



TAG NUMBERING STANDARD

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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
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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:

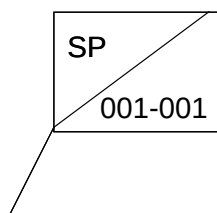


Figure 5.12-1: SP representation

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:

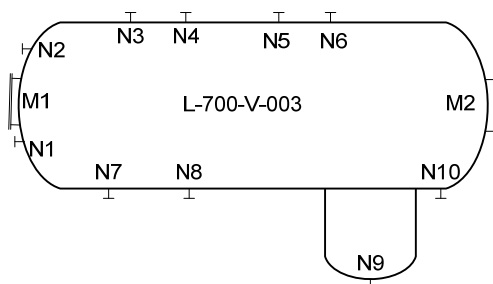


Figure 5.13-1: Example of Nozzle numbering

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.

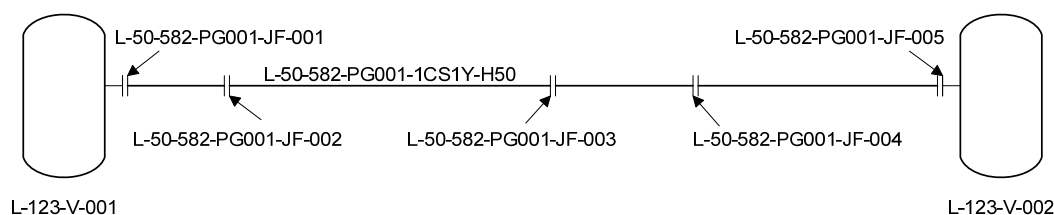


Figure 5.14-1: Example of joint numbering in a line

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.

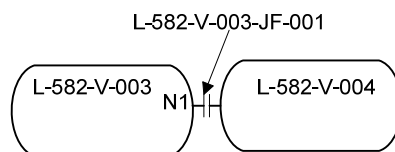


Figure 5.14-2: Example of joint numbering between equipment

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.

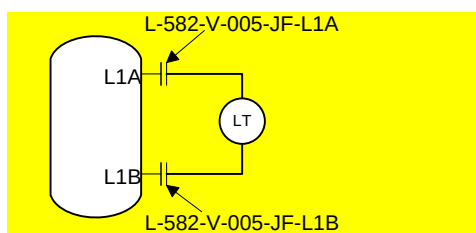


Figure 5.14-3: Joint numbering between equipment and impulse lines

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:

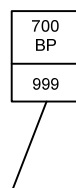


Figure 5.15-1: Blinding Point representation

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.

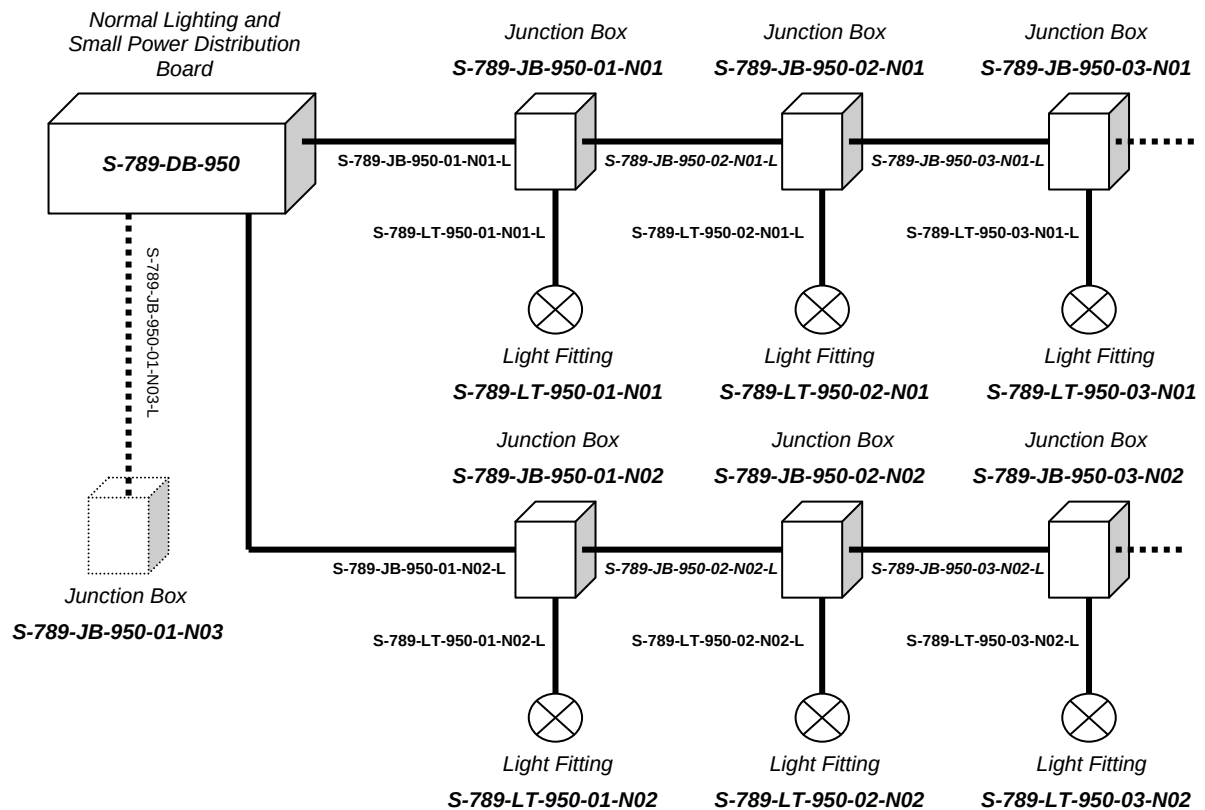


Figure 6.11: Typical Normal Lighting Circuit and Tag Numbering with Lighting Cable from Distribution Board #950 to Junction Boxes

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:

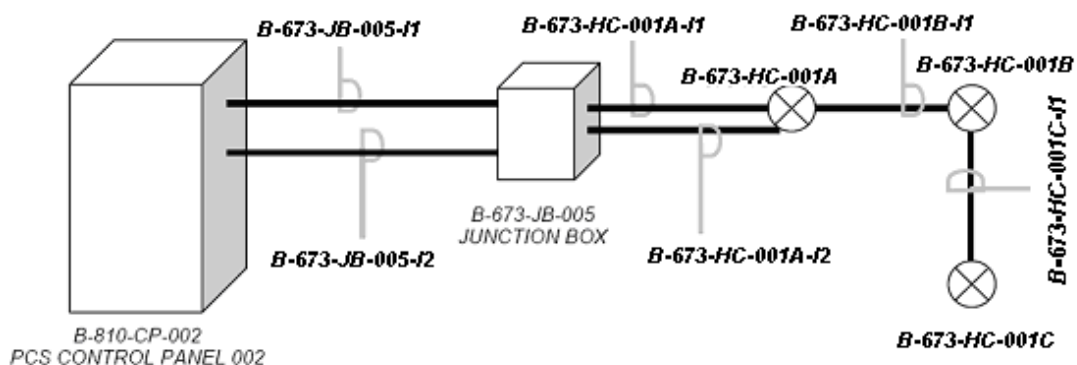


Figure 6.2-1: Typical Instrument and Cable Numbering on System B-673.

