berth for Passenger Vessels**  IHO Definition: A berth for passenger vessels.  10) **Waiting Berth**  IHO Definition: A berth that is dedicated for vessels waiting for the opening of a bridge, lockage or the use of other infrastructure. When a berth is dedicated to waiting, but can be used for resting with permission of the operator of the infrastructure it is also a waiting berth.  Remarks:  •No remarks. |

**5.303 Class of Dangerous Cargo**

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| IHO Definition: Class of dangerous cargo.  1) **One Blue Light / Cone**  IHO Definition: Vessels carrying out transport operations involving certain flammable substances.  2) **Two Blue Lights / Cones**  IHO Definition: Vessels carrying out transport operations involving certain substances constituting health hazards.  3) **Three Blue Lights / Cones**  IHO Definition: Vessels carrying out transport operations involving certain explosives.  4) **No Blue Light / Cone**  IHO Definition: Vessels carrying out transport operations for which no blue light or blue cone is required.  5) **One Red Light / Red Cone Top Down**  IHO Definition: Russian inland waterway regulations: Vessels with one red light / red cone top down.  Remarks:  •No remarks. |

**5.304 Current Velocity at High Water Level**

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| IHO Definition: The rate of travel of a current at a high water level.  Remarks:  •No remarks. |

**5.305 Current Velocity at Low Water Level**

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| IHO Definition: The rate of travel of a current at a low water level.  Remarks:  •No remarks. |

**5.306 Current Velocity at Mean Water Level**

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| IHO Definition: The rate of travel of a current at a mean water level.  Remarks:  •No remarks. |

**5.307 Current Velocity at Other Water Level**

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| IHO Definition: The rate of travel of a current at an other water level.  Remarks:  •No remarks. |

**5.308 Sounding Accuracy**

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| IHO Definition: The best estimate of the accuracy of the sounding data.  Remarks:  The maximum of the one-dimensional error. The error is assumed to be positive and negative. The plus/minus character shall not be encoded. |

**5.309 Elevation 1 of Surface (m)**

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| IHO Definition: The maximum elevation of the bottom of a river within a depth contour and referred to a gravitational reference level.  Remarks:  •No remarks. |

**5.310 Elevation 2 of Surface (m)**

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| IHO Definition: The minimum elevation of the bottom of a river within a depth contour and referred to a gravitational reference level.  Remarks:  •No remarks. |

**5.311 Category of Traffic Separation Scheme**

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| IHO Definition: International classification of traffic separation scheme.  1) **IMO Adopted**  IHO Definition: A defined maritime traffic route that has been adopted as an IMO routeing measure.  2) **Not IMO - Adopted**  IHO Definition: A defined Traffic Separation Scheme that has not been adopted as an IMO routing measure.  Remarks:  •No remarks. |

**6 Complex Attributes**

**6.1 Address**

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| IHO Definition: A place where a person or organization may be communicated with.  Sub-attributes:    Remarks:  •No remarks. |

**6.2 Directional Character**

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| IHO Definition: A directional light is a light illuminating a sector of very narrow angle and intended to mark a direction to follow.  Sub-attributes:  **Moire Effect** (see clause 5.154)  **Orientation** (see clause 6.15)  Remarks:  •No remarks. |

**6.3 Feature Name**

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| IHO Definition: Provides the name of an entity, defines the national language of the name, and provides the option to display the name at various system display settings.  Sub-attributes:  **Language** (see clause 5.134)  **Name** (see clause 5.156)  **Name Usage** (see clause 5.158)  Remarks:  •No remarks. |

**6.4 Features Detected**

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| IHO Definition: The uniform assessment of detected features.  Sub-attributes:  **Least Depth of Detected Features Measured** (see clause 5.135)  **Significant Features Detected** (see clause 5.194)  **Size of Features Detected** (see clause 5.195)  Remarks:  A feature in this context is meant to be any object, whether man made or not, projecting above the sea floor, which may be a danger for surface navigation. (Refer IHO document S-44). Features detected does not describe if features were actually detected during a hydrographic survey, but whether the survey had the capacity to detect features. |

**6.5 Fixed Date Range**

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| IHO Definition: An active period of a single fixed event or occurrence, as the date range between discrete start and end dates.  Sub-attributes:  **Date End** (see clause 5.94)  **Date Start** (see clause 5.96)  **Time of Day End** (see clause 5.219)  **Time of Day Start** (see clause 5.220)  Remarks:  Dates must be encoded in the format YYYYMMDD; using 4 digits for the calendar year (YYYY) and, optionally, 2 digits for the month (MM) (for example April = 04) and 2 digits for the day (DD). When no specific month and/or day is required/known, the values are replaced with dashes (-). The date range of a recurring event or occurrence must be encoded using periodicDateRange. |

