

GENERAL SPECIFICATION

Field Operations

GS EP EXP 501

Equipment and piping numbering

05	10/2012	Update
04	01/2011	Update for Pipeline & Sub sea facilities
03	10/2008	Update of listings
02	10/2005	Addition of "EP" root to GS identification
01	10/2004	Hips code modification
00	11/2003	First issue
Rev.	Date	Purpose of the revision

Owning entity: OPS/EXP	Managing entity: OPS/EXP
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1. Scope

This document defines the minimum requirements for an identification system for all surface equipment.

“Equipment” means any identified item, which will be designed during a project.

“Equipment” includes major and minor equipment, valves, instruments, cables, lines, flow-line elements, manifold etc. and, if necessary their component parts, in such a way that they can be easily located with a unique reference (tag mark) in all related documents.

For instruments, cable and structure, the numbering is described in other specifications listed in the reference documents.

Insulation and fitting are considered as bulk and will not be reference tagged.

2. Reference documents

The reference documents listed below form an integral part of this General Specification.

External Documents

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the effective date of this document.

Reference	Title
Not applicable	

Total General Specifications

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published in the applicable yearly collection.

Reference	Title
GS EP EXP 207	Installation description structure
GS EP INS 102	Instrumentation identification
GS EP INS 107	Design and installation of instrumentation links
GS EP PVV 112	Piping material classes
GS EP TEL 710	Telecom equipment numbering

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3. “Equipment” numbering

The “Equipment” numbering system is intended to be logically applied such that the numbers represent meaningful information for users.

1	2	P		2	2	0	1	A			
Sector code		Equipment type		system code	Sub-system code	Sequential number		Discrimination code			

3.1 Sector or Structure code (two numerical characters)

A Sector is a set of Systems situated in a single (same) location and including multiple process or utility systems.

The boundary of sectors should match the breakdown of the facilities or infrastructures as defined at project execution phase.

In offshore situations, the sector corresponds to installations (Processing central platform, production satellite, Living quarters platform, FPSO, etc.), or main contract items (SPS, Top sides, living quarters, etc.).

For onshore situations, it corresponds to areas such as a cluster, or a small plant such as a production treatment centre.

For large plants, like LNG or gas plants, a sector can cover a number of systems that have relative autonomy, such as a gas treatment train, sector of common utilities, etc. For subsea, it includes umbilicals, flowlines, risers, and subsea production systems (wells and manifolds).

The Sector Code is given by the Company.

3.2 “Equipment” type (two alpha characters)

A type of equipment is used:

- In project to manage file of equipment
- In Operation to:
 - Standardising list of characteristic in CMMS (Computerised Maintenance Management System)
 - Assigning common procedure to a type of equipment
 - Select type of equipment for statistic or research.

These two characters define the type of “Equipment” within the tag.

A list of Equipment types is given in Appendix 1. It may be amended where necessary to incorporate new equipment, subject to prior Company approval.

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3.3 System code (one alpha-numerical character)

A system corresponds to main process and utility function.

List of system:

System code	Name
0	Critical and safety systems
1	Hydrocarbon extraction
2	Produced liquid processing
3	Produced gas processing
4	Produced gas liquid processing
5	Water processing
6	Electric energy
7	Common Facilities
8	Housing & Others
9	*

* system code 9 is available for specific applications.

3.4 Sub-system code (one alpha-numerical character)

A Sub-system (unit) is a group of equipment handling the same main fluid (i.e. classified under the same system) and dedicated to a specific process function. The term “process function” is to be construed in its broadest sense (e.g. the process functions of the Electricity system are power generation, power distribution, lighting).

A sub-system belongs to a system. In case of ambiguity to assign a subsystem to a system one should ask the question: If the sub-system is shut down, which system is affected? The sub-system will belong to the main affected system.

The list of sub-system codes is given in Appendix 2. It may be amended where necessary to include additional specific systems or sub-systems, subject to prior Company approval.

Some sub-system are numbered in several system (i.e: a dehydration may be used for as well for Gas lift or gas injection). Only one sub system will be installed on the sector and it should be assigned to the main function.

Note that the system and sub-system codification is defined in order to standardise the numbering and ensure that this numbering will fit during the field life cycle.

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3.5 Sequential Number (two numerical characters)

The sequential number is coded with a maximum of two characters for the identification of each item of "Equipment". This numbering will be discriminated by sub-system (i.e. one register for each sub-system).

The sequential number is established by type of "Equipment".

Example:

In the same sub-system "28", we may find Centrifugal Pump "PA2801" and Sump caisson "TC 2801".

