

DEP SPECIFICATION

INSTRUMENTATION SYMBOLS AND IDENTIFICATION ON PROCESS ENGINEERING FLOW SCHEMES

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DESIGN AND ENGINEERING PRACTICE

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The information set forth in these publications is provided to Shell companies for their consideration and decision to implement. This is of particular importance where DEPs may not cover every requirement or diversity of condition at each locality. The system of DEPs is expected to be sufficiently flexible to allow individual Operating Units to adapt the information set forth in DEPs to their own environment and requirements.

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1. INTRODUCTION

1.1 SCOPE

This DEP, in conjunction with Standard Drawings S 37.000, specifies requirements and gives requirements for:

- symbols for the graphical presentation of instrument functions used on Process Engineering Flow Schemes (PEFS); and,
- identification codes of the above instrument functions on PEFS.

This DEP contains mandatory requirements to mitigate process safety risks in accordance with Design Engineering Manual DEM 1 – Application of Technical Standards

This DEP is a revision of the DEP of the same number dated January 2010; see (1.5) regarding the changes.

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Unless otherwise authorised by Shell GSI, the distribution of this DEP is confined to Shell companies and, where necessary, to Contractors and Manufacturers/Suppliers nominated by them. Any authorised access to DEPs does not for that reason constitute an authorization to any documents, data or information to which the DEPs may refer.

This DEP is intended for use in facilities related to oil and gas production, gas handling, oil refining, chemical processing, gasification, distribution and supply/marketing. This DEP may also be applied in other similar facilities.

When DEPs are applied, a Management of Change (MOC) process should be implemented; this is of particular importance when existing facilities are to be modified.

If national and/or local regulations exist in which some of the requirements could be more stringent than in this DEP, the Contractor shall determine by careful scrutiny which of the requirements are the more stringent and which combination of requirements will be acceptable with regards to the safety, environmental, economic and legal aspects. In all cases the Contractor shall inform the Principal of any deviation from the requirements of this DEP which is considered to be necessary in order to comply with national and/or local regulations. The Principal may then negotiate with the Authorities concerned, the objective being to obtain agreement to follow this DEP as closely as possible.

1.3 DEFINITIONS

1.3.1 General definitions

The **Contractor** is the party that carries out all or part of the design, engineering, procurement, construction, commissioning or management of a project or operation of a facility. The Principal may undertake all or part of the duties of the Contractor.

The **Manufacturer/Supplier** is the party that manufactures or supplies equipment and services to perform the duties specified by the Contractor.

The **Principal** is the party that initiates the project and ultimately pays for it. The Principal may also include an agent or consultant authorised to act for, and on behalf of, the Principal.

The word **shall** indicates a requirement.

The capitalised term **SHALL [PS]** indicates a Process Safety requirement.

The word **should** indicates a recommendation.

1.3.2 Abbreviations

BPCS	Basic Process Control Systems (e.g. DCS)
CMMS	Computer Maintenance Management System

DCS	Distributed control system (in this document this terminology covers all types of BPCS)
EPC	Engineering Procurement Contractor
ESD	Emergency Shutdown
HMI	Human machine interface
IPF	Instrumented protective function
IPS	Instrumented protective system
MFD	Mechanical Flow Diagram, similar to a PEFS
MMS	Maintenance Management System(s)
MW	Molecular weight
PEFS	Process engineering flow scheme(s)
P&IDs	Piping & Instrument Diagrams
PFS	Process flow scheme(s)
PSFS	Process safeguarding flow scheme(s)
SIL	Safety Integrity Level, see DEP 32.80.10.10-Gen.
TSO	Tight shut off to Class V or Class VI, in accordance with IEC 60534-4
UFS	Utility Flow Scheme(s)

1.4 CROSS-REFERENCES

Where cross-references to other parts of this DEP are made, the referenced section number is shown in brackets. Other documents referenced by this DEP are listed in (7).

1.5 SUMMARY OF MAIN CHANGES

This DEP is a revision of the DEP of the same number dated January 2010. The following are the main, non-editorial changes.