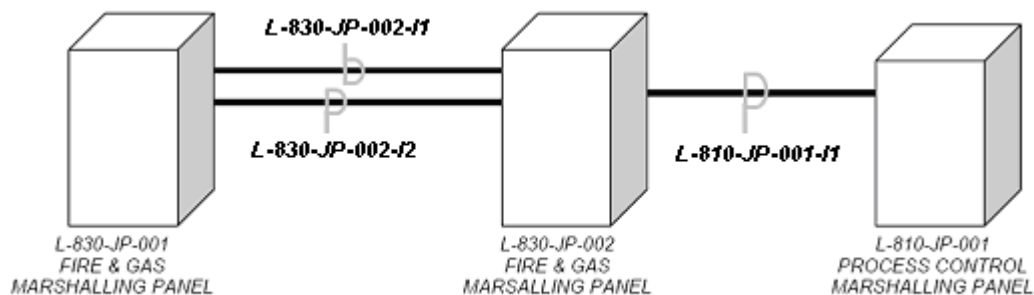


Figure 6.2-2: Typical Fire and Gas Inter-panel Cabling tag Numbering

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)

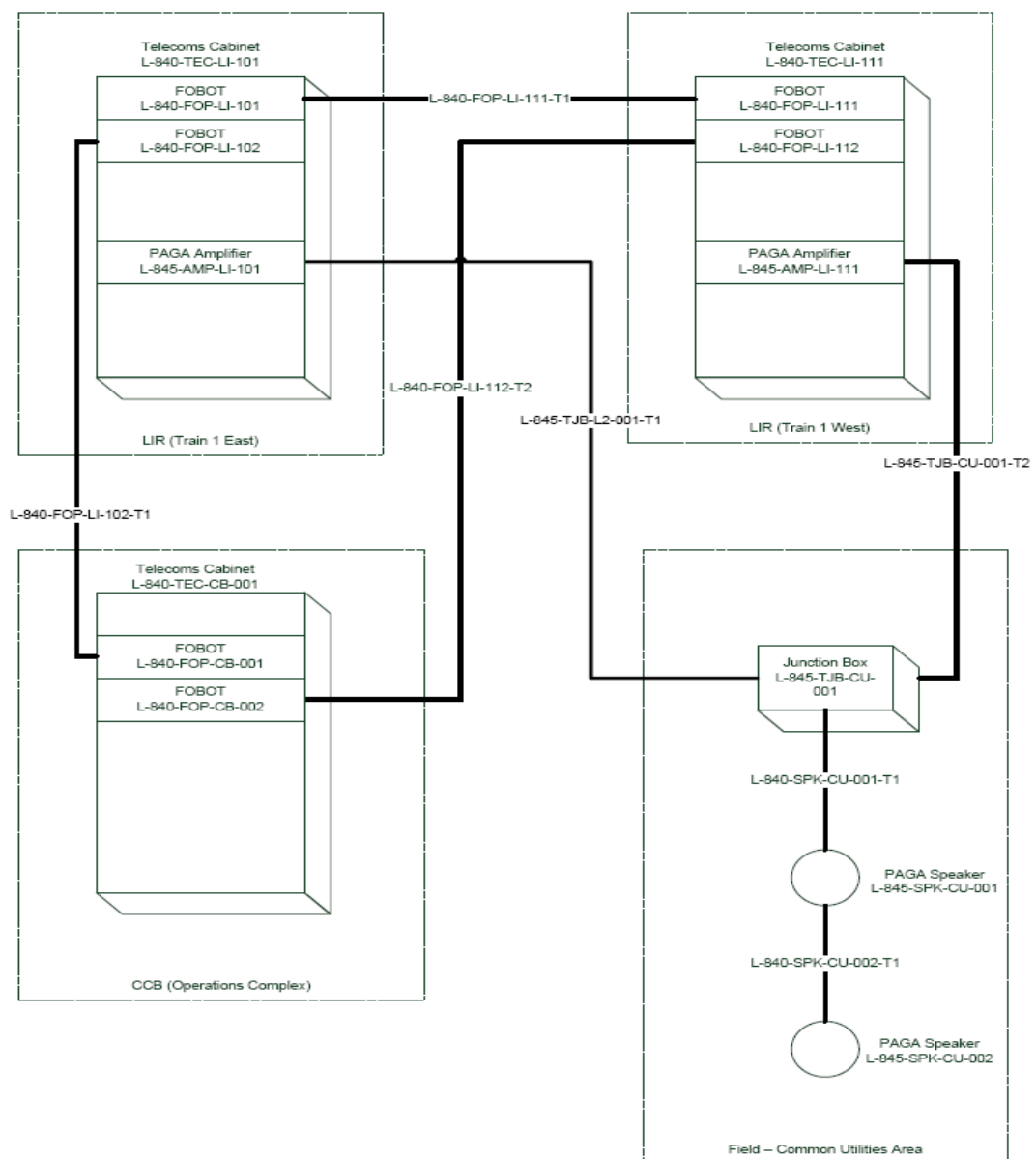


Figure 6.4-1: Example Telecommunications Equipment and Cable Tag Numbering

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

APPENDIX A: FACILITY CODES

Table A-1A-1: Facility Codes

Tag Code	Description
A	Previously used for Common Offshore Not to be used in Execute Phase. Existing references to this code may be retained.
B	Browse Ichthys Offshore Central Processing Facility CPF
C	INPEX Management. Only be used by INPEX for system codes 001 to 099
D	Browse Ichthys Subsea Production System SPS
E	Browse Ichthys Umbilicals, Risers and Flowlines URF
F	Browse Ichthys Gas Export Pipeline GEP
G	Shallow Water Platform Concept
K	Maret KLNG Onshore Plant
L	Ichthys Onshore LNG Facilities
M	Supply Base
N	Maret Infrastructure
S	Browse Ichthys Offshore FPSO
X	Information covering more than one facility

Note: Additional facilities where INPEX have influence are to be added and identified as necessary.

SAP code references have been removed from the above table as these will be updated later. Facility codes will be cross referenced to these new SAP codes when published.

APPENDIX B: SYSTEM CODES

This code generally contains the PBS code used to identify Drawing and Documents by system.

The system identifier ranges to be used for the creation of tag numbers are as follows:

Table B-1B-1: System Codes

System	System Code	System / System Code Description
	001-099	CODES ALLOCATED INTERNALLY FOR INPEX MANAGEMENT APPLICATIONS
10		Subsea General
	100	Subsea General
	101-109	Reserved for INPEX subsea
11		Wellhead Control General
	110	Wellhead Control General
	111-119	Reserved Spare INPEX
12		Brewster Drilling Units
	120	Brewster Drilling Units
	121	Brewster Drill Centre B-DC1A
	122	Brewster Drill Centre B-DC1B
	123	Brewster Drill Centre B-DC1C
	124	Brewster Drill Centre B-DC1D
	125	Brewster Drill Centre B-DC2
	126	Brewster Drill Centre B-DC3
	127	Brewster Drill Centre B-DC4
	128	Brewster Drill Centre B-DC5
	129	Reserved Spare INPEX
13		Plover Drilling Units
	130	Plover Drilling Units
	131	Plover Drill Centre P-DC1A
	132	Plover Drill Centre P-DC1B
	133	Plover Drill Centre P-DC1C

System	System Code	System / System Code Description
	134	Plover Drill Centre P-DC1D
	135	Plover Drill Centre P-DC2
	136	Plover Drill Centre P-DC3A
	137	Plover Drill Centre P-DC3B
	138-139	Reserved Spare INPEX
14		Flowlines and Risers
	140	Flowlines and Risers Common
	141	Prod F-Lines Manifolds R-Base and Risers
	142	Start-up Service Flowline and Manifold
	143	MEG Flowline Manifold and Risers
	144-149	Reserved Spare INPEX
15		Sub Sea Control
	150	Sub Sea Control
	151	Umbilicals incl TUTU and Connectors
	152	Subsea Hydraulic
	153	Subsea Electrical
	154-158	Reserved Spare INPEX
16		Inlet Manifolds and Inlet Separation
	160	Inlet Manifolds and Inlet Separation
	161	Inlet Separation T100
	162	Inlet Separation T200
	163	Inlet Separation T300
	164-169	Reserved Spare INPEX
17		Inlet Booster Compression
	170	Inlet Booster Compression Common
	171	Inlet Booster Compression T100
	172	Inlet Booster Compression T200
	173	Inlet Booster Compression T300
	174-179	Reserved Spare INPEX
18		Production Separation