3.6 Discrimination code (Maximum four alphanumerical characters)

For the identification of several same type items of "Equipment" used in parallel, for identical equipment used in series (cooler, etc.), or for tagging of a sub-equipment package (see Appendix 3).

In general:

- First level parallel "Equipment" will be identified by the first letter
- Second level parallel "Equipment" will be identified in the second number
- First level series of identical equipment will be identified by a number

Examples of Discrimination codes and their explanations are given in Appendix 3.

3.7 Numbering of complex "Equipment"

Complex equipment is a unit/package comprising several elemental items of equipment. The package will be identified by the general ("family") tag and may comprise sub Tags.

Example 1:

An alternator driven by a gas turbine belonging to sub-system 60 will be tagged:

Power generation unit: G_6001

It is composed of:

- Gas turbine DT6001
- Alternator GE6001

Example 2:

Process Package Chemical injection UI7501

It is composed of:

- Two storage tanks TR7501A & TR7501B
- Two injection rotating displacement Pumps PC7501A & PC7501B

Example 3

Complex rotating "Equipment" Compressor for Gas-lift: K_3101A

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It is composed of:

- Main centrifugal gas compressor KA3101A
- Centrifugal Lubricating pumps PA3101A-1A & PA3101A-1B
- Centrifugal Seal oil pump PA3101A-2
- Lube oil storage tank TR3101A

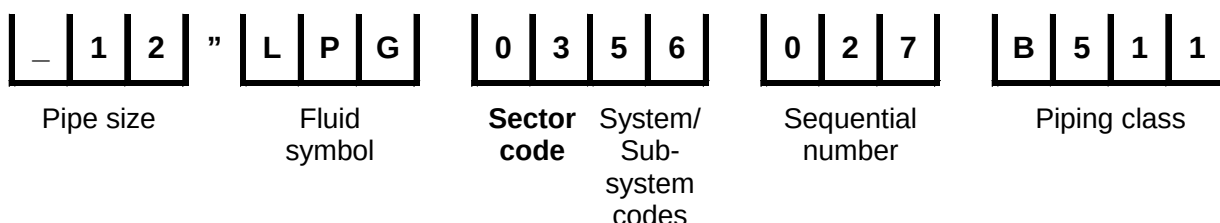
4. Instrumentation equipment codification

All instruments, including control valves, PSV and orifices are tagged following Company specification **GS EP INS 102** with the following precisions:

- The "first field" named "Plant or Construction" in the **GS EP INS 102** corresponds to the Sector/structure. Only 2 last characters are used. The two first digits are not use.
- For the "second field", the **GS EP INS 102** shall be strictly respected.
- For the "third field", the first two digits represent the System/subsystem as described in Appendix 2 (the "section" mentioned in **GS EP INS 102** refers to the same purpose in some existing installation design).

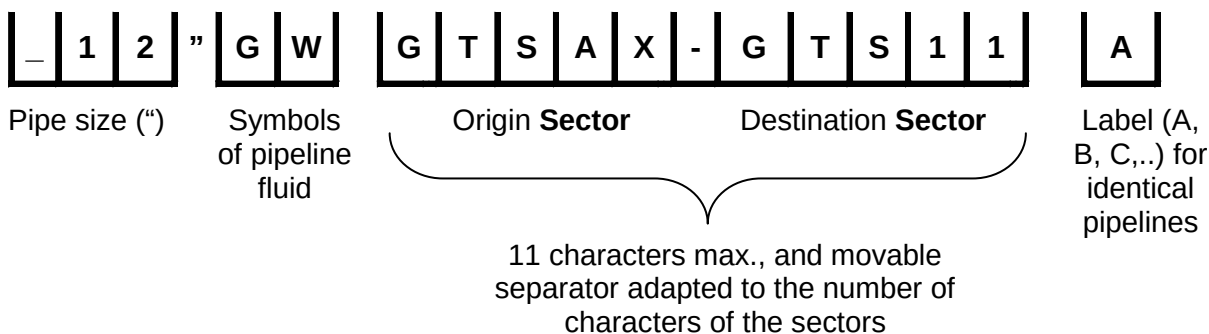
5. Numbering for piping and pipelines

All piping shown in the P&IDs shall be identified by numbers, created in the following manner:



Piping tagging shall not contain blanks. Any blank digit shall be filled by an underscore " _".

For the pipelines, the numbering is the following:



Naming for pipeline sections for Risk Based Inspection purpose is described on the guideline & manual.

