Filename: 122_FC_2.0.0.20251104.xml

Table of Contents

1 Catalogue header information

Name: Marine Protected Area
Scope:
Field of Application:
Version Number: 2.0.0
Version date: 2025-11-04
Producer information:
Individual name:
Organisation name: International Hydrographic Organization
Phone:
Address:

Delivery point	City	Administrative area	Postal code	Country	Email address
		4b quai Antoine 1er		Monaco	info@iho.int

Online resource information:
Hours of Service:
Contact Instructions:
Position Name:
Role: pointOfContact
Classification:

2 Definition Sources

Source Id (internal catalogue tag): IHOREG
Title: IHO GI Registry
Identifier:

3 Simple Attributes

3.1 Administrative Division

Name: Administrative Division [IHOREG 384]
Definition: A generic term for an administrative region within a country at a level below that of the sovereign state.
Code: `administrativeDivision`
Remarks:
Aliases: (none)
Value Type: text

3.2 Application Profile

Name: Application Profile [IHOREG 389]
Definition: Name of an application profile that can be used with the online resource.
Code: `applicationProfile`
Remarks:
Aliases: APPPRF
Value Type: text

3.3 Call Name

Name: Call Name [IHOREG 396]
Definition: The designated call name of a station; for example, radio station, radar station, pilot.
Code: `callName`
Remarks: This is the name used when calling a radio station by radio; for example, "Singapore Pilots".
Aliases: (none)
Value Type: text

3.4 Call Sign

Name: Call Sign [IHOREG 271]
Definition: The designated call-sign of a station (radio station, radar station, pilot, ...).
Code: `callSign`
Remarks:
Aliases: CALSGN
Value Type: text

3.5 Cardinal Direction

Name: Cardinal Direction [IHOREG 397]
Definition: Principal and intermediate compass points.
Code: `cardinalDirection`
Remarks:
Aliases: CARDIR
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
North	348.75-011.25 degrees (true north). [IHOREG 1773]	1	
North Northeast	011.25 - 033.75 degrees. [IHOREG 1774]	2	
Northeast	033.75 - 056.25 degrees. [IHOREG 1775]	3	
East Northeast	056.25-078.75 degrees. [IHOREG 1776]	4	
East	078.75-101.25 degrees. [IHOREG 1777]	5	

Label	Definition	Code	Remarks
East Southeast	101.25-123.75 degrees. [IHOREG 1778]	6	
Southeast	123.75-146.25 degrees. [IHOREG 1779]	7	
South Southeast	146.25-168.75 degrees. [IHOREG 1780]	8	
South	168.75-191.25 degrees. [IHOREG 1781]	9	
South Southwest	191.25-213.75 degrees. [IHOREG 1782]	10	
Southwest	213.75-236.25 degrees. [IHOREG 1783]	11	
West Southwest	236.25-258.75 degrees. [IHOREG 1784]	12	
West	258.75-281.25 degrees. [IHOREG 1785]	13	
West Northwest	281.25-303.75 degrees. [IHOREG 1786]	14	
Northwest	303.75 - 326.25 degrees. [IHOREG 1787]	15	
North Northwest	326.25 - 348.75 degrees. [IHOREG 1788]	16	

3.6 Category of Authority

Name: Category of Authority [IHOREG 398]
Definition: The type of person, government agency or organisation granted powers of managing or controlling access to and/or activity in an area.
Code: categoryOfAuthority
Remarks:
Aliases: CATAUT
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Border Control	The administration to prevent or detect and prosecute violations of rules and regulations at international boundaries. [IHOREG 1789]	2	
Police	The department of government, or civil force, charged with maintaining public order. [IHOREG 1790]	3	
Port	Person or corporation, owners of, or entrusted with or invested with the power of managing a port. May be called a Harbour Board, Port Trust, Port Commission, Harbour Commission, Marine Department. [IHOREG 1791]	4	
Immigration	The authority controlling people entering a country. [IHOREG 1792]	5	
Health	The authority with responsibility for checking the validity of the health declaration of a vessel and for declaring free pratique. [IHOREG 1793]	6	
Coast Guard	Organization keeping watch on shipping and coastal waters according to governmental law; normally the authority with responsibility for search and rescue.	7	

Label	Definition	Code	Remarks
	[IHOREG 1794]		
Agricultural	The authority with responsibility for preventing infection of the agriculture of a country and for the protection of the agricultural interests of a country. [IHOREG 1795]	8	
Military	A military authority which provides control of access to or approval for transit through designated areas or airspace. [IHOREG 1796]	9	
Private Company	A private or publicly owned company or commercial enterprise which exercises control of facilities, for example a calibration area. [IHOREG 1797]	10	
Maritime Police	A governmental or military force with jurisdiction in territorial waters. Examples could include Gendarmerie Maritime, Carabinierie, and Guardia Civil. [IHOREG 1798]	11	
Environmental	An authority with responsibility for the protection of the environment. [IHOREG 1799]	12	
Fishery	An authority with responsibility for the control of fisheries. [IHOREG 1800]	13	
Finance	An authority with responsibility for the control and movement of money. [IHOREG 1801]	14	
Maritime	A national or regional authority charged with administration of maritime affairs. [IHOREG 1802]	15	
Customs	The agency or establishment for collecting duties, tolls. [IHOREG 1803]	16	

3.7 Category of Cargo

Name: Category of Cargo [IHOREG 401]
Definition: Classification of the different types of cargo that a ship may be carrying.
Code: `categoryOfCargo`
Remarks: If item 7 is used, the nature of dangerous or hazardous cargoes can be amplified with category of dangerous or hazardous cargo.
Aliases: CATCGO
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Bulk	Unpacked homogenous cargo poured loose in a certain space of a vessel, for example oil or grain. [IHOREG 1353]	1	
Container	One of a number of standard sized cargo carrying units, secured using standard corner attachments and bar. [IHOREG 1808]	2	
General	Break bulk cargo normally loaded by crane. [IHOREG 1809]	3	
Liquid	Any cargo loaded by pipeline. [IHOREG 1810]	4	
Passenger	A fee paying traveller. [IHOREG 1811]	5	
Livestock	Live animals carried in bulk.	6	

Label	Definition	Code	Remarks
	[IHOREG 1812]		
Dangerous or Hazardous	Dangerous or hazardous cargo as described by the IMO International Maritime Dangerous Goods code. [IHOREG 1813]	7	
Heavy Lift	Indivisible heavy items of weight generally over 100 tons, and width or height greater than 100 metres. [IHOREG 1814]	8	
Dry Bulk Cargo	Commodity cargo that is transported unpackaged in large quantities. These types of goods usually need to be kept dry during the whole transportation period. [IHOREG 3201]	10	
Liquid Bulk Cargo	Liquids or gases that are transported in bulk and carried unpackaged. [IHOREG 3202]	11	
Reefer Container Cargo	Cargo transported in refrigerated containers, generally perishable commodities which require temperature-controlled transportation, such as fruit, meat, fish, vegetables, dairy products and other foods. [IHOREG 3203]	12	
Ro-Ro Cargo	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. [IHOREG 3204]	13	
Project Cargo	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. [IHOREG 3205]	14	
Break Bulk Cargo	Goods that are stowed on board ship in individually counted units, and not in intermodal containers nor in bulk as with oil or grain. [IHOREG 3206]	15	

3.8 Category of Communication Preference

Name: Category of Communication Preference [IHOREG 402]
Definition: Classification of frequencies, VHF channels, telephone numbers, or other means of communication based on preference.
Code: categoryOfCommunicationPreference
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Preferred Calling	The first choice channel or frequency to be used when calling a radio station. [IHOREG 1815]	1	
Alternate Calling	A channel or frequency to be used for calling a radio station when the preferred channel or frequency is busy or is suffering from interference. [IHOREG 1816]	2	
Preferred Working	The first choice channel or frequency to be used when working with a radio station.	3	

Label	Definition	Code	Remarks
	[IHOREG 1817]		
Alternate Working	A channel or frequency to be used for working with a radio station when the preferred working channel or frequency is busy or is suffering from interference. [IHOREG 1818]	4	

3.9 Category Of Dangerous Or Hazardous Cargo

Name: Category Of Dangerous Or Hazardous Cargo [IHOREG 406]
Definition: Classification of dangerous goods or hazardous materials based on the International Maritime Dangerous Goods Code (IMDG Code).
Code: `categoryOfDangerousOrHazardousCargo`
Remarks:
Aliases: CATDHC
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
IMDG Code Class 1 Div. 1.1	Explosives, Division 1: Substances and articles which have a mass explosion hazard. [IHOREG 1834]	1	
IMDG Code Class 1 Div. 1.2	Explosives, Division 2: Substances and articles which have a projection hazard but not a mass explosion hazard. [IHOREG 1835]	2	
IMDG Code Class 1 Div. 1.3	Explosives, Division 3: Substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard. [IHOREG 1836]	3	
IMDG Code Class 1 Div. 1.4	Explosives, Division 4: Substances and articles which present no significant hazard. [IHOREG 1837]	4	
IMDG Code Class 1 Div. 1.5	Explosives, Division 5: Very insensitive substances which have a mass explosion hazard. [IHOREG 1838]	5	
IMDG Code Class 1 Div. 1.6	Explosives, Division 6: Extremely insensitive articles which do not have a mass explosion hazard. [IHOREG 1839]	6	
IMDG Code Class 2 Div. 2.1	Gases, flammable gases. [IHOREG 1840]	7	
IMDG Code Class 2 Div. 2.2	Gases, non-flammable, non-toxic gases. [IHOREG 1841]	8	
IMDG Code Class 2 Div. 2.3	Gases, toxic gases. [IHOREG 1842]	9	
IMDG Code Class 3	Flammable liquids. [IHOREG 1843]	10	
IMDG Code Class 4 Div. 4.1	Flammable solids, self-reactive substances and desensitized explosives. [IHOREG 1844]	11	
IMDG Code Class 4 Div. 4.2	Substances liable to spontaneous combustion. [IHOREG 1845]	12	
IMDG Code Class 4 Div. 4.3	Substances which, in contact with water, emit flammable gases. [IHOREG 1846]	13	
IMDG Code Class 5	Oxidizing substances. [IHOREG 1847]	14	

Label	Definition	Code	Remarks
Div. 5.1			
IMDG Code Class 5 Div. 5.2	Organic peroxides. [IHOREG 1848]	15	
IMDG Code Class 6 Div. 6.1	Toxic substances. [IHOREG 1849]	16	
IMDG Code Class 6 Div. 6.2	Infectious substances. [IHOREG 1850]	17	
IMDG Code Class 7	Radioactive material. [IHOREG 1851]	18	
IMDG Code Class 8	Corrosive substances. [IHOREG 1852]	19	
IMDG Code Class 9	Miscellaneous dangerous substances and articles. [IHOREG 1853]	20	
Harmful Substances in Packaged Form	Harmful substances are those substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code). Packaged form is defined as the forms of containment specified for harmful substances in the IMDG Code. [IHOREG 1854]	21	

3.10 Category of Relationship

Name: Category of Relationship [IHOREG 422]
Definition: Expresses constraints or requirements on vessel actions or activities in relation to a geographic feature, facility, or service.
Code: categoryOfRelationship
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Prohibited	Use of facility, waterway or service is forbidden. [IHOREG 1953]	1	
Not Recommended	Use of facility, waterway or service is not recommended. [IHOREG 1954]	2	
Permitted	Use of facility, waterway, or service is permitted but not required. [IHOREG 1955]	3	
Recommended	Use of facility, waterway, or service is recommended. [IHOREG 1956]	4	
Required	Use of facility, waterway, or service is required. [IHOREG 1957]	5	
Not Required	Use of facility, waterway, or service is not required. [IHOREG 1958]	6	
Exclusively Permitted	Only vessels of the specified characteristics may use the facility, waterway, or service.	7	

3.11 Category of Restricted Area

Name: Category of Restricted Area [IHOREG 90]
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'.
Code: categoryOfRestrictedArea
Remarks:

