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1 SCOPE

This standard provides a consistent method of assigning tag numbers for the total project across all facilities. It generally follows standard hydrocarbon industry tag numbering and has been developed to apply similar numbering to both offshore and onshore equipment. The intent of the document is to provide a consistent numbering system for the green field development and any foreseeable brown field additions and modifications.

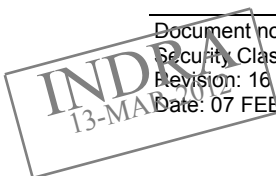
1.1 Objective

The objective of this document is to fully define the rules for creating tag numbers for all project facilities.

1.2 Applicability

The end users of this document will include engineering, design, fabrication, commissioning, operations, maintenance, and data input for the operators from the project and contractors.

The requirements of this document must be applied by the contractors, sub contractors, manufacturers, Suppliers and consultants who are contracted to the project and are engaged in the design of facilities and processes for the project installations.



2 ABBREVIATIONS & DEFINITIONS

Abbreviation	Definition of Abbreviation
CPF	Central Processing Facility
CMMS	Computerised Maintenance Management System
DC	Direct Current
ESD	Emergency Shut Down
FGS	Fire and Gas System
FPSO	Floating Production, Storage & Offloading facility
GEP	Gas Export Pipeline
HVAC	Heating, Ventilation and Air Conditioning
ICSS	Integrated Control and Safety System
MCC	Motor Control Centre
P&ID	Piping and Instrumentation Diagram
PBS	Plant Breakdown Structure
PCS	Process Control System
SPS	Subsea Production System
SURF	Subsea, Umbilicals, Risers and Flowlines
UPS	Uninterruptible Power Supply
URF	Umbilicals, Risers and Flowlines

2.1 Definitions

Within this document the following words and abbreviations shall have the meanings stated below.

2.1.1 General Definitions

The definitions below shall be included if the words defined are used in the Code of Practice.

Term	Definition
Equipment	Fixed assets required to support and operate the facility

2.1.2 Specific Definitions

An equipment tag number is an alpha-numeric code that defines a location, function and its position within a system e.g. Pump, Valve, Gauge etc. Bulk items e.g. Elbow, Flange etc, are not identified with an Equipment Tag Number.

3 RESPONSIBILITIES

The responsibility for ensuring that this standard is followed rests with the General Manager Production Operations (or his approved delegate). Operations Dept Seconded within the Project Commissioning organisation will be responsible in ensuring compliance with this Standard. When work is contracted out, this responsibility is shared with the main Contractor's Engineering Manager.

3.1 Regulatory Considerations

If international and/or regional regulations exist in which some of the requirements may be more stringent than in this Standard, the Contractor shall determine by careful scrutiny which of the requirements are the more stringent and which combination of requirements will be acceptable as regards safety, environmental, economic and legal aspects. In all cases the Contractor shall inform the project Standard custodian of any deviation from the requirements of this Standard which is considered to be necessary in order to comply with international and or regional regulations.

3.2 Revision Control

Changes/revisions to this document shall be in accordance INPEX Document Control procedures.

4 GENERAL REQUIREMENTS

4.1 General

4.1.1 Equipment Tag Numbers

The equipment tag number is to identify a fixed asset function and position, not a physical item of equipment. Removal or change-out (like for like) of equipment will not change an equipment tag number. It will remain unchanged unless the system within which it resides is modified.

4.1.2 Distinction between Onshore and Offshore Facilities

The intent of this standard is to use commonality of approach, where possible, for both Onshore and Offshore tagging.

4.1.3 What to Tag

It is impractical to list all positions on an installation that need to be tagged. However, in general terms, tag numbers will be used to identify positions of functional items of equipment that;

- Are essential to safety, life support or the process
- Have functions described in APPENDIX D: to 7APPENDIX M: of this standard
- Are connected to permanent cables and impulse lines
- Are actuating or indicating instruments
- Are required to be certified for a hazardous area
- Requires periodic testing with results recorded.

Skid mounted equipment or equipment forming part of a major package must also be tagged if it falls into any of the above categories.

4.1.4 Tag Number Plates

Generally the positions of all functional items of equipment must be physically identified by a tag number plate.

With the exception of subsea equipment, (refer 4.1.7 below) the tag number plates shall be manufactured from 316L stainless steel which shall be engraved with the tag number and permanently fixed, (not wired) adjacent the tagged object such that the information is legible from a minimum of two metres away. Plates shall be a minimum of 100mm wide x 15mm high. The tag number plate shall be positioned close to, but not on, the equipment, which is to assist in the swap out of equipment so that the tag number plate is not removed during the replacement process.

The engraving shall be 10mm high and be coloured black, with the exception of critical safety devices, which shall be coloured red.

4.1.5 Cable Numbering and Cable Schedules

Cable numbers shall be allocated on a cable schedule for all cables that are connected to items of equipment including equipment on skids or packages.

Unlike tag numbers, cable numbers must be attached directly to the cable and shall be right way up and read left to right, top to bottom.

Each cable must be identified at least at its point of origin and termination.

4.1.6 Instrument Impulse, Instrument and Hydraulic Valves/Lines

Instrument impulse tubing line tapping points and instrument air/hydraulic line isolation valves and associated in-line valves that are not immediately identifiable or lines that are greater than 6 metres in length, shall be identified using a similar tagging and attachment methods as used for cable identification. The tag number format is specified in Section 5.25.

4.1.7 Subsea Identification and Tagging

Required for identification, positioning and orientation, the underwater subsea tags/markers shall be:

- Suitable for installation in harsh, low light and turbid water conditions with good visibility and easy identification for ROV operators
- Non toxic without any biocides or metallic components
- Anti-fouling performance, proven in ultra harsh fouling subsea conditions
- Extremely long lasting silicone base material, coupled with fluorescent dyes maintaining greater visibility over extended periods
- Supplied with a protective cover for use during installation and offers UV protection for extreme sunlight conditions
- Extremely durable to both sharp and heavy pressure and be able withstand a major impact from an ROV or other device
- Suitable for either bonding or strapping fixing methods dependant on application
- Black lettering on a fluorescent yellow background.

4.1.8 Major Equipment Parent Tag

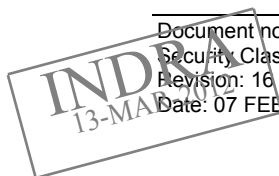
Major pieces of equipment (tanks, large vessels, compressors and generators) shall be identified with a permanent parent tag plate manufactured from 316L stainless steel which shall be engraved with 100mm high, black lettering which includes the equipment description and tag number plate such that the information is legible from a minimum distance of 5 metres. Typically the plate will consist of equipment description of 14 characters and tag number of 9 characters in two rows.

4.1.9 Exceptions

The only exceptions to physically installing tag number plates will be;

- with the written approval of the General Manager Production Operations (or his approved delegate),
- where 'soft tags' are used to identify and transmit intelligent functions between controlling electronic equipment refer to section 5.8.1,
- where the tag is a drawing reference only and not intended as an operator or maintenance function i.e. piping isometrics and P&IDs.,

- piping spools shall contain an interim tag to be used for spool identification during; fabrication, installation and construction. The permanent identification of piping systems shall conform to the relevant piping specification, flow coding and service descriptions.
- where addressed as major mechanical equipment such as tanks, large vessel, compressors and generators which shall conform to 4.1.8 and shall have parent tag plates affixed only to equipment that is unlikely to be moved,
- attached directly to a cable, hose or tubing and where the physical tag identification, shall be consist of an approved propriety numbering product. Refer 4.1.5 and 4.1.6
- accommodation room numbers, beds, lockers, bridges, wharfs, jetties, airport, helideck, platform signs, structures, etc.
- Emergency station bills and safety signs are addressed in relevant specifications.
- The design, location, size and manufacturing of tag plates on all underwater subsea equipment including; flowlines, jumpers, risers and umbilicals is detailed in separate subsea and URF documentation. The actual tag number convention will be in accordance with this document.



5 TAG NUMBERING FORMAT

5.1 General

At some stage during the development and operation of a Company asset, most of its technical information will reside in one or more computer system. It is important therefore that the rules applied in the following paragraphs are not applied in isolation. When it is known that the tag number will be held in an Operations computerised database (i.e. not a temporary database) the user must take into account the format required by the receiving computer system.

5.2 Facility Codes

Each facility is assigned a single character alpha code which is required as a prefix to the unique tag number for importation into INPEX engineering data warehouse and is also used as part of the tag for importation into the ICSS. Refer to APPENDIX A: for a list of Facility codes.

5.3 The Key Role of the Unique Identifier

The intent of this tagging standard is to optimise the amount of 'intelligence' contained in the tag number.