Old section	New section	Change
1.1		Updated
1.2		Updated
1.3.1		Updated
1.3.2		Updated
1.4		Updated
1.5		Added
1.6		Updated
1.7		Deleted
2.0		Updated to cover both ISO and ISA standards
3.0		Whole section changed for ISO3511
	4.0	Whole section changed for ISA S5.1 and S5.3
	5.0	Was section 3.6, moved and updated
	6.0	Was section 4, moved and updated
	7.0	Was section 5, moved and updated

	Appendix A	Was appendix 1, and updated
	Appendix B	New Appendix for ISA standards

1.6 COMMENTS ON THIS DEP

Comments on this DEP may be sent to the Administrator at standards@shell.com, using the DEP Feedback Form. The DEP Feedback Form can be found on the main page of “DEPs on the Web”, available through the Global Technical Standards web portal <http://www.shell.com/standards> and on the main page of the DEPs DVD-ROM.

2 SYMBOLS

For process plants there are two options applicable for instrument symbols used on PEFS, namely:

- Option 1; Indicating functionality of the loop based on ISO 3511
 - In this case sections 3, 5 and 6 apply.
- Option 2; Indicating functionality of components derived from ISA S5.1 and ISA S5.3
 - In this case sections 4, 5 and 6 apply

In conjunction with option 2, symbols and identification for protection devices identified in API-RP-14C shall be used for all US based offshore facilities.

In conjunction with option 2, symbols and identification for protection devices identified in ISO-10418 shall be used for all non US based offshore facilities.

There are other symbol schemes that may be used where authorized and defined by the Principal, such as in power station applications.

For projects on existing sites the existing symbol schemes may be used.

When an alternate symbols scheme is to be used, it shall address all aspects of symbols described in this document.

For most IPF and control functions, it is not possible to cover all functionality in sufficient detail on PEFS. In such cases, further details shall be provided on separate documents, such as narratives, block diagrams, functional logic diagrams, flow charts or a combination of these documents.

On PEFS, the optional # sign is reserved to draw attention to the fact that further detailing of functionality is available on other documents. Either the # sign or the full drawing number shall be referenced (e.g. 'refer to document R-123 456').

A command to increase the output shall produce an increase on the process, such as increase in capacity of control valve, a larger opening of louvres, increased motor speeds, increased cooling capacity of variable-pitch fans etc. Where this is not the case (e.g. for fail-open control valves) the signal shall be reversed upon exiting the DCS, and the reversal function is shown on PEFS.

The following information shall not be shown on PEFS but shall be shown in other relevant documents.

- Maintenance override switches and related status lamps, lamp test push buttons.
- Signals between the IPS and DCS for the purpose of synchronisation and controller mode/output switching and ramping.
- Facilities for testing IPF initiators and IPF final elements, unless additional valves (bypass and isolation valves) and hardwired instruments are required.
- Signals that provide information on failure of measuring instruments and instrument systems, such as crippled mode alarms, system alarms and communication alarms.
- Signals for initialisation, external feedback, etc.
- Signals for remote calibration (e.g. analysers).
- Serial communications between the DCS and IPS. This is an overview drawing or serial communication drawing shall be provided to show all the signals that flow between the two systems with tags specified on both sides of this communications link.

The information flow direction shall be shown by arrows on signal line symbols.

When a loop is split across multiple PEFS drawing sheets cross-referencing between the sheets shall be used. Service descriptions are optional and may be added for convenience.

3 SYMBOLS INDICATING FUNCTIONALITY OF LOOP BASED ON ISO3511

3.1 IDENTIFICATION

3.1.1 General

This Section covers option 1 (as per Section 2) for the identification of instrument functions on PEFS.

The instrument symbols used on PEFS shall indicate the functionality of the loop. For DCS and general instrumentation the symbols shall indicate which process condition or property is being measured and controlled and what information is displayed. For safety related function (e.g. IPFs) the symbols shall indicate which process condition or property is being measured and what information is displayed.

NOTE: The same applies to PFS, PSFS and P&IDs. Note presentation of instrument functions on PFS and PSFS will be less extensive.

All components and functions of the loop shall carry the same tag number. The numbering shall be unique at loop level.

To clarify the functionality of the loop on PEFS the components shall be presented with unique identifications, with the "process unit" and "serial number" left unchanged (e.g. in loop 110FICA-101, a transmitter may be shown as 110FT-101, a local receiving indicator as 110FI-101 and the two valves as 110FCV-101A and 110FCV-101B).

An instrument function is identified by its symbol (see Section 2 and Standard Drawing S 37.000) and its tag number (see below).