**6.6 Frequency Pair**

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| IHO Definition: A pair of frequencies for transmitting and receiving radio signals. The shore station transmits and receives on the frequencies indicated.  Sub-attributes:  **Frequency Shore Station Receives** (see clause 5.115)  **Frequency Shore Station Transmits** (see clause 5.116)  Remarks:  •No remarks. |

**6.7 Horizontal Clearance Fixed**

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| IHO Definition: The horizontal clearance measured between two points for a fixed span.  Sub-attributes:  **Horizontal Clearance Value** (see clause 5.122)  **Horizontal Distance Uncertainty** (see clause 5.124)  Remarks:  •No remarks. |

**6.8 Horizontal Clearance Open**

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| IHO Definition: The horizontal clearance measured between two points for an opening span.  Sub-attributes:  **Horizontal Clearance Value** (see clause 5.122)  **Horizontal Distance Uncertainty** (see clause 5.124)  Remarks:  •No remarks. |

**6.9 Horizontal Position Uncertainty**

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| IHO Definition: The best estimate of the accuracy of a position.  Sub-attributes:  **Uncertainty Fixed** (see clause 5.224)  **Uncertainty Variable Factor** (see clause 5.225)  Remarks:  The expected input is the maximum of the two-dimensional error. The error is assumed to be positive and negative. |

**6.10 Information**

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| IHO Definition: Textual information about the feature. The information may be provided as a string of text or as a file name of a single external text file that contains the text.  Sub-attributes:  **File Locator** (see clause 5.111)  **File Reference** (see clause 5.112)  **Headline** (see clause 5.119)  **Language** (see clause 5.134)  **Text** (see clause 5.214)  Remarks:  At least one of the sub-attributes file reference or text must be populated.The sub-attribute file reference is generally used for long text strings or those that require formatting, however, there is no restriction on the type of text (except for lexical level) that can be held in files referenced by sub-attribute file reference. |

**6.11 Light Sector**

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| IHO Definition: A sector is the part of a circle between two straight lines drawn from the centre to the circumference.  Sub-attributes:  **Colour** (see clause 5.87)  **Directional Character** (see clause 6.2)  **Light Visibility** (see clause 5.138)  **Sector Limit** (see clause 6.23)  **Value of Nominal Range** (see clause 5.231)  **Sector Information** (see clause 6.22)  **Sector Arc Extension** (see clause 5.186)  Remarks:  •No remarks. |

**6.12 Measured Distance Value**

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| IHO Definition: The distance value indicated on a distance mark, or the distance between two measured distance marks.  Sub-attributes:  **Distance Unit of Measurement** (see clause 5.105)  **Reference Location** (see clause 5.175)  **Waterway Distance** (see clause 5.242)  Remarks:  •No remarks. |

**6.13 Multiplicity of Features**

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| IHO Definition: The number of features of identical character that exist as a co-located group.  Sub-attributes:  **Multiplicity Known** (see clause 5.155)  **Number of Features** (see clause 5.163)  Remarks:  •No remarks. |

**6.14 Online Resource**

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| --- |
| IHO Definition: Information about online sources from which a resource or data can be obtained.  Sub-attributes:  **Headline** (see clause 5.119)  **Linkage** (see clause 5.141)  **Name of Resource** (see clause 5.157)  Remarks:  •No remarks. |

**6.15 Orientation**

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| IHO Definition: (1) The angular distance measured from true north to the major axis of the feature. (2) In ECDIS, the mode in which information on the ECDIS is being presented. Typical modes include: north-up - as shown on a nautical chart, north is at the top of the display; Ships head-up - based on the actual heading of the ship, (e.g. Ships gyrocompass); course-up display - based on the course or route being taken.  Sub-attributes:  **Orientation Uncertainty** (see clause 5.165)  **Orientation Value** (see clause 5.166)  Remarks:  •No remarks. |

**6.16 Periodic Date Range**

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| IHO Definition: The active period of a recurring event or occurrence.  Sub-attributes:  **Date End** (see clause 5.94)  **Date Start** (see clause 5.96)  Remarks:  •No remarks. |

**6.17 Power Characteristics**

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| IHO Definition: Characteristics of the power supply available  Sub-attributes:  **Category of Voltage** (see clause 5.284)  **Category of Frequency** (see clause 5.285)  **Amount of Amperage** (see clause 5.286)  **Category of Plug** (see clause 5.287)  **Number of Shore Connectors** (see clause 5.288)  **Allowed Consumption** (see clause 5.289)  Remarks:  •No remarks. |

**6.18 Radar Wave Length**

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| IHO Definition: The distance between two successive peaks (or other points of identical phase) on an electromagnetic wave in the radar band of the electromagnetic spectrum.  Sub-attributes:  **Radar Band** (see clause 5.172)  **Wave Length Value** (see clause 5.243)  Remarks:  •No remarks. |