It is intended that any requirements for detailed information about a particular equipment item can be sought by searches in alternative repositories, the principals of which being the computerised maintenance management system (CMMS) and the Engineering Data Warehouse.

The three digit Unique Identification Number in conjunction with the Facility, System and Function codes will enable sophisticated and accurate computer search capability.

5.4 Tagging Convention General

A generalised tagging convention for all facilities shall comprise alpha numeric characters utilising groups or fields as detailed below and for unambiguous visual recognition of the complete tag, a hyphen shall be added between the groups of characters.

The tag numbering system in this standard shall be comprehensively applied throughout the project to all equipment and items supplied – even when they form part of a package

The tag generally shall be represented as follows: a-bbb-cccc-ddd-e

- a : a one character alpha Facility code (refer APPENDIX A:)
- bbb : a three digit numeric System code (refer APPENDIX B:)
- cccc : a one to four character alpha Function code (refer APPENDIX D: to L)
- ddd : a three digit Unique Identification Number (commencing 001)

- e : a one character alpha suffix that may be added to identify identical functional items when required. If there are no identical functional items there will be no suffix. However if a second, identical item is added at a later date, a suffix will also be added to the original item at this time. Characters I, O or Q shall not be used as they can be confused with numbers 1 & 0.

For ICSS display purposes only, the tag number will be restricted to a maximum of 12 characters and will be displayed without the hyphens or any spaces.

The above configuration forms the basis for all tag numbering. Extensions or deviations to the above configuration are defined in the following sections.

5.4.1 Uniqueness and Function Codes

The generalised tagging convention can cause problems of confusion between different classes of equipment which accidentally acquire identical tag numbers because there is little "pattern differentiation" between equipment classes (e.g. mechanical and instrumentation). The approach to tagging has to cope with this. The methods that will be applied are:

- 1) All tag numbers are unique.
- 2) The function code is unique to an equipment type, even in different disciplines (so there is no mechanical item with the same function code as a different item in instrumentation) unless other constraints apply such that a mismatch cannot occur. An example of such a constraint is that fire detectors will never be used on (subsea) wellheads, so fire detection function codes could be used for other purposes on subsea systems.
- 3) The sequential number starts at 001 in every [Facility-System] for equipment classes:
 - i. Mechanical and Electrical Equipment, as listed in APPENDIX D and APPENDIX E. This also includes major instrument items such as cabinets and racks.
 - ii. Relief Valves (PSV)
 - iii. Thermal Safety Valves (TSV)
 - iv. Piping manual valves (MV)
 - v. Instruments
 - vi. Telecommunications
 - vii. Fire & Gas Detection
- 4) Where crossovers can occur, they will generally be eliminated by using different function codes in the two disciplines, so for example a relief valve in an instrument configuration will be a PRV, but the relief valve on a pressure vessel will be a PSV. Similarly a piping manual valve is an MV but a manual valve in an instrument loop will be an HV. There still remains the potential for a crossover, but this will be addressed on a case-by-case basis.

Note that where items logically fit together (e.g. a pump, its coupling, gearbox and motor) they shall all have the same unique number.

5.4.2 System Boundaries

A system shall be defined according to the medium transported/processed in piping or vessels, or the main function the system performs. In principle, limitation shall occur at the last flange / diverless connection upstream of an equipment or header. However, in order to give a logical split between systems it is necessary to take into consideration other changes, such as splits in pressure class and material of construction. It is preferred to place system breaks at shutdown valves, either ESDV or isolating valves, to the extent this is possible, so that completion and commissioning based on system limits is possible.

Equipment used for atmospheric ventilation belongs to the ventilated system unless there is a header and/or a stack serving several systems or equipment.

Safety valves (PSVs) and rupture discs including upstream block valves belong to the equipment they protect, everything down stream of the PSV or PSE belongs to the respective flare or vent system.

Blowdown valves (BDVs) including piping and down-stream block valve belong to the system to be protected.

Local indication signals integrated in a loop are considered part of the loop.

Primary and secondary systems for example coolers and heat exchangers belong to the system classifying the media that is being cooled or heated. Cooling systems for equipment such as a diesel engine shall not be classified as separate systems/sub-systems. The secondary cooling system (e.g. sea water) shall be limited upstream of the heat exchanger. The primary cooling system (e.g. fresh water) belongs to the engine. Consequently, a seawater-cooled fresh-water cooler belongs to the diesel engine fresh water system and is limited against the seawater cooling system at the fresh water cooler's inlet/outlet flanges. The same rule is valid for chillers.

Motor starters and Isolators including all withdrawable components, cables, remote pushbutton stations and auxiliaries belonging to the system being electrically energised.

Instrumentation devices belong to the processing system including all components, cables, and junction boxes.

5.4.3 Unique Identification Number Sequence

The unique identification number and the alpha suffix, where possible, should be allocated in ascending order from the facilities fictitious north and proceed in sequence to the facilities south and similarly ranked from west to east and where necessary from the lowest elevation up to the highest elevation.

Similarly for Offshore facilities, typically a FPSO with no fixed heading, the unique identification number and alpha suffix shall be in ascending order aft, from the bow to the stern, port to starboard and bottom to top. The exception will be the numbering of decks only, below the main deck which shall conform to marine conventions, being distinguishable by alpha characters in descending order from A to Z from below main deck to the bilges.

5.4.4 Areas

As the design of the Onshore and Offshore facilities becomes more detailed, area descriptions with appropriate codes will be allocated, allowing for accurate addressing and tagging of structures and equipment that don't necessarily conform to systems.

5.5 Mechanical Equipment

The tagging convention for mechanical equipment is:

Mechanical: a-bbb-cc-ddd-e

- a : a one character alpha Facility code (refer APPENDIX A:)
- bbb : a three digit numeric System code (refer APPENDIX B:)
- (*)cc(#): a one to two character alpha Mechanical Function code (refer to APPENDIX D:)
- ddd : a three digit Unique Identification Number (commencing 001)
- e : an alpha suffix that may be added to identify identical functional items when required
- (*) : (H) prefix used as an option for HVAC functions if System number 31x is not utilised in the completed tag. Refer to APPENDIX D: Table D-2 for HVAC function codes.
- (#) : (H) suffix is used as an option for a third Mechanical Function code when equipment is hydraulically driven.

For example, if an LNG Storage Compressor, L-420-K-001-A, has an associated gearbox and/or turbine they would be L-420-KG-001-A and/or L-420-KT-001-A respectively

5.5.1 Auxiliary Mechanical Equipment

Tagging convention for auxiliary mechanical equipment associated with main mechanical equipment is as follows:

Auxiliary Mechanical: a-bbb-(H)cc(H)-ddd-e_f(f)-gg-h

'a-bbb-(H)cc(H)-ddd-e' identifies the PARENT TAG;

'_' underscore to be used to separate parent and auxiliary sections of tag;

- f(f) : a one to two character alpha Mechanical Function code (refer to APPENDIX D:);
- gg : a two character Unique Identification Number (commencing 01);
- h : an alpha suffix that may be added to identify identical functional items when required.

For example, if an LNG Storage Compressor L-420-K-001-A has an associated cooling fan with a motor FM-01 the tag would become L-420-K-001-A_FM-01:

a	-	bbb	-	(H)cc(H)	-	ddd	-	e	-	ff	-	gg	-	h
L	-	420	-	K	-	001	-	A	-	FM	-	01	-	A
Ichthys Onshore LNG Facilities		LNG Storage		Compressor		Unique number		'A' Machine		Fan Motor		1 st item		Fan A

5.6 Packaged Equipment

Packages are convenient collections of equipment for the purposes of manufacturing, procurement or installation. A package may include one or more skids. Packages within a system shall have a consecutive sequence number for all packages within that system.

The tagging convention for packages is:

Package: a-bbb-cc-ddd-e

- a : a one character alpha Facility code (refer to APPENDIX A:);
- bbb : a three digit numeric System code (refer to APPENDIX B:);
- cc : Mechanical Function code: letter A shall be used for packages (refer to APPENDIX D:);
- ddd : a three digit Unique Identification Number (commencing 001);
- e : an alpha suffix that may be added to identify identical functional items when required.

For example the CPF Export compressor package is tagged B-201-A-001

Suppliers of packaged equipment shall be required to comply with this standard for all tag numbering of equipment within the package i.e. the tag number of equipment within a package shall not be preceded by the package number but shall have its own tag number in accordance with 5.4. For example the compressor on the CPF Export Compressor Package B-201-A-001 compressor would be tagged B-201-K-001 with the compressor lube oil pumps tagged B-201-K-001_P-01A/B.

For items such as gas turbines, where the manufacturer has a standard numbering system, dual numbering shall be used.