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5.1 Pipe Size

Indicates the outside diameter (OD) in inches or the nominal diameter (ND) depending on the piping class. For flexible hose, the size indicates the internal diameter, in accordance with **GS EP PVV 112** rules.

Example: [_16"] or [1/2"] or [_ _1"]

An underscore mark is entered when there are less than three characters in the code to avoid blanks - See examples above.

5.2 Fluid symbol (three alphabetical characters)

As defined in Appendix 4.

An underscore mark is entered when there are less than three characters in the code to avoid blanks:

Instrument air: [_IA]
Liquefied natural gas: [LNG]

5.3 Sector code (two numerical characters)

Same definition as in § 3.1 "Sector code" under "Equipment" numbering above.

For pipelines numbering, the sectors take in account the origin and the destination of the pipeline separated by dash (-). Either sectors names or sector codes may be used, however it is limited to the maximum 11 characters including the separator (-). The use of dash other than separator in the sectors is to be avoided.

Examples: 3_5_FG_COBF1-PAMF1
 _16_OW_COBF1-PAMF1_A
 _16_OW_COBF1-PAMF1_B
 _16_OW_03-24_B

5.4 System/Sub-system codes (two alpha-numerical characters)

Same definition as in § 3.4 "Sub-system code" under "Equipment" numbering above.

5.5 Sequential number (three numerical characters)

Chronological numbering for the identification of each line. This will be discriminated by fluid (i.e. one register for each fluid). There will be one sequential numbering series by sector.

The number of any line cancelled shall not be re-used.

5.6 Piping class code

Identification of the piping class of the line, in accordance with the list described in **GS EP PVV 112**.

If the piping class code doesn't have any suffix, the fourth character will be a " _ ".

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6. Numbering for instrument cables

Instrument cables are tag marked in accordance with Company specification **GS EP INS 107**.

7. Numbering for Hand valves

All hand valves with a diameter larger than 4 inches and hand valves critical for operation shall be tagged for maintenance and inspection purpose.

Although Hand Valves are mainly manage by piping team, the tagging shall be consistent with Hand Valve list from instrumentation and the codification shall respect **GS EP INS 102** with "HV" as second field (function or instrument).

i.e: _4HV2103A

8. Numbering for telecom equipment

Telecom equipment are tag marked in accordance with Company specification **GS EP TEL 710**.

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Appendix 1

Appendix 1 Equipment type

Family	Type	Type code
Drivers	Driver	D
	Air engine	DA
	Gearbox	DB
	Diesel engine	DE
	Diesel generator	DG
	Hydraulic engine	DH
	Gas engine	DJ
	Electrical motor	DM
	Driver Steam turbine	DS
	Gas turbine (GG + PT)	DT
	Hydraulic turbine	DW
	Other driver	DZ
Heat exchangers	Heat exchanger	E
	Air cooler	EA
	Coil	EC
	Jacketed heat exchanger	EJ
	Other types of heat exchanger	EM
	Plate heat exchanger	EP
	Shell and Tube exchanger	ES
	Cooling tower	ET
	Other heat exchanger	EZ
Flare equipments	Flare	F
	Flame arrestor	FA
	HP flare	FH
	LP flare	FL
	Vent stack/Chimney	FS
	Other flare	FZ
Power generation equipment.	Electrical generation unit	G
	Battery	GB
	Battery charger	GC
	Electrical generator/Alternator	GE
	Solar Panel	GP
	Power supply/Converters	GS
	Inverter Uninterrupted power units (UPS)	GU
	Other electrical generation unit	GZ
Heaters	Heater	H
	Boiler	HB
	Dryer	HD

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Appendix 1

Family	Type	Type code
	Electrical Heater	HE
	Burner/Furnace	HF
	Desuperheater	HS
	Other heater	HZ
Distribution & lighting electrical equipment	Electrical Equipment	I
	Lighting equipment for hazardous areas	IA
	Normal lighting equipment	IB
	Emergency lighting equipment	IC
	Control panel	IE
	Contact switch subsea	IF
	Distribution board	IG
	Electrical drawer/Motor control center (MCC)	IH
	High voltage switchgear	IJ
	Low voltage switchgear	IK
	Junction box (EX)	IL
	Junction box	IM
	Motor control centre (MCC)	IN
	Electrical starter/AC Power controller	IP
	Protective relay	IQ
	Transducer	IR
	Homopolar transformer	IT
	High voltage transformer	IU
	Low voltage transformer	IV
	Other electrical Equipment	IZ
Lifting & handling equipment	Lifting and Handling Equipment	J
	Pedestal crane	JA
	Mobile crane	JB
	Gantry crane	JC
	Jib	JD
	Davit (Lifeboat/Life-raft) & Safety Lift	JE
	Loading/unloading arm	JF
	Beam, spreader bar, pad eye	JG
	Power Hoist	JH
	Power Winch	JI
	Personnel Lift	JJ
	Lifting Frame/Skid/Pipe Carrier	JK
	Hook	JL
	Load Cell, Dynamometer	JM
	Personnel Basket	JN