Aliases: CATREA
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Offshore Safety Zone	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. [IHOREG 397]	1	
Nature Reserve	A tract of land or water managed so as to preserve its flora, fauna, physical features, etc. [IHOREG 398]	4	
Bird Sanctuary	A place where birds are bred and protected. [IHOREG 399]	5	
Game Reserve	A place where wild animals or birds hunted for sport or food are kept undisturbed for private use. [IHOREG 400]	6	
Seal Sanctuary	A place where seals are protected. [IHOREG 401]	7	
Historic Wreck Area	An area around certain wrecks of historical importance to protect the wrecks from unauthorized interference by diving, salvage or deposition (including anchoring). [IHOREG 404]	10	
Research Area	An area where marine research takes place. [IHOREG 409]	20	
Fish Sanctuary	A place where fish (including shellfish and crustaceans) are protected. [IHOREG 411]	22	
Ecological Reserve	A tract of land managed so as to preserve the relation of plants and living creatures to each other and to their surroundings. [IHOREG 412]	23	
Environmentally Sensitive Sea Area	A generic term which may be used to describe a wide range of areas, considered sensitive for a variety of environmental reasons. [IHOREG 415]	27	
Particularly Sensitive Sea Area	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. [IHOREG 416]	28	
Coral Sanctuary	A place where coral is protected. [IHOREG 419]	31	
Recreation Area	An area within which recreational activities regularly take place and therefore vessel movement may be restricted. [IHOREG 420]	32	
Ship Pollution Emission Control	An area within which the ship pollution emission is controlled. [IHOREG 1299]	33	

3.12 Category of Schedule

Name: Category of Schedule [IHOREG 57]
Definition: The type of schedule, for instance opening, closure, etc.
Code: `categoryOfSchedule`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Normal Operation	The service, office, is open, fully manned, and operating normally, or the area is accessible as usual. [IHOREG 429]	1	
Closure	The service, office, or area is closed. [IHOREG 430]	2	
Unmanned Operation	The service is available but not manned. [IHOREG 431]	3	

3.13 Category of Temporal Variation

Name: Category of Temporal Variation [IHOREG 200]
Definition: An assessment of the likelihood of change over time.
Code: categoryOfTemporalVariation
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Extreme Event	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. [IHOREG 1241]	1	
Likely to Change	Continuous or frequent change to non-bathymetric features (for example river siltation, glacier creep/recession, sand dunes, buoys, marine farms, etc). [IHOREG 1244]	4	
Unlikely to Change	Significant change to the seafloor is not expected. [IHOREG 1245]	5	
Unassessed	Not having been assessed. [IHOREG 1246]	6	

3.14 Category of Text

Name: Category of Text [IHOREG 429]
Definition: Classification of completeness of textual information in relation to the source material from which it is derived.
Code: categoryOfText
Remarks:
Aliases: CATTXT
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Abstract or Summary	A statement summarizing the important points of a text. [IHOREG 1996]	1	
Extract	An excerpt or excerpts from a text. [IHOREG 1997]	2	
Full Text	The whole text. [IHOREG 1998]	3	

3.15 Category of Vessel Registry

Name: Category of Vessel Registry [IHOREG 430]
Definition: The locality of vessel registration or enrolment relative to the nationality of a port, territorial sea, administrative area, exclusive zone or other location.
Code: `categoryOfVesselRegistry`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Domestic	The vessel is registered or enrolled under the same national flag as the port, harbour, territorial sea, exclusive economic zone, or administrative area in which the object that possesses this attribute applies or is located. [IHOREG 1999]	1	
Foreign	The vessel is registered or enrolled under a national flag different from the port, harbour, territorial sea, exclusive economic zone, or other administrative area in which the object that possesses this attribute applies or is located. [IHOREG 2000]	2	

3.16 City Name

Name: City Name [IHOREG 434]
Definition: The name of a town or city.
Code: `cityName`
Remarks:
Aliases: CITYNM
Value Type: text

3.17 Communication Channel

Name: Communication Channel [IHOREG 74]
Definition: A channel number assigned to a specific radio frequency, frequencies or frequency band.
Code: `communicationChannel`
Remarks: The expected input is the specific VHF-Channel. The attribute 'communication channel' encodes the various VHF-channels used for communication.
Aliases: COMCHA
Value Type: text

3.18 Comparison Operator

Name: Comparison Operator [IHOREG 441]
Definition: Numerical comparison.
Code: `comparisonOperator`
Remarks: Provides the relation between the value given in the model and the real ship's value.
Aliases: COMPOP
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Greater Than	The value of the left value is greater than that of the right. [IHOREG 2039]	1	
Greater Than or Equal To	The value of the left expression is greater than or equal to that of the right. [IHOREG 2040]	2	

Label	Definition	Code	Remarks
Less Than	The value of the left expression is less than that of the right. [IHOREG 2041]	3	
Less Than or Equal To	The value of the left expression is less than or equal to that of the right. [IHOREG 2042]	4	
Equal To	The two values are equivalent. [IHOREG 2043]	5	
Not Equal To	The two values are not equivalent. [IHOREG 2044]	6	

3.19 Contact Instructions

Name: Contact Instructions [IHOREG 76]
Definition: Instructions provided on how to contact a particular person, organisation or service.
Code: contactInstructions
Remarks:
Aliases: (none)
Value Type: text

3.20 Country Name

Name: Country Name [IHOREG 449]
Definition: The name of a nation.
Code: countryName
Remarks:
Aliases: (none)
Value Type: text

3.21 Date End

Name: Date End [IHOREG 790]
Definition: The latest date on which an object (for example a buoy) will be present.
Code: dateEnd
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.
Aliases: DATEND
Value Type: S100_TruncatedDate

3.22 Date Fixed

Name: Date Fixed [IHOREG 791]
Definition: The date of an event.
Code: dateFixed
Remarks:
Aliases: (none)
Value Type: S100_TruncatedDate

3.23 Date Start

Name: Date Start [IHOREG 792]
Definition: The earliest date on which an object (for example a buoy) will be present.
Code: dateStart
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.
Aliases: DATSTA
Value Type: S100_TruncatedDate

3.24 Date Variable

Name: Date Variable [IHOREG 82]
Definition: A day which is not fixed in the Gregorian calendar.
Code: `dateVariable`
Remarks: Examples: The fourth Thursday in November; new moon day of Kartika (Diwali); Easter Sunday.
Aliases: (none)
Value Type: text

3.25 Day of Week

Name: Day of Week [IHOREG 83]
Definition: Any one of seven days in a week.
Code: `dayOfWeek`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Sunday	The day of the week following Saturday and preceding Monday. [IHOREG 813]	1	
Monday	The day of the week following Sunday and preceding Tuesday. [IHOREG 814]	2	
Tuesday	The day of the week following Monday and preceding Wednesday. [IHOREG 815]	3	
Wednesday	The day of the week following Tuesday and preceding Thursday. [IHOREG 816]	4	
Thursday	The day of the week following Wednesday and preceding Friday. [IHOREG 817]	5	
Friday	The day of the week following Thursday and preceding Saturday. [IHOREG 818]	6	
Saturday	The day of the week following Friday and preceding Sunday. [IHOREG 819]	7	

3.26 Day of Week is Range

Name: Day of Week is Range [IHOREG 84]
Definition: A statement expressing if the days of the week identified define a range or not.
Code: `dayOfWeekIsRange`
Remarks: A True value is an indication that the identified days of the week define a range between and inclusive of those days.
Aliases: (none)
Value Type: boolean

3.27 Delivery Point

Name: Delivery Point [IHOREG 460]
Definition: Details of where post can be delivered such as the apartment, name and/or number of a street, building or PO Box.
Code: `deliveryPoint`

Remarks:
Aliases: DELPNT
Value Type: text

3.28 Designation Identifier

Name: Designation Identifier [IHOREG TBD]
Definition: An identifier which is an instance of a particular, named scheme
Code: `designationIdentifier`
Remarks:
Aliases: (none)
Value Type: text

3.29 Designation Scheme

Name: Designation Scheme [IHOREG TBD]
Definition: An official name, title or description. This can be an identifier itself, or an identifier which is an instance of a named designation scheme.
Code: `designationScheme`
Remarks:
Aliases: (none)
Value Type: text

3.30 Destination

Name: Destination [IHOREG 1154]
Definition: The place or general direction to which a vessel is going or directed.
Code: `destination`
Remarks:
Aliases: (none)
Value Type: text

Constraints

string Length	text Pattern	range	precision
100	(none)	(not specified)	(not specified)

3.31 Distance

Name: Distance [IHOREG 812]
Definition: A numeric measure of the spatial separation between two locations.
Code: `distance`
Remarks:
Aliases: (none)
Value Type: real

3.32 File Locator

Name: File Locator [IHOREG 101]
Definition: The location of a fragment of text or other information in a support file.
Code: `fileLocator`
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.
Aliases: (none)
Value Type: text

3.33 File Reference

Name: File Reference [IHOREG 102]

Definition: The file name of an externally referenced text file.
Code: `fileReference`
Remarks:
Aliases: TXTDSC
Value Type: text

3.34 Frequency Shore Station Receives

Name: Frequency Shore Station Receives [IHOREG 924]
Definition: The shore station receiver frequency.
Code: `frequencyShoreStationReceives`
Remarks:
Aliases: FRQRXV
Value Type: integer

Unit of measure name: Hz   definition: Cycles per second   symbol: Hz

Quantity specification: frequency

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	1	(not specified)
		upperBound	(none)	
		closure	gtSemiInterval	

3.35 Frequency Shore Station Transmits

Name: Frequency Shore Station Transmits [IHOREG 925]
Definition: The shore station transmitter frequency.
Code: `frequencyShoreStationTransmits`
Remarks:
Aliases: FRQTXM
Value Type: integer

Unit of measure name: Hz   definition: Cycles per second   symbol: Hz

Quantity specification: frequency

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	1	(not specified)
		upperBound	(none)	
		closure	gtSemiInterval	

3.36 Headline

Name: Headline [IHOREG 108]
Definition: Words set at the head of a passage or page to introduce or categorize.
Code: `headline`
Remarks:
Aliases: (none)
Value Type: text

3.37 Horizontal Distance Uncertainty

Name: Horizontal Distance Uncertainty [IHOREG 837]
Definition: The best estimate of the horizontal accuracy of horizontal clearances and distances.
Code: `horizontalDistanceUncertainty`
Remarks: The error is assumed to be positive and negative. The plus/minus character must not be encoded.
Aliases: HORACC
Value Type: real

Unit of measure name: metres   definition: SI Metres   symbol: m

Quantity specification: length

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0	1
		upperBound	(none)	
		closure	geSemiInterval	

For real values, precision is the number of digits after the decimal point.

3.38 In Ballast

Name: In Ballast [IHOREG 524]
Definition: Whether the vessel is in ballast.
Code: `inBallast`
Remarks:
Aliases: (none)
Value Type: boolean

3.39 Interoperability Identifier

Name: Interoperability Identifier [IHOREG 1134]
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.
Code: `interoperabilityIdentifier`
Remarks:
Aliases: (none)
Value Type: URN

Constraints

string Length	text Pattern	range	precision
(not specified)	urn:mrn:.+	(not specified)	(not specified)

3.40 Jurisdiction

Name: Jurisdiction [IHOREG 119]
Definition: The jurisdiction applicable to an administrative area.
Code: `jurisdiction`
Remarks:
Aliases: JRSDTN
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
International	Involving more than one country; covering more than one national area. [IHOREG 903]	1	
National	An area administered or controlled by a single nation. [IHOREG 904]	2	
National Sub-Division	An area smaller than the nation in which it lies. [IHOREG 905]	3	

3.41 Language

Name: Language [IHOREG 120]
Definition: The method of human communication, either spoken or written, consisting of the use of words in a structured and conventional way.
Code: `language`
Remarks: The language is encoded by a 3 character code following ISO 639-2/T.
Aliases: (none)
Value Type: text

3.42 Linkage

Name: Linkage [IHOREG 1146]
Definition: Location (address) for online access using a URL/URI address or similar addressing scheme.
Code: `linkage`
Remarks:
Aliases: (none)
Value Type: URI

3.43 Logical Connectives

Name: Logical Connectives [IHOREG 547]
Definition: Expresses whether all the constraints described by its co-attributes must be satisfied, or only one such constraint need be satisfied.
Code: `logicalConnectives`
Remarks: Is intended to be used with co-attributes that encode limits on vessel dimensions, type of cargo, and other characteristics. The combination of constraints described by logicalConnectives and its co-attributes defines a subset of vessels to which information described by a feature or information type instance applies (or does not apply, is required, recommended, etc.). The relationship between the vessel subset and the information is indicated by an association - see PermissionType and InclusionType). The two listed values of logicalConnective are two of the basic operations of Boolean logic. The third basic operation (not) is not used.
Aliases: LOGCON
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Logical Conjunction	All the conditions described by the other attributes of the object, or sub-attributes of the same complex attribute, are true. [IHOREG 2487]	1	
Logical Disjunction	At least one of the conditions described by the other attributes of the object, or sub-attributes of the same complex attributes, is true. [IHOREG 2488]	2	

3.44 Maximum Display Scale

Name: Maximum Display Scale [IHOREG 936]
Definition: The largest intended viewing scale for the data.