5.7 Electrical Equipment Including Small Power and Lighting

The tagging convention for electrical equipment is:

Electrical: a-bbb-ccc-ddd-ee

- a : a one character alpha Facility code (refer APPENDIX A:)
- bbb : a three digit numeric System code (refer APPENDIX B:)
- ccc : a two or three character alpha Electrical Function code (refer to APPENDIX E:)
- ddd : a three digit Unique Identification Number (see note below).
- ee : a one character alpha suffix that may be added to identify identical functional items when required or for Small Power and Lighting a two digit Unique Identification Number (commencing 01)

NOTE: For Onshore only the three digit sequence number shall allocated in ranges from the table below to link the tag to the associated functional and physical location:

Number Range	Description
001 099	Main Substation, Shutdown Village
101 199	Utility Local Electrical Room
201 299	Utilities Annex Local Electrical Room
301 399	Inlet Facilities Local Electrical Room
401 499	BOG Local Electrical Room
501 599	Jetty Local Electrical Room
601 699	Central Control Building Electrical Enclosure
701 799	Operation Complex Area
801 899	Combined Cycle Power Plant
901 999	Spare (Unused)

Power generation and distribution LNG TRAIN-1 (L-781-ccc-ddd-ee)

Number Range	Description
101 ~ 199	Train-1 East Local Electrical Room
201 ~ 299	Train-1 West Local Electrical Room
301 ~ 399	Train-1 VSD-East Local Electrical Room
401 ~ 499	Train-1 VSD-Center Local Electrical Room

601 ~ 699	Train-1 VSD-West Local Electrical Room
-----------	--

Power generation and distribution LNG 2 (L-782-ccc-ddd-ee)

Number Range	Description
101 ~ 199	Train-1 East Local Electrical Room
201 ~ 299	Train-1 West Local Electrical Room
301 ~ 399	Train-1 VSD-East Local Electrical Room
401 ~ 499	Train-1 VSD-Center Local Electrical Room
601 ~ 699	Train-1 VSD-West Local Electrical Room

Example: L-780-TR-201 identifies that the transformer is functionally and physically related to the Utilities Annex Local Electrical Room.

Auxiliary Electrical Equipment

Tagging convention for auxiliary electrical equipment associated with main mechanical equipment is as follows:

Auxiliary Electrical: a-bbb-ccc-ddd-e_fff-gg

'a-bbb-ccc-dd-e' identifies the mechanical or electrical equipment PARENT TAG

fff : a two character or three alpha Electrical Function code (refer to APPENDIX E:)

gg : a two character Unique Identification Number (commencing 01)

For example, if the compressor has a junction box JB-01 and it is in L-420-K-001-A the tag would become L-420-K-001A_JB-01

5.7.1 Small Power and Lighting

The tagging convention for light fittings, power outlets and electrical junction boxes is:

Light fitting, power outlet or electrical junction box: a-bbb-ccc-ddd-ee-fff-gg

a : a one character alpha Facility code (refer APPENDIX A:)

bbb : a three digit numeric System code for Small Power and Lighting (refer to APPENDIX B:)

- ccc : a two or three character alpha Function code (refer APPENDIX E:)
- ddd : a three digit Unique Identification Number from main parent distribution board
- ee : a two digit Unique Identification Number (commencing 01)
- f : a one character alpha Service Type Identifier code (refer to APPENDIX M-2)
- gg : a numeric suffix to identify the circuit number of the distribution board (commencing 01)

5.7.2 Multi Cable Transit

The tagging convention for Multi Cable Transits is:

Multi Cable Transit: **a-bbb-ccc-deee**

- a : a one character alpha Facility code (refer to APPENDIX A:)
- bbb : a three digit numeric System code (refer to APPENDIX B:)
- ccc : a three character alpha Function code (refer to APPENDIX E:)
- d : a one character alpha Type Identifier code (refer to APPENDIX M-2)
- eee : a three digit Unique Identification Number .

5.8 Instrumentation

The tagging convention for instrumentation is:

Instrumentation: a-bbb-cccc-ddd-e

- a : a one character alpha Facility code (refer APPENDIX A:)
- bbb : a three digit numeric System code (refer APPENDIX B:)
- cccc : a two to four character alpha Instrumentation Function code (refer to APPENDIX F:)
- ddd : a three digit Unique Identification Number (commencing 001)
- e : an alpha suffix that may be added to identify identical functional items when required

If the measuring instrument concerned has an ESD function 'Z' must be inserted after the measured value, forming PZT, PDZT, FZT, etc.. Note that this applies only to measuring instruments and calculation functions. An ESDV has an obvious function, as does an SOV and does not need the modifier.

NOTE: All Self Actuating type valves will be tagged as indicated in APPENDIX L: (I.E. PCV, LCV etc) and PCS controlled valves will be tagged as indicated in APPENDIX F: (I.E. PV, LV etc)

NOTE: All Instrumentation related tags, including all tags associated with packaged equipment or communications interfaces, shall use the project standard defined in this section.

5.8.1 Instrumentation Soft Tag Numbers

Soft tags are to identify electronic signals (outputs and inputs) generated from one electronic processor being transmitted for action to a second electronic processor. Soft tags will be of an identical form to hard tags.

Safety bars (Internal Software Trip Relays) will be tagged with a function code of SD, giving a typical number as:

L-521-SD-300

This may form part of a loop (for instance with L-521-SDV-300).

5.8.2 ICSS Internal Tagging

Tagging of components within the ICSS architecture shall conform to the ICSS Component Naming Philosophy C810-AJ-PHI-0001.

All remotely mounted equipment and ICSS interface/marshalling cabinets shall be tagged in accordance with this Tag Numbering Standard Clause 5.8

5.8.3 Instrument Loops

Each line in the Instrument Index shall include the full instrument TAG as per section 5.8 and the Instrument Loop Identifier of the format:

Loop : a-bbb-c(Z)-ddd-e

- a : a one character alpha Facility code (refer APPENDIX A:)
- bbb : a three digit numeric System code (refer APPENDIX B:)
- c : first character alpha measured variable code (refer to APPENDIX F:).
- Z : this second alpha character is reserved for loops with a shutdown related function when the letter 'Z' will be used. No other character is valid for the second alpha character.
- ddd : a three digit Unique Identification Number (commencing 001)
- e : an alpha suffix that may be added to identify identical functional items when required.

The Instrument Loop Identifier associates each line in the instrument index with other lines in the index to indicate an overall function.

All Instruments with the TAG of format a-bbb-cccc-ddd-e shall have the loop identifier a-bbb-cZ-ddd-e.

Example: (Flow Loop)

Loop Identifier	Tag Number	Description	Component
B-123-F-456	B-123-FE-456	B-123-E-001 Coolant Flow	Flow Element
B-123-F-456	B-123-FT-456	B-123-E-001 Coolant Flow	Transmitter
B-123-F-456	B-123-FIC-456	B-123-E-001 Coolant Flow	Controller
B-123-F-456	B-123-FV-456	B-123-E-001 Coolant Flow	Control Valve
B-123-F-456	B-123-FY-456	B-123-E-001 Coolant Flow	Positioner
B-123-F-456	B-123-SOV-456	B-123-E-001 Coolant Flow	Solenoid Valve
B-123-F-456	B-123-FVJ-456	B-123-E-001 Coolant Flow	FV Actuator

Loop accessories, as defined below, shall be tagged in the same format as other components of the loop.

Valid accessories of the controlling loop are:

- Every secondary variable arising indirectly from the measurement of the primary variable device.
- Every measurement validating the successful mechanical operation of an actuated device.
- Every instrument measuring or controlling services to the primary measuring device.
- All derived tags from any other tag in the same loop.

Typical accessory tagging for the hypothetical flow loop specified above could be:

Loop ID	Tag Number	Description	Component	Notes
B-123-F-456	B-123-TE-456	B-123-E-001 Coolant Outlet	Temperature sensor built into flow meter.	Tagged with the main loop (B-123-F-456) because the TE is built into the flowmeter.
B-123-F-456	B-123-TY-456	B-123-E-001 Coolant Outlet	Temperature Selector (Software Block)	
B-123-F-456	B-123-TSH-456	B-123-E-001 Coolant Outlet	Temperature Switch (Software Block)	
B-123-F-456	B-123-ZSC-456	B-123-E-001 Coolant Flow Control Valve	Position Switch on FV	Accessory inherently associated with the valve, so tagged within the flow loop.
B-123-F-456	B-123-ZSO-456	B-123-E-001 Coolant Flow Control Valve	Position Switch on FV	Accessory inherently associated with the valve, so tagged within the flow loop.
B-123-F-456	B-123-ZQA-456	B-123-E-001 Coolant Flow Control Valve	Position Quality Alarm	Accessory inherently associated with the valve, so tagged within the flow loop.