System	System Code	System / System Code Description
	180	Production Separation Common
	181	Production Separation T100
	182	Production Separation T200
	183	Production Separation T300
	184-189	Reserved Spare INPEX
19		Gas Dehydration
	190	Gas Dehydration Common
	191	Gas Dehydration T100
	192	Gas Dehydration T200
	193	Gas Dehydration T300
	194-198	Reserved Spare INPEX
	199	F-Lines and Risers CPF to FPSO
20		Gas Export Compression
	200	Gas Export Compression Common
	201	Gas Export Compressor A
	202	Gas Export Compressor B
	203	Gas Export Compressor C
	204	Gas Export Compressor D
	205	Gas Export Compressor E
	206-209	Reserved Spare INPEX
21		Condensate Separation
	210	Condensate Separation Common
	211	Condensate Separation Train 1
	212	Condensate Separation Train 2
	213-219	Reserved Spare INPEX
22		Condensate Stabilisation
	220	Condensate Stabilisation Common
	221	Condensate Stabilisation Train 1
	222	Condensate Stabilisation Train 2
	223-229	Reserved Spare INPEX

System	System Code	System / System Code Description
23		Mercury Removal
	230	Mercury Removal Common
	231	Condensate Mercury Removal Train 1
	232	Condensate Mercury Removal Train 2
	233	Rich MEG Mercury Removal
	234-239	Reserved Spare INPEX
24		Condensate Rundown
	240	Condensate Rundown
	241	Condensate Storage
	242	Condensate Export and Metering
	243-249	Reserved Spare INPEX
25		Flash Gas
	250	Flash Gas Common
	251	Flash Gas Compression LP MP IP Train 1
	252	Flash Gas Compression LP MP IP Train 2
	253	Recovered Gas to CPF and FG
	254	Gas Recovery - VOC
	255-259	Reserved Spare INPEX
26		Produced Water
	260	Produced Water
	261	Sand Treatment
	262	Produced Water Injection
	263-269	Reserved Spare INPEX
27		Recovered Oil
	270	Recovered Oil
	271-279	Reserved Spare INPEX
28		Pipelines and Umbilicals
	280	Pipelines and Umbilicals General
	281	Export ex CPF incl Risers and Umbilicals
	282	Reserved Spare INPEX

System	System Code	System / System Code Description
	283	Gas Transfer Line and Risers
	284	Reserved Spare INPEX
	285	Service Lines and Risers
	286	Interconnecting Supply Power Umbilical
	287	Interconnecting Data and Comms Umbilical
	288	Utility Umbilical
	289	Reserved Spare INPEX
29		Onshore General
	290	Onshore General
	291-299	Reserved Spare INPEX
30		Buildings
	300	Buildings Common
	301	Buildings LNG 1
	302	Buildings LNG 2
	303-306	Reserved Buildings Future LNG Trains
	307-309	Reserved Spare INPEX
31		HVAC
	310	HVAC Common
	311	HVAC LNG 1
	312	HVAC LNG 2
	313-316	Reserved HVAC Future LNG Trains
	317-319	Reserved Spare INPEX
32		Civil
	320	Civil Common
	321	Civil LNG 1
	322	Civil LNG 2
	323-326	Reserved Civil Future LNG Trains
	327-329	Reserved Spare INPEX
33		Pipe Racks and Tracks
	330	Pipe Racks and Tracks Common

System	System Code	System / System Code Description
	331	Pipe Racks and Tracks LNG 1
	332	Pipe Racks and Tracks LNG 2
	333-336	Reserved Pipe Racks and Tracks Future LNG Trains
	337-339	Reserved Spare INPEX
34		Reserved Spare INPEX
	340-349	Reserved Spare INPEX
35		Reserved Spare INPEX
	350-359	Reserved Spare INPEX
36		Reserved Spare INPEX
	360-369	Reserved Spare INPEX
37		Reserved Spare INPEX
	370-379	Reserved Spare INPEX
38		Near-shore Marine
	380	Near-shore Marine General
	381	Jetty and Jetty Head Structure
	382	Module Offloading Facility MOF
	383	Navigation Channel and Dredging
	384	Near-shore Marine Environment Monitoring
	385-389	Reserved Spare INPEX
39		Utilities
	390	Utilities General
	391	Utility Hose Stations
	392-399	Reserved Spare INPEX
40		Offsites General
	400	Offsites General
	401-409	Reserved Spare INPEX
41		LNG Storage and Loading
	410	LNG Storage and Loading
	411-419	Reserved Spare INPEX
42		LPG Storage and Loading

System	System Code	System / System Code Description
	420	LPG Storage and Loading
	421-429	Reserved Spare INPEX
43		Condensate Storage and Loading
	430	Condensate Storage and Loading
	431-439	Reserved Spare INPEX
44		Refrigerant Storage
	440	Refrigerant Storage
	441-449	Reserved Spare INPEX
45		Solvent Storage
	450	Solvent Storage
	451-459	Reserved Spare INPEX
46		Reserved Spare INPEX
	460-469	Reserved Spare INPEX
46		Reserved Spare INPEX
	470-479	Reserved Spare INPEX
48		Reserved Spare INPEX
	480-489	Reserved Spare INPEX
49		Reserved Spare INPEX
	490-499	Reserved Spare INPEX
50		Onshore Production
	500	Onshore Production Common
	501	Onshore Production LNG 1
	502	Onshore Production LNG 2
	503-506	Reserved Onshore Production Future LNG Trains
	507-509	Reserved Spare INPEX
51		Onshore Arrival
	510	Onshore Arrival
	511-519	Reserved Spare INPEX
52		Condensate Stabilisation
	520	Condensate Stabilisation Common

System	System Code	System / System Code Description
	521	Condensate Stabilisation Unit 1
	522	Condensate Stabilisation Unit 2
	523	Condensate Stabilisation Unit 3
	524-529	Reserved Condensate Stabilisation Future Units
53		Condensate Mercury Removal
	530	Condensate Mercury Removal
	531-539	Reserved Spare INPEX
54		Mercury Removal
	540	Mercury Removal Common
	541	Mercury Removal LNG 1
	542	Mercury Removal LNG 2
	543-546	Reserved Mercury Removal Future LNG Trains
	547-549	Reserved Spare INPEX
55		Acid Gas Removal
	550	Acid Gas Removal Common
	551	Acid Gas Removal LNG 1
	552	Acid Gas Removal LNG 2
	553-556	Reserved Acid Gas Removal Future LNG Trains
	557-559	Reserved Spare INPEX
56		Dehydration
	560	Dehydration Common
	561	Dehydration LNG 1
	562	Dehydration LNG 2
	563-566	Reserved Dehydration Future LNG Trains
	567-569	Reserved Spare INPEX
57		Mercury Guard
	570	Mercury Guard Common
	571	Mercury Guard LNG 1
	572	Mercury Guard LNG 2
	573-576	Reserved Mercury Guard Future LNG Trains

System	System Code	System / System Code Description
	577-579	Reserved Spare INPEX
58		LPG Recovery
	580	LPG Recovery Common
	581	LPG Recovery LNG 1
	582	LPG Recovery LNG 2
	583-586	Reserved LPG Recovery Future LNG Trains
	587-589	Reserved Spare INPEX
59		Liquefaction
	590	Liquefaction Common
	591	Liquefaction LNG 1
	592	Liquefaction LNG 2
	593-596	Reserved Liquefaction Future LNG Trains
	597-599	Reserved Spare INPEX
60		Refrigeration
	600	Refrigeration Common
	601	Refrigeration LNG 1
	602	Refrigeration LNG 2
	603-606	Reserved Refrigeration Future LNG Trains
	607-609	Reserved Spare INPEX
61		Fractionation
	610	Fractionation Common
	611	Fractionation LNG 1
	612	Fractionation LNG 2
	613-616	Reserved Fractionation Future LNG Trains
	617-619	Reserved Spare INPEX
62		CO2 Compression
	620	CO2 Compression Common
	621	CO2 Compression LNG 1
	622	CO2 Compression LNG 2
	623-626	Reserved CO2 Compression Future LNG Trains

