



Exploration & Production

GENERAL SPECIFICATION

FIELD OPERATION

GS EP EXP 221

Data formats for UNISUP/SALSA PM loading

02	10/09	Extension to SALSA. Change for FL Classification, Measuring Points (counters), Tasks Lists & Plans. New system condition codes.
01	10/08	Change for FL, BOM, Objects Links, Measuring Points and Tasks Lists
00	10/05	First issue including UNISUP templates
Rev.	Date	Notes



Contents

1. Scope	5
2. Reference documents.....	5
3. General.....	6
3.1 Definitions / abbreviations.....	6
3.2 Objectives of this specification.....	7
3.3 Responsibilities of parties	7
4. Organisation	8
4.1 Data preparation and loading	8
4.2 Template files	8
5. UNISUP/SALSA Organisational Data.....	9
5.1 Maintenance Plant.....	9
5.2 Planning Plant.....	9
5.3 Planner Group	10
5.4 Work Centres.....	10
6. Functional Locations	10
6.1 General.....	10
6.2 Different types of FL	11
6.3 FL General Data	12
6.4 FL Long Description.....	17
6.5 Classification(x)	17
7. Equipment.....	18
7.1 General.....	18
7.2 Equipment Creation	18
7.3 Equipment Identification in the Templates.....	19
7.4 EQ General Data	19
8. Classification.....	21
8.1 General.....	21
8.2 TO Classification.....	22



8.3	FL Classification	23
8.4	EQ Classification	23
9.	Bills of material	24
9.1	General.....	24
9.2	BOM Creation (Template BOM)	26
9.3	BOM Assignment (Templates BOM and BOMASS).....	27
10.	SAP Documents	28
10.1	General.....	28
10.2	Folders.....	28
10.3	SAP Documents General Data	28
10.4	SAP Documents Long Description	30
10.5	SAP Documents Assignment.....	31
11.	Objects Links.....	32
11.1	General.....	32
11.2	Objects Links Data.....	32
12.	Maintenance Measuring Points.....	34
12.1	General.....	34
12.2	Measuring Points General Data.....	35
12.3	Measuring Points Long Description	39
12.4	MP Classification	39
12.5	Measurement Documents Data	40
13.	Measurement Documents.....	40
13.1	General.....	40
13.2	Measurement Documents General Data	41
13.3	Measurement Documents Long Description.....	42
14.	Counters	42
15.	Inspection Measuring Points	43
15.1	General.....	43
15.2	Inspection Routes	44
15.3	Measuring Points data and Routes assignment	44
15.4	Measurement Documents Data	48



16. Standard Texts	48
16.1 General.....	48
16.2 Standard Texts data	49
17. Task Lists.....	50
17.1 General.....	50
17.2 Task List Header.....	51
17.3 Task List Long Description	53
17.4 Operations	54
17.5 Operations Long Description	56
17.6 Components	56
17.7 PRT Documents	57
18. Maintenance and Inspection Plans.....	57
18.1 General.....	57
18.2 Specific to inspection	58
18.3 Plan Header.....	59
18.4 Items	61
18.5 Items Long Description	64
18.6 Objects lists	64
Appendix 1 FAME+ assessed equipments - Links between Measuring Points / Routes / Task List / Inspection Plan	66
Appendix 2 Recommended Naming convention for Route / Task List / Inspection Plan and examples	67
Appendix 3 List of Templates	77



1. Scope

The purpose of this document is to define and describe the files and data to be provided by the Maintenance/Inspection Engineering for the data mass preparation before loading in UNISUP/SALSA PM.

This specification is mainly dedicated to projects and it is also applicable for existing data base upgrades.

Template files have been created by the COMPANY for several types of data (installation structure, technical information, spare parts, preventive maintenance and inspection).