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Family	Type	Type code
	Shackle	JO
	Sheave Block	JP
	Trolley	JQ
	Cargo Container, Box	JR
	Manual Winch	JS
	Manual Hoist/Puller/Hand winch	JT
	Fibre Rope Sling	JU
	Steel Wire Rope Sling	JV
	Chain Sling	JW
	Jack	JX
	Forklift	JY
	Other lifting and handling equipment	JZ
Compression equipment	Compression Package	K
	Centrifugal gas compressor	KA
	Reciprocating gas compressor	KB
	Screw compressor	KC
	Fan package	KE
	Self powered compressor	KF
	Turbo-Expander Compressor	KT
	Other Compressor package	KZ
Structure	Structure equipment	M
	Cathodic Protection anode	MA
	Bridge	MB
	Crane Pedestal	MC
	Caisson Pipe	MD
	Anchor	MF
	Guide	MG
	Helideck	MH
	Jacket	MJ
	Stack	MK
	Boat Landing	ML
	Mast	MM
	Cathodic monitoring system	MO
	Cathodic protection probe	MP
	Pipe Rack	MR
	Gangways, stairs, handrails, gratings	MS
	Tower	MT
	Module	MU
	Structure member	MX
	Other structure equipment	MZ

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Appendix 1

Family	Type	Type code
Pumping equipment	Pumping unit	P
	Centrifugal pump	PA
	Rotating displacement pumps	PC
	Metering, dosing pump	PD
	Screw pump	PE
	Other pumps	PM
	Rod pump	PO
	Reciprocating pump	PR
	Electrical Submersible Pump	PS
	Vacuum pump	PV
	Well subsurface centrifugal pump	PW
	Other pump	PZ
Housing equipment	Housing equipment	Q
	Air handling unit/Ventilation	QA
	Test benches	QB
	Workshop equipment, tools	QE
	Kitchen, laundry...equipment	QK
	Laboratory equipment	QL
	Office equipment	QO
	Air cooling unit	QU
	Other housing equipment	QZ
Safety equipment	Safety equipment	S
	Fire extinguisher	SA
	Life boat	SB
	Fire monitoring system	SH
	Fire hose	SI
	Fire hydrant	SJ
	Life-saving/First aid, rescue, protection	SK
	Safety net, escape equipment	SN
	Other safety equipment	SZ
Tanks	Tank	T
	Jet Fuel Tank	TA
	Tote tank	TB
	Sump caisson	TC
	Powder tank	TD
	Basin	TE
	Storage tank - Floating roof	TF
	Pit	TP
	Storage tank - Fixed roof	TR

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Appendix 1

Family	Type	Type code
	Storage sphere	TS
	Other tank	TZ
Skids - packages	Process/Utility package	U
	Air compressor package	UA
	Inert gas generator	UB
	Chlorination unit	UC
	Jet fuel package	UD
	Chilling water unit	UE
	Hydrocyclone unit	UF
	Glycol unit	UG
	Hydraulic unit	UH
	Chemical injection unit	UI
	Centrifugal separator	UJ
	Flotator	UK
	Mixer, agitator	UL
	Vacuum unit	UM
	Metering package	UN
	Steam generator	UP
	Demineralisation unit	UQ
	Amine unit	UR
	Sampling unit	US
	Potable water sterilisation (UV, etc.)	UT
	Freshwater maker unit	UU
	Foam package	UV
	Silencer	UW
	Ejector	UX
	Reactor	UY
	Other Process/Utility package	UZ
Vessels, drums	Vessel or Drum	V
	Air & Instrument Gas Receiver/Cylinder	VA
	Hydro-pneumatic accumulator	VB
	Column	VC
	Desalter	VD
	Filter unit	VF
	Pig Trap	VP
	Transportable cylinder	VT
	Other vessel or drum	VZ
Wells	Well	W
	Bulk and cement equipment	WB
	Well control panel	WC



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Family	Type	Type code
	Drilling equipment	WD
	Wellhead	WH
	Wire line equipment	WL
	Mud equipment	WM
	Blow out preventer	WP
	Other well equipment	WZ