System	System Code	System / System Code Description
63	627-629	Reserved Spare INPEX
		Steam
	630	Steam Common
	631	Steam LNG 1
	632	Steam LNG 2
64	633-636	Reserved Steam Future LNG trains
	637-639	Reserved Spare INPEX
		Heating Medium
	640	Heating Medium Common
	641	Heating Medium LNG 1
	642	Heating Medium LNG 2
	643-646	Reserved Heating Medium Future LNG Trains
	647	Trace Heating
	648-649	Reserved Spare INPEX
		Cooling Medium
	650	Cooling Medium Common
	651	Cooling Medium LNG 1
	652	Cooling Medium LNG 2
	653-656	Reserved Cooling Medium Future LNG Trains
	657-659	Reserved Spare INPEX
66		Fuel
	660	Fuel Common
	661	Fuel LNG 1
	662	Fuel LNG 2
	663-666	Reserved Fuel Future LNG Trains
	667	Fuel Gas
	668	Diesel Fuel Oil
	669	Aviation and Heli Fuel
67		Water Systems
	670	Water Systems General

System	System Code	System / System Code Description
	671	Sea Water
	672	Service Water
	673	Fresh Water
	674	Pot and Drinking Water
	675	Demineralised Wash Water
	676	Boiler Feed Water
	677-679	Reserved Spare INPEX
68		Compressed Air
	680	Compressed Air Common
	681	Compressed Air LNG 1
	682	Compressed Air LNG 2
	683-686	Reserved Compressed Air Future LNG Trains
	687	Instrument Air and Distribution
	688-689	Reserved Spare INPEX
69		Nitrogen
	690	Nitrogen Common
	691	Nitrogen LNG 1
	692	Nitrogen LNG 2
	693-696	Reserved Nitrogen Future LNG Trains
	697	Inert Gas
	698-699	Reserved Spare INPEX
70		Relief Flare and Vents
	700	Relief Flare and Vents Common
	701	Relief Flare and Vents LNG 1
	702	Relief Flare and Vents LNG 2
	703-706	Reserved Flare Relief and Vents Future LNG Trains
	707	LP Flare
	708	HP Flare
	709	Atmospheric Vent
71		Service and Drinking Water

System	System Code	System / System Code Description
	710	Service and Drinking Water Common
	711	Service and Drinking Water LNG 1
	712	Service and Drinking Water LNG 2
	713-716	Reserved Service and Drinking Water Future LNG Trains
	717-719	Reserved Spare INPEX
72		Demineralised Water
	720	Demineralised Water Common
	721	Demineralised Water LNG 1
	722	Demineralised Water LNG 2
	723-726	Reserved Demineralised Water Future LNG Trains
	727-729	Reserved Spare INPEX
73		Monoethylene Glycol MEG
	730	Monoethylene Glycol MEG General
	731	MEG Regeneration Pre-Treatment
	732	MEG Regeneration Reconcentration
	733	MEG Regeneration Reclamation
	734	MEG Module
	735	Reserved Spare INPEX
	736	Fresh MEG
	737	MEG Storage Lean
	738	MEG Distribution
	739	MEG Storage Rich
74		Triethylene Glycol TEG
	740	Triethylene Glycol TEG General
	741	TEG Regeneration T-100
	742	TEG Regeneration T-200
	743	TEG Regeneration T-300
	743-745	Reserved for future TEG Trains
	746	TEG Storage Lean
	747	TEG Distribution

System	System Code	System / System Code Description
	748-749	Reserved Spare INPEX
75		Drain and Effluent Treatment
	750	Drain and Effluent Treatment Common
	751	Drainage and Effluent Treatment LNG 1
	752	Drainage and Effluent Treatment LNG 2
	753-756	Reserved Drainage and Effluent Treatment Future LNG Trains
	757	Non Hazardous Open Drains
	758	Bilges
	759	Sewage Effluent Treatment
76		Hazardous Drains
	760	Hazardous Drains Common
	761	Hazardous Closed Drain
	762	Hazardous Open Drains
	763-769	Reserved Spare INPEX
77		Safety
	770	Safety General
	771	Life Boat
	772	Life Raft
	773	Escape Chute or Route
	774	Fast Rescue Craft
	775	Showers and Eye Bath
	776	Reserved Spare INPEX
	777	Equipotential Earthing
	778	Lightning Protection
	779	Emergency Power Gen and Distribution
78		Power Generation and Distribution
	780	Power Generation and Distribution Common
	781	Onshore: Power Generation and Distribution LNG 1 Offshore: Power Generation Unit 1

System	System Code	System / System Code Description
	782	Onshore: Power Generation and Distribution LNG 2 Offshore: Power Generation Unit 2
	783	Onshore: Power Generation and Distribution Future LNG Train 3 Offshore: Power Generation Unit 3
	784-786	Reserved: Power Generation and Distribution Future LNG Trains
	787	Essential Power and Distribution
	788	DC and UPS Power and Distribution
	789	Lighting Small Power and Distribution
79		Fire Fighting
	790	Fire Fighting Common
	791	Fire Fighting LNG 1
	792	Fire Fighting LNG 2
	793-796	Fire Fighting LNG Future Trains
	797	Foam System
	798	Portable Extinguisher
	799	Fixed Chemical System
80		Reserved Spare INPEX
	800-809	Reserved Spare INPEX
81		Integrated Control and Safety System
	810	Integrated Control and Safety System
	811	Process Control System PCS
	812	Simulator incl Operator Decision Support
	813	Process Historical
	814-819	Reserved Spare INPEX
82		Safety Shut Down
	820	Safety Shut Down
	821	Safety Shutdown Logic
	822	ESD Hydraulic System
	823	High Integrity Pres Protection System
	824-829	Reserved Spare INPEX

System	System Code	System / System Code Description
83		Fire and Gas Detection
	830	Fire and Gas Detection Common
	831	Fire and Gas Detection LNG 1
	832	Fire and Gas Detection LNG 2
	833-836	Reserved Fire and Gas Detection Future LNG Trains
	837	VESDA Smoke Detection
	838	Reserved Spare INPEX
	839	Fire and Gas Control Logic
84		Telecommunications
	840	Telecommunications General
	841	Wide Area Network WAN
	842	Local Area Network LAN
	843	Information Management and Technology
	844	Facility Radios
	845	Public Address
	846	Telephones
	847	Closed Circuit Television CCTV
	848	Telemetry
	849	Entertainment
85		Security Personnel Locator
	850	Security Personnel Locator
	851-859	Reserved Spare INPEX
86		Offshore Marine and Heli Systems
	860	Offshore Marine and Heli Systems
	861-864	Reserved spare INPEX
	865	Meteorological and Environment
	866-869	Reserved Spare INPEX
87		Lifting Equipment
	870	Lifting Equipment General
	871	Cranes Hoists and Gantry

System	System Code	System / System Code Description
	872	Pad Eyes Mono Rails and Davits
	873-879	Reserved Spare INPEX
88		Turret
	880	Turret General
	881	Main Bearings
	882	Seal Recovery System
	883	Swivel including Torque Stabilisation
	884-889	Reserved Spare INPEX
89		Hydraulic Power Pack
	890	Reserved Spare INPEX
	891	Centralised Hydraulic Power System
	892-899	Reserved Spare INPEX
90		Offshore Surface Facilities
	900	Offshore Surface Facilities General
	901	Topsides Decks Structures incl Helideck
	902	Below Decks and Structures
	903	Hull Pontoons Shafts and Columns - Voids
	904	Cargo Tanks
	905	Slops Tanks
	906	Ballast and Trim Tanks
	907	Subsea SURF Multi System Structures
	908	Reserved Spare INPEX
	909	Crude Oil Washing COW System
91		Living Quarters and Common Areas
	910	Offshore LQ and Common Areas General
	911	Accommodation
	912	General Office and CCR Equipment
	913	General Galley and Rec Room Equipment
	914	Equipment Rooms
	915	Switchboard Rooms