Code: `maximumDisplayScale`
Remarks:
Aliases: (none)
Value Type: integer

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	1	(not specified)
		upperBound	(none)	
		closure	geSemiInterval	

3.45 Membership

Name: Membership [IHOREG 556]
Definition: Indicates whether a vessel is included or excluded from the regulation/restriction/recommendation/nautical information.
Code: `membership`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Included	Vessels with these characteristics are included in the regulation/restriction/recommendation/nautical information. [IHOREG 2499]	1	
Excluded	Vessels with these characteristics are excluded from the regulation/restriction/recommendation/nautical information. [IHOREG 3437]	2	

3.46 Minimum Display Scale

Name: Minimum Display Scale [IHOREG 941]
Definition: The smallest intended viewing scale for the data.
Code: `minimumDisplayScale`
Remarks:
Aliases: (none)
Value Type: integer

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	1	(not specified)
		upperBound	(none)	
		closure	geSemiInterval	

3.47 MMSI Code

Name: MMSI Code [IHOREG 131]
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.
Code: `mMSICode`
Remarks:
Aliases: (none)
Value Type: text

3.48 Name

Name: Name [IHOREG 134]
Definition: The individual name of a feature.
Code: `name`
Remarks:
Aliases: OBJNAM
Value Type: text

3.49 Name of Resource

Name: Name of Resource [IHOREG 135]
Definition: Name of the online resource.
Code: `nameOfResource`
Remarks:
Aliases: (none)
Value Type: text

3.50 Name Usage

Name: Name Usage [IHOREG 1143]
Definition: Classification of the type and display level of the name of a feature in an end-user system.
Code: `nameUsage`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
`Default Name Display`	The name is intended to be displayed when the end-user system is set to the default name/text display setting. [IHOREG 3469]	1	
`Alternate Name Display`	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. [IHOREG 3470]	2	
`No Chart Display`	The name or text is not intended to be displayed. [IHOREG 3471]	3	

3.51 Online Function

Name: Online Function
Definition: Code for function performed by the online resource (ISO 19115)
Code: `onlineFunction`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
`Download`	Online instructions for transferring data from one storage device or system to another. [IHOREG 1894]	1	

Label	Definition	Code	Remarks
Offline Access	Online instructions for requesting the resource from the provider. [IHOREG 1896]	3	
Order	Online order process for obtaining the resource. [IHOREG 1897]	4	
Search	To make painstaking investigation or examination. [IHOREG 1898]	5	
Complete Metadata	Complete metadata provided. [IHOREG 2510]	6	
Browse Graphic	Browse graphic provided. [IHOREG 2511]	7	
Upload	Online resource upload capability provided. [IHOREG 2512]	8	
Email Service	Online email service provided. [IHOREG 2513]	9	
Browsing	Online browsing provided. [IHOREG 2514]	10	
File Access	Online file access provided. [IHOREG 2515]	11	

3.52 Online Resource Description

Name: Online Resource Description
Definition: Detailed text description of what the online resource is/does (ISO 19115)
Code: onlineResourceDescription
Remarks:
Aliases: (none)
Value Type: text

3.53 Optimum Display Scale

Name: Optimum Display Scale [IHOREG 1223]
Definition: The largest intended viewing scale for the data.
Code: optimumDisplayScale
Remarks:
Aliases: CSCALE
Value Type: integer

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	1	(not specified)
		upperBound	(none)	
		closure	geSemiInterval	

3.54 Orientation Uncertainty

Name: Orientation Uncertainty [IHOREG 859]
Definition: The best estimate of the accuracy of a bearing.
Code: orientationUncertainty
Remarks:
Aliases: (none)
Value Type: real

3.55 Orientation Value

Name: Orientation Value [IHOREG 860]
Definition: The angular distance measured from true north to the major axis of the feature.
Code: `orientationValue`
Remarks:
Aliases: ORIENT
Value Type: real

3.56 Pictorial Representation

Name: Pictorial Representation [IHOREG 142]
Definition: Indicates whether a pictorial representation of the feature is available.
Code: `pictorialRepresentation`
Remarks: The 'pictorial representation' could be a drawing or a photo. The string encodes the file name of an external graphic file (pixel/vector).
Aliases: PICREP
Value Type: text

3.57 Picture Caption

Name: Picture Caption [IHOREG 593]
Definition: Short description of the purpose of the image.
Code: `pictureCaption`
Remarks:
Aliases: (none)
Value Type: text

3.58 Picture Information

Name: Picture Information [IHOREG 594]
Definition: A set of information to provide credits to picture creator, copyright owner etc.
Code: `pictureInformation`
Remarks:
Aliases: (none)
Value Type: text

3.59 Postal Code

Name: Postal Code [IHOREG 602]
Definition: Known in various countries as a postcode, or ZIP code, the postal code is a series of letters and/or digits that identifies each postal delivery area.
Code: `postalCode`
Remarks:
Aliases: POSCOD; Postcode; ZIP Code
Value Type: text

3.60 Protocol

Name: Protocol [IHOREG 608]
Definition: Connection protocol to be used. Example: ftp, http get KVP, http POST, etc.
Code: `protocol`
Remarks:
Aliases: PROTCL
Value Type: text

3.61 Protocol Request

Name: Protocol Request [IHOREG 609]
Definition: Request used to access the resource. Structure and content depend on the protocol and standard used by the online resource, such as Web Feature Service standard.
Code: `protocolRequest`
Remarks:
Aliases: PROTRQ
Value Type: text

3.62 Quality of Horizontal Measurement

Name: Quality of Horizontal Measurement [IHOREG 215]
Definition: The degree of reliability attributed to a position.
Code: `qualityOfHorizontalMeasurement`
Remarks:
Aliases: QUAPOS
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Surveyed	The position(s) was(were) determined by the operation of making measurements for determining the relative position of points on, above or beneath the earth's surface. Survey implies a regular, controlled survey of any date. [IHOREG 1262]	1	
Unsurveyed	Survey data is does not exist or is very poor. [IHOREG 1263]	2	
Inadequately Surveyed	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. [IHOREG 1264]	3	
Approximate	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 an object whose position does not remain fixed. [IHOREG 1265]	4	
Position Doubtful	Of uncertain position. The expression is used principally on charts to indicate that a wreck, shoal, etc., has been reported in various positions and not definitely determined in any. [IHOREG 1266]	5	
Unreliable	A feature's position has been obtained from questionable or unreliable data. [IHOREG 1267]	6	
Reported (Not Surveyed)	An object whose position has been reported and its position confirmed by some means other than a formal survey such as an independent report of the same object. [IHOREG 2711]	7	
Reported (Not Confirmed)	An object whose position has been reported and its position has not been confirmed. [IHOREG 2710]	8	
Estimated	The most probable position of an object determined from incomplete data or data of questionable accuracy. [IHOREG 1268]	9	
Precisely Known	A position that is of a known value, such as the position of an anchor berth or other defined object. [IHOREG 1269]	10	
Calculated	A position that is computed from data. [IHOREG 1270]	11	

3.63 Reported Date

Name: Reported Date [IHOREG 154]
Definition: The date that the item was observed, done, or investigated.
Code: `reportedDate`
Remarks:
Aliases: SORDAT

Value Type: S100_TruncatedDate

3.64 Restriction

Name: Restriction [IHOREG 155]
Definition: The official legal statute of each kind of restricted area.
Code: `restriction`
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.
Aliases: RESTRN
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Anchoring Prohibited	An area within which anchoring is not permitted. [IHOREG 1016]	1	
Anchoring Restricted	A specified area designated by appropriate authority, within which anchoring is restricted in accordance with certain specified conditions. [IHOREG 1017]	2	
Fishing Prohibited	An area within which fishing is not permitted. [IHOREG 1018]	3	
Fishing Restricted	A specified area designated by appropriate authority, within which fishing is restricted in accordance with certain specified conditions. [IHOREG 1019]	4	
Trawling Prohibited	An area within which trawling is not permitted. [IHOREG 1020]	5	
Trawling Restricted	A specified area designated by appropriate authority, within which trawling is restricted in accordance with certain specified conditions. [IHOREG 1021]	6	
Entry Prohibited	An area within which navigation and/or anchoring is prohibited. [IHOREG 1022]	7	
Entry Restricted	A specified area designated by appropriate authority, within which navigation is restricted in accordance with certain specified conditions. [IHOREG 1023]	8	
Dredging Prohibited	An area within which dredging is not permitted. [IHOREG 1024]	9	
Dredging Restricted	A specified area designated by appropriate authority, within which dredging is restricted in accordance with certain specified conditions. [IHOREG 1025]	10	
Diving Prohibited	An area within which diving is not permitted. [IHOREG 1026]	11	
Diving Restricted	A specified area designated by appropriate authority, within which diving is restricted in accordance with certain specified conditions. [IHOREG 1027]	12	
No Wake	Mariners must adjust the speed of their vessels to reduce the wave or wash which may cause erosion or disturb moored vessels. [IHOREG 1028]	13	
Area To Be Avoided	An IMO declared routeing measure comprising an area	14	

Label	Definition	Code	Remarks
	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. [IHOREG 1029]		
Construction Prohibited	The erection of permanent or temporary fixed structures or artificial islands is prohibited. [IHOREG 1030]	15	
Discharging Prohibited	An area within which discharging or dumping is prohibited. [IHOREG 1031]	16	
Discharging Restricted	A specified area designated by an appropriate authority, within which discharging or dumping is restricted in accordance with specified conditions. [IHOREG 1032]	17	
Industrial or Mineral Exploration/Development Prohibited	An area within which industrial or mineral exploration and development are prohibited. [IHOREG 1033]	18	
Industrial or Mineral Exploration/Development Restricted	A specified area designated by an appropriate authority, within which industrial or mineral exploration and development is restricted in accordance with certain specified conditions. [IHOREG 1034]	19	
Drilling Prohibited	An area within which excavating a hole on the sea-bottom with a drill is prohibited. [IHOREG 1035]	20	
Drilling Restricted	A specified area designated by an appropriate authority, within which excavating a hole on the sea-bottom with a drill is restricted in accordance with certain specified conditions. [IHOREG 1036]	21	
Removal of Historical Artefacts Prohibited	An area within which the removal of historical artefacts is prohibited. [IHOREG 1037]	22	
Cargo Transhipment (Lightening) Prohibited	An area in which cargo transhipment (lightening) is prohibited. [IHOREG 1038]	23	
Dragging Prohibited	An area in which the dragging of anything along the bottom, e.g. bottom trawling, is prohibited. [IHOREG 1039]	24	
Stopping Prohibited	An area in which a vessel is prohibited from stopping. [IHOREG 1040]	25	
Landing Prohibited	An area in which landing is prohibited. [IHOREG 1041]	26	
Speed Restricted	An area within which speed is restricted. [IHOREG 1042]	27	
Use of Spuds Prohibited	The use of anchoring spuds (telescopic piles) is prohibited. [IHOREG 1318]	38	
Swimming Prohibited	An area in which swimming is prohibited. [IHOREG 1043]	39	
SOx Emission Restricted	An area within which the emission of SOx is restricted. [IHOREG 1686]	40	
NOx Emission Restricted	An area within which the emission of NOx is restricted. [IHOREG 1687]	41	

Label	Definition	Code	Remarks
Power-Driven Vessels Prohibited	An area within which any vessel propelled by machinery is prohibited. [IHOREG 3462]	42	

3.65 Scale Minimum

Name: Scale Minimum [IHOREG 958]
Definition: The minimum scale at which the feature may be used for example for ECDIS presentation.
Code: `scaleMinimum`
Remarks: The modulus of the scale is indicated, that is 1:1 250 000 is encoded as 1250000.
Aliases: SCAMIN
Value Type: integer