Loop ID	Tag Number	Description	Component	Notes
B-123-F-456	B-123-FHS-456	B-123-E-001 Coolant Flow	Calibrate Switch on Flow Transmitter	Accessory inherently associated with the flowmeter, so tagged within the flow loop.
B-123-F-456	B-123-PG-456	B-123-E-001 Coolant Flow	Pressure Gauge on Backup Air Tank to FV	Accessory inherently associated with the valve, so tagged within the flow loop.
B-123-F-456	B-123-HV-456	B-123-E-001 Coolant Flow	Isolation Valve on Flow Transmitter	Accessory inherently associated with the FT, so tagged within the flow loop.
B-123-F-456	B-123-PRV-456	B-123-E-001 Coolant Flow	PSV on backup air tank to FV	Accessory inherently associated with the valve, so tagged within the flow loop.

A further example is an electric motor. In this case note that the motor current indication is in the motor control loop, but the winding temperature and bearing vibration measurements have been tagged in separate loops, because they are not directly involved in the motor control and it is convenient to reduce the number of components in the loop. **However, with serial tagging it is perfectly acceptable to combine these elements in the motor control loop, particularly if there is a shortage of loop numbers.**

Loop ID	Tag Number	Description	Component	Notes
B-123-J-789	B-123-JY-789	B-123-P-999 Coolant Pump	MCC Power Relay	All associated directly with the motor control so held within the same loop.
B-123-J-789	B-123-XI-789A	B-123-P-999 Coolant Pump Running	Panel indication from MCC	
B-123-J-789	B-123-XI-789B	B-123-P-999 Coolant Pump Stopped	Panel indication from MCC	
B-123-J-789	B-123-XI-789C	B-123-PM-999 Coolant Pump Overload	Panel indication from MCC	
B-123-J-789	B-123-II-789	B-123-PM-999 Coolant Pump Motor	Panel indication from MCC	
B-123-J-789	B-123-KQ-789	B-123-P-999 Coolant Pump	Run Hours Indication from MCC	
B-123-J-789	B-123-HS-789A	B-123-P-999 Coolant Pump	Field Stop Pushbutton	
B-123-T-790	B-123-TE-790A	B-123-P-999 Motor Winding	Winding temperature element	Can be separated conveniently into separate loops, not directly associated with the motor control.
B-123-T-790	B-123-TE-790B	B-123-P-999 Motor Winding	Winding temperature element	
B-123-T-790	B-123-TI-790A	B-123-P-999 Motor Winding	Winding Temperature Indicator	
B-123-T-790	B-123-TI-790B	B-123-P-999 Motor Winding	Winding Temperature Indicator	
B-123-V-791 B-123-V-791	B-123-VI-791X B-123-VI-791Y	B-123-P-999 Coolant Pump DE Bearing	X Vibration Y Vibration	Also separated out into a separate loop because it is convenient to do so. Note that the alphas have been adjusted to match the "real world" measurement (X&Y)

Example: Compressor anti-surge controller. The PDT provides the set point

Loop ID	Tag Number	Description	Component	Notes
B-123-F- 701	B-123-PDT-701	B-123-K-901 Compressor Head	DP transmitter	All the components are associated with the compressor flow control, so despite being a pressure measurement loop, it is combined in the flow loop.
B-123-F- 701	B-123-PDI-701	B-123-K-901 Compressor Head	Panel indication	
B-123-F- 701	B-123-PDY-701	B-123-K-901 Compressor Head	Computing function	
B-123-F- 701	B-123-FE-701	B-123-K-901 Compressor Head	In-line element (venturi tube)	All one loop
B-123-F- 701	B-123-FT-701	B-123-K-901 Compressor Flow	Transmitter	
B-123-F- 701	B-123-HV-701-A	B-123-K-901 Compressor Flow	Isolating valve	
B-123-F- 701	B-123-HV-701-B	B-123-K-901 Compressor Flow	Isolating valve	
B-123-F- 701	B-123-FIC-701	B-123-K-901 Compressor Head	Panel controller	
B-123-F- 701	B-123-FV- 701	B-123-K-901 Compressor Recycle	Control Valve	
B-123-F- 701	B-123-FY- 701	B-123-K-901 Compressor Recycle	Positioner	
B-123-F- 701	B-123-SOV- 701	B-123-K-901 Compressor Recycle	Solenoid valve	
B-123-F- 701	B-123-VJ- 701	B-123-K-901 Compressor Recycle	FV Actuator	

Example: Emergency Shutdown Valve

Loop ID	Tag Number	Description	Component	Notes
B-123-EZ-789	B-123-ESDV-490	Riser 9 isolation	Shutdown valve	
B-123-EZ-789	B-123-VJ-490	Riser 9 isolation	Valve actuator	
B-123-EZ-789	B-123-ZSC-490	Riser 9 isolation	Position Switch on ESDV	Accessory inherently associated with the valve, so tagged within the ESDV loop.
B-123-EZ-789	B-123-ZSO-490	Riser 9 isolation	Position Switch on ESDV	Accessory inherently associated with the valve, so tagged within the ESDV loop.
B-123-EZ-789	B-123-PG-490	Riser 9 isolation	Pressure Gauge on Backup Air Tank to ESDV	Accessory inherently associated with the valve, so tagged within the ESDV loop.
B-123-EZ-789	B-123-HV-490	Riser 9 isolation	Isolation Valve on ESDV	Accessory inherently associated with the ESDV.
B-123-EZ-789	B-123-PRV-490	Riser 9 isolation	Pressure relief valve on backup air tank to ESDV	Accessory inherently associated with the valve, so tagged within the main loop.

Example: Blowdown Valve

Loop ID	Tag Number	Description	Component	Notes
B-123-B-489	B-123-BDV-489	Riser 9 blowdown	Blowdown valve	Blowdown valve body
B-123-B-489	B-123-VJ-489	Riser 9 blowdown	Valve actuator	
B-123-B-489	B-123-ZSC-489	Riser 9 blowdown	Position Switch on BDV	Accessories inherently associated with the valve, so tagged within the BDV loop.
B-123-B-489	B-123-ZSO-489	Riser 9 blowdown	Position Switch on BDV	
B-123-B-489	B-123-PG-489	Riser 9 blowdown	Pressure Gauge on Backup Air Tank to BDV	
B-123-B-489	B-123-HV-489	Riser 9 blowdown	Isolation Valve on BDV	
B-123-B-489	B-123-PRV-489	Riser 9 blowdown	PSV on backup air tank to BDV	
B-123-B-489	B-123-SOV-489	Riser 9 blowdown	Solenoid valve	
B-123-B-489	B-123-BY-489	Riser 9 blowdown	Computing relay	

5.8.4 Serial Tagging

Serial tagging (per ISA RP S5.1) is a system wherein the sequential number of the loop is unique within a system; each loop has a unique sequential number irrespective of the measured variable (so there cannot be a P-001 and a T-001).

Serial tagging is the project standard and shall be used. This means that for a loop number of the form:

a-bbb-c(Z)-ddd-e

- the combination of a-bbb-ddd-e is unique.

This form of tagging ensures that the standard ISA instrument types can be used on differing loops without difficulty, such as the limit switches in the example above which are tagged “ZS” despite being in a flow control loop. It also reduces the possibility of confusion when operational instructions are given.

NOTE: Serial tagging relates to instrumentation and fire & gas tags only and is not required to be applied to tagging of the other disciplines covered by this standard e.g. mechanical, electrical, piping etc. See paragraph 5.4.1.

5.9 Telecommunications Equipment

The tagging convention for telecommunication equipment is:

Telecommunication: a-bbb-ccc-dd(d)-eee-f

a : a one character alpha Facility code (refer APPENDIX A:)

bbb : a three digit numeric System code (refer APPENDIX B:)

ccc : a three character alpha Function code (refer APPENDIX G:)

dd(d) : a two or three character alpha Building and Area code (refer APPENDIX C-1 and APPENDIX C-2)

*eee : a three digit Unique Identification Number (commencing 001). For Onshore, if the same type of building (e.g. LER, LIR, VSD, etc) is located in multiple areas, then the first digit shall be used to indicate the area that the building is located in; the first digit should be as follows:

0 Operations Complex Area

1 Train 1 Area

2 Train 2 Area

3 Train 3 Area (future)

4 Train 4 Area (future)

5 Inlet Facilities Area

6 Jetty Area

7 Common Utilities Area

8 LNG and Condensate Storage Tank Area

LPG Storage and Tankage Flare Area

* Area code only to be used for field devices and not for centralised equipment.
Building code only to be used for centralised equipment.

f : a one character alpha suffix that may be added to identify identical functional items when required.