System	System Code	System / System Code Description
	916	Workshops and Equipment
	917	Stores
	918	Laboratory and Equipment
	919	Reserved Spare INPEX
92		Reserved Spare INPEX
	920-929	Reserved Spare INPEX
93		Marine
	930	Marine General
	931	Buoys and Marker Systems
	932	Anchors and Moorings
	933	Anchor Chain Handling
	934	Fairleads
	935	Shuttle Mooring and Handling
	936	Impressed Cathodic Protection
	937-939	Reserved Spare INPEX
94		Chemicals
	940	Chemicals General
	941	Methanol Storage and Distribution
	942	Demulsifier
	943	Corrosion Inhibitor
	944	Ph Stabiliser
	945	Hypochlorite and Biocide
	946	Scale Inhibitor
	947	Wax Inhibitor
	948	Anti Foam
	949	Oxygen Scavenger
	950	Reverse Demulsifier
	951	Sodium Carbonate
	952	Citric Acid
	953	Sodium Hydroxide

System	System Code	System / System Code Description
	954	Potassium Carbonate
	955	Flocculant
	956	Mercury Flocculant and Aid Flocculant
	957	Low Dosage Hydrate Inhibitor LDHI
	958-959	Reserved Spare INPEX
96		Reserved Spare INPEX
	960-969	Reserved Spare INPEX
97		Reserved Spare INPEX
	970-979	Reserved Spare INPEX
98		Reserved Spare INPEX
	980-989	Reserved Spare INPEX
99		Temporary
	990	Temporary General
	991	Temporary Structural
	992	Temporary Piping
	993	Temporary Process
	994	Temporary Subsea
	995	Temporary Mechanical and HVAC
	996	Temporary Electrical
	997	Temporary Instrument
	998	Temporary Telecommunications
	999	Temporary Safety Systems

APPENDIX C: BUILDING AND AREA CODES

Table C-1: Building Codes ONSHORE

Code	Description
AR	Access Road
AV	Accommodation Village
AY	Analyser Building Area
BH	Bens Hill (East Arm)
BN	LNG Boil-Off Gas Area
BP	LPG Boil-Off Gas Area
BV	Onshore Pipeline Beach Valve Area
CB	Central Control Building
CC	Control Cabin
CO	Construction Offices Area
CR	Control Room
CT	Condensate Tank Area
CU	Common Utility Area
DC	Darwin CBD Microwave Site
DE	Drainage and Effluent Treatment Area
EA	East Arm Port Area
FA	Open Ground Flare Area
FK	Flare Knock Out Drum Area
FS	Fire Station Building
GH	Gate House
HW	Hazardous Materials Warehouse Area
IF	Inlet Facilities Area
L1	LNG Train 1 Area
L2	LNG Train 2 Area
LE (R)	Local Electrical Room
LI (R)	Local Instrument Room
LY	Laboratory
MO (F)	Module Offloading Facility Area

Code	Description
MO (R)	Marine Operations Centre
NT	LNG Tank Area
OA	Offsite Area
OF	Offices
OC	Operations Complex Area
OO	Operations Office
PC	Pipeline/Service Corridor Area
PG	Power Generation Area
PL	Product Loading Area
PT	LPG Tank Area
QA	Quarantine Area
SH	Shelter
SO	Operation Complex Shutdown Village
SP	Plant Shutdown Village
SS	Substations
TB	Toilet Block
TE	Radio Communication Building
TF	Tankage Flare Area
UA	Utilities Annex
WF	Field Workshop Area
WH	Warehouse Area
WS	Workshop Area

Table C-2: Area Codes OFFSHORE

Code	Description
A	Accommodation (Living Quarters)
C	CPF Hull Column
D	FPSO Hull Cargo Deck
*E	Equipment Rooms, prefixed *(F= field, T= telecoms)
F	Flare
H	Helideck
J	FPSO Machinery Space (Stern).
K	FPSO Machinery Space (Forward)
M*	Module * = Number as per clause 5.4.3
N	CPF Hull Node
P	Process
R	Riser Balcony
S	CPF Hull Pontoon
T	Turret
U	Utility
X	Pipe and Cable Structural Rack
W	Hull <u>Tank</u>

APPENDIX D: MECHANICAL FUNCTION CODES

Table D-1: Mechanical Function Codes

OPTIONAL



1st Letter Code	First Letter	2nd Letter Code	Second Letter
A	Packaged Units	A	Cleaning Equipment
B	Enclosures, Containers, Structures, Caissons,	B	Pressure Vacuum Breaker
C	Columns : Tray columns, Packed columns Rotating disc contactors	C	Chamber
D	Drying Equipment	D	Diesel Engine
E	Unfired heat transfer equipment, Heat exchangers, Condensers, Coolers, Reboilers	E	Emergency
F	Fired furnaces, Heaters, Steam Boilers, Flare, Incinerator, Waste Heat Recovery Units, Inert Gas generator	F	Fan, Fire
G	Generator, (Turbo Expander)	G	Gearbox
H	HVAC	H	Hydraulic Lines, Heater elements
J	Instrument/Controls	J	Flowlines
K	Compressors, Blowers, Fans, Expanders	K	Manifolds
L	Loading Arms	L	Pipelines
M	Mixers, Stirrers, Mixing nozzles, Inductors, Blenders, Steam (super-heaters ejectors), Macerator	M	Motor
P	Pumps (Centrifugal, Reciprocating, Rotary etc)	P	
Q	Quality (Production & Analysis)	Q	
R	Refrigeration	R	
S	Filters	S	
T	Tanks, Voids	T	Turbine (Steam or Gas), Tower

1st Letter Code	First Letter	2nd Letter Code	Second Letter
U	Safety (Eye Wash Station)	U	Umbilicals
V	Vessels, Pig Launchers/Receivers, Separators; Gravity & Mechanical, Coalescer	V	Valves
X	Material Handling Equipment, Lift	X	Crane & Winches
Y	Fire Fighting Equipment (Hydrants, Deluge Skids etc)	Y	
Z	Ventilation Dampers	Z	

NOTE:

- 1) Where a choice is between two or more letters, the most important function of the equipment must prevail.
- 2) The mechanical function code for Sump which is civil shall be referred to APPENDIX K: Civil Function Codes

Table D-2: HVAC Function Codes

Code	Description
HA	HVAC Package
HAC	HVAC Condensing Unit
HAK	HVAC Refrigeration Unit (Chiller Unit)
HCP	HVAC Unit Control Panel
HAR	HVAC Split Type Room Refrigeration Air Conditioner
HAS	HVAC Sound Attenuator
HAU	HVAC Single Packaged AC Unit
HCU	HVAC Constant Volume Unit
HDE	Extract Ventilation Diffuser
HDS	Supply Ventilation Diffuser
HE	HVAC Heating Coil, Cooling Coil
HED	HVAC Duct Heating Coil, Duct Cooling Coil
HGE	Extract Grille
HGS	Supply Grille
HGT	Transfer Grille
HHU	HVAC Air Handling Unit
HK	HVAC Fan
HKE	HVAC Fan Coil
HL	HVAC Weather Louvre
HM	HVAC Humidifier
HP	HVAC Pump
HS	HVAC Filter
HT	HVAC Tank (Expansion, Buffer)
HVM	HVAC Control Valve Motorised
HZB	HVAC Blast Damper
HZC	HVAC Volume Control Damper
HZF	HVAC Fire Damper
HZM	HVAC Motorised Damper
HZP	HVAC Damper Pressure Relief

Code	Description
HZS	HVAC Shut Off Damper

APPENDIX E: ELECTRICAL AND MAJOR INSTRUMENTATION FUNCTION CODES

Table E-1: Electrical and Major Instrumentation Function Codes

Code	Description
AP	Alarm Panel
BT	Battery
BC	Battery Charger
BD	Bus Duct
CA	Capacitor Bank
CB	Circuit Breaker
CP	Cathodic Protection
CS	Control Station
DB	Distribution Boards
EB	Earth Bar
EC	Electrical Control Panel
EP	Equipotential / Earthing Point
FC	Fused Contactor
FH	Fog Horn
HE	Anti-Condensation Heater
HF	Harmonic Filter
HR	Heater (Electrical)
HT	Heat Tracing
IEB	Intrinsically safe earth bar
IJB	Instrument Junction Box
IR	Interposing Relay Box
IS	Isolator
IV	Inverter
JB	Junction Box
JC	Instrument Cabinet
JEB	Instrument (clean) earth bar
JP	Instrument Panel
JR	Instrument Rack