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Appendix 2

Appendix 2 System and sub-systems codes

Definition of System:

No.	SYSTEM	Description
0	Critical & Safety Systems	Main critical and safety equipment
1	Hydrocarbon extraction	Equipment from crude oil/gas well to the treatment units (treatment excluded)
2	Produced liquid processing	Equipment dedicated to treat and evacuate Oil production
3	Produced Gas processing	Equipment dedicated to treat and evacuate, dispose or inject gas production
4	Produced gas liquid processing	Equipment dedicated to treat and evacuate NGL
5	Water processing	Equipment dedicated to treat, evacuate or inject water
6	Electric Energy	All general equipment for electrical production and distribution
7	Common Facilities	Topsides utilities, Subsea distribution systems (umbilical, umbilical distribution modules...)
8	Housing & Others	Housing, building, structure and miscellaneous

Sub-system list:

System	Sub-System	CS	CSS
Critical & Safety Systems	Fire fighting generation/Distribution	0	1
	Safety/Evacuation equipment	0	2
	ESD and Fire & gas	0	3
	Subsea/Surface Control & Supervision	0	4
	Emergency power generation/distribution	0	5
	Auxiliaries power generation/distribution (UPS, 48/24/12 Vcc)	0	6
	Instrument Air/Gas - Hydraulic power	0	7
	Communication/Telecom	0	8
	HVAC	0	9
Hydrocarbon extraction	Extraction Wells/Flowlines/Manifolds/Pumping/well metering	1	0
	Slug catcher, main/test separation & metering	1	1
	Transfer	1	2

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Produced liquid processing	Separation/Heating/Cooling (including manifold)	2	0
	Dehydration/Desalting/Stabilisation (including Stripping)	2	1
	Sweetening (Mercaptan, Mercury, H ₂ S, CO ₂ , RSH)	2	2
	Transfer	2	3
	Storage	2	4
	Export/Off loading	2	5
	Metering	2	6
	Oily water processing	2	7
	Closed drains/Open drains	2	8
Produced Gas processing	Dehydration/Sweetening	3	0
	Gas Compression	3	1
	Liquid extraction	3	2
	Sulphur recovery/Sulphur storage and export	3	3
	Transfer	3	4
	Gas export/Metering	3	5
	Gas disposal (acid gas, flare, vent)	3	6
	Injection well	3	7
Produced gas liquid processing	NGL extraction (including Liquid extraction)	4	0
	Refrigeration	4	1
	Fractionation	4	2
	Dehydration/Sweetening	4	3
	Storage	4	4
	Export/Off loading	4	5
	Metering	4	6
	Sulphur recovery/Sulphur storage and export	4	7
Water processing	Water lifting (including water production wells, transfer lines)	5	0
	Filtration (main and preliminary)	5	1
	Electro chlorination	5	2
	Water treatment (Sulphur removal/de-oxygenation)	5	3
	Water injection (including pumps, metering, headers)	5	4
	Injection wells/Flow-lines/Manifolds	5	5
Electric Energy	Main Power generation	6	0
	Power distribution (HV, LV)	6	1
	Lighting	6	2
	Earthing	6	3
	Nav aids	6	4
Common Facilities	Fuel gas	7	0

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Appendix 2

	Fuel oil/diesel oil (including storage/distribution)	7	1
	Hot water generation and distribution	7	2
	Hot oil generation and distribution	7	3
	Inert gas/Nitrogen generation and distribution	7	4
	Chemical storage & injection (including methanol)	7	5
	Cooling water	7	6
	Industrial water/Generation and distribution	7	7
	Lifting equipment	7	8
	Insulation/trace Heating	7	9
Housing & Others	Laboratory	8	0
	Helideck (including Kerosene)	8	1
	Living quarters/Catering/Offices/Civil buildings/Sewage	8	2
	Technical rooms	8	3
	Workshop/warehouse	8	4
	Soft water	8	5
	Structures/Mooring/Ballast	8	6
	Cathodic protection	8	7

Definition of Sub-system:

SUB-SYSTEM	Description
Auxiliaries power generation / distribution (UPS, 48/24/12 Vcc)	UPS, 48/24/12 Vcc power generation and distribution
Cathodic protection	Monitoring, anode
Chemical storage & injection (including methanol)	Storage & injection/Pumps and network (including methanol)
Closed drains/Open drains	Drain network and drums
Communication/Telecom	Antenna, MTU, speakers, telephones, fax, modem, PABX, public address, etc.
Cooling water	Cooling water generation and distribution (out of exchanger)
Dehydration / Desalting/Stabilisation (including Stripping)	Stabilisation column, cooler, heater, stripping, desalting drum, boosting pumps
Dehydration/Sweetening	Amine unit, hot oil system. Process unit for gas sweetening. Vessels, filters, units for mercury and mercaptan removal from gas. Glycol contactor and glycol regeneration package, molecular sieves.
Earthing	Earthing network and related monitoring
Electro chlorination	Production of chlorinated water from sea water