5.10 Safety

The tagging convention for Safety devices is:

Fire and Gas: a-bbb-cc-ddd-e

- a : a one character alpha Facility code (refer APPENDIX A:)
- bbb : a three digit numeric System code (refer APPENDIX B:)
- cc : a two character alpha Safety Function code (refer APPENDIX H:)
- ddd : a three digit Unique Identification Number (commencing 001)
- e : an alpha suffix that may be added to identify identical functional items when required

Fire and gas detection devices are treated as instruments, but with descriptions taken from Table F-3.

5.11 Piping

The tagging convention for lines shown on piping isometrics, P & IDs, etc. is:

Line:-L-50-582-PG001-A1CS1-HA-50

- L : a one character alpha Facility code (refer APPENDIX A:)
- 50 : nominal line size (mm)
- 582 : a three digit numeric System code (refer APPENDIX B:)
- PG : line Service*
- 001 : a three digit Unique Identification Number (commencing 001)
- A : identifier for Offshore only*. Not used for Onshore
- 1 : pressure Class*
- CS : material Class*
- 1 : corrosion allowance*
- HA : insulation code*
- 50 : Insulation Thickness*

For all sections indicated with an asterisk (*) reference shall be made to the relevant facilities piping specification.

5.12 Special Piping Items

Special piping items are components that are specified outside the conventional bulk material coding system.

The general format is: a-bbb-SP-ddd-nnn

- a : a one character alpha Facility code (refer APPENDIX A:)
- bbb : a three digit numeric System code (refer APPENDIX B:)
- SP : Special Piping Identifier;
- ddd : a three digit unique identification sequential number (commencing 001);
- nnn : a three digit unique occurrence identification sequential number (commencing 001);

For example S-640-SP-001-001 would be a valid SP number and would be represented as an SP on a P&ID as:

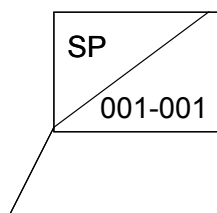


Figure 5.12-1: SP representation

5.13 Nozzle Numbering

All equipment nozzles shall be tagged as the basis of the isolation and spading regime. The nozzle number shall be shown on the P&ID, Equipment data sheets and 3D model.

They shall be numbered in the general format: a-bbb-cc-ddd-e-fg

- a : a one character alpha Facility code (refer to APPENDIX A:)
- bbb : a three digit numeric System code (refer to APPENDIX B:)
- (*)cc : a one to two character alpha Mechanical Function code (refer to APPENDIX D:)
- ddd : a three digit Unique Identification Number (commencing 001)
- e : an alpha suffix that may be added to identify identical functional items when required
- f : Nozzle identifier - N for Nozzle, M for Manway, H for Hand hole, I for Inspection hole, L for Level nozzle, V for Vent nozzle, T for Temperature Element Connection, E for Electric Heater Connection, D for Drain, P for pressure measurement connection.
- g : a unique Identification Number (commencing 1)

- (*) : (H) used as an option for HVAC functions if System number 31x is not utilised in the completed tag. Refer to APPENDIX D: for HVAC function codes.

For example, the nozzles on the Onshore Common Flare KO Drum L-700-V-003 would be numbered L-700-V-003-N1, L-700-V-003-N2 etc and the manways numbered L-700-V-003-M1. The representation on P&IDs will be as shown below:

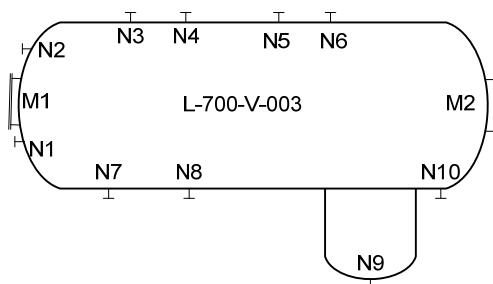


Figure 5.13-1: Example of Nozzle numbering

5.14 Maintainable Joint Numbering

5.14.1 General

Maintainable joints (e.g. flanges) will be tagged as the basis of the monitoring and maintenance regime. The number shall be shown explicitly on design isometrics and as a hidden data field in the P&ID and 3D model.

They shall be numbered in the general format:

Joint Number: “**L-50-582-PG001-JJ-NNN.D**”

where: “**L-50-582-PG001**” is the base line number; and
“**AA-NNN**” details the joint type and sequence number.

- L : a one character alpha Facility code (refer APPENDIX A:)
- 50 : nominal line size (mm)
- 582 : a three digit numeric System code (refer APPENDIX B:)
- PG : line Service*
- 001 : a three digit Unique Identification Number (commencing 001)
- JJ : Joint Type (JF or JH)
- NNN : Joint Number
- D : optional one digit Decimal Suffix

For instance on the fictitious line “L-50-582-PG001-1CS 1 Y-H 50”, the first maintainable joint could be numbered “L-50-582-PG001-JF-001”.

Where the Joints are not part of a line but are between Instrument impulse lines and items of equipment or indeed between an item of equipment and another item of equipment the following shall apply:

Joint Number: “a-bbb-cc-ddd-e-JJ-NNN.D” where “a-bbb-cc-ddd-e” is the primary equipment number and “JJ-NNN.D” details the joint type and sequence number

- a : a one character alpha Facility code (refer APPENDIX A:)
- bbb : a three digit numeric System code (refer APPENDIX B:)
- (*)cc : a one to two character alpha Mechanical Function code (refer to APPENDIX D:
- ddd : a three digit Unique Identification Number (commencing 001)
- e : an alpha suffix that may be added to identify identical functional items when required;
- JJ : Joint Type (JF or JH);
- NNN : Joint Number;
- D : optional one digit Decimal Suffix
- (*) : (H) used as an option for HVAC functions if System number 31x is not utilised in the completed tag. Refer to APPENDIX D: for HVAC function codes.

5.14.2 Line Number

This is the first part of the line number, which excludes the line specification details and the material class, for example: “L-50-582-PG001”.

5.14.3 Joint Type

The prefix is JF for a flanged joint and JH for a hub joint.

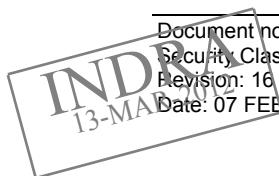
5.14.4 Joint Numbering on lines

The joints will be numbered in the direction of flow, starting at 001 for the first joint on the line where it starts, either from another line or an item of equipment. Where two lines are connected the upstream line will own the joint.

The design isometrics will be marked up to show the location of each joint.

There will only be one number sequence per line, irrespective of the types of joints used, so a JF- and a JH- will not coexist with the same number.

If intermediate joints are added later, the intermediates will be given decimal suffixes (e.g. forming number -001.5) so allowing the insertion of up to ten additional joints after the original fabrication of the line.



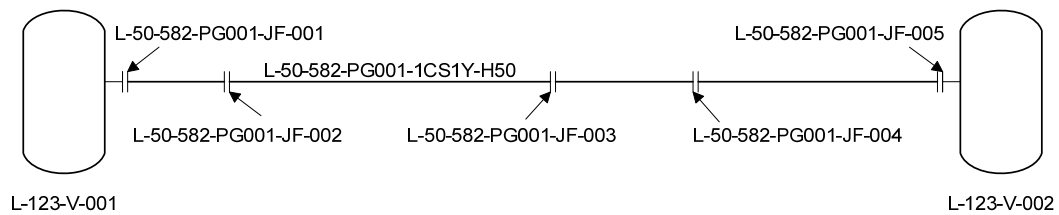


Figure 5.14-1: Example of joint numbering in a line

5.14.5 Joint Numbering on Equipment

The joints will be numbered in the direction of flow from one item of equipment to the next, starting at 001 for the first joint on the equipment.

The design isometrics will be marked up to show the location of each joint.

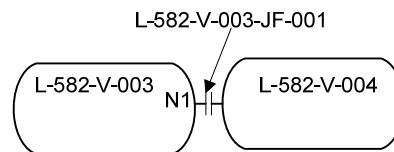


Figure 5.14-2: Example of joint numbering between equipment

For instrument type connections the joints will be numbered to reflect the nozzle number. For example, the joint identified as L-582-V-005-JF-L1B will be related to Nozzle L-582-V-005-L1B.