3.66 Source

Name: Source [IHOREG 220]
Definition: The publication, document, or reference work from which information comes or is acquired.
Code: `source`
Remarks: May be populated with the corresponding paper chart Notice to Mariners numbers, although other references are permitted.
Aliases: (none)
Value Type: text

3.67 Source Date

Name: Source Date [IHOREG 288]
Definition: The production date of the source; for example the date of measurement.
Code: `sourceDate`
Remarks:
Aliases: SORDAT
Value Type: date

3.68 Source Type

Name: Source Type [IHOREG 724]
Definition: Type of the source.
Code: `sourceType`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Law or Regulation	Treaty, convention, or international agreement; law or regulation issued by a national or other authority. [IHOREG 2685]	1	
Official Publication	Publication not having the force of law, issued by an international organisation or a national or local administration. [IHOREG 2686]	2	
Mariner Report, Confirmed	Reported by mariner(s) and confirmed by another source. [IHOREG 2687]	7	
Mariner Report, Not Confirmed	Reported by mariner(s) but not confirmed. [IHOREG 2688]	8	
Industry Publications and Reports	Shipping and other industry publications, including graphics, charts and web sites. [IHOREG 2689]	9	
Remotely Sensed	Information obtained from satellite images.	10	

Label	Definition	Code	Remarks
Images	[IHOREG 2690]		
Photographs	Information obtained from photographs. [IHOREG 2691]	11	
Products Issued by HO Services	Information obtained from products issued by Hydrographic Offices. [IHOREG 2692]	12	
News Media	Information obtained from news media. [IHOREG 2693]	13	
Traffic Data	Information obtained from the analysis of traffic data. [IHOREG 2694]	14	

3.69 Status

Name: Status [IHOREG 725]
Definition: The condition of an object at a given instant in time.
Code: status
Remarks:
Aliases: STATUS
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Permanent	Intended to last or function indefinitely. [IHOREG 1052]	1	
Occasional	Acting on special occasions; happening irregularly. [IHOREG 1053]	2	
Recommended	Presented as worthy of confidence, acceptance, use, etc. [IHOREG 1054]	3	
Not in Use	Use has ceased, but the facility still exists intact; disused. [IHOREG 1055]	4	
Periodic/Intermittent	Recurring at intervals. [IHOREG 1056]	5	
Reserved	Set apart for some specific use. [IHOREG 1057]	6	
Temporary	Meant to last only for a time. [IHOREG 1058]	7	
Mandatory	Compulsory; enforced. [IHOREG 1060]	9	
Historic	Famous in history; of historical interest. [IHOREG 1063]	13	
Public	Belonging to, available to, used or shared by, the community as a whole and not restricted to private use. [IHOREG 1064]	14	
Existence Doubtful	A feature that has been reported but has not been definitely determined to exist. [IHOREG 1068]	18	
Buoyed	Marked by buoys. [IHOREG 1069]	28	

3.70 Telecommunication Carrier

Name: Telecommunication Carrier [IHOREG 661]
Definition: The name of a provider or type of carrier for a telecommunication service. This service may include

land line based, shore based or satellite based radio connections.
Code: `telecommunicationCarrier`
Remarks:
Aliases: (none)
Value Type: text

3.71 Telecommunication Identifier

Name: Telecommunication Identifier [IHOREG 174]
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.
Code: `telecommunicationIdentifier`
Remarks:
Aliases: (none)
Value Type: text

3.72 Telecommunication Service

Name: Telecommunication Service [IHOREG 175]
Definition: Classification of methods of communication over a distance by electrical, electronic, or electromagnetic means.
Code: `telecommunicationService`
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Voice	The transfer or exchange of information by using sounds that are being made by mouth and throat when speaking. [IHOREG 1085]	1	
Facsimile	A system of transmitting and reproducing graphic matter (as printing or still pictures) by means of signals sent over telephone lines. [IHOREG 1086]	2	
SMS	Short Message Service is a form of text messaging communication on phones and mobile phones. [IHOREG 1087]	3	
Data	A representation of facts, concepts or instructions in a formalised manner suitable for communication, interpretation or processing. [IHOREG 1088]	4	
Streamed Data	Data that is constantly received by and presented to an end-user while being delivered by a provider. [IHOREG 1089]	5	
Telex	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). [IHOREG 1090]	6	
Telegraph	An apparatus, system or process for communication at a distance by electric transmission over wire. [IHOREG 62]	7	
Email	Messages and other data exchanged between individuals using computers in a network. [IHOREG 1091]	8	

3.73 Text

Name: Text [IHOREG 176]

Definition: A non-formatted digital text string.
Code: text
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.
Aliases: INFORM; NINFOM
Value Type: text

3.74 Text Offset Bearing

Name: Text Offset Bearing [IHOREG 1201]
Definition: The angular distance measured from true north that text associated with a feature is positioned from the feature in an end-user system.
Code: textOffsetBearing
Remarks:
Aliases: (none)
Value Type: integer

Unit of measure name: Degree of Arc   definition: 1° = (π/180) rad   symbol: °

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0.0	(not specified)
		upperBound	360.0	
		closure	geLtInterval	

3.75 Text Offset Distance

Name: Text Offset Distance [IHOREG 1202]
Definition: The distance that text associated with a feature is positioned from the feature in an end-user system.
Code: textOffsetDistance
Remarks:
Aliases: (none)
Value Type: integer

Unit of measure name: Millimetre   definition: 1 metre = 1000 millimetres   symbol: mm

Quantity specification: length

Constraints

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0	(not specified)
		upperBound	50	
		closure	gtLeInterval	

3.76 Text Rotation

Name: Text Rotation [IHOREG 1141]
Definition: A statement that expresses if text associated with a feature is to be rotated in the ECDIS display or not.
Code: textRotation
Remarks:
Aliases: (none)

Value Type: boolean

3.77 Text Type

Name: Text Type [IHOREG 179]
Definition: The attribute from which a text string is derived.
Code: `textType`
Remarks:
Aliases: (none)
Value Type: enumeration

<div align="center">Listed Values</div>

Label	Definition	Code	Remarks
Name	The individual name of a feature. [IHOREG 1095]	1	

3.78 Thickness of Ice Capability

Name: Thickness of Ice Capability [IHOREG 967]
Definition: The thickness of ice that the ship can safely transit.
Code: `thicknessOfIceCapability`
Remarks:
Aliases: (none)
Value Type: integer

Unit of measure name: centimetres   definition: Centimetres (SI)   symbol: cm

Quantity specification: length

<div align="center">Constraints</div>

string Length	text Pattern	range		precision
(not specified)	(none)	lowerBound	0	(not specified)
		upperBound	(none)	
		closure	gtSemiInterval	

3.79 Time of Day End

Name: Time of Day End [IHOREG 180]
Definition: The time corresponding to the end of an active period.
Code: `timeOfDayEnd`
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.
Aliases: (none)
Value Type: time

3.80 Time of Day Start

Name: Time of Day Start [IHOREG 181]
Definition: The time corresponding to the start of an active period.
Code: `timeOfDayStart`
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.
Aliases: (none)
Value Type: time

3.81 Uncertainty Fixed

Name: Uncertainty Fixed [IHOREG 885]
Definition: The best estimate of the fixed horizontal or vertical accuracy component for positions, depths, heights, vertical distances and vertical clearances.
Code: uncertaintyFixed
Remarks:
Aliases: POSACC; SOUACC; VERACC
Value Type: real

Unit of measure name: Metre   definition: The basic unit of length in the International System of Units (SI) system. symbol: m

Constraints

string Length	text Pattern	range	precision
(not specified)	(none)	(not specified)	1

For real values, precision is the number of digits after the decimal point.

3.82 Uncertainty Variable Factor

Name: Uncertainty Variable Factor [IHOREG 886]
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.
Code: uncertaintyVariableFactor
Remarks:
Aliases: (none)
Value Type: real

3.83 Vessel Performance

Name: Vessel Performance [IHOREG 710]
Definition: A description of the required handling characteristics of a vessel including hull design, main and auxiliary machinery, cargo handling equipment, navigation equipment and manoeuvring behaviour.
Code: vesselPerformance
Remarks:
Aliases: (none)
Value Type: text

3.84 Vessels Characteristics

Name: Vessels Characteristics
Definition: Characteristics of vessels.
Code: vesselsCharacteristics
Remarks:
Aliases: (none)
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks
Length Overall	The maximum length of the ship. [IHOREG 2637]	1	
Length at Waterline	The ship's length measured at the waterline. [IHOREG 2638]	2	
Breadth	The width or beam of the vessel. [IHOREG 2639]	3	
Draught	The depth of water necessary to float a vessel fully loaded.	4	

Label	Definition	Code	Remarks
	[IHOREG 2640]		
Displacement Tonnage	A measurement of the weight of the vessel, usually used for warships. (Merchant ships are usually measured based on the volume of cargo space; see tonnage). Displacement is expressed either in long tons of 2,240 pounds or metric tonnes of 1,000 kg. Since the two units are very close in size (2,240 pounds = 1,016 kg and 1,000 kg = 2,205 pounds), it is common not to distinguish between them. To preserve secrecy, nations sometimes misstate a warship's displacement. [IHOREG 2641]	6	
Displacement Tonnage, Light	The weight of the ship excluding cargo, fuel, ballast, stores, passengers, and crew, but with water in the boilers to steaming level. [IHOREG 2642]	7	
Displacement Tonnage, Loaded	The weight of the ship including cargo, passengers, fuel, water, stores, dunnage and such other items necessary for use on a voyage, which brings the vessel down to her load draft. [IHOREG 2643]	8	
Deadweight Tonnage	The difference between displacement, light and displacement, loaded. A measure of the ship's total carrying capacity. [IHOREG 2644]	9	
Gross Tonnage	The entire internal cubic capacity of the ship expressed in tons of 100 cubic feet to the ton, except certain spaces with are exempted such as: peak and other tanks for water ballast, open forecastle bridge and poop, access of hatchways, certain light and air spaces, domes of skylights, condenser, anchor gear, steering gear, wheel house, galley and cabin for passengers. [IHOREG 2645]	10	
Net Tonnage	Obtained from the gross tonnage by deducting crew and navigating spaces and allowances for propulsion machinery. [IHOREG 2646]	11	
Panama Canal/Universal Measurement System Net Tonnage	The Panama Canal/Universal Measurement System (PC/UMS) is based on net tonnage, modified for Panama Canal purposes. PC/UMS is based on a mathematical formula to calculate a vessel's total volume; a PC/UMS net ton is equivalent to 100 cubic feet of capacity. [IHOREG 2647]	12	
Suez Canal Net Tonnage	The Suez Canal Net Tonnage (SCNT) is derived with a number of modifications from the former net register tonnage of the Moorsom System and was established by the International Commission of Constantinople in its Protocol of 18 December 1873. It is still in use, as amended by the Rules of Navigation of the Suez Canal Authority, and is registered in the Suez Canal Tonnage Certificate. [IHOREG 2648]	13	

3.85 Vessels Characteristics Unit

Name: Vessels Characteristics Unit [IHOREG 1106]
Definition: The unit used for vessel characteristics attribute.
Code: vesselsCharacteristicsUnit
Remarks:
Aliases: VSLUNT
Value Type: enumeration