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SUB-SYSTEM	Description
Emergency power generation/distribution	Emergency power generation units and distribution
ESD and Fire & gas	PLC and computers for fire and gas. ESD, alarm annunciation, junction boxes, marshalling cabinet, fire and gas detectors, fire and gas cabinet, etc.
Export/Off loading	Pumps (booster, export, loading), pig trap. Loading arms, loading buoys, floating flexible hoses.
Extraction Wells/Flowlines / Manifolds/Pumping/well metering	Wells - Flow lines - manifolds, Well pumps, individual well metering
Filtration (main and preliminary)	Filters, pumps, exchangers, etc. for water filtration.
Fire fighting generation/Distribution	Fire pumps (main pumps and jockey pumps), diesel oil day tank (for the diesel engine), deluge system, hydrants.
Fractionation	LPG separation equipment, turbo expanders, Joule Thomson valve, etc
Fuel gas	Scrubber, filter, superheater and distribution
Fuel oil/diesel oil (including storage/distribution)	Storage tank, circulation pump, distribution system
Gas Compression	Gas compressor (LP, MP, HP for gas-lift, injection, transfer or export) with associated auxiliaries such as fuel gas, scrubber, cooler, etc.
Gas disposal (acid gas, flare, vent)	Flare, liquid burner, burn pit, KO drum, scrubber, pump, catch pit, vent, acid gas incineration
Gas export/Metering	Export /Enrichment (to reach the specification)/pig trap/metering
Helideck (including Kerosene)	Structure and specific device linked to helideck management. Tank and pump for kerosene
Hot oil generation and distribution	Hot oil generation to exchanger (Boiler, water pump, tank, diesel oil tank.). It includes the network, but not the exchanger
Hot water generation and distribution	Heating unit (water, steam) generation to exchanger (Boiler, water pump, tank, diesel oil tank). It includes the network, but not the exchanger
HVAC	Individual or centralised AC unit, fan coils, dampers, heaters, extract fan, etc.
Industrial water/generation and distribution	Circulation pumps, piping network, Equipment dedicated to Irrigation water, etc.
Inert gas/Nitrogen generation and distribution	Generator package and associated equipment and instrumentation

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SUB-SYSTEM	Description
Injection well	Well - Flowlines - Manifolds
Instrument Air/Gas - Hydraulic power	Air compressors, dryers, air receiver, filters, cooler, instrument-gas generation and distribution, hydraulic power generation
Insulation/Trace Heating	All lagging on pipes and vessels, and heat tracing
Laboratory	Laboratory equipment
Lifting equipment	Pedestal crane, travelling crane, monorail with trolley, chain hoist, winch, jib, forklift, hand pallet truck, mobile crane, lift, etc.
Lighting	All lighting fittings and bulbs
Liquid extraction	Exchanger, scrubber, pumps, Joule Thomson valve and turbo expander
Living quarters/Catering/Offices/ Civil buildings/Sewage	Equipment within accommodations (kitchen, laundry, mess, refrigerated cabinet), catering, sewage, civil building, etc.
Main Power generation	Electrical generator package (normal) with associated auxiliaries
Metering	Metering skid, prover loop, settling tank. The Unit Meter is used for the fiscal metering
Nav aids	Nav aids lighting, fog horns, batteries
NGL extraction (including Liquid extraction)	Columns, Joule Thomson valve, Reboilers, Glycol unit + exchanger, scrubber, pumps, etc.
Oily water processing	API basins, tanks skimmers, pumps (oil and water) flotator, agitator, coalescer, filter, sump tank and disposal tube pump, cyclone, flash drum. Rotary cyclones
Power distribution (HV, LV)	All switchboards and associated devices such as switches, breakers, transformers, cables, etc
Refrigeration	Refrigeration for gas liquefaction
Safety/Evacuation equipment	Life boats, life rafts, twin agent skid, extinguishers, etc
Separation/Heating/Cooling (including manifold)	Production separator, condensate pumps (the condensate pumps of the last stage separator are within the Transfer Unit). Water pumps, cooling and heating exchanger
Slug catcher, main/test separation & metering	Slug catcher, main separation, test & main metering (not included in individual well metering)