3.1.2 Tag numbering for instrument functions on PEFS

3.1.2.1 General

Each instrument shall have a tag number of the format:

abc-yz

in which:

- 'a' is a three digit number used to identify the process unit.
- 'b' is a measured variable code: one capital letter code identifies the process condition, property measured or initiating variable. Where required, an additional modifier letter is added.
- 'c' is a function code: one or more capital letter codes identify the function of the instrument or loop.
- is a separation dash, used for clarity
- 'y' is a three digit serial number (i.e. from 001 through 999)
- 'z' is an optional suffix which may be used to make a loop component uniquely identifiable; only to be used if required.

3.1.2.2 Process unit identification 'A'

This is first two or three digits of the process unit number, and shall be used to reflect the process unit identification in the instrument tag number.

For all new process units the three digit method shall be used. The two digit method may be used when interfacing with existing plant; to provide uniformity.

Table-1: Examples of the relation between process unit and process unit identification 'a'

Process unit	Identification 'a'	
	Two-digit method	Three-digit method
0100	01	010
1100	11	110
1150	11 (see note below)	115 (see note below)
7400	74	740
7420	74 (see note below)	742 (see note below)

NOTE: In the two-digit method, no tag number distinction is made between instruments in the main unit (e.g. 1100) and those in sub-units (e.g. 1150). If such a distinction is required, the three-digit method shall be applied.

3.1.2.3 Measured variable code 'B'

This code shall indicate the process condition, property measured or initiating variable in accordance with Table 5 of Standard Drawing S 37.000-005. Note a modifier may be required to fully define the measured variable.

3.1.2.4 Function code 'C'

This code shall indicate the loop function in accordance with Table 5 of Standard Drawing S 37.000-005 for option 1. Where two or more letters are required to capture the full functionality, they shall be placed in the sequence ITBRQCSZA: 'IBRQ' for displays, 'T' for transmitting, 'CSZ' for control/switch functions and 'A' for alarm.

For computing functions that cannot be manipulated by the operator, the letter 'Y' shall be used (e.g. FY, PY, LY, PDY, XY, UY). For computing functions that can be manipulated by the operator, the letter combination 'HY' shall be used.

For safety functions, the second letter in the function code SHALL [PS] be 'Z'.

3.1.2.5 Serial number 'Y'

Serial numbers shall be unique in each group of instruments having the same combination of process unit identification ('a') and measured variable code ('b'). Serial numbers shall start at 001. Future expansions may be accommodated through allocation of unused numbers.

Example: Flow instruments in unit 1100 are tagged 110FICA-001, 110FG-002, 110FP-003, 110FIZA-005. In this example, 110F-004 is intentionally left unused to allow for unforeseen future expansions.

The practice of allocating separate number series for quality test points (QPs), restriction orifices/flow test points (RO/FPs), flow glasses (FGs), pressure gauges/test points (PGs/PPs) and temperature gauges/elements/test points (TGs/TEs/TPs) shall not be applied for new installations. For modifications to existing sites the practice may however still be applied for a specific project for the purpose of maintaining consistency with existing installations.

Where a process unit contains identical process trains or identical pieces of equipment, the assignment of serial number 'y' shall be selected to provide a recognisable numbering

relationship. For example: Process unit 1100 consists of two identical compressor sets, and a future 3rd compressor is projected. Blocks of instrument serial numbers may be assigned as follows: 001-099 for the common upstream and downstream process, 100-199 for compressor one, 200 and 299 for compressor two, 300-399 reserved for compressor three. The pressure controllers for compressors 1, 2 and 3 tagged as 110PICA-101/201/301 respectively, with the delineating being on the first digit of the serial number.

3.1.2.6 Optional suffix 'Z'

When a loop consists of more than one similar component, a suffix letter may be used on PEFS to make the identification of a component unique for reference purposes.

Examples:

- If two (redundant) transmitters are installed in loop 110PIC-056 for maintenance purposes and a manual selector is provided to select one of them, the transmitters may be shown on the PEFS as 110PT-056A and 110PT-056B.
- If loop 742FIC-001 is provided with a high and low range transmitter, the transmitters may be shown on the PEFS as 742FT-001A for the low range transmitter and 742FT-001B for the high range transmitter.

For multiple transmitters 'A' shall be assigned for the low range transmitter, with 'B' for the mid range and 'C' for the high range. As the range increases the suffix letter increases.

The suffix 'Z' applies only to tag numbers used on PEFS. The tag number structures for DCS, Engineering Tools and MMS require unique tagging at component/function level, see (0).

3.1.3 Tag numbering for final elements on pefs

A final element shall be shown on the PEFS with the same tag number as the controller, with the exception of the function code ('c') that shall be "CV", e.g. if 110FICA-001 is the tag number of a controller, the control valve is tagged 110FCV-001.