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

Standards

Reference	Title
Not applicable	

Professional Documents

Reference	Title
Not applicable	

Regulations

Reference	Title
Not applicable	

Codes

Reference	Title
Not applicable	

Other documents

Reference	Title
FAME+ User guide FAME+ to WSE Measuring Point Creation	FAME+ Implementation Guidance-Guidance No. 001 Procedure for the creation of Written Scheme of Examination UNISUP_InspMPs_Route(v20xx.y).xls



Total General Specifications

Reference	Title
GS EP EXP 205	Requirements to MIEC Contractor for spare parts
GS EP EXP 207	Installation description structure
GS EP EXP 501	Equipment and piping numbering
GS EP EXP 311	Plan Integrity - Minimum inspection requirements

3. General

3.1 Definitions / abbreviations

COMPANY	Party signing contracts and orders on behalf of the customer
Manager (Project Group - PG)	Party acting as representative of the COMPANY
EPC	Engineering Procurement and Construction CONTRACTOR working under control of the COMPANY (generally in charge of Engineering of facilities, procurement of equipment and construction)
SUPPLIERS/MANUFACTURERS	SUPPLIERS or MANUFACTURER of packages equipment or materials.
Maintenance Engineering (ME)	Party in charge of the maintenance data preparation, including spare parts dossiers. This party may be a CONTRACTOR (MEC) or even a SUBCONTRACTOR of the EPC
Inspection Engineering (IE)	Party in charge of the inspection data preparation, including FAME+ assessment. This party may be a CONTRACTOR (IEC) or even a SUBCONTRACTOR of the EPC
Maintenance and Inspection Engineering (MIE)	Party in charge of the maintenance preparation, including spare parts dossiers, and the inspection data preparation, including FAME+ assessment This party may be a CONTRACTOR (MIEC) or even a SUBCONTRACTOR of the EPC
CMIMS	Computerized Maintenance and Inspection Management System (UNISUP or SALSA)
FL	Functional Location
BOM	Bills of Material (list of spare parts)

3.2 Objectives of this specification

The objectives of this specification are:

- To specify the responsibilities of parties in the data preparation and implementation process for the COMPANY CMIMS
- To define the different fields to be provided by the ME/IE in Template files for data loading into the COMPANY CMIMS

Templates files are provided by the COMPANY in connection with this specification.

- To provide ME/IE with an understanding of the COMPANY CMIMS structure and data organization.

3.3 Responsibilities of parties

The ME/IE shall:

- Collect, complete and verify the data to be loaded in the CMIMS, according to the COMPANY specifications
- Comply with the CMIMS data, structures and rules issued by the Project Group, the Affiliate and the COMPANY headquarters.

The CMIMS objects (see definition in the specification **GS EP EXP 207**) here under are either supplied by the ME/IE or defined by the COMPANY:

Objects defined by the COMPANY

- Organisational data (example : Planner Groups and Work Centres)
- Sites and Sectors (FL levels 1 and 2).

Objects assigned to the ME preparation team:

- Functional Locations (levels 3 and below) and Equipment
- Classes and Characteristics
- Bills of Materials (Spare parts lists)
- Documents (links with electronic documents)
- Maintenance Measuring points (counters) and Measurement Documents
- Standard Texts (Maintenance detailed instructions or procedures).
- Task Lists & Maintenance Plans (Preventive Maintenance)

Objects assigned to the IE preparation team:

- Functional Locations (levels 3 and below)
- Classes and Characteristics
- Inspection Measuring points and Measurement Documents
- Measuring Points classification
- Inspection Routes
- Standard Texts (Inspection detailed instructions or procedures).

- Task Lists & Inspection Plans

The ME/IE shall populate the Template files with the data gathered from the SUPPLIERS or MANUFACTURERS, data given by the COMPANY (List of Values, extracts form SAP, etc.) and other sources if required.

The fields in the Template files which are not mentioned in this specification and in the project documents shall not be taken in account by the ME/IE. However, these fields shall be present in the Template populated by the ME/IE, empty and their columns at the right place.

4. Organisation

4.1 Data preparation and loading

The global process of data preparation and loading is done according to the following steps:

- COMPANY provides the ME/IE with specifications and requirements concerning the data engineering. (Types of data, level of detail, etc.)
- Data extractions from the affiliate UNISUP/SALSA system by the COMPANY and mailing to the ME/IE by the COMPANY
- Maintenance data engineering and Template files preparation by the ME/IE.
- Quality checks of template files under the responsibility of the COMPANY (consistency, information system, data formats, etc.). Correction as appropriate by the ME/IE.
- Enrichment of the files by the COMPANY with its own data (UNISUP/SALSA configuration of the affiliate). Preparation for data loading in UNISUP/SALSA
- Data loading in test database and in production database by COMPANY.