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Appendix 2

SUB-SYSTEM	Description
Soft water	Storage tank, pumps, cooler, water maker and associated chemical injection
Storage	Tank, surge tank and pump, sump
Structures/Mooring/Ballast	Jacket, decks, handrails, gratings, boat landing, risers, etc -Civil: building, roads, fences, etc.- Mooring: Anchoring devices, chain reels, etc - Ballast: Pumps, Strainers
Subsea Distribution System	Subsea Distribution System (umbilicals, umbilical distribution modules,...) including subsea power distribution, hydraulic power, chemical injection
Subsea/Surface Control & Supervision	Control room, PLC and computers, key boards, mimic panel, marshalling cabinet, telemetry, etc.
Sulphur recovery/Sulphur storage and export	Coalescers, convertors, furnaces, sulphur tanks, export devices, etc.
Sweetening (Mercaptan, Mercury, H ₂ S, CO ₂ , RSH)	Amine unit, Vessels, filters, machines for mercury and mercaptan removal from gas/Glycol contactor and glycol regeneration package
Technical rooms	Office equipment and technical rooms.
Transfer	Pump (for liquid), pig trap, header
Water injection (including pumps, metering, headers)	Pumps, metering, header
Water lifting (including water production wells, transfer lines)	water production well, Lift pumps, risers, packages, tanks for water lifting for industrial or domestic use
Water treatment (Sulphur removal/de-oxygenation)	Columns, vacuum pumps, etc for injection water/Removal of sulphates for water injection
Workshop/warehouse	Workshop and warehouse equipment (machine tools, test bench, etc.) except lifting equipment

Mapping between GS EP EXP 501 and GS EP EXP 207:



GS_EP_EXP_501_Appendix_2.xls

Equipment and piping numbering

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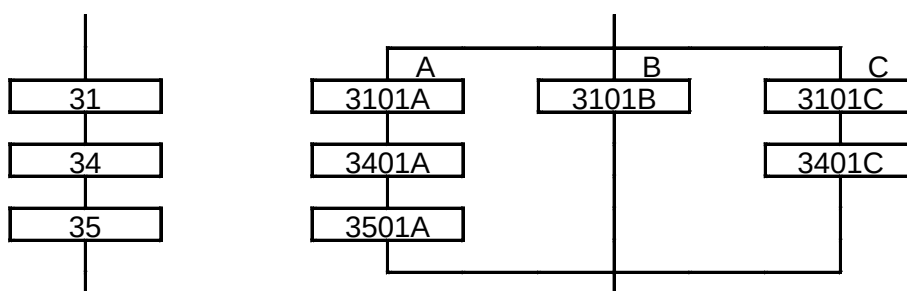
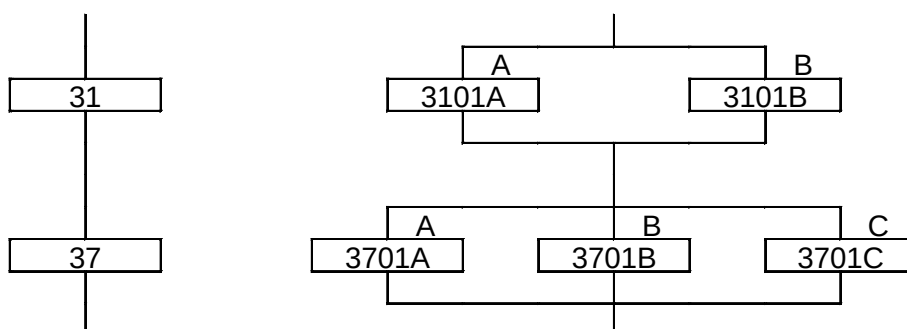
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Appendix 3
Appendix 3 Discrimination of duplicates

Parallel duplicate occurrences are discriminated by the use of a suffix as shown in the example. The digits not used shall remain with “ ”.