Listed Values

Label	Definition	Code	Remarks

Label	Definition	Code	Remarks
Metres	The basic unit of length in the International System of Units (SI) system. [IHOREG 820]	1	
Metric Ton	The tonne or metric ton (U.S.), often redundantly referred to as a metric tonne, is a unit of mass equal to 1,000 kg (2,205 lb) or approximately the mass of one cubic metre of water at four degrees Celsius. It is sometimes abbreviated as mt in the United States, but this conflicts with other SI symbols. The tonne is not a unit in the International System of Units (SI), but is accepted for use with the SI. In SI units and prefixes, the tonne is a megagram (Mg). The Imperial and US customary units comparable to the tonne are both spelled ton in English, though they differ in mass. Pronunciation of tonne (the word used in the UK) and ton is usually identical, but is not too confusing unless accuracy is important as the tonne and UK long ton differ by only 1.6. [IHOREG 2649]	3	
Ton	Long ton (weight ton or imperial ton) is the name for the unit called the "ton" in the avoirdupois or Imperial system of measurements, as used in the United Kingdom and several other Commonwealth countries. It has been mostly replaced by the tonne, and in the United States by the short ton. One long ton is equal to 2,240 pounds (1,016 kg) or 35 cubic feet (0.9911 m) of salt water with a density of 64 lb/ft (1.025 g/ml). It has some limited use in the United States, most commonly in measuring the displacement of ships, and was the unit prescribed for warships by the Washington Naval Treaty for example battleships were limited to a mass of 35,000 long tons (36,000 t; 39,000 ST). [IHOREG 2650]	4	
Short Ton	A unit of weight equal to 2,000 pounds (907.18474 kg). In the United States it is often called simply ton without distinguishing it from the metric ton (tonne, 1,000 kilograms) or the long ton (2,240 pounds / 1,016.0469088 kilograms); rather, the other two are specifically noted. There are, however, some US applications for which unspecified tons normally means long tons (for example, Navy ships) or metric tons (world grain production figures). Both the long and short ton are defined as 20 hundredweights, but a hundredweight is 100 pounds (45.359237 kg) in the US system (short or net hundredweight) and 112 pounds (50.80234544 kg) in the Imperial system (long or gross hundredweight). [IHOREG 2651]	5	
Gross Ton	Gross tonnage (GT) is a function of the volume of all ship's enclosed spaces (from keel to funnel) measured to the outside of the hull framing. There is a sliding scale factor. So GT is a kind of capacity-derived index that is used to rank a ship for purposes of determining manning, safety and other statutory requirements and is expressed simply as GT, which is a unitless entity, even though its derivation is tied to the cubic meter unit of volumetric capacity.Tonnage measurements are now governed by an IMO Convention (International Convention on Tonnage Measurement of Ships, 1969 (London-Rules)), which applies to all ships built after July 1982. In accordance with the Convention, the correct term to use now is GT, which is a function of the moulded volume of all enclosed spaces of the ship. [IHOREG 2652]	6	
Net Ton	Net tonnage (NT) is based on a calculation of the volume of all cargo spaces of the ship. It indicates a vessels earning space and is a function of the moulded volume of all cargo spaces of the ship. [IHOREG 2653]	7	

Label	Definition	Code	Remarks
Suez Canal Net Tonnage	The Suez Canal Net Tonnage (SCNT) is derived with a number of modifications from the former net register tonnage of the Moorsom System and was established by the International Commission of Constantinople in its Protocol of 18 December 1873. It is still in use, as amended by the Rules of Navigation of the Suez Canal Authority, and is registered in the Suez Canal Tonnage Certificate. [IHOREG 2648]	9	

3.86 Vessels Characteristics Value

Name: Vessels Characteristics Value [IHOREG 908]
Definition: The value of a particular characteristic such as a dimension or tonnage of a vessel.
Code: vesselsCharacteristicsValue
Remarks: Indicates range limits in expressions characterizing vessels by dimensions and tonnages. The unit of measure, characteristic, and comparison operator (greater, less, etc.) are encoded separately.
Aliases: (none)
Value Type: real

3.87 Action or Activity

Name: Action or Activity [IHOREG 974]
Definition: The action or activity of a vessel.
Code: actionOrActivity
Remarks:
Aliases: (none)
Value Type: S100_CodeList

Listed Values

Label	Definition	Code	Remarks
Navigating With a Pilot	Carrying a qualified pilot as part of the vessel navigation team. [IHOREG 2844]	1	
Entering Port	Navigating a vessel into a port. [IHOREG 2845]	2	
Leaving Port	Navigating a vessel out of a port. [IHOREG 2846]	3	
Berthing	A signal station for the control of vessels when berthing. [IHOREG 2858]	4	
Slipping	Detaching a vessel from a wharf or jetty. [IHOREG 2847]	5	
Anchoring	Attaching a vessel to the seabed by means of an anchor and cable. [IHOREG 2848]	6	
Weighing Anchor	Detaching a vessel from the seabed by recovering an anchor and cable. [IHOREG 2849]	7	
Transiting	Navigating a vessel along a route or through a narrow gap, such as under a bridge or through a lock. [IHOREG 2850]	8	
Overtaking	Navigating a vessel past another traveling broadly in the same direction. [IHOREG 2851]	9	
Reporting	Providing details such as the name, location or intentions of a vessel. [IHOREG 2852]	10	
Working Cargo	Loading or unloading cargo. [IHOREG 2853]	11	

Label	Definition	Code	Remarks
Landing	Placing crew or passengers on shore. [IHOREG 2854]	12	
Diving	A signal or message warning of diving activity. [IHOREG 2859]	13	
Fishing	Hunting or catching fish. [IHOREG 2855]	14	
Discharging Overboard	Releasing anything into the sea; often ballast water; or spoil from dredging elsewhere. [IHOREG 2856]	15	
Passing	Navigating a vessel past another travelling broadly in the opposite direction. [IHOREG 2857]	16	
Ballast Water Exchange	Discharge and uptake of ballast water. [IHOREG TBD]	17	
Hull Cleaning	The removal or treatment of biofouling (accumulation of aquatic organisms including microfouling and macrofouling) from a ship's submerged surfaces, including hull and niche areas, conducted either in-water or during dry-docking. The process includes both proactive cleaning (periodic removal of microfouling) and reactive cleaning (removal of micro- and macrofouling as corrective action). [IHOREG TBD]	18	

3.88 Category of Marine Protected Area

Name: Category of Marine Protected Area [IHOREG 977]
Definition: Classification of marine protected areas based on IUCN (International Union for Conservation of Nature and Natural Resources) categories.
Code: categoryOfMarineProtectedArea
Remarks:
Aliases: (none)
Value Type: S100_CodeList

Listed Values

Label	Definition	Code	Remarks
IUCN Category Ia	Strict Nature Reserve: Protected area managed mainly for science.	1	Area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.
IUCN Category Ib	Wilderness Area: Protected area managed mainly for wilderness protection.	2	Large area of unmodified or slightly modified land, and/or sea retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.
IUCN Category II	National Park: Protected area managed mainly for ecosystem protection and recreation.	3	Natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

Label	Definition	Code	Remarks
IUCN Category III	Natural Monument: Protected area managed mainly for conservation of specific natural features.	4	Area containing one, or more, specific natural or natural/cultural feature which is of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance
IUCN Category IV	Habitat/Species Management Area: Protected area managed mainly for conservation through management intervention.	5	Area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species.
IUCN Category V	Protected Landscape/Seascape: Protected area managed mainly for landscape/seascape conservation and recreation.	6	Area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area.
IUCN Category VI	Managed Resource Protected Area: Protected area managed mainly for the sustainable use of natural ecosystems.	7	Area containing predominantly unmodified natural systems, managed to ensure long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs.

3.89 Category of RxN

Name: Category of RxN [IHOREG 978]
Definition: The principal subject matter of regulations, restrictions, recommendations or nautical information.
Code: `categoryOfRxN`
Remarks:
Aliases: (none)
Value Type: S100_CodeList

Listed Values

Label	Definition	Code	Remarks
Navigation	The process of directing the movement of a craft from one point to another. [IHOREG 2861]	1	
Communication	Transmitting and/or receiving electronic communication signals. [IHOREG 2869]	2	
Environmental Protection	Pertaining to environmental protection. [IHOREG 2862]	3	
Wildlife Protection	Pertaining to wildlife protection. [IHOREG 2863]	4	
Security	Pertaining to security. [IHOREG 2864]	5	
Customs	The agency or establishment for collecting duties, tolls. [IHOREG 2870]	6	
Cargo Operation	Pertaining to cargo operations. [IHOREG 2865]	7	
Refuge	Pertaining to a place of safety or refuge. [IHOREG 2866]	8	
Health	The authority with responsibility for checking the validity of the health declaration of a vessel and for declaring free pratique.	9	

Label	Definition	Code	Remarks
	[IHOREG 2871]		
Natural Resources or Exploitation	Pertaining to natural resources or exploitation. [IHOREG 2867]	10	
Port	Person or corporation, owners of, or entrusted with or invested with the power of managing a port. May be called a Harbour Board, Port Trust, Port Commission, Harbour Commission, Marine Department. [IHOREG 2872]	11	
Finance	An authority with responsibility for the control and movement of money. [IHOREG 2873]	12	
Agriculture	The science, art, or practice of cultivating the soil, producing crops, and raising livestock and in varying degrees the preparation and marketing of the resulting products. [IHOREG 2868]	13	

3.90 Category of Vessel

Name: Category of Vessel
Definition: Classification of vessels by function or use.
Code: categoryOfVessel
Remarks:
Aliases: (none)
Value Type: S100_CodeList

Listed Values

Label	Definition	Code	Remarks
General Cargo Vessel	A vessel which is designed for carrying general cargo, e.g. boxes, sacks. [IHOREG 2886]	1	
Container Carrier	A vessel designed to carry ISO containers. [IHOREG 2874]	2	
Tanker	A vessel which is designed for carrying liquid goods, for example oil or water. [IHOREG 2887]	3	
Bulk Carrier	A vessel which is designed for carrying bulk goods, e.g. coal, ore or grain. [IHOREG 2888]	4	
Passenger Vessel	A day trip or cabin vessel constructed and equipped to carry more than 12 passengers. [IHOREG 2889]	5	
Roll-On Roll-Off	A vessel designed to allow road vehicles to be driven on and off; often a ferry. [IHOREG 2875]	6	
Refrigerated Cargo Vessel	A vessel designed to carry refrigerated cargo. [IHOREG 2876]	7	
Fishing Vessel	A vessel that is used and equipped for the fishing of living aquatic resources. [IHOREG 2890]	8	
Service	A vessel which provides a service such as a tug, anchor handler, survey or supply vessel. [IHOREG 2877]	9	
Warship	A vessel designed for the conduct of military operations. [IHOREG 2878]	10	

Label	Definition	Code	Remarks
Towed or Pushed Composite Unit	Either a tug and tow, or any combination of a tug providing propulsion to barges or vessels secured ahead or alongside. [IHOREG 2879]	11	
Tug and Tow	A combination of tug(s) and non-powered tow(s). [IHOREG 2880]	12	
Light Recreational	A pleasure boat or watercraft, or an excursion vessel used for short cruises such as whale watching. [IHOREG 2881]	13	
Semi-Submersible Offshore Installation	An installation which is designed to float at all times and which is normally anchored in position when deployed in the offshore gas and oil industry. [IHOREG 2882]	14	
Jack-Up Exploration or Project Installation	An exploration or project installation with legs which can be raised and lowered. The legs are raised when the installation is re-positioned. When stationary the legs are lowered to the sea floor and the working platform is raised clear of the sea surface. [IHOREG 2883]	15	
Livestock Carrier	A vessel designed to carry large quantities of live animals. [IHOREG 2884]	16	
Sport Fishing	A vessel used in fishing for pleasure or competition. [IHOREG 2885]	17	

4 Complex Attributes

4.1 Bearing Information

Name: Bearing Information [IHOREG 733]
Definition: A bearing is the direction one object is from another object.
Code: `bearingInformation`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
cardinalDirection	enumeration	0..1	1: North 2: North Northeast 3: Northeast 4: East Northeast 5: East 6: East Southeast 7: Southeast 8: South Southeast 9: South 10: South Southwest 11: Southwest 12: West Southwest 13: West 14: West Northwest 15: Northwest 16: North Northwest	false
distance	real	0..1		false
information	complex	0..*		false
orientation	complex	0..1		false

4.2 Contact Address

Name: Contact Address [IHOREG 735]
Definition: Direction or superscription of a letter, package, etc., specifying the name of the place to which it is directed, and optionally a contact person or organisation who should receive it.
Code: `contactAddress`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
deliveryPoint	text	0..1		false
cityName	text	0..1		false
administrativeDivision	text	0..1		false
countryName	text	0..1		false
postalCode	text	0..1		false

4.3 Designation

Name: Designation
Definition: An official name, title or description. This can be an identifier or an identifier which is an instance of a

named designation scheme.
Code: `designation`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
designationScheme	text	0..1		false
designationIdentifier	text	0..1		false
jurisdiction	enumeration	0..1	1: International 2: National 3: National Sub-Division	false
text	text	0..1		false

4.4 Feature Name

Name: Feature Name [IHOREG 1129]
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.
Code: `featureName`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
language	text	1..1		false
name	text	1..1		false
nameUsage	enumeration	0..1	1: Default Name Display 2: Alternate Name Display 3: No Chart Display	false