All the CMIMS data will be checked by the COMPANY with respect to their consistency and quality, for engineering work acceptance.

The schedule of the data file creation and supplying shall be defined between the COMPANY and the ME/IE during the kick off meeting of the CMIMS data engineering project.

4.2 Template files

4.2.1 Definition

A Template is an Excel file which contains:

- Always a sheet "**Header**" (Template identification).
- One or several sheets to collect the required data.

The Templates for Maintenance & Inspection data are found in appendix 3.

4.2.2 Fields Description

In this documentation, the fields to be populated for each template are presented in tables like the one below:

Field	Description/Comments	Format	LoV	
FL Code	Complete Functional Location Code	C(40)		
Parent FL	Parent Functional Location code	C(40)		
FL description		C(40)		
Class	FL Class (GS EP EXP 207)	C(18)	X	

Legend:

- Yellow cell: \ Mandatory field ()
- Field Format:
 - C(n) → Text in n characters maximum
 - N(e) → Integer in e figures maximum
 - N(e,d) → Number with e integers and d decimals maximum
 - DD/MM/YYYY → Date
- LoV = "X" → The field refers to a restrictive list of values provided by the COMPANY.
-  → Additional comments in next pages.

5. UNISUP/SALSA Organisational Data

The Organisational Data are created in UNISUP/SALSA by the COMPANY and are supplied to the ME/IE as list of values.

These data are returned by the MI/IE in the relevant Templates.

5.1 Maintenance Plant

A **Maintenance Plant** represents a localisation where installations to be maintained are defined.

5.2 Planning Plant

A **Planning Plant** represents the organisation in charge of the maintenance of a Maintenance Plant.

5.3 Planner Group

A **Planner Group** represents an organisation responsible for the planning and processing of maintenance tasks in a particular Planning Plant.

Example:

PIPI	PG	Name
NG50	EL	Electrical
NG50	IN	Instruments
NG50	IP	Inspection
NG50	ME	Mechanical

5.4 Work Centres

Work centres represent the teams and the trades of the workers intervening on the installations. They are related to a Plant.

Example:

Plnt	Work ctr	Short description
NGD0	AM-GMELE	AMENAM GMC SITE ELECTRICIANS
NGD0	AM-GMHVC	AMENAM GMC HVAC SPECIALIST
NGD0	AM-GMINI	AMENAM GMC SITE INSTRUMENTIST
NGD0	AM-GMMEC	AMENAM GMC SITE MECHANICS
NGD0	AM-GMPLN	AMENAM GMC PLANNER
NGD0	AM-GMTUR	AMENAM GMC TURBINE SPECIALIST
NGD0	AM-INTEG	AMENAM SITE INSPECTOR