**6.19 Rhythm of Light**

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| IHO Definition: The sequence of times occupied by intervals of light/sound and eclipse/silence for all light characteristics or sound signals.  Sub-attributes:  **Light Characteristic** (see clause 5.137)  **Signal Group** (see clause 5.191)  **Signal Period** (see clause 5.192)  **Signal Sequence** (see clause 6.27)  Remarks:  •No remarks. |

**6.20 Schedule by Day of Week**

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| IHO Definition: The nature and timings of a daily schedule by days of the week.  Sub-attributes:  **Category of Schedule** (see clause 5.70)  **Time Intervals by Day of Week** (see clause 6.35)  Remarks:  •No remarks. |

**6.21 Sector Characteristics**

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| IHO Definition: Describes the characteristics of a light sector.  Sub-attributes:  **Light Characteristic** (see clause 5.137)  **Light Sector** (see clause 6.11)  **Signal Group** (see clause 5.191)  **Signal Period** (see clause 5.192)  **Signal Sequence** (see clause 6.27)  Remarks:  •No remarks. |

**6.22 Sector Information**

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| IHO Definition: Additional textual information about a light sector.  Sub-attributes:  **Language** (see clause 5.134)  **Text** (see clause 5.214)  Remarks:  •No remarks. |

**6.23 Sector Limit**

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| IHO Definition: A sector is the part of a circle between two straight lines drawn from the centre to the circumference. The sector limit specifies the limits of the sector In a clockwise direction around the central feature (for example a light).  Sub-attributes:  **Sector Limit One** (see clause 6.24)  **Sector Limit Two** (see clause 6.25)  Remarks:  •No remarks. |

**6.24 Sector Limit One**

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| IHO Definition: A sector is the part of a circle between two straight lines drawn from the centre to the circumference. Sector limit one specifies the first limit of the sector. The order of sector limit one and sector limit two is clockwise around the central feature (for example a light).  Sub-attributes:  **Sector Bearing** (see clause 5.185)  **Sector Line Length** (see clause 5.187)  Remarks:  •No remarks. |

**6.25 Sector Limit Two**

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| IHO Definition: A sector is the part of a circle between two straight lines drawn from the centre to the circumference. Sector limit two specifies the second limit of the sector. The order of sector limit one and sector limit two is clockwise around the central feature (for example a light).  Sub-attributes:  **Sector Bearing** (see clause 5.185)  **Sector Line Length** (see clause 5.187)  Remarks:  •No remarks. |

**6.26 Shape Information**

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| IHO Definition: Textual information about the shape of a non-standard topmark.  Sub-attributes:  **Language** (see clause 5.134)  **Text** (see clause 5.214)  Remarks:  No formatting of text is possible within shape information. If formatted text is required, then an associated text file referenced by the complex attribute textual description must be used. |

**6.27 Signal Sequence**

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| --- |
| IHO Definition: The sequence of times occupied by intervals of light/sound and eclipse/silence for all “light characteristics” or sound signals.  Sub-attributes:  **Signal Duration** (see clause 5.188)  **Signal Status** (see clause 5.193)  Remarks:  •No remarks. |

**6.28 Spatial Accuracy**

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| IHO Definition: Provides an indication of the vertical and horizontal positional uncertainty of bathymetric data, optionally within a specified date range.  Sub-attributes:  **Fixed Date Range** (see clause 6.5)  **Horizontal Position Uncertainty** (see clause 6.9)  **Vertical Uncertainty** (see clause 6.42)  Remarks:  •No remarks. |

**6.29 Speed**

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| IHO Definition: Rate of motion. The terms speed and velocity are often used interchangeably, but speed is a scalar, having magnitude only, while velocity is a vector quantity, having both magnitude and direction.  Sub-attributes:  **Speed Maximum** (see clause 5.198)  **Speed Minimum** (see clause 5.199)  Remarks:  •No remarks. |

**6.30 Surface Characteristics**

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| IHO Definition: The general nature of the material of which the land surface or the seabed is composed.  Sub-attributes:  **Nature of Surface** (see clause 5.161)  **Nature of Surface - Qualifying Terms** (see clause 5.162)  **Underlying Layer** (see clause 5.226)  Remarks:  •No remarks. |

**6.31 Survey Date Range**

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| IHO Definition: The complex attribute describes the period of the hydrographic survey, as the time between its sub-attributes.  Sub-attributes:  **Date End** (see clause 5.94)  **Date Start** (see clause 5.96)  Remarks:  •No remarks. |

**6.32 Telecommunications**

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| IHO Definition: A means or channel of communicating at a distance by electrical or electromagnetic means such as telegraphy, telephony, or broadcasting.  Sub-attributes:  **Contact Instructions** (see clause 5.91)  **Telecommunication Identifier** (see clause 5.212)  **Telecommunication Service** (see clause 5.213)  Remarks:  If no value is populated for the sub-attribute telecommunication service, this means the service is by voice communication. If no value is populated for the sub-attribute telecommunication carrier, this means the service is by land line communication. |