4.5 Fixed Date Range

Name: Fixed Date Range [IHOREG 798]
Definition: An active period of a single fixed event or occurrence, as the date range between discrete start and end dates.
Code: `fixedDateRange`
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.
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
dateStart	S100_TruncatedDate	0..1		false
dateEnd	S100_TruncatedDate	0..1		false

4.6 Frequency Pair

Name: Frequency Pair [IHOREG 230]
Definition: A pair of frequencies for transmitting and receiving radio signals. The shore station transmits and

receives on the frequencies indicated.
Code: `frequencyPair`
Remarks:
Aliases: FRQPAR

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
frequencyShoreStationReceives	integer	0..1		false
frequencyShoreStationTransmits	integer	0..1		false

4.7 Graphic

Name: Graphic [IHOREG 745]
Definition: Pictorial information such as a photograph, sketch or other graphic, optionally accompanied by descriptive information about the graphic and the location relative to its subject from which it was made.
Code: `graphic`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
pictorialRepresentation	text	1..*		false
pictureCaption	text	0..1		false
sourceDate	date	0..1		false
pictureInformation	text	0..1		false
bearingInformation	complex	0..1		false

4.8 Horizontal Position Uncertainty

Name: Horizontal Position Uncertainty [IHOREG 233]
Definition: The best estimate of the accuracy of a position.
Code: `horizontalPositionUncertainty`
Remarks: The expected input is the maximum of the two-dimensional error. The error is assumed to be positive and negative.
Aliases: POSACC

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
uncertaintyFixed	real	1..1		false
uncertaintyVariableFactor	real	0..1		false

4.9 Information

Name: Information [IHOREG 234]
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.
Code: `information`
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.
Aliases: INFORM

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
fileLocator	text	0..1		false
fileReference	text	0..1		false
headline	text	0..1		false
language	text	0..1		false
text	text	0..1		false

4.10 Online Resource

Name: Online Resource [IHOREG 243]
Definition: Information about online sources from which a resource or data can be obtained.
Code: `onlineResource`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
linkage	URI	1..1		false
protocol	text	0..1		false
applicationProfile	text	0..1		false
nameOfResource	text	0..1		false
onlineResourceDescription	text	0..1		false
protocolRequest	text	0..1		false
onlineFunction	enumeration	0..1	1: Download 3: Offline Access 4: Order 5: Search 6: Complete Metadata 7: Browse Graphic 8: Upload 9: Email Service 10: Browsing 11: File Access	false

4.11 Orientation

Name: Orientation [IHOREG 225]
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.
Code: `orientation`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
orientationUncertainty	real	0..1		false
orientationValue	real	1..1		false

4.12 Periodic Date Range

Name: Periodic Date Range [IHOREG 794]
Definition: The active period of a recurring event or occurrence.
Code: `periodicDateRange`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
dateStart	S100_TruncatedDate	1..1		false
dateEnd	S100_TruncatedDate	1..1		false

4.13 RxN Code

Name: RxN Code [IHOREG 765]
Definition: A summary of the impact of the most common types of regulation, restriction, recommendation and nautical information on a vessel.
Code: `rxNCode`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
categoryOfRxN	S100_CodeList	0..1	1: Navigation 2: Communication 3: Environmental Protection 4: Wildlife Protection 5: Security 6: Customs 7: Cargo Operation 8: Refuge 9: Health 10: Natural Resources or Exploitation 11: Port 12: Finance 13: Agriculture	false
actionOrActivity	S100_CodeList	0..1	1: Navigating With a Pilot 2: Entering Port 3: Leaving Port 4: Berthing 5: Slipping 6: Anchoring 7: Weighing Anchor 8: Transiting 9: Overtaking 10: Reporting 11: Working Cargo 12: Landing 13: Diving 14: Fishing 15: Discharging Overboard 16: Passing 17: Ballast Water Exchange 18: Hull Cleaning	false
headline	text	0..1		false

4.14 Schedule by Day of Week

Name: Schedule by Day of Week [IHOREG 249]
Definition: The nature and timings of a daily schedule by days of the week.
Code: `scheduleByDayOfWeek`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
categoryOfSchedule	enumeration	0..1	1: Normal Operation 2: Closure 3: Unmanned Operation	false
timeIntervalsByDayOfWeek	complex	1..10		false

4.15 Spatial Accuracy

Name: Spatial Accuracy [IHOREG 985]
Definition: Provides an indication of the vertical and horizontal positional uncertainty of bathymetric data, optionally within a specified date range.
Code: `spatialAccuracy`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
fixedDateRange	complex	0..1		false
horizontalPositionUncertainty	complex	0..1		false
verticalUncertainty	complex	0..1		false

4.16 Source Indication

Name: Source Indication [IHOREG 1320]
Definition: Information about the source document, publication, or reference from which object data or textual material included or referenced in a dataset are derived.
Code: `sourceIndication`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
categoryOfAuthority	enumeration	0..1		false
countryName	text	0..1		false
source	text	0..1		false
sourceType	enumeration	0..1	1: Law or Regulation 2: Official Publication 7: Mariner Report, Confirmed 8: Mariner Report, Not Confirmed 9: Industry Publications and Reports 10: Remotely Sensed Images	false

Sub-attribute	Type	Mult.	Permitted Values	Sequential
			11: Photographs 12: Products Issued by HO Services 13: News Media 14: Traffic Data	
reportedDate	S100_TruncatedDate	0..1		false
featureName	complex	0..*		false

4.17 Survey Date Range

Name: Survey Date Range [IHOREG 795]
Definition: The complex attribute describes the period of the hydrographic survey, as the time between its sub-attributes.
Code: `surveyDateRange`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
dateStart	S100_TruncatedDate	0..1		false
dateEnd	S100_TruncatedDate	1..1		false

4.18 Telecommunications

Name: Telecommunications [IHOREG 255]
Definition: A means or channel of communicating at a distance by electrical or electromagnetic means such as telegraphy, telephony, or broadcasting.
Code: `telecommunications`
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.
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
categoryOfCommunicationPreference	enumeration	0..1	1: Preferred Calling 2: Alternate Calling 3: Preferred Working 4: Alternate Working	false
telecommunicationIdentifier	text	1..1		false
telecommunicationCarrier	text	0..1		false
contactInstructions	text	0..1		false
telecommunicationService	enumeration	0..*	1: Voice 2: Facsimile 3: SMS 4: Data 5: Streamed Data 6: Telex 7: Telegraph 8: Email	false

4.19 Text Content

Name: Text Content [IHOREG 768]
Definition: Textual material, or a pointer to a resource providing textual material. May be accompanied by basic information about its source and relationship to the source.
Code: `textContent`
Remarks: Exactly one of sub-attributes onlineResource or information must be completed in one instance of textContent. Product specifications may restrict the use or content of onlineResource for security. For example, a product specification may forbid populating onlineResource. Product specification authors must consider whether applications using the data product may be prevented from accessing off-system resources by security policies.
Aliases: TXTCON

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
categoryOfText	enumeration	0..1	1: Abstract or Summary 2: Extract 3: Full Text	false
source	text	0..1		false
sourceType	enumeration	0..1	1: Law or Regulation 2: Official Publication 7: Mariner Report, Confirmed 8: Mariner Report, Not Confirmed 9: Industry Publications and Reports 10: Remotely Sensed Images 11: Photographs 12: Products Issued by HO Services 13: News Media 14: Traffic Data	false
reportedDate	S100_TruncatedDate	0..1		false

4.20 Time Intervals by Day of Week

Name: Time Intervals by Day of Week [IHOREG 248]
Definition: The regular weekly operation times of a service or schedule.
Code: `timeIntervalsByDayOfWeek`
Remarks:
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
dayOfWeek	enumeration	0..7	1: Sunday 2: Monday 3: Tuesday 4: Wednesday 5: Thursday 6: Friday 7: Saturday	true
dayOfWeekIsRange	boolean	0..1		false
timeOfDayEnd	time	0..99		true
timeOfDayStart	time	0..99		true

4.21 Vertical Uncertainty

Name: Vertical Uncertainty [IHOREG 261]
Definition: The best estimate of the vertical accuracy of depths, heights, vertical distances and vertical clearances.
Code: `verticalUncertainty`
Remarks: Encodes the vertical uncertainty associated with any vertical measurement.
Aliases: VERACC

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
uncertaintyFixed	real	1..1		false
uncertaintyVariableFactor	real	0..1		false

4.22 Vessel Measurements Specification

Name: Vessel Measurements Specification [IHOREG 772]
Definition: Combinations of values of measurable characteristics or dimensions of vessels, used to specify size and tonnage ranges.
Code: `vesselMeasurementsSpecification`
Remarks: Combines (i) specifications of vessels' measurable characteristics (length, beam, tonnages, etc.), (ii) limit values for the specified characteristics (with units), (iii) arithmetical comparison operators (greater than, etc.), and (iv) logical operators (AND/OR) to define a subset of vessels characterized by the specified ranges. For example, the combination (draught, 10.5, metres, greaterThan) describes "vessels with draught greater than 10.5 metres".
Aliases: (none)

Sub-Attributes

Sub-attribute	Type	Mult.	Permitted Values	Sequential
comparisonOperator	enumeration	1..1	1: Greater Than 2: Greater Than or Equal To 3: Less Than 4: Less Than or Equal To 5: Equal To 6: Not Equal To	false
vesselsCharacteristics	enumeration	1..1	1: Length Overall 2: Length at Waterline 3: Breadth 4: Draught 6: Displacement Tonnage 7: Displacement Tonnage, Light 8: Displacement Tonnage, Loaded 9: Deadweight Tonnage 10: Gross Tonnage 11: Net Tonnage 12: Panama Canal/Universal Measurement System Net Tonnage 13: Suez Canal Net Tonnage	false
vesselsCharacteristicsValue	real	1..1		false
vesselsCharacteristicsUnit	enumeration	1..1	1: Metres 3: Metric Ton 4: Ton 5: Short Ton 6: Gross Ton 7: Net Ton 9: Suez Canal Net Tonnage	false

5 Roles

5.1 The Authority

Name: The Authority [IHOREG 20]
Definition: A pointer to an Authority object
Code: `theAuthority`
Remarks:
Aliases: (none)

5.2 Authority service hours

Name: Authority service hours [IHOREG 21]
Definition: The authority for which service hours are given
Code: `theAuthority_srvHrs`
Remarks:
Aliases: (none)

5.3 Contact details

Name: Contact details [IHOREG 22]
Definition: A pointer to an Contact Details object
Code: `theContactDetails`
Remarks:
Aliases: (none)

5.4 Control authority

Name: Control authority [IHOREG 23]
Definition: The controlling organization or authority for a geographically located service
Code: `controlAuthority`
Remarks:
Aliases: (none)

5.5 Is applicable to

Name: Is applicable to [IHOREG 28]
Definition: The object or class of objects to which the regulation, restriction, recommendation, or nautical information applies
Code: `isApplicableTo`
Remarks:
Aliases: (none)

5.6 Organisation-Related RxN

Name: Organisation-Related RxN
Definition: Reference to regulation, recommendation, restriction or general information related to an organisation
Code: `organisationRelatedRxN`
Remarks:
Aliases: (none)

5.7 Permission

Name: Permission [IHOREG 49]
Definition: Association class for associations describing whether the subsets of vessels determined by the ship characteristics specified in APPLIC may (or must, etc.) transit, enter, or use a feature.
Code: `permission`
Remarks:
Aliases: (none)

5.8 Partial working day

Name: Partial working day [IHOREG 36]
Definition: The work hours for a non-standard workday
Code: `partialWorkingDay`
Remarks:
Aliases: (none)

5.9 Responsible authority

Name: Responsible authority [IHOREG 39]
Definition: The responsible authority
Code: `responsibleAuthority`
Remarks:
Aliases: (none)

5.10 Service Hours (reference)

Name: Service Hours (reference) [IHOREG 29]
Definition: Service hours for an authority or service provider
Code: `theServiceHours`
Remarks:
Aliases: (none)

5.11 The information

Name: The information [IHOREG 48]
Definition: A pointer to an object that provides more information about the referencing feature or information type.
Code: `theInformation`
Remarks: Registry definition "The information" merely repeats the name.
Aliases: (none)