6. Functional Locations

6.1 General

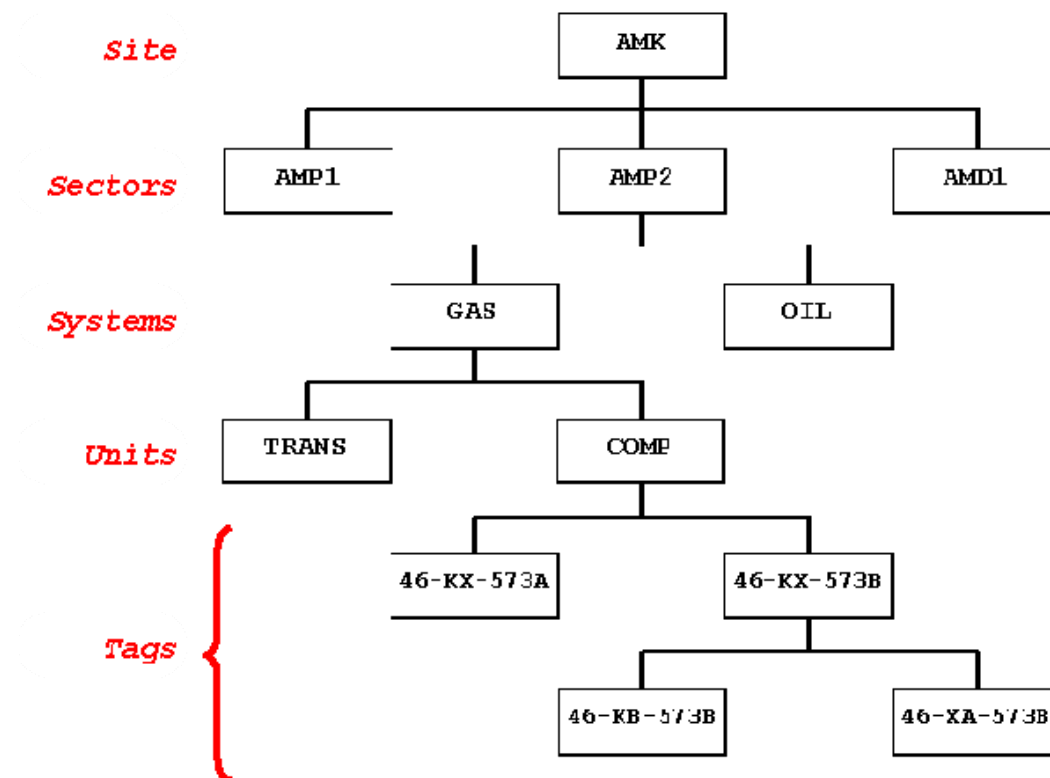
The Functional locations (**FL**) serve to describe, by a structural breakdown (tree structure - each object has one and only one parent), the different functions of the installations to be maintained and for which historical records and/or maintenance costs need to be kept.

The guidelines and rules for preparing the hierarchy of FL are detailed in the specification [GS EP EXP 207](#).

The first four levels of the structure are named **Sites**, **Sectors** (Platforms), **Systems** and **Units** (see [GS EP EXP 207](#) for definition).

The others FL under the units are named **Tags**.

Example of FL structure:



The Template for Functional Locations is named

10-PM_Template_Functional_Locations (Vx.y).xls and contains five sheets:

- **Functional Locations** → FL general data
- **FL Texts** → FL long descriptions
- **Classification(1)** → 1st sheet for FL/EQ Classification
- **Classification(2)** → 2nd sheet for FL/EQ Classification
- **Classification(3)** → 3rd sheet for FL/EQ Classification

6.2 Different types of FL

6.2.1 Site, Sector (Platform), System, Unit

The Sites and Sectors (Platforms) are created manually in UNISUP/SALSA by the COMPANY.

These FLs must not be declared in the Template.

List of allowed Systems and Units are given by the COMPANY to the ME/IE as reference data (List of Values). It can be done, but it is not necessary to declare these FLs in the Template (they can be automatically generated during the checking of the Template).

6.2.2 Tags (Functional Locations from level 5)

A process function must be described in the CMIMS as a Functional Location if it is necessary to follow its maintenance and inspection history and/or cost.

It is referenced in project documents and UNISUP/SALSA PM by a tag which is created according to the rules defined into the reference document **GS EP EXP 501**.

Some Functional Locations can be declared to group other ones, making the structure easier to read and use.

Main Tag: Tag linked directly to a unit (corresponds to a FL of level five).

Sub-Tag: Tag linked to a Main Tag or another Sub-Tag (corresponds to a FL of level six and below).

Specific to inspection: pressure systems are submitted to FAME+ criticality assessment, with the following consequences for Functional Locations.

- It may be necessary to create Sub-Tags to reflect the breakdown of the FAME+ structure. This is the case for multipart vessels (e.g. V101-Water phase, V101-Oil phase, etc.); tubular heat exchangers, etc.,
- For piping, Tags used in the CMIMS are corresponding to the Groups of Piping that are defined prior any FAME+ assessment; grouping is made according to the rules that are described into the user manual "FAME+ Implementation Guidance", where the numbering scheme (Tag) for Groups of Piping is defined. In addition, it is recommended that the individual lines are described as Sub-Tags in the structure; this is to get the "official" list of lines within the CMIMS.