Code	Description
LT	Light Fitting
MB	Marshalling Box
MC	Motor Control Centre
MCT	Multi Cable Transit
MSL	Motor Starter (local)
NER	Neutral Earth Resistor
NL	Navigation Lantern
PC	External Sun Switch (Photo Voltaic Cell)
PO	Power Outlet
PS	Power Supply
RA	Cable Racking (Cable Ladder and Cable Trays)
RR	Resistor (Earthing)
RT	Resistance Temperature Detector
RX	Reactor
SB	Switchboard
SW	Switch
TH	Thermistor
TM	Thermostat
TR	Transformer
UPS	Uninterruptible Power Supply
VD	Visibility Detector
VS	Variable Speed Device
WO	Welding Outlet

APPENDIX F: INSTRUMENTATION FUNCTION CODES

Table F-1: Instrument Function Code **Hierarchy**

First letter		Second and Succeeding letter(s)				Remarks
	Measured value or input function	Modifier	Display or passive function	Output function	Modifier	
A	Analysis		Alarm			
B	Burner, Combustion or Blowdown		Status display			
C	INPEX Choice			Control	Closed	
D	INPEX Choice	Differential				
E	Voltage (EMF) or Emergency (Shutdown)		Element (sensor, without transmitter)		Erosion	Add a note to the symbol to specify the property measured
F	Flow Rate	Ratio (Fraction)				
G	GAS		Indicating (gauge)			F&G
H	Hand (manually) operated				High	H for alarm setting and HH for trip setting
I	Current (Electrical)		Indicate			
J	Power	Scan				
K	Sequential control or time programming	Time rate of change		Control Station		
L	Level		Light (Pilot)		Low	L for alarm setting and LL for trip setting
M	Smoke Or Motor Operated	Momentary			Middle or Intermediate	F&G
N	INPEX Choice		INPEX Choice	INPEX Choice	INPEX Choice	

First letter		Second and Succeeding letter(s)				Remarks
	Measured value or input function	Modifier	Display or passive function	Output function	Modifier	
O	INPEX Choice		Orifice Restriction		Open	
P	Pressure or Vacuum		Test-point connection			
Q	Quantity or Event	Integrate or Totalise				Add a note to the symbol to specify the property measured
R	Radiation (Nuclear)		Record, Print			Fire Input function
S	Speed or frequency	Safety		Switch		Not for emergency acting (Z)
T	Temperature			Transmit		Where required to clarify the function
U	Multi-Variable		Multifunction	Multifunction	Multifunction	
V	Vibration			Actuating element, Valve, Damper, Louvre		
W	Weight or Force		Well			
X	Unclassified			Unclassified	Fire & Gas	Explain the function for which this letter is used
Y	Event. State, Presence			Relay, Convert, Signal processor unit, Solenoid Valve		Use HY when computing function can be adjusted from control panel/keyboard
Z	Position, Dimension	Emergency Acting				

The table above is in accordance with ANSI/ISA – S5.1 1984 (R1992)

Table F-2: Instrument Function Code Expansion

		Element / Sensor	Transmitter	Switch	Hand Switch	Gauge	Valve	Regulator	Solenoid	I/P Converter	Controller	Indicating Controller	Alarm	Indication	Unspecified Function Relay or Positioner	Software Output	Software Trip	OTHER
A	Analysis	AE	AT	AS ⁽¹⁾									AA ⁽¹⁾	AI	AY			AW (Sample Probe)
B	Burner, Flame	BE		BS ⁽¹⁾					SOV	BY			BA ⁽¹⁾					
B	Blowdown Valve						BDV		SOV	BY								
D	Fire & Gas																	
E	Voltage		ET											EI				
E	Emergency Shutdown						ESDV											
F	Flow	FE	FT	FS ⁽¹⁾		FI	FV	FCV	SOV	FY		FIC	FA ⁽¹⁾	FI	FY	FHS	FXS	FO (Restriction Orifice)
FF	Flow Ratio											FFIC		FFI	FFY			
FQ	Flow Totaliser													FQI				
G																		
H	Hand			HS	HS		HV		SOV	HY		HIC			HY			HSR (Reset Switch)
																		HSC Local Motor Control
																		HSE Local Emergency Stop
I	Current		IT											II				
J	Power																	

		Element / Sensor	Transmitter	Switch	Hand Switch	Gauge	Valve	Regulator	Solenoid	I/P Converter	Controller	Indicating Controller	Alarm	Indication	Unspecified Function Relay or Positioner	Software Output	Software Trip	OTHER
J	Motor Control														JY			JCR (Drive start (run) signal)
																		JCS (Drive stop signal)
																		JIA (Drive available signal)
																		JIR (Drive running signal)
																		JIY Drive fault
																		JESD ESD Trip
																		JY (Drive tripped signal)
																		JCRF Field start contact
																		JCSF Field stop contact
K	Time																	
L	Level	LE	LT	LS ⁽¹⁾		LG	LV		SOV	LY	LC	LIC	LA ⁽¹⁾	LI	LY	LHS	LXS	LTP (LT Power Supply)
																		LSP (LS Power Supply)
																		LX (Nucleonic Source)
M																		MOV (Motor Operated Valve)
P	Pressure		PT	PS ⁽¹⁾		PI	PV	PCV	SOV	PY		PIC	PA ⁽¹⁾	PI	PY	PHS	PXS	
																		PRV (Pressure Relief Valve)
																		PSV(Pressure Safety Valve)
PD	Differential Pressure		PDT	PDS ⁽¹⁾		PDI	PDV	PDCV		PDY		PDIC	PDA ⁽¹⁾	PDI				
R	Radiation																	RO (Restriction Orifice)
S	Speed		ST	SS						SY	SC			SI				SE (Speed Sensor)
																		SSHH (Overspeed Trip Switch)
																		SY (Speed Signal Converter)
S	Shutdown							SDV									SD	SD (Shutdown Busbar)

		Element / Sensor	Transmitter	Switch	Hand Switch	Gauge	Valve	Regulator	Solenoid	I/P Converter	Controller	Indicating Controller	Alarm	Indication	Unspecified Function Relay or Positioner	Software Output	Software Trip	OTHER
T	Temperature	TE	TT	TS ⁽¹⁾	THS	TI	TV	TCV	I		TC	TIC	TA ⁽¹⁾	TI	I	I	I	TCV (Self-acting temperature control valve)
																		TW (Thermowell)
TD	Differential Temperature	I	I	I	I	I	I	I	I	I	I	TDIC	I	TDI	I	I	I	I
U	Multivariable	I	I	US	I	I	I	I	I	I	I	I	UA	I	UL	I	I	I
V	Vibration	VE	VT	VS ⁽¹⁾	I	I	I	I	I	I	I	I	VA ⁽¹⁾	VI	I	I	I	
W	Weight	I	WT	WS ⁽¹⁾	I	I	I	I	I	I	I	I	I	WI	I	I	I	I
X	Miscellaneous	XE	XT	XS	XHS ⁽²⁾	I	XV	I	SOV	XY	XXS	I	XA ⁽³⁾	XI	XL	I	I	XSL (Motorised Valve Local Switch)
																		XY (Miscellaneous signal or command))
Y	Event, State	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Z	Position	ZE	ZT	ZS ⁽²⁾	I	I	I	I	I	I	I	I	ZA ⁽²⁾	ZI	ZY			

(1) = Add the suffix in brackets to the tag for appropriate condition : (LL) LOW LOW, (L) LOW, (H) HIGH, (HH) HIGH HIGH, (F) Fault
(2) = Add the suffix in brackets to the tag for appropriate condition : (O) OPEN, (C) CLOSED
(3) = Suffixes may be added to give Fault Alarm (XAF) and Trip Alarm (XAT).