**6.33 Tidal Stream Panel Values**

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| IHO Definition: The direction of the flow and the tidal current rate from 6 hours before to 6 hours after high water (HW) or low water (LW) at the reference tide station, at hourly or sub-hourly intervals.  Sub-attributes:  **Reference Tide** (see clause 5.176)  **Reference Tide Type** (see clause 5.177)  **Stream Depth** (see clause 5.204)  **Tidal Stream Value** (see clause 6.34)  Remarks:  •No remarks. |

**6.34 Tidal Stream Value**

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| --- |
| IHO Definition: A measurement of the direction and speed of a tidal stream at a given time relative to the reference tide.  Sub-attributes:  **Orientation** (see clause 6.15)  **Time Relative to Tide** (see clause 5.221)  **Speed Maximum** (see clause 5.198)  Remarks:  •No remarks. |

**6.35 Time Intervals by Day of Week**

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| IHO Definition: The regular weekly operation times of a service or schedule.  Sub-attributes:  **Day of Week** (see clause 5.98)  **Day of Week is Range** (see clause 5.99)  **Time of Day End** (see clause 5.219)  **Time of Day Start** (see clause 5.220)  Remarks:  •No remarks. |

**6.36 Topmark**

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| IHO Definition: A characteristic shape secured at the top of a buoy or beacon to aid in its identification.  Sub-attributes:  **Colour** (see clause 5.87)  **Colour Pattern** (see clause 5.88)  **Topmark/Daymark Shape** (see clause 5.222)  **Shape Information** (see clause 6.26)  Remarks:  •No remarks. |

**6.37 Value of Local Magnetic Anomaly**

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| IHO Definition: The value of the deviation from the normal magnetic variation and where required its direction.  Sub-attributes:  **Magnetic Anomaly Value** (see clause 5.142)  **Reference Direction** (see clause 5.143)  Remarks:  •No remarks. |

**6.38 Vertical Clearance Closed**

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| IHO Definition: The vertical clearance of a feature in closed condition (for example a closed lifting bridge) measured from the horizontal plane towards the feature overhead.  Sub-attributes:  **Vertical Clearance Value** (see clause 5.234)  **Vertical Uncertainty** (see clause 6.42)  Remarks:  •No remarks. |

**6.39 Vertical Clearance Fixed**

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| IHO Definition: The vertical clearance measured from the horizontal plane towards a fixed (non-opening) feature overhead.  Sub-attributes:  **Vertical Clearance Value** (see clause 5.234)  **Vertical Uncertainty** (see clause 6.42)  Remarks:  Vertical clearance fixed must not be used to populate authorized safe clearances. |

**6.40 Vertical Clearance Open**

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| IHO Definition: The vertical clearance of a feature in opened condition (for example an open lifting bridge) measured from the horizontal plane towards the feature overhead.  Sub-attributes:  **Vertical Uncertainty** (see clause 6.42)  **Vertical Clearance Value** (see clause 5.234)  **Vertical Clearance Unlimited** (see clause 5.233)  Remarks:  •No remarks. |

**6.41 Vertical Clearance Safe**

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| IHO Definition: The safe vertical clearance of a feature measured from the horizontal plane towards the feature overhead.  Sub-attributes:  **Vertical Clearance Value** (see clause 5.234)  **Vertical Uncertainty** (see clause 6.42)  Remarks:  •No remarks. |

**6.42 Vertical Uncertainty**

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| --- |
| IHO Definition: The best estimate of the vertical accuracy of depths, heights, vertical distances and vertical clearances.  Sub-attributes:  **Uncertainty Fixed** (see clause 5.224)  **Uncertainty Variable Factor** (see clause 5.225)  Remarks:  Encodes the vertical uncertainty associated with any vertical measurement. |

**6.43 Vessel Speed Limit**

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| IHO Definition: The maximum allowed rate of travel for a vessel in an area in knots.  Sub-attributes:  **Vessel Class** (see clause 5.237)  **Speed Limit** (see clause 5.197)  **Speed Units** (see clause 5.200)  Remarks:  •No remarks. |

**6.44 Zone of Confidence**

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| IHO Definition: The overall indication of the quality of bathymetric data within an area based on the positional accuracy, survey equipment and coverage; optionally within a specified data range.  Sub-attributes:  **Category of Zone of Confidence In Data** (see clause 5.86)  **Fixed Date Range** (see clause 6.5)  **Horizontal Position Uncertainty** (see clause 6.9)  **Vertical Uncertainty** (see clause 6.42)  Remarks:  •No remarks. |