5.12 The organisation

Name: The organisation [IHOREG 47]
Definition: The organisation to which information relates
Code: `theOrganisation`
Remarks:
Aliases: (none)

5.13 The Quality Information

Name: The Quality Information
Definition: A pointer to an information type providing spatial quality information.
Code: `theQualityInformation`
Remarks:
Aliases: (none)

5.14 The RxN

Name: The RxN [IHOREG 30]
Definition: The regulation, restriction, recommendation, or nautical information
Code: `theRxN`
Remarks:
Aliases: (none)

5.15 The Applicable RxN

Name: The Applicable RxN [IHOREG 18]
Definition: The applicable regulation, restriction, recommendation or nautical information
Code: `theApplicableRxN`
Remarks:
Aliases: (none)

5.16 The Cartographic Text

Name: The Cartographic Text [IHOREG 3]
Definition: A pointer to a specific cartographically positioned location for text.
Code: `theCartographicText`
Remarks:
Aliases: (none)

5.17 The Position Provider

Name: The Position Provider
Definition: A pointer to a specific feature(s).
Code: `thePositionProvider`
Remarks:
Aliases: (none)

5.18 The service hours for a non-standard workday

Name: The service hours for a non-standard workday [IHOREG 32]
Definition: The usual service hours to which an exception applies
Code: `theServiceHours_nsdy`
Remarks:
Aliases: (none)

6 Information Associations

6.1 Additional information

Name: Additional information [IHOREG 8000001]
Definition: A feature association for the binding between at least one instance of a geo feature and an instance of an information type.
Code: `AdditionalInformation`
Remarks:
Aliases: (none)

<div align="center">

Attribute Bindings

</div>

(No local attribute bindings)

Role: theInformation

6.2 Authority contact

Name: Authority contact [IHOREG 8000003]
Definition: Contact information for an authority
Code: `AuthorityContact`
Remarks:
Aliases: (none)

<div align="center">

Attribute Bindings

</div>

(No local attribute bindings)

Role: theAuthority theContactDetails

6.3 Authority hours

Name: Authority hours [IHOREG 8000004]
Definition: Service hours for an authority
Code: `AuthorityHours`
Remarks:
Aliases: (none)

<div align="center">

Attribute Bindings

</div>

(No local attribute bindings)

Role: theAuthority_srvHrs theServiceHours

6.4 Associated RxN

Name: Associated RxN [IHOREG 8000005]
Definition: Association between a geographic location and a regulation, restriction, recommendation, or nautical information
Code: `AssociatedRxN`
Remarks:
Aliases: (none)

<div align="center">

Attribute Bindings

</div>

(No local attribute bindings)

Role: theRxN

6.5 Exceptional workday

Name: Exceptional workday [IHOREG 8000006]
Definition: Exception to the usual working day
Code: `ExceptionalWorkday`
Remarks:
Aliases: (none)

<div align="center">Attribute Bindings</div>

(No local attribute bindings)

Role: theServiceHours_nsdy partialWorkingDay

6.6 Protected area authority

Name: Protected area authority [IHOREG 8000009]
Definition: There may be more than one such authority depending on how responsibilities are divided
Code: `ProtectedAreaAuthority`
Remarks:
Aliases: (none)

<div align="center">Attribute Bindings</div>

(No local attribute bindings)

Role: responsibleAuthority

6.7 Related organisation

Name: Related organisation [IHOREG 8000014]
Definition: Related organisation
Code: `RelatedOrganisation`
Remarks:
Aliases: (none)

<div align="center">Attribute Bindings</div>

(No local attribute bindings)

Role: organisationRelatedRxN theOrganisation

6.8 InclusionType

Name: InclusionType [IHOREG 8000015]
Definition: Association class specifying the relationship between the subset of vessels described by an APPLIC data object and a regulation (restriction, recommendation, or nautical information).
Code: `InclusionType`
Remarks:
Aliases: (none)

<div align="center">Attribute Bindings</div>

Attribute	Type	Mult.	Permitted Values	Sequential
membership	enumeration	1..1	1 : Included 2 : Excluded	false

Role: theApplicableRxN isApplicableTo

6.9 Permission Type

Name: Permission Type [IHOREG 8000016]
Definition: Association class for associations describing whether the subsets of vessels determined by the ship characteristics specified in APPLIC may (or must, etc.) transit, enter, or use a feature.
Code: `PermissionType`
Remarks:
Aliases: (none)

<div align="center">Attribute Bindings</div>

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfRelationship	enumeration	1..1	1 : Prohibited 2 : Not Recommended 3 : Permitted 4 : Recommended	false

Attribute	Type	Mult.	Permitted Values	Sequential
			5 : Required 6 : Not Required 7 : Exclusively Permitted	

Role: permission

6.10 Service control

Name: Service control [IHOREG 8000010]
Definition: The controlling authority for a service area
Code: `ServiceControl`
Remarks: This is an information association linking a location where a service is provided with an information type describing the provider. Contrast to serviceProvisionArea, which is a feature association linking the area served with another feature describing the provider. Role controlledService encodable only as a generic inverse association in 3.0.0 datasets as it is an information->feature link
Aliases: (none)

Attribute Bindings

(No local attribute bindings)

Role: controlAuthority

6.11 Spatial Association

Name: Spatial Association [IHOREG 8000019]
Definition: An association for the binding between a spatial type and its spatial quality information.
Code: `SpatialAssociation`
Remarks:
Aliases: (none)

Association is not referenced in any information binding

Attribute Bindings

(No local attribute bindings)

Role: theQualityInformation

7 Feature Associations

7.1 Text association

Name: Text association [IHOREG 9000014]
Definition: A feature association for the binding between a geo feature and the cartographically positioned location for text.
Code: `TextAssociation`
Remarks:
Aliases: (none) [IHOREG 9000014]

<div align="center">Attribute Bindings</div>

(No local attribute bindings)

Role(s): thePositionProvider theCartographicText

8 Information Types

8.1 Information Type

Name: Information Type   Abstract type: true [IHOREG 42]
Definition: Generalized information type which carries all the common attributes.
Code: `InformationType`
Remarks:
Aliases: (none)

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
featureName	complex	0..*		false
fixedDateRange	complex	0..1		false
periodicDateRange	complex	0..*		false
graphic	complex	0..*		false
sourceIndication	complex	0..*		false

Information bindings
(No local bindings, but may inherit bindings from super-types, if any)

8.2 AbstractRxN

Name: AbstractRxN   Abstract type: true [IHOREG 33]
Definition: An abstract superclass for information types that encode rules, recommendations, and general information in text or graphic form.
Code: `AbstractRxN`
Remarks:
Aliases: (none)   Supertype: InformationType

Attribute Bindings
See InformationType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfAuthority	enumeration	0..1	2 : Border Control 3 : Police 4 : Port 5 : Immigration 6 : Health 7 : Coast Guard 8 : Agricultural 9 : Military 10 : Private Company 11 : Maritime Police 12 : Environmental 13 : Fishery 14 : Finance 15 : Maritime 16 : Customs	false
rxNCode	complex	0..*		false
textContent	complex	0..*		false

Information bindings
See InformationType for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	InclusionType	Applicability	isApplicableTo	0..*
association	RelatedOrganisation	Authority	theOrganisation	0..*

8.3 Applicability

Name: Applicability [IHOREG 35]
Definition: Describes the relationship between vessel characteristics and: (i) the applicability of an associated information object or feature to the vessel; or, (ii) the use of a facility, place, or service by the vessel; or, (iii) passage of the vessel through an area.
Code: `Applicability`
Remarks:
Aliases: (none)   Supertype: InformationType

Attribute Bindings
See InformationType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
inBallast	boolean	0..1		false
categoryOfCargo	enumeration	0..*	1 : Bulk 2 : Container 3 : General 4 : Liquid 5 : Passenger 6 : Livestock 7 : Dangerous or Hazardous 8 : Heavy Lift 10 : Dry Bulk Cargo 11 : Liquid Bulk Cargo 12 : Reefer Container Cargo 13 : Ro-Ro Cargo 14 : Project Cargo 15 : Break Bulk Cargo	false
categoryOfDangerousOrHazardousCargo	enumeration	0..*	1 : IMDG Code Class 1 Div. 1.1 2 : IMDG Code Class 1 Div. 1.2 3 : IMDG Code Class 1 Div. 1.3 4 : IMDG Code Class 1 Div. 1.4 5 : IMDG Code Class 1 Div. 1.5 6 : IMDG Code Class 1 Div. 1.6 7 : IMDG Code Class 2 Div. 2.1 8 : IMDG Code Class 2 Div. 2.2 9 : IMDG Code Class 2 Div. 2.3 10 : IMDG Code Class 3 11 : IMDG Code Class 4 Div. 4.1 12 : IMDG Code Class 4 Div. 4.2 13 : IMDG Code Class 4 Div. 4.3 14 : IMDG Code Class 5 Div. 5.1 15 : IMDG Code Class 5 Div. 5.2 16 : IMDG Code Class 6 Div. 6.1 17 : IMDG Code Class 6 Div. 6.2 18 : IMDG Code Class 7 19 : IMDG Code Class 8 20 : IMDG Code Class 9 21 : Harmful Substances in Packaged Form	false
categoryOfVessel	S100_CodeList	0..1	1 : General Cargo Vessel 2 : Container Carrier 3 : Tanker	false

Attribute	Type	Mult.	Permitted Values	Sequential
			4 : Bulk Carrier 5 : Passenger Vessel 6 : Roll-On Roll-Off 7 : Refrigerated Cargo Vessel 8 : Fishing Vessel 9 : Service 10 : Warship 11 : Towed or Pushed Composite Unit 12 : Tug and Tow 13 : Light Recreational 14 : Semi-Submersible Offshore Installation 15 : Jack-Up Exploration or Project Installation 16 : Livestock Carrier 17 : Sport Fishing	
categoryOfVesselRegistry	enumeration	0..1	1 : Domestic 2 : Foreign	false
logicalConnectives	enumeration	0..1	1 : Logical Conjunction 2 : Logical Disjunction	false
thicknessOfIceCapability	integer	0..1		false
vesselPerformance	text	0..1		false
destination	text	0..1		false
information	complex	0..*		false
vesselMeasurementsSpecification	complex	0..*		false

Information bindings
See InformationType for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	InclusionType	AbstractRxN	theApplicableRxN	0..*

8.4 Authority

Name: Authority [IHOREG 36]
Definition: A person or organisation having political or administrative power and control.
Code: `Authority`
Remarks:
Aliases: (none)   Supertype: InformationType

Attribute Bindings
See InformationType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfAuthority	enumeration	1..1	2 : Border Control 3 : Police 4 : Port 5 : Immigration 6 : Health 7 : Coast Guard 8 : Agricultural 9 : Military 10 : Private Company 11 : Maritime Police	false

Attribute	Type	Mult.	Permitted Values	Sequential
			12 : Environmental 13 : Fishery 14 : Finance 15 : Maritime 16 : Customs	
textContent	complex	0..1		false

Information bindings
See InformationType for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	AuthorityContact	ContactDetails	theContactDetails	0..*
association	RelatedOrganisation	AbstractRxN	organisationRelatedRxN	0..*
association	AuthorityHours	ServiceHours	theServiceHours	0..*

8.5 Contact Details

Name: Contact Details [IHOREG 27]
Definition: Information on how to reach a person or organisation by postal, internet, telephone, telex and radio systems.
Code: `ContactDetails`
Remarks:
Aliases: (none)   Supertype: InformationType

Attribute Bindings
See InformationType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
callName	text	0..1		false
callSign	text	0..1		false
categoryOfCommunicationPreference	enumeration	0..1	1 : Preferred Calling 2 : Alternate Calling 3 : Preferred Working 4 : Alternate Working	false
communicationChannel	text	0..*		false
contactInstructions	text	0..1		false
language	text	0..*		false
mMSICode	text	0..1		false
contactAddress	complex	0..*		false
frequencyPair	complex	0..*		false
information	complex	0..*		false
onlineResource	complex	0..*		false
telecommunications	complex	0..*		false

Information bindings
See InformationType for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	AuthorityContact	Authority	theAuthority	0..*

8.6 Nautical Information

Name: Nautical Information [IHOREG 30]
Definition: Nautical information about a related area or facility.
Code: `NauticalInformation`
Remarks:
Aliases: (none)   Supertype: [AbstractRxN](#)