Table F-3: Fire & Gas Function Codes Expansion

	Fire & Gas Field Devices								Panel/ICSS Devices						
	Detector	Switch Switch High (H) Switch Low (L)	Switch High High (HH) Switch Low Low (LL)	Lamp	Sounder	Pre-release Sounder	Extinguishant Release Switch	Other Field Devices	Fault Alarm	Alarm	Alarm	Alarm High	Indicator	Control Action	Remote lamp Common Services Console
Alarm Lamp				DAL											
F&G Alarm Switch		DAS													
Extinguishant Release							DEM								DHL
Flame Detector - Infra Red	DFI							DFV	DXA				DFII		
Flow Switch		DFSL							DXA						
Combustible Gas - Detector	DGC								DXA		DGA	DGCH	DGCI		
Combustible Gas - Light Source	DGCS														
Hydrogen Gas Detector	DGH								DXA		DGA	DGHH	DGHI		
Toxic Gas Detector	DGM								DXA		DGA	DGMH	DGMI		
Acoustic Gas Detector	DGV								DXA		DGA	DGVH	DGVI		
Override Enabled										DHA					
Heat Detector Rate Compensated	DHC								DXA	DHCA		DHCA			
Linear Heat Electrical	DHE								DXA	DHEA		DHEH			
Selector Switch		DHS											DHI		
Lamp															DL
Manual Alarm Call Point		DMC							DXA	DMCA				DMX	
Deluge Skid PSH		DPSH								DPAH					
Deluge Skid PSL		DPSL								DPAL					
Smoke Detector	DSO			DSL					DXA	DSOA				DSX	
High Sensitivity Smoke Detector	DSE	DSH	DSHH									DSAH		DSX	
Software Driven Shutdown														DXX	
Switch Or Trip		DXS													
Alarm (Unspecified)										DXA					
Deluge Valve								DXV							
Solenoid Valve								SOV							
Pressure Control valve								PCV							
Very Early Smoke Detection Apparatus	DVE														

APPENDIX G: TELECOMMUNICATION FUNCTION CODES

Table G-1: Telecommunication Function Codes

Code	Description	Examples
ACC	Accelerator	Riverbed WAN Accelerator
ACD	Door Lock Device	Door strike, Magnetic Lock
ACI	Access Intercom Unit	Door intercom unit
ACK	Access Key Pad	Key Pad
ACM	Door Monitor Contacts	Reed Switch
ACR	I.D. Card Reader	I.D. Card Reader
AMP	Amplifier	PAGA System Amplifier
ANE	Anemometer	Anemometer / Wind Speed & Direction Sensor
ANT	Antenna	VHF Antenna, Microwave Dish, VSAT Antenna
ATA	Radome Dehumidifier / Airconditioner	Radome Dehumidifier / Airconditioner
ATD	Radome	Radome
ATT	Attenuator	Attenuator – optical or electrical
BAR	Barometer	Barometer
BAT	Battery Charger	Battery Charger
BCN	Beacon	PAGA Beacon
BDE	Shelter	Shelter
BIO	Biometric Reader	Biometric Reader
CAM	Camera	Digital Stills, CCTV Infra Red, CCTV Colour
CDF	Copper Distribution Frame	Cross-connect Frame / Krone Frame / IDF / MDF (but not RJ45 Patch Panel)
CHK	Choke Point	Personnel Locator System Choke Point
CLO	Ceilometer Sensor	Ceilometer Sensor
CMT	Current Meter	Water Current Meter
CNT	Control Unit / Controller	AIS Control Unit, Gatekeeper
CON	Console	KMM Console, Games Console, Dispatch Console
CPP	Copper Patch Panel	RJ45 Patch Panel
CPR	Central Processing	Communications manager, Unity Voicemail

Code	Description	Examples
	Equipment	
CPT	Call Point	PAGA Call Point / PAGA Access Panel
CRL	Cable Reel	Telecommunication/SSL Cable Reel
CVT	Convertor	24v-12v Convertor, Media Convertor, Protocol Convertor
DAT	Data Logger	Data Logger
DEC	Decoder	Integrated Receiver Decoder for Entertainment System
DOC	Docking Station	Notebook Docking Station
DTO	Outlet	Data Outlet, Telecoms Outlet
EMN	Element Manager	Element Manager Equipment
ENC	Encoder	FM Stereo Encoder, SNMP Encoder, CCTV Encoder
ETH	Earthing System	Tower Earth System, Shelter Earth System, Earth Bar
EWB	Electronic Whiteboard	Electronic Whiteboard
EXC	Exciter	Personnel Locator System Exciter
FAN	Remote Indicator-Nurse Station	Remote Indicator-Nurse Station
FFS	Fibre Optic Fence Security	Fibre Optic Fence Start/stop Sensor
FOP	Fibre Optic Panel	Fibre Optic Splice Tray, Fibre Optic Patch Panel, FOBOT
FTR	Filter	Transmitter / Receiver Filter
FWL	Firewall	Cisco ASA5550, Cisco AS5520
GTW	Gateway	Analogue Gateway, Voice Gateway
HOT	Hotline Telephone	Hotline Telephone
HST	Headset	IS Headset, Noise Cancelling Headset
HUM	Humidity Sensor	Humidity Sensor
HVA	Air Conditioning Equipment	Door-mounted Air Conditioning Unit in an equipment cabinet
IDU	In Door Unit	Microwave Link In Door Unit
IFU	Interface Unit	Microwave Link Interface Unit
INC	Mini-C Pack Non-	Mini-C Pack Non-SOLAS Vessels

Code	Description	Examples
	SOLAS Vessels	
KBD	Keyboard	Keyboard
KVM	KVM Equipment	KVM Switch
LRD	LRAD Speaker	LRAD Speaker
LRM	LRAD Motor Unit	LRAD Motor Unit
MAT	Matrix	Video Matrix, Alarm Matrix
MCP	Multicoupler	Antenna Multicoupler
MIC	Microphone	Desk Microphone, Hand Portable Extension Microphone
MOD	Modem	Satellite Modem
MPD	Media Player	Bluray Player, DVD Player
MPT	Muster Point	Muster Point
MRU	Motion Reference Unit	Helipad Motion Reference Unit
MSW	Multiswitch	Active Splitter for TVRO System
NAA	Obstacle Lighting	Tower Obstacle Lighting High Intensity
NOT	Notebook Computer	Notebook Computer, Toughbook Computer
NSD	Network Storage Device	NAS / SAN
OSD	Storage Device	External hard Drive Array
OVP	Over-volt Protection Frame	Over-volt Protection Frame
PCO	PC / Workstation	PC, Workstation, Operator Workstation, Engineering Workstation
PDP	Power Distribution Panel	Power Distribution Panel in Equipment Cabinet
PIR	Internal Security Sensor	PIR Detector
PLT	Plotter	Plotter
PPU	Portable Pilot Unit	Portable Pilot Unit (Berthing Aid)
PRJ	Projector	Projector
PRN	Printer	Printer
PRO	Processor	Satellite Compass Processor
PSU	Power Supply	Radio Power Supply, CCTV Power Supply
PSW	Power Isolator Switch	Power Isolator Switch
PTZ	Pan Tilt Zoom Unit	CCTV Pan Tilt Zoom Unit, Video Conference