For the tag numbering of final elements associated with (binary) logic functions, see (0).

If a control loop consists of more than one final element, letters A/B/C etc. shall be used as tag number suffix 'z' to make the numbering of the final elements unique.

Examples:

- If loop 110PIC-101 is provided with two valves in a split-range arrangement, the valves shall be shown on the PEFS as 110PCV-101A and 110PCV-101B.
- If loop 742TIC-005 throttles the position of three louvres, the louvres shall be tagged 742TCV-005A, 742TCV-005B and 742TCV-005C.

3.1.4 Tag numbering for (binary) logic functions on pefs

Binary logic functions shall be identified by either KS or UZ depending on their functionality:

- aKS y for binary logic functions that are safety functions, e.g. sequential control functions, switching functions, automatic start up functions. These functions are not SIL assessed.
- aUZ y for binary logic functions that are safety functions. These functions are Safety Integrity Level (SIL) assessed and documented in Cause and Effect diagrams.

The serial number 'y' of the tag number for the binary logic function shall end with zero, e.g. 110KS-100, 110KS-110, 110KS-120, 742UZ-030, 742UZ-110, 742UZ-230.

The last digit shall be used for identification of the outputs from the binary logic functions, and the solenoid valves/final elements driven by that logic. Final elements shall be tagged KSV and UZV respectively.

Examples:

- Logic function 110KS-110 controls on-off valves 110KSV-111, 110KSV-112, and 110KSV-113.

- 110UZ-180 controls the position of valve 110FCV-001 via solenoid operated valve 110UZV-181 and controls on-off valves 110UZV-182 and 110UZV-183 via solenoid operated valves with the same tag number.

3.1.5 Tag numbering for advanced control functions on pefs

Functions for advanced control shall be identified as:

aUC-y

Identification of outputs and associated final elements is the same as for binary logic functions, see (0).

4 SYMBOLS INDICATING FUNCTIONALITY OF COMPONENT DERIVED FROM ISA S5.1 AND ISA S5.3

4.1 IDENTIFICATION

4.1.1 General

The instrument symbols used on PEFS shall indicate the functionality of the component.

For DCS and general instrumentation the symbols shall indicate which process condition or property is being measured and controlled and what information is displayed. For safety related function (e.g. IPFs) the symbols shall indicate which process condition or property is being measured and what information is displayed.

NOTE: The same applies to PFS and PSFS but the presentation of instrument functions on these documents will be less extensive.

Frequently used standardised symbols are shown on Standard Drawing S 37.000. Where a symbol is not available on Standard Drawing S 37.000, ISA 5.1 shall be used as a guide with the suggested symbol presented to the Principal for approval.

Typical examples of symbols used for instrument functions are shown in Appendix B of this DEP. The use of this DEP and Standard Drawing S 37.000 allows most of the current process control functions to be indicated on PEFS, including those for process computers, shared display/control systems and interfaces.

The symbols used have been derived from ISA S5.1 and ISA S5.3.

To clarify the functionality of the control loop, it is required to show loop components on PEFS. In such cases, the components may be presented on PEFS with unique identifications, providing that the process unit and serial number are left unchanged (e.g. in loop 110FIC-101, a transmitter may be shown as 110FT-101, a local receiving indicator as 110FI-101 and the two valves as 110FCV-101A and 110FCV-101B).

An instrument function is identified by its symbol (see Section 2 and Standard Drawing S 37.000) and its tag number (see below).

4.1.2 Tag numbering for instrument functions on PEFS

4.1.2.1 General

Each instrument shall have a tag number of the format:

abc-yz

in which:

- 'a' is a three digit number used to identify the process unit.
- 'b' is a measured variable code: one capital letter code identifies the process condition, property measured or initiating variable. Where required, an additional modifier letter is added.
- 'c' is a function code: one or more capital letter codes identify the function of the instrument or loop.
- is a separation dash, used for clarity
- 'y' is a three digit serial number (i.e. from 001 through 999)
- 'z' is an optional suffix which may be used to make a loop component uniquely identifiable; only to be used if required.

4.1.2.2 Process unit identification 'A'

This is first two or three digits of the process unit number, and shall be used to reflect the process unit identification in the instrument tag number.

For all new process units the three digit method shall be used. The two digit method may be used when interfacing with existing plant; to provide uniformity.