<div align="center">

Attribute Bindings
See [AbstractRxN](#) for inherited attributes

</div>

(No local attribute bindings)

<div align="center">

Information bindings
See [AbstractRxN](#) for inherited bindings
(No local bindings, but may inherit bindings from super-types, if any)

</div>

8.7 Non-Standard Working Day

Name: Non-Standard Working Day [IHOREG 29]
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.
Code: `NonStandardWorkingDay`
Remarks:
Aliases: (none)   Supertype: [InformationType](#)

<div align="center">

Attribute Bindings
See [InformationType](#) for inherited attributes

</div>

Attribute	Type	Mult.	Permitted Values	Sequential
[dateFixed](#)	S100_TruncatedDate	0..*		false
[dateVariable](#)	text	0..*		false
[information](#)	complex	0..*		false

<div align="center">

Information bindings
See [InformationType](#) for inherited bindings
(No local bindings, but may inherit bindings from super-types, if any)

</div>

8.8 Recommendations

Name: Recommendations [IHOREG 44]
Definition: Recommendations for a related area or facility.
Code: `Recommendations`
Remarks:
Aliases: RCMDTS   Supertype: [AbstractRxN](#)

<div align="center">

Attribute Bindings
See [AbstractRxN](#) for inherited attributes

</div>

(No local attribute bindings)

<div align="center">

Information bindings
See [AbstractRxN](#) for inherited bindings
(No local bindings, but may inherit bindings from super-types, if any)

</div>

8.9 Regulations

Name: Regulations [IHOREG 45]
Definition: Regulations for a related area or facility.
Code: `Regulations`
Remarks:
Aliases: REGLTS   Supertype: AbstractRxN

<div align="center">Attribute Bindings</div>
<div align="center">See AbstractRxN for inherited attributes</div>

(No local attribute bindings)

<div align="center">Information bindings</div>
<div align="center">See AbstractRxN for inherited bindings</div>
<div align="center">(No local bindings, but may inherit bindings from super-types, if any)</div>

8.10 Restrictions

Name: Restrictions [IHOREG 47]
Definition: Restrictions for a related area or facility.
Code: `Restrictions`
Remarks:
Aliases: RESDES   Supertype: AbstractRxN

<div align="center">Attribute Bindings</div>
<div align="center">See AbstractRxN for inherited attributes</div>

(No local attribute bindings)

<div align="center">Information bindings</div>
<div align="center">See AbstractRxN for inherited bindings</div>
<div align="center">(No local bindings, but may inherit bindings from super-types, if any)</div>

8.11 Service Hours

Name: Service Hours [IHOREG 28]
Definition: The time when a service is available and known exceptions.
Code: `ServiceHours`
Remarks:
Aliases: (none)   Supertype: InformationType

<div align="center">Attribute Bindings</div>
<div align="center">See InformationType for inherited attributes</div>

Attribute	Type	Mult.	Permitted Values	Sequential
scheduleByDayOfWeek	complex	1..*		false
information	complex	0..*		false

<div align="center">Information bindings</div>
<div align="center">See InformationType for inherited bindings</div>

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	ExceptionalWorkday	NonStandardWorkingDay	partialWorkingDay	0..*
association	AuthorityHours	Authority	theAuthority_srvHrs	0..*

8.12 Spatial Quality

Name: Spatial Quality [IHOREG 31]
Definition: The indication of the quality of the locational information for features in a dataset.
Code: `SpatialQuality`
Remarks:
Aliases: (none)

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
qualityOfHorizontalMeasurement	enumeration	0..1	1 : Surveyed 2 : Unsurveyed 3 : Inadequately Surveyed 4 : Approximate 5 : Position Doubtful 6 : Unreliable 7 : Reported (Not Surveyed) 8 : Reported (Not Confirmed) 9 : Estimated 10 : Precisely Known 11 : Calculated	false
spatialAccuracy	complex	0..*		false

Information bindings

(No local bindings, but may inherit bindings from super-types, if any)

9 Feature Types

9.1 Feature Type

Name: Feature Type   Abstract type: true [IHOREG 422]
Definition: Generalized feature type which carries all the common attributes.
Code: `FeatureType`
Remarks:
Aliases: (none)
Feature use type: geographic
Permitted primitives: noGeometry

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
interoperabilityIdentifier	URN	0..*		false
featureName	complex	0..*		false
fixedDateRange	complex	0..1		false
periodicDateRange	complex	0..*		false
rxNCode	complex	0..*		false
graphic	complex	0..*		false
sourceIndication	complex	0..*		false
textContent	complex	0..*		false

Information bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	PermissionType	Applicability	permission	0..*
association	AssociatedRxN	AbstractRxN	theRxN	0..*
association	AdditionalInformation	NauticalInformation	theInformation	0..*

Feature bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	TextAssociation	TextPlacement	theCartographicText	0..1

9.2 Information Area

Name: Information Area [IHOREG 315]
Definition: An area for which general information regarding navigation, but not directly related to safety of navigation, is available.
Code: `InformationArea`
Remarks:
Aliases: M_NPUB   Supertype: FeatureType
Feature use type: geographic
Permitted primitives: surface

Attribute Bindings
See FeatureType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfRelationship	enumeration	1..1	1 : Prohibited	false

Attribute	Type	Mult.	Permitted Values	Sequential
			3 : Permitted	
actionOrActivity	S100_CodeList	1..1	17 : Ballast Water Exchange	false

Information bindings
See FeatureType for inherited bindings
(No local bindings, but may inherit bindings from super-types, if any)

Feature bindings
See FeatureType for inherited bindings.
(No local bindings, but may inherit bindings from super-types, if any)

9.3 Marine Protected Area

Name: Marine Protected Area [IHOREG 586]
Definition: Any area of the intertidal or sub-tidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment.
Code: MarineProtectedArea
Remarks:
Aliases: MPAARE   Supertype: FeatureType
Feature use type: geographic
Permitted primitives: curve surface

Attribute Bindings
See FeatureType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfMarineProtectedArea	S100_CodeList	1..*	1 : IUCN Category Ia 2 : IUCN Category Ib 3 : IUCN Category II 4 : IUCN Category III 5 : IUCN Category IV 6 : IUCN Category V 7 : IUCN Category VI	false
categoryOfRestrictedArea	enumeration	0..*	1 : Offshore Safety Zone 4 : Nature Reserve 5 : Bird Sanctuary 6 : Game Reserve 7 : Seal Sanctuary 10 : Historic Wreck Area 20 : Research Area 22 : Fish Sanctuary 23 : Ecological Reserve 27 : Environmentally Sensitive Sea Area 28 : Particularly Sensitive Sea Area 31 : Coral Sanctuary 32 : Recreation Area 33 : Ship Pollution Emission Control	false
jurisdiction	enumeration	0..1	1 : International 2 : National 3 : National Sub-Division	false
restriction	enumeration	0..*	1 : Anchoring Prohibited 2 : Anchoring Restricted	false

Attribute	Type	Mult.	Permitted Values	Sequential
			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 38 : Use of Spuds Prohibited 39 : Swimming Prohibited 40 : SOx Emission Restricted 41 : NOx Emission Restricted 42 : Power-Driven Vessels Prohibited	
status	enumeration	0..*	1 : Permanent 2 : Occasional 3 : Recommended 4 : Not in Use 5 : Periodic/Intermittent 6 : Reserved 7 : Temporary 9 : Mandatory 18 : Existence Doubtful 28 : Buoyed 13 : Historic 14 : Public	false
designation	complex	0..*		false

Information bindings
See FeatureType for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	ProtectedAreaAuthority	Authority	responsibleAuthority	0..*

Feature bindings
See FeatureType for inherited bindings.
(No local bindings, but may inherit bindings from super-types, if any)

9.4 Restricted Area

Name: Restricted Area [IHOREG 375]
Definition: A specified area designated by an appropriate authority within which navigation is restricted in accordance with certain specified conditions.
Code: `RestrictedArea`
Remarks:
Aliases: RESARE   Supertype: FeatureType
Feature use type: geographic
Permitted primitives: surface

Attribute Bindings
See FeatureType for inherited attributes

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfRestrictedArea	enumeration	0..*	1 : Offshore Safety Zone 4 : Nature Reserve 5 : Bird Sanctuary 6 : Game Reserve 7 : Seal Sanctuary 10 : Historic Wreck Area 20 : Research Area 22 : Fish Sanctuary 23 : Ecological Reserve 27 : Environmentally Sensitive Sea Area 28 : Particularly Sensitive Sea Area 31 : Coral Sanctuary 32 : Recreation Area 33 : Ship Pollution Emission Control	false
restriction	enumeration	1..*	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	false

Attribute	Type	Mult.	Permitted Values	Sequential
			24 : Dragging Prohibited 25 : Stopping Prohibited 26 : Landing Prohibited 27 : Speed Restricted 38 : Use of Spuds Prohibited 39 : Swimming Prohibited 40 : SOx Emission Restricted 41 : NOx Emission Restricted 42 : Power-Driven Vessels Prohibited	
status	enumeration	0..*	1 : Permanent 2 : Occasional 3 : Recommended 4 : Not in Use 5 : Periodic/Intermittent 6 : Reserved 7 : Temporary 9 : Mandatory 18 : Existence Doubtful 28 : Buoyed 13 : Historic 14 : Public	false

Information bindings
See FeatureType for inherited bindings
(No local bindings, but may inherit bindings from super-types, if any)

Feature bindings
See FeatureType for inherited bindings.
(No local bindings, but may inherit bindings from super-types, if any)

9.5 Vessel Traffic Service Area

Name: Vessel Traffic Service Area [IHOREG 362]
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.
Code: `VesselTrafficServiceArea`
Remarks:
Aliases: ADMARE; VTS Area   Supertype: FeatureType
Feature use type: geographic
Permitted primitives: surface

Attribute Bindings
See FeatureType for inherited attributes

(No local attribute bindings)

Information bindings
See FeatureType for inherited bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
association	ServiceControl	Authority	controlAuthority	0..1

Feature bindings
See FeatureType for inherited bindings.
(No local bindings, but may inherit bindings from super-types, if any)

9.6 Data Coverage

Name: Data Coverage [IHOREG 187]
Definition: A geographical area that describes the coverage and extent of spatial objects.
Code: `DataCoverage`
Remarks:
Aliases: M_COVR
Feature use type: meta
Permitted primitives: surface

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
maximumDisplayScale	integer	1..1		false
minimumDisplayScale	integer	1..1		false
optimumDisplayScale	integer	0..1		false

Information bindings
(No local bindings, but may inherit bindings from super-types, if any)

Feature bindings
(No local bindings, but may inherit bindings from super-types, if any)

9.7 Quality of Non-Bathymetric Data

Name: Quality of Non-Bathymetric Data [IHOREG 186]
Definition: An area within which a uniform assessment of the quality of the non-bathymetric data exists.
Code: `QualityOfNonBathymetricData`
Remarks:
Aliases: M_ACCY
Feature use type: meta
Permitted primitives: surface

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
categoryOfTemporalVariation	enumeration	0..1	1 : Extreme Event 4 : Likely to Change 5 : Unlikely to Change 6 : Unassessed	false
horizontalDistanceUncertainty	real	0..1		false
horizontalPositionUncertainty	complex	0..1		false
orientationUncertainty	real	0..1		false
surveyDateRange	complex	0..1		false
information	complex	0..*		false

Information bindings
(No local bindings, but may inherit bindings from super-types, if any)

Feature bindings
(No local bindings, but may inherit bindings from super-types, if any)

9.8 Text Placement

Name: Text Placement [IHOREG 662]
Definition: The Text Placement feature is used in association with the Feature Name attribute or a light description to optimize text positioning in ECDIS.
Code: `TextPlacement`
Remarks:
Aliases: (none)
Feature use type: cartographic
Permitted primitives: point

Attribute Bindings

Attribute	Type	Mult.	Permitted Values	Sequential
textOffsetBearing	integer	1..1		false
textOffsetDistance	integer	1..1		false
textRotation	boolean	0..1		false
textType	enumeration	1..2	1 : Name	false
scaleMinimum	integer	0..1		false

Information bindings
(No local bindings, but may inherit bindings from super-types, if any)

Feature bindings

Assoc. Type	Code of association	Code of associated class	Role	Mult.
composition	TextAssociation	FeatureType	thePositionProvider	1..1