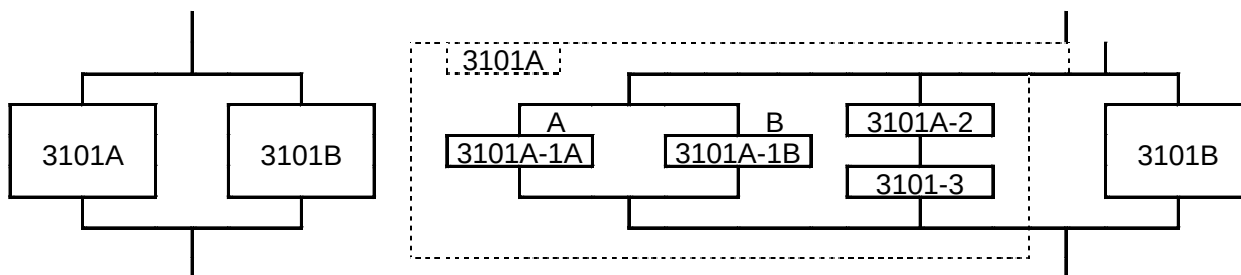
Equipment in parallel



Identical equipment in series



Case of sub equipment (Package)



Equipment and piping numbering

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Appendix 4
Appendix 4 List of fluids symbols

AIR		SEWER		FUEL	
IA	Instrument Air	CS	Chemical Sewer	DF	Liquid fuel
PA	Process Air	OD	Oily Water Sewer (Open Drain)	FG	Fuel gas
SA	Service air	WD	Domestic Sewer	DO	Diesel Oil
UA	Utility Air	STEAM		INERT GAS	
CLOSED DRAINS		SH	High Pressure Steam	HAL	Halon Gas
AD	Amine drain	SL	Low Pressure Steam	IG	Inert Gas
CD	Closed Drain	SM	Medium Pressure Steam	NG	Nitrogen
DC	Cold Drain	WATER		CDI	Carbon dioxide (CO ₂)
DD	Disulfide Drain	BW	Boiler Feed Water	PROCESS	
DS	Sour Water drain	CW	Cooling Water	AG	Acid Gas
GD	Glycol Drain	DW	Drinking Water	AM	Amine
MD	Methanol Drain	HW	Hot Water	BP	Butane Product
CHEMICALS		FW	Fire Water	CF	Fresh Caustic
AF	Anti Foam	PW	Produced Water (Oily Water)	DF	Disulfide Oil (DSO)
AV	Volatile Amine	RW	Desalinated Water	EP	Ethane product
BI	Biocide	SW	Sea Water	HG	Hydrocarbon Gas
CG	Coagulant	TW	Demineralised Water	GD	Glycol (DEG)
CI	Corrosion Inhibitor	UW	Utility Water	GM	Glycol (MEG)
DE	Demulsifier	WA	Foam Solution Water (Fire Fighting)	GT	Glycol (TEG)
FE	Ferric Chloride	WI	Water Injection	HC	Hydrocarbon G/L (2 Phases)
HI	Hydrate Inhibitor	WP	Spent or Waste Water	HL	Hydrocarbon Liquid
HY	Sodium Hypochlorite	WT	Stripped Water	LC	Lean Caustic
ME	Methanol	WW	Water from Water Well	LPG	LPG mixture
MO	Morpholine	PIPELINES		LNG	Liquefied natural gas
OX	Oxygen Scavenger	GL	Gas Lift	MR	Mixte refrigerant
PD	Parafin dispersant/Wax inhibitor	GN	Gas Injection	NGL	NGL mixture
PC	Ph Controller	FG	Fuel Gas	PP	Propane Product
PH	Phosphate	GW	Produced Gas (from well)	PR	Propane Refrigerant
PPD	Pour Point Depressant	GP	Process Gas	RC	Rich Caustic
RE	Reverse demulsifier	GE	Gas Export	SC	Spent Caustic
SI	Scale inhibitor	OP	Process Oil	TG	Tail gas
SB	Sodium Bicarbonate	OW	Produced Oil (from Well)	LS	Sulphur (Liquid)
SU	Sulphite	OE	Oil Export	SS	Sulphur (Solid)
SY	Sodium Hydroxide	CO	Condensate	MISCELLANEOUS	
STEAM CONDENSATES		WI	Water Injection	ATM	Atmospheric Vent
CC	Cold Steam Condensates	AW	Aquifer Water	BB	Boiler Blowdown
CL	LP Steam Condensates	PW	Produced water	BR	Brine Reject
CH	HP Steam Condensates	WP	Waste water	CA	Catalyst
CM	MP Steam Condensates	SW	Sea water	GI	Instrument Gas
CP	Polluted Steam Condensates	LP	LPG	HH	Hydraulic Fluid
FLARES/VENT		LN	LNG	HO	Hot Oil
FA	Acid Flare	XF	Other fluids	LO	Lube Oil
FC	Cold flare			SG	Seal Gas
FH	High Pressure Flare			SO	Seal Oil
FL	Low Pressure Flare			RF	Refrigerant
VE	Vent				