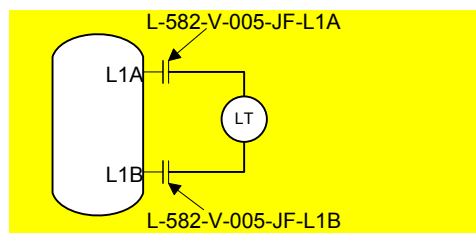


Figure 5.14-3: Joint numbering between equipment and impulse lines

5.14.6 Maintainable Joints within Packaged Equipment

The same principles of joint numbering apply to lines inside package equipment. Where the external line number continues into the package, the joints in the vendor package are numbered as part of the overall numbering system, if necessary using the decimal suffix.

5.15 Blinding Point Numbering

5.15.1 General

Blinding points (for positive isolation of vessels and equipment) shall be tagged as part of the maintenance planning regime. The tag numbers shall be shown explicitly on P&IDs, the 3D model and design isometrics. Blinding points are not limited to those points where a spectacle blind or similar is installed; they include all points where a positive barrier has to be installed. It is possible that a flanged spectacle blind could simultaneously have an SP number, a maintainable joint number and a blinding point number.

Blinding Point: a-bbb-BP-ddd-e

- a : a one character alpha Facility code (refer to APPENDIX A:)
- bbb : a three digit numeric System code (refer to APPENDIX B:)
- BP : Blinding Point
- ddd : a three digit Unique Identification Number (commencing 001)

For example A-123-BP-001.

5.15.2 Sequential number

The sequential number starts with 001 for each combination of Facility and System. Numbers may be skipped (e.g. it is valid to have A-123-BP-001 and A-123-BP-101 without having used sequence numbers 002 to 100).

5.15.3 Representation

The representation of a blinding point on a P&ID is:

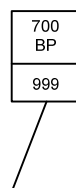


Figure 5.15-1: Blinding Point representation

5.16 Welded Joint Numbering

This section applies only to certification and manufacturing records. It is not intended to apply to design documents.

Welded joints in pipework shall be referenced in the format:

Weld Number: L-50-582-PG001-W-NNN-R1

- L : a one character alpha Facility code (refer to APPENDIX A:)
- 50 : nominal line size (mm)
- 582 : a three digit numeric System code (refer to APPENDIX B:)
- PG : line Service*
- 001 : a three digit Unique Identification Number (commencing 001)
- W : Weld
- NNN : Joint Number
- R1 : Repair number (as required)

For instance on the fictitious line “L-50-582-PG001-1CS 1 Y-H 50”, the first maintainable joint could be numbered “L-50-582-PG001-W-001”.

5.16.1 Line Number

This is the first part of the line number, which excludes the line size and the material class, for example: “L-50-582-PG001”.

5.16.2 Weld Numbering

There is no specific order for the weld numbering. It is expected that they will be numbered in the chronological order in which they are completed, starting at 001 for the first weld. Where two lines are connected the upstream line will own the weld. The location of each weld shall be recorded in accordance with the agreed certification requirements.

If intermediate joints are added later, the intermediates will be given the next number in the sequence for the line.

Weld repairs shall be referenced with the suffix R1, R2, etc.

5.17 Pipe Support Numbering

Elevated Pipe Racks and Grade Pipe Tracks are used both within, and to interconnect, the Main Plant Areas/systems of the Facility.

5.17.1 Pipe Racks/Tracks (Onshore)

Each Pipe Rack/Track will be allocated a module identification number in the format:

Rack/Track Number: **A1PA**

A full list of all Pipe Rack module numbers can be found in document L-290-AS-LIS-0001 Modularisation List.

5.17.2 Individual supports

Individual pipe supports will be tagged. The number shall be shown explicitly on design isometrics and as a property of the support within the 3D model.

They shall be numbered in the general format:

Pipe Support Number: “**L-50-582-PG001-PS-NNN**” where “**L-50-582-PG001**” is the base line number and “**PS-NNN**” identifies the tag type as a pipe support and the pipe support sequence number.

L	:	A one character alpha Facility code (refer to APPENDIX A:)
50	:	Nominal line size (mm)
582	:	A three digit numeric System code (refer to APPENDIX B:)
PG	:	Line Service*
001	:	A three digit Unique Identification Number (commencing 001)
PS	:	Pipe support identifier code PS
NNN	:	Support Number

The following shall be taken into consideration when numbering pipe supports:

1. Pipe supports shall be numbered from 001 starting at the source of the pipeline and incrementing in the direction of flow of the pipeline.
2. Pipe supports shall be numbered at the lowest logical maintainable level, examples below:
 - a. A pipe support assembly constructed of several standard pipe supports that are logically grouped together shall be considered to be a single pipe support number. For example a pipeline supported by a shoe which is then guided or stopped by another standard pipe support shall be considered to be a single pipe support number as they are part of a single logical assembly.
 - b. Considering the pipe support in the example above if this support were then supported by a goal post type support then the complete assembly shall be broken into two pipe support numbers as the interface between the shoe assembly and goal post assembly provides a logical break point. These pipe support numbers should be sequential with the lowest number being closest to the pipe and increasing in value as assembly is built away from the pipeline.
3. Pipe supports that support more than one pipeline or more than one support shall be assigned to the pipeline of the largest diameter being supported when the support is created. In the event of multiple pipelines of the largest diameter being present then the pipe support shall be assigned to the most northern or eastern of these, depending upon the orientation of the piping.

During detail design, supports will be added and removed as the configuration/routing and stress analysis is updated. At the first issue of the isometrics AFC, the numbering should be consistent in sequence.

The following shall be taken into consideration when modifying pipe supports on a pipeline after AFC issue of the Piping Isometric:

- Once the support is assigned it shall retain its identity unless the pipeline to which it is assigned is deleted or moved elsewhere.
- If a pipe support is removed from the pipeline, the pipe support tag shall not be reused.
- If a pipe support is added in between existing pipe supports, the existing pipe supports shall not be renumbered to maintain the sequence. The new support shall take the sequence number from the previous support on the line but with an alpha character suffix (starting at "A").
- If a pipe support is replaced with a different type of pipe support at the same location then the new pipe support shall receive a new pipe support number.

5.17.3 Pipe Racks/Tracks (Offshore)

Each Pipe Rack on the CPF will form part of the structure and deck design. For the FPSO the Pipe rack is numbered module X01

5.18 Valves

All valves shall be tagged.

During the design and construction phase the valve size, data sheet number and pipe line number will be included in the electronic data recorded and indexed against all valves.

A unique tag number is required for all process and utility valves.

All manual valves up to and including the first block valve for instrument connections shall be modelled in the 3D model and given a piping valve tag number (function code "MV" or as otherwise defined in Appendix L).

Valves in instrument hook-ups after the first piping block valve shall be tagged as instrument valves and recorded as loop components within SmartPlant Instrumentation (function code "HV").

The tagging convention for valves is:

Valves: a-bbb-cccc-dddd-e

- a : a one character alpha Facility code (refer APPENDIX A:)
- bbb : a three digit numeric System code (refer APPENDIX B:)
- cccc : a two to four character alpha Valve and Device Function code (refer to APPENDIX L:)
- dddd : a four digit Unique Identification Number (commencing 0001)
- e : an alpha suffix that may be added to identify identical functional items when required.

5.19 Subsea Components

The format for numbering subsea component tags shall generally follow the standard tagging convention with the exception of the well slot number being added after the drill centre system code.

Subsea: a-bbb-cccc-fdd-e

- a : a one character alpha Facility code (refer APPENDIX A:)
- bbb : a three digit numeric System code (refer APPENDIX B:)
- cccc : a two to four character alpha Function code (refer APPENDIX F: for Instrumentation Function codes, APPENDIX I: for Subsea Function Codes and APPENDIX J: for Subsea Valve codes)
- f : a single digit numeric code (1 to 5) to indicate the well slot connection number after the first flange / diverless connection at the Drill Centre/ Manifold. For all equipment; valves and instrumentation installed subsea and not associated with a well slot, the numeric code shall be 0
- dd : a two digit Unique Identification Number (commencing 01)
- e : an alpha suffix that may be added to identify identical functional items when required.

5.20 Civil

The tagging convention for civil items is:

Civil: a-bbb-ccc-ddd

- a : a one character alpha Facility code (refer APPENDIX A:)
- bbb : a three digit numeric System code (refer APPENDIX B:)
- ccc : a one to three character alpha Civil Function code (refer APPENDIX K:)
- ddd : a three digit Unique Identification Number (commencing 001)

NOTE: Refer to section 4.1.8 for major equipment and 4.1.9 for exceptions.