For sites that are considered as a single unit this identification number may be omitted. E.g. an offshore platform could be considered a single unit. The platform name is added to the tag and consists of 3 characters for the platform name, e.g. MRS for Mars.

Table-2: Examples of the relation between process unit and process unit identification 'a'

Process unit	Identification 'a'	
	Two-digit method	Three-digit method
0100	01	010
1100	11	110
1150	11 (see note below)	115 (see note below)
7400	74	740
7420	74 (see note below)	742 (see note below)

NOTE: In the two-digit method, no tag number distinction is made between instruments in the main unit (e.g. 1100) and those in sub-units (e.g. 1150). If such a distinction is required, the three-digit method shall be applied.

4.1.2.3 Measured variable code 'B'

This code shall indicate the process condition, property measured or initiating variable in accordance with Table 6 of Standard Drawing S 37.000-010. Note a modifier may be required to fully define the measured variable. Abbreviation examples and exceptions from ISA 5.1 are provided in Table 7 of Standard Drawing S 37.000-010.

4.1.2.4 Function code 'C'

This code shall indicate the loop function in accordance with Table 6 of Standard Drawing S 37.000-010. Where two or more letters are required to capture the full functionality, they shall be placed in the sequence Measured or Initiating Variable, Variable Modifier, followed by either Readout/Passive Function or Output/Active Function, then followed by the Function Modifier. The use of suffixes will uniquely identify multiple inputs/outputs if they are part of the same loop.

For computing functions that cannot be manipulated by the operator, the letter 'Y' shall be used (e.g. FY, PY, LY, PDY, XY, and UY). For computing functions that can be manipulated by the operator, the letter combination 'HY' shall be used (regardless of the process function).

For safety functions, the second letter in the function code SHALL [PS] be 'Z'. Where API-RP-14C is mandatory, the tagging convention of API-RP-14C shall be used and second letter SHALL [PS] be "S".

Transmitters shall not have an 'I' in the field device tag number to reflect a local indicator as part of the transmitter. Where a local indicator is provided out in the field and is not part of a transmitter, then the local indicator shall have a designator letter "I" (e.g. FI).

4.1.2.5 Serial number 'Y'

Serial numbers shall be unique in each group of instruments having the same combination of process unit identification ('a') and measured variable code ('b'). Serial numbers shall start at 001. Future expansions may be accommodated through allocation of unused numbers.

Example: Flow instruments in unit 1100 are tagged 110FIC-001, 110FG-002, 110FP-003, 110FI-005. In this example, 110F-004 is intentionally left unused to allow for unforeseen future expansions.

The practice of allocating separate number series for quality test points (QPs), flow test points (FPs), pressure test points (PPs) and temperature test points (TPs) shall not be used. This practice may however for existing facilities still be desired for the purpose of maintaining consistency with existing installations, or in cases where the available number series cannot accommodate all instrument functions.

Where a process unit contains identical process trains or identical pieces of equipment, the assignment of serial number 'y' shall be selected to provide a logical and recognisable numbering relation between trains. Example: Process unit 1100 consists of two identical compressor sets and a future 3rd compressor is projected. Blocks of instrument serial numbers may be assigned as follows: 001-099 for the common upstream and downstream process, 100-199 for compressor one, 200 and 299 for compressor two, 300-399 reserved for compressor three. The pressure controllers for compressors 1, 2 and 3 tagged as 110PIC-101/201/301 respectively, with the delineating being on the first digit of the serial number.

4.1.2.6 Optional suffix 'Z'

When a loop consists of more than one similar component, a suffix letter may be used on PEFS to make the identification of a component unique for reference purposes.

Examples:

- If two (redundant) transmitters are installed in loop 110PIC-056 for maintenance purposes and a manual selector is provided to select one of them, the transmitters may be shown on the PEFS as 110PT-056A and 110PT-056B.
- If loop 742FIC-001 is provided with a high and low range transmitter, the transmitters shall be shown on the PEFS as 742FT-001A for the low range transmitter and 742FT-001B for the high range transmitter.

For multiple transmitters 'A' shall be assigned for the low range transmitter, with 'B' for the mid range and 'C' for the high range. As the range increases the suffix letter increases.

The suffix 'Z' applies only to tag numbers used on PEFS. The tag number structures for DCS, Engineering Tools and MMS require unique tagging at component/function level, see (0).