Code	Description	Examples
		Pan Tilt Zoom Unit
RAD	Radio	VHF Radio, UHF Radio, Marine Radio
RAN	RADAR Antenna	Navigational RADAR Antenna, Security RADAR Antenna, Weather RADAR Antenna
RCV	Receiver	DGPS Beacon Receiver, Wave Rider Receiver, Telemetry Receiver
RDR	Recorder	HD Video Camera Recorder, Streamer/Recorder
RGB	RADAR Motor/Gearbox	RADAR Motor/Gearbox (any radar)
RHH	Hand Portable Radio	TETRA Hand Portable Radio, IS VHF Hand Portable Radio
RSR	Rain Sensor	Rain Sensor
RTR	Router	Cisco Router
RTU	Remote Telemetry Unit	Remote Telemetry Unit
SAR	Surge Arrestor	Antenna Lightning Arrestor
SAS	Tower Rescue System	Tower Rescue System
SCN	ProJector Screen	Projector Screen
SCU	Splitter/Combiner Unit / Equipment	RF Splitter/Combiner, IF Splitter/Combiner
SND	Sound System	Sound System, Sound System Echo Cancelling
SOB	Solar Battery System	Solar Battery System
SOL	Solar Array	Solar Panel Array
SPK	Speaker	Radio Speaker, PAGA Speaker, Horn Speaker
SPL	Splitter	Splitter Unit, Splitter/Buffer Unit
SRN	Siren	PAGA High-powered Siren
SRT	Tower	Free Standing Tower , Guyed Mast, CCTV Pole
SSA	SSAS Pack	SSAS Pack Non SOLAS Vessels
STB	Set-Top Box	Set-Top Box
STM	Streamer	IP Streamer, IP Streamer A/V Encoder
SVR	Server	All Types of Server
SWI	Switch	Foot Switch, Door Release Switch

Code	Description	Examples
SWT	Switch (Network)	Cisco Core/Distribution Switch, Cisco Access Switch
TAP	Tape Drive	Tape Drive
TBG	Telecommunications Break Glass Device	Security Break Glass Door Release
TEC	Telecommunications Equipment Cabinet	Field Equipment Cabinet/Enclosure
TRK	Telecommunications Equipment Rack	19" Equipment Rack in an Equipment Room
TEH	Acoustic Hood for Telephone	Acoustic Hood for Telephone
TEL	Telephone	IP Telephone, EX Telephone, Cordless Telephone (but NOT Hotline Telephone)
TGG	Tide Gauge	Tide Gauge
TJB	Telecommunication Junction Box	All Telecommunications Systems Junction Boxes
TML	Terminal	Video Conference Terminal, Maintenance Terminal, Craft Terminal
TMP	Temperature Sensor	Temperature Sensor
TRV	Transmitter	VHF Transmitter, Telemetry Transmitter
TRX	Transceiver	C-Band Satellite Transceiver, TETRA Radio Transceiver
TSP	Transponder	AIS Transponder
UPB	UPS Battery Unit	UPS Battery Unit
UPS	UPS	UPS
VDS	Video Screen	Video Screen
VDU	Visual Display Unit	Visual Display Unit
WLS	Wireless Device	Wireless LAN Unit, Wireless Link, Wireless Access Point,
WMX	WIMAX Equipment	WIMAX Base Station/Subscriber Unit
WRB	Wave Rider Buoy	Wave Rider Buoy
WWS	Wash Wipe System	CCTV Wash Wipe System

APPENDIX H: SAFETY FUNCTION CODES**Table H-1: Safety Function Codes**

Code	Description
HK	Abandon Platform/Facility Station
UC	Life Boat, Life Raft
UE	Safety Equipment, Nets, Rings, Fire Box, & Protection
XA	Safety Audible Alarm
XB	Safety Indicator Panel
XK	Safety Control Station
XL	Safety Alarm Beacon
YB	Remote Indicator Display Panel (Status Lights)
YE	Fire Extinguisher
YL	Fire Hydrant, Monitor, Hose & Reel
ZF	Fire Damper (Shutter, Door Damper)

Refer to Appendix F for Fire & Gas Detection

APPENDIX I: SURF FUNCTION CODES

Generally subsea function codes are derived from Norsok Standard Coding System Z-DP-002 Rev 3 October 1996 to conform to internationally recognised sub sea standards.

Table I-1: SURF Function Codes

Code	Description
UA	Wellhead and Tubing Hanger System
UB	Xmas Tree
UC	Flow Lines
UD	Subsea Station Structure Appurtenances
UE	Lifting, Levelling and Piling System
UF	Pull-in and Connection Structural Equipment
UG	Manifold (For valving refer APPENDIX L:)
UI	Pigging Facilities
UJ	Connection Equipment
UK	Topside Control Equipment
UL	Uninterruptible Power Supply
UM	Hydraulic Power Unit
UN	Subsea Control Pod
UO	Electrical Distribution System
UP	Risers
UQ	Work-over Control System
UR	Intervention System and Tools (ROT)
US	ROV and Tools
UT	Intervention Control System
UU	Test Equipment
UW	Work Over System
UX	Special Subsea Equipment
UZ	Other Subsea Equipment

APPENDIX J: SURF VALVE CODES

Table J-1: SURF Valve Codes

Code	Description
AIV	Annulus Isolation Valve
AMV	Annulus Master Valve
ASV	Annulus Swab Valve
AWV	Annulus Wing Valve
AVV	Annulus Vent Valve
CCV	Chemical Control Valve
CIV	Chemical Isolation Valve
FCV	Flow Control Valve (Self Actuating)
HIV	Header Isolation Valve
MIV	MEG Isolation Valve
PIV	Production Isolation Valve
PMV	Production Master Valve
PSV	Production Swab Valve
PWV	Production Wing Valve
SSSV	Surface-Controlled Sub-Surface Safety Valve
SDV	Shutdown Valve (Typically Offshore Usage)
SSIV	Subsea Isolation Valve
SWV	Sacrificial Wing Valve
XOV	Cross Over Valve
XV	Unassigned Valve

APPENDIX K: CIVIL FUNCTION CODES

Table K-1: Civil Function Codes

Code	Description
BG	Bridge
BY	Buoys
CC	Closed Culverts
CG	Civil General
CL	Column
CT	Communication Towers
DK	Dike
DV	Vortex Drain
FD	Foundation
FP	Fire Water Pond
GT	Gates
HB	Harbours
JY	Jetty
MS	Moorings System
OC	Open Culvert/ Channel
OR	Outfall Run-off
PB	Pipe Bridge
PF	Platform
PR	Pipe Rack
PS	Pipe Stanchion / Support
PV	Pavement
RD	Road
SB	Supply Base
SF	Security Fence
SG	Structural General
SH	Shelter
SL	Support Sleeper (Foundation)

Code	Description
SM	Single Buoy Mooring
ST	Shafts
SU	Sump

APPENDIX L: VALVE AND DEVICE IDENTIFICATION CODES

Table L-1: Valve and Device Identification Codes

Code	Description
ARV	Auto Recirculation Valve
BDV	Blowdown Valve
BRV	Breather Valve
CHV	Check Valve
CP	Corrosion Probe
EDV	Emergency Depressurising Valve
ESDV	Emergency Shutdown Valve
FCV	Flow Control Valve
IDB	Integrated Double Block and Bleed Ball Valve
LCV	Level Control Valve (Self Actuating)
LG	Level Gauge
MOV	Motor Operated Valve
MP	Monitoring Point
MV	Manual Valve (All non actuated Valves)
NCV	Non Slam Check Valve
PCV	Pressure Control Valve (Self Actuating)
PRV	Pressure Relief Valve [see para 5.4.1(4)]
PSV	Pressure Safety Valve
RO	Restriction Orifice
SCP	Sampling Connection Point
SDV	Shutdown Valve
SG	Sight Glass
SLC	Silencer
STR	Strainer
TCV	Temperature Control Valve (Self Actuating)
TSV	Thermal Safety Valve
VB	Vacuum Breaker

Code	Description
VRV	Vacuum Relief Valve
YDV	Fire Deluge Valve
YK	Deluge Skid

APPENDIX M: SERVICE AND CABLE CODES

Table M-1: Cable Voltage Level Code

Code	Description
A	132kV AC
B	33kV AC
C	11kV AC
D	6.6kV AC
E	3.3kV AC
F	690V AC
G	400V AC
H	230V AC
I	110V DC
J	48V DC
K	24V DC or less

Table M-2: Service type identifier Code`

Code	Description
N	Normal
E	Emergency
V	Vital (UPS)

Table M-3: Cable Service Code

Code	Description
C	Control Cable (AC and DC)
J	Instrument
L	Lighting Cable
M	Impulse Lines
P	Power Cable (AC and DC)
T	Telecommunications Cables
V	mV Signal Cable (vibration etc.)
X	Heat Tracing Element Cable