5.21 Buildings and Areas

The tagging convention for buildings is:

Buildings: a-bbb-ccc-ddd

- a : a one character alpha Facility code (refer APPENDIX A:)
- bbb : a three digit numeric System code (refer APPENDIX B:)
- ccc : a one to three character alpha Building and Area code (refer APPENDIX C:)
- ddd : a three digit Unique Identification Number (commencing 001)

5.22 Road Numbering Sequence

Tagging convention for North-South oriented roads will be as follows:

Road : Road xy

- x: : North-South oriented roads to be given ascending numeric number from west to east. The most western of the North-South oriented roads would be 'Road 1', and numerical numbers would increase as traversed eastward.
- y : If two (or more) roads are on same easting, the next road would be identified by alpha character. The most northern section would be identified with just numerical number e.g. 'Road 9', the next section of roadway to the south would be 'Road 9A', the next 'Road 9B' and so on.

Tagging convention for West-East oriented roads will be as follows:

Road: Road xy

- X : West-East oriented roads to be given ascending alpha character from north to south. The most northern of the West-East oriented roads would be 'Road A' and the alpha character would increase as traversed southward.
- y : If two (or more) roads are on same northing, the next road would be identified by numerical number. The most western section would be identified with just alpha character

For example, with 'Road B', the next section of roadway to the east would be 'Road B1', the next 'Road B2' and so on.

5.23 Instrument Impulse Lines and Hydraulic Tubing

For hydraulic lines with a nominal bore greater than 15mm, the line shall carry a piping line number and be shown on the P&ID.

For tubing runs longer than 3m, each line shall be identified at its point of origin and termination using the served equipment tag number and an appropriate suffix.

Instrument impulse line tag numbering suffixes shall be in accordance with applicable notes on typical instrument hook-up drawings, following the format of:

[Tag Number]-Function Code,

Where the Function Code is:

S for Sensing

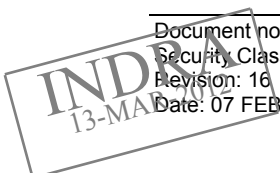
HP for high pressure side

LP for low pressure side.

Hydraulic lines shall be labelled with the tag number of the served equipment and a suffix in the format:

[Tag Number]-Hx

- Where:
- H = hydraulic
- X = simple numeric suffix.



6 CABLE NUMBERING

The basic convention for cable numbering is to utilise where possible the field device tag number plus the addition of an “f” suffix to define the cable service as detailed in [Appendix M-3 – Cable Service Codes](#). Where this convention isn't possible due to multiple field tags, e.g. for lighting circuits, then the tag of the succeeding device from the source of energy is to be adopted. If this isn't applicable, for example, where there is bidirectional energy sources between two panels the greater of the two system code numbers shall be adopted as the device tag number.

In summary, the guiding principles for cable numbering in order of priority are:

1. Use the in-field device tag number
2. Use furthest device tag number from energy source
3. Use greater system code tag number of the interconnected units where the energy source is bidirectional

6.1 Power and Control Cables

The tagging convention for power and control cables is:

Cables: **a-bbb-ccc-ddd-ee_fff-gg-hij-kk**

'a-bbb-ccc-ddd-ee' or **'a-bbb-ccc-ddd-ee_fff-gg'** is the destination tag number as described in the previous sections.

h : a one character alpha Cable Voltage level code (refer [APPENDIX M-1](#))

i : a one character alpha Service Type Identifier code (refer to [APPENDIX M-2](#))

j : a one character alpha Cable Service code (refer [APPENDIX M-3](#))

kk : a two digit Phase / Cable Identifier code defined as follows: (Optional)

Case 1) SINGLE CORE CABLE

1st digit = phase number

2nd digit = Cable number*

Ex: **13** = phase **1** cable **3**

22 = phase **2** cable **2**

34 = phase **3** cable **4**

Case 2) MULTI CORE CABLE TO SAME EQUIPMENT

In the case that more than one multicore cable is connected to the same equipment, then a sequential number shall be allocated to each cable tag number (a-bbb-ccc-ddd-ee_fff-gg-hij-01, a-bbb-ccc-ddd-ee_fff-gg-hij-02, a-bbb-ccc-ddd-ee_fff-gg-hij-03, etc)

6.1.1 Light Fitting and Power Outlet Cable Tag Structure

Tagging convention for light fitting and power outlet cable is as follows:

Light fitting and power outlet cable: **a-bbb-ccc-ddd-ee-fgg-h**

'a-bbb-ccc-ddd-ee-fgg' is the destination tag number as described in the Small Power and Lighting section 5.7.2.

h : a one character alpha Cable Service code (refer APPENDIX M-3)

The example below shows a typical lighting circuit and tag numbering with lighting cable from distribution board to junction box.

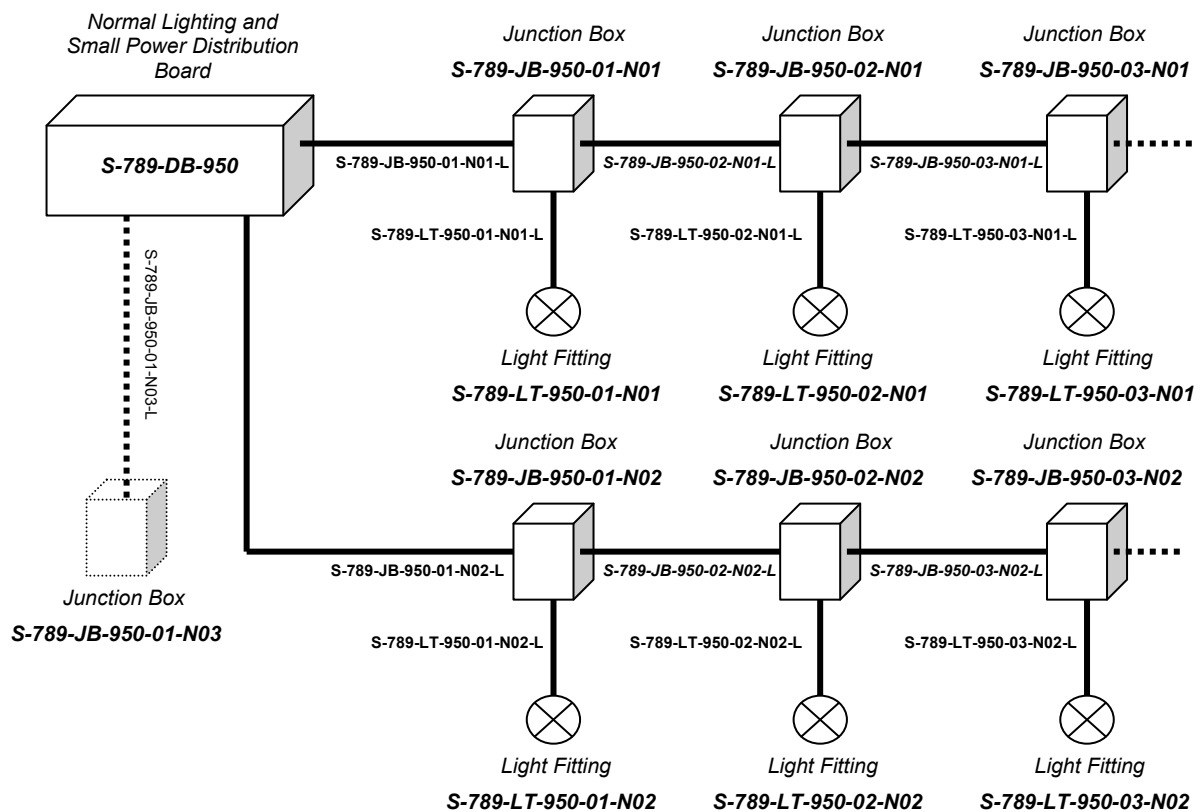


Figure 6.11: Typical Normal Lighting Circuit and Tag Numbering with Lighting Cable from Distribution Board #950 to Junction Boxes

6.2 Instrument Cables

The tagging convention for instrument cables is:

Instrument Cables: a-bbb-cccc-ddd-(e)-fg

'a-bbb-cccc-ddd-e' = identifies the main instrument tag as described in section 5.8

- f : a one character alpha Cable Service code (refer APPENDIX M:)
- g : a numeric suffix that may be added to identify identical functional items within the same loop.