4.1.3 Tag numbering for final elements (e.g. valves) on PEFS

A control valve shall be shown on the PEFS with the same tag number as the controller, with the exception of the function code ('c') that shall be "CV" or "V", e.g. if 110FIC-001 is the tag number of a controller, the control valve is tagged 110FCV-001 or 110FV-001.

For the tag numbering of final elements associated with (binary) logic functions, see (0).

If a control loop consists of more than one final element, letters A/B/C etc. shall be used as tag number suffix 'z' to make the numbering of the final elements unique.

Examples:

- If loop 110PIC-101 is provided with two valves in a split-range arrangement, the valves shall be shown on the PEFS as 110PCV-101A and 110PCV-101B.
- If loop 742TIC-005 throttles the position of three louvres, the louvres shall be tagged 742TCV-005A, 742TCV-005B and 742TCV-005C.

The DEP appendices use the following convention for control valve air failure mode: an arrow pointing toward the line indicates that the valve fails closed, and an arrow pointing away from the line indicates that the valve fails open. The US uses a convention in which "FC" = fail closed, "FO" = fail open, and "FL" = fail last. The convention used in the US will be allowed.

4.1.4 Tag numbering for (binary) logic functions on PEFS

Binary logic functions shall be identified by either KS or UZ depending on their functionality:

- aKS y for binary logic functions that are safety functions, e.g. sequential control functions, switching functions, automatic start up functions. These functions are not SIL assessed.
- aUZ y for binary logic functions that are safety functions. These functions are Safety Integrity Level (SIL) assessed and documented in Cause and Effect diagrams.

The serial number 'y' of the tag number for the binary logic function shall end with zero, e.g. 110KS-100, 110KS-110, 110KS-120, 742UZ-030, 742UZ-110, 742UZ-230.

The last digit shall be used for identification of the outputs from the binary logic functions, and the solenoid valves/final elements driven by that logic. Final elements shall be tagged KSV and UZV respectively.

Examples:

- Logic function 110KS-110 controls on-off valves 110KSV-111, 110KSV-112, and 110KSV-113.
- 110UZ-180 controls the position of valve 110FCV-001 via solenoid operated valve 110UZV-181 and controls on-off valves 110UZV-182 and 110UZV-183 via solenoid operated valves with the same tag number.

4.1.5 Tag numbering for advanced control functions on PEFS

Functions for advanced control shall be identified as:

aUC-y

Identification of outputs and associated final elements is the same as for binary logic functions, see (0).

5 TAG NUMBERING FOR DCS, ENGINEERING TOOLS AND MMS

5.1 TAG NUMBER CONVENTIONS

For DCS, Engineering Tools and MMS unique numbering at component/function level may be applied.

5.2 ANALYSER TAG NUMBER

Tag numbers associated with analysers may be tagged as follows:

TAG	DESCRIPTION
aAW-y	Analyzer Sample Probe
aAE-y	Field Element
aAT-y	Analyzer Transmitter
aAI-y	Analyzer Indicator
aAC-y	Analyzer Controller
aAS-y	Analyzer Come Read (Used on Cyclic analyzers only)
aaa-y	Analyzer Health Status (Alarms)
aAX-y	Auxiliary Devices Associated with an analyzer
aAY-y	Analyser calculated points in the DCS

Where analysers are multi-stream, the following is an example of convention that may be used:

TAG	DESCRIPTION
aAI-ypq	Analyzer Indicator

in which:

'p'	Is the Stream number
'q'	Is the component suffix

The letters 'I' and 'O' shall not be used for component suffixes.

5.3 DCS TAG NUMBER REDUCTION

The DCS may pose restrictions on the number of characters for a tag name. Apart from this system limitation there is a strong need for a uniform and clear operator access to tag numbers. If, for example, access to DCS function 110PIC-004 is required, this shall not be hampered by the omission of an 'A' for alarming or an 'I' for indication in the tag name. The following tag number reduction rules may be applied:

- there needs to be available room for a suffix in the DCS naming convention;
- the process unit identification 'a' and the measured variable code 'b' (including its modifier) shall remain unchanged. The serial number 'y' shall remain unchanged also.
- if there is a requirement to shorten tag numbers on the DCS, then reduction may be achieved by deleting characters from the function code 'c': the dash (-), A(alarming), I(indicating) and B(status display) characters of the tag name may be omitted in this order. The C(control), Z and S (switching) shall not be omitted. For example, PDAH (pressure differential alarm high-high) could be shortened to PDH.
- the tagging rules need to be consistent between the DCS and the IPS (and integration of third party systems).