Note: Instrument cables have a two to four character alpha ('cccc') Instrumentation Function code

The example below shows a typical instrument intrinsically safe circuit for a multi-looped field instrument on the potable water system and how the cable numbering shall be adopted. These examples only show a two character alpha Instrumentation Function code:

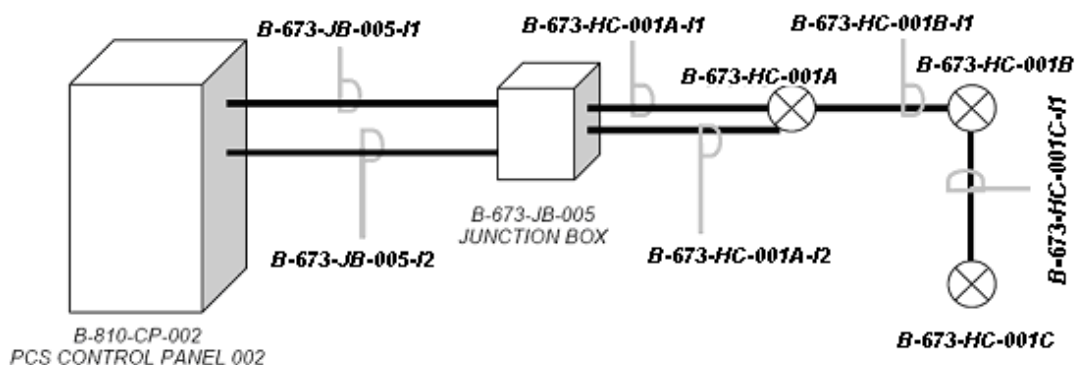


Figure 6.2-1: Typical Instrument and Cable Numbering on System B-673.

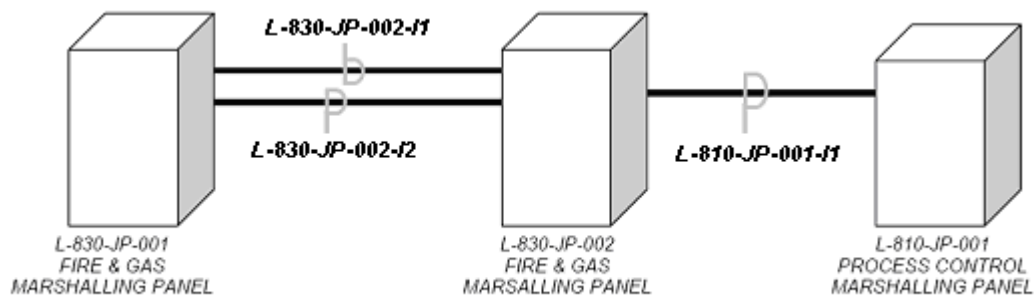


Figure 6.2-2: Typical Fire and Gas Inter-panel Cabling tag Numbering

6.3 Telecommunication Cables

The tagging convention for telecommunications cables is:

Telecommunication Cables: a-bbb-ccc-dd(d)-eee-f-Tg

'a-bbb-ccc-dd(d)-eee-f' identifies the "downstream" telecommunications equipment tag as described in section 5.9

T : Cable Service Code for telecommunications cable (refer APPENDIX M:)

g : a numeric suffix that may be added to identify identical cables when required (commencing 1)

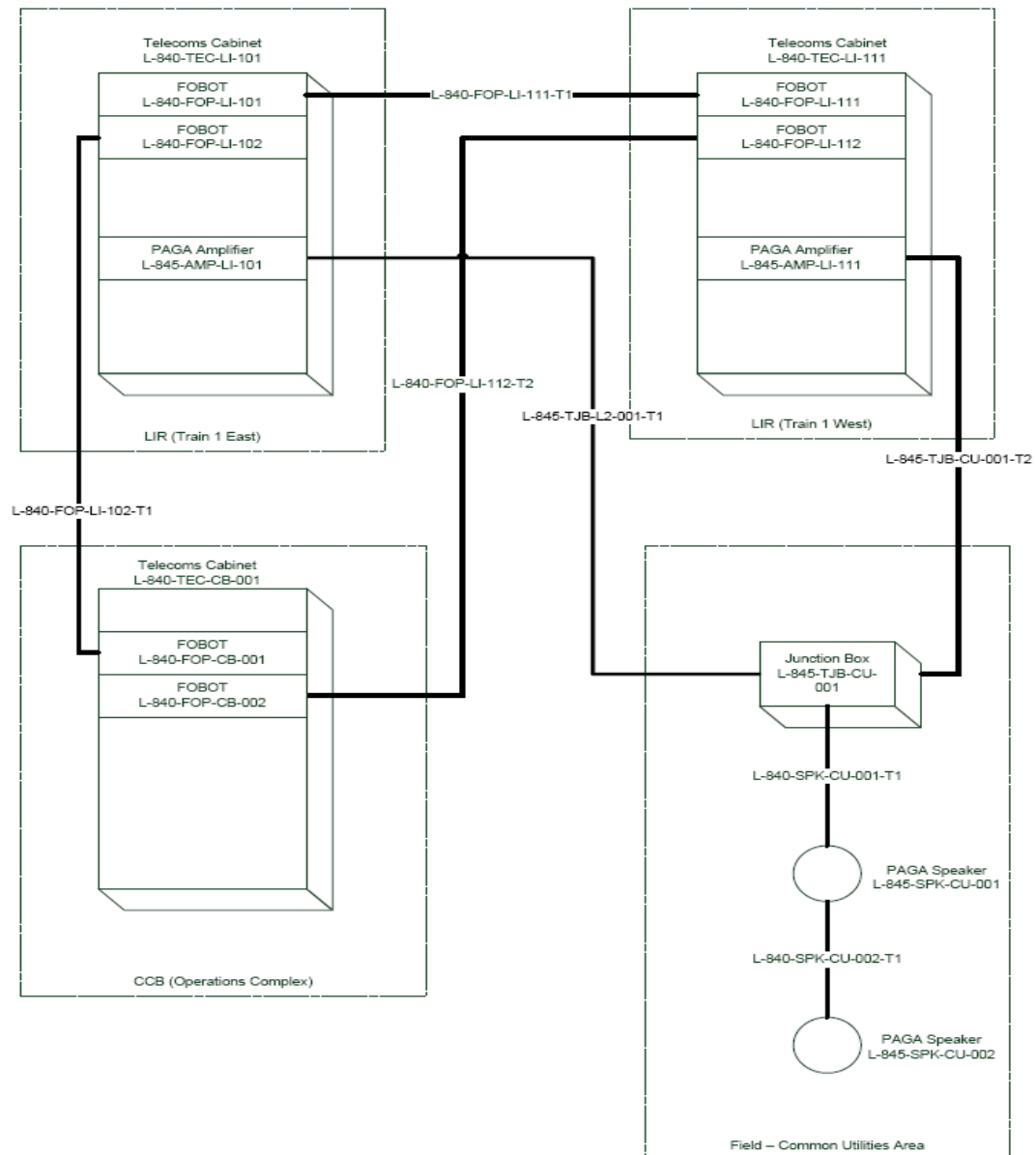


Figure 6.4-1: Example Telecommunications Equipment and Cable Tag Numbering

6.4 Fire and Gas Cables

Tagging convention for Fire and Gas cables is as follows:

Fire and Gas Cables: a-bbb-cc-ddd-(e)-fg

“a-bbb-cc-ddd-(e)” = identifies the main Fire and Gas device tag as described in section 5.10.

- f : a one character alpha Cable Service code as shown in (refer APPENDIX M:)
- g : a numeric suffix that may be added to identify identical functional items within the same loop.

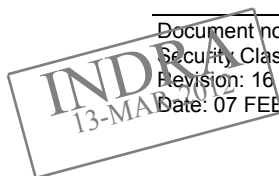
6.5 Earthing Cables

The identification of all equipotential earthing points shall be by a cable tag attached to the earthing jumper cable with a tagging convention of:

Earthing cables: a-bbb-ccc-ddd-EP-e

a-bbb-ccc-ddd is the tag number of the equipment served by the earthing point

- a : the one character alpha Facility code (refer APPENDIX A:)
- bbb : the three digit numeric System code of the equipment to which the earth boss is connected (refer to APPENDIX B:);
- ccc : the alpha Function code of the equipment to which the earth boss is connected (refer to APPENDIX D: to APPENDIX L:)
- ddd : the three digit Unique Identification Number of the equipment to which the earth boss is connected.
- EP : Earthing Point
- e : an numeric suffix that may be added to identify identical cables when required (normally when the served equipment has several earth bonding points).



7 REFERENCES

Document Number	Title
C065-AG-PCR-0001	Management of Change
ANSI/ISA S 5.1 1984 (R1992)	Instrument Symbols and Identification
Z-DP-002 Rev 3 October 1996	Norsok Standard Coding System (Subsea)
C810-AJ-PHI-0001	ICSS Component Naming Philosophy
C061-DP-PID-0001.xxxx	Typical Arrangement Drawing Legend Sheets (Offshore)
A091-AX-SPC-5000	Piping Material Specification (Offshore)
L290-AX-SPC-0001	Piping Material Specification (Onshore)
L290-DP-PID-0001 to 0013	Typical Arrangement Drawing Legend Sheets (Onshore)
L-290-AS-LIS-0001	Onshore Modularisation List.
A900-AG-GLN-0001	CPF & FPSO Area Definitions