6.3 FL General Data

The following data shall be populated in the sheet "**Functional Locations**".

NB:

The parents FL have to be placed in the Template before their children.

Field	Description/Comments	Format	LoV	
FL Code	Functional Location Code	C(40)		
Parent FL	Parent Functional Location code	C(40)		
FL description	Functional Location Description	C(40)		
Class	FL Class (GS EP EXP 207)	C(18)	X	
Weight	Weight of the object in Kg.	N(10,2)		
Manufacturer ⁽¹⁾	Manufacturer Name	C(30)	X	
Manufacturer Part Number	Reference of the Object for the Manufacturer	C(30)		
Manufacturer Model Number ⁽¹⁾	Model identification (Type)	C(20)		
Manufacturer Serial Number ⁽¹⁾		C(30)		
Year of Construction		N(4)		
Month of Construction		N(2)		
Acquisition Date		DD/MM/YYYY		
Criticality	V / C / S: Mandatory for level 5	C(1)		
Planner Group		C(3)	X	
Main Work Centre		C(8)	X	
Catalog Profile		C(9)		
Position	Allows sorting the FL among all the FL of the same parent	N(4)		
Construction type	Assembly code, see below.	C(18)		
Install Equipment	"X" when an Equipment is needed for the FL "Y" for Workshops and warehouses	C(1)		
Equipment description	Must be filled only when the previous field is "X"	C(40)		

(1) Manufacturer Data are mandatory when equipment is required for the FL.

6.3.1 Functional Location code:

The Functional Location Code is constituted with several parts separated by a slash (/) and must follow the format below:

- For a System (FL level 3) → **AAA/BBBBB/CCC**
- For a Units (FL level 4) → **AAA/BBBBB/CCC/DDDDD**
- For a Tag (FL from level 5) → **AAA/BBBBB/CCC/DDDDD/EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE**

Where:

- **AAA** = Site (up to 3 characters)
- **BBBBB** = Sector (up to 5 characters)
- **CCC** = System (up to 3 characters)
- **DDDDD** = Unit (up to 5 characters)
- **EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE** = Tag (up to 20 characters)

Example:

AMK/AMP2 /GAS/COMP /46-KX-573A

- In fact, the FL Code contains all the upper levels codes except for the sub-tags (level 6 and below) for which only the four first levels are repeated.
- The slash separator is accepted only in positions 4, 10, 14 and 20. If needed, the code before the separator must be completed by spaces.
- Only letters, figures, spaces, dashes (-) and underscore (_) are allowed in the Tag (last part of the code). All others specials characters are forbidden.
- The Functional Location Code must be unique in the Template.

6.3.2 FL description:

The FL description shall mention the functional use of the object (process use) and the category of material installed (pump, filter, motor, etc).

In the case of several similar objects, the description must contain information to identify each of them individually (Pump **A**, Pump **B**, PSV **1**, PSV **2**, PSV **3**, ...)

Example:

Second Stage Compressor Train **A**



6.3.3 Class:

The classes allow identifying the different categories of materials referenced in UNISUP/SALSA.

- electric motors
- horizontal centrifugal pumps
- pressure safety valves
- pressure transmitters
- etc.

The ME/IE must refer to the list of values provided by the COMPANY.

6.3.4 Manufacturer Data:

These data come from the Manufacturer's documentation and are available for Tags only.

They shall be populated if they are known. **Manufacturer Name, Model Number and Serial Number are mandatory when Equipment is needed for the FL.**

Manufacturer Name:

The Manufacturer Name must be completed by the ME/IE by using the list of values provided by the COMPANY.

If new Manufacturers are needed, the names will be proposed by the ME/IE and validated by the COMPANY.

Part Number:

This is the reference given to the object by the manufacturer.

Model number:

This is the model identification (type) for the object.

Serial Number:

The serial number is the number assigned by the manufacturer for an individual object.

6.3.5 Acquisition Date:

Specific to Total E&P Indonesia.

This date is used to store the expired date of Migas certificate (recertification purpose).

6.3.6 Criticality:

Possible values are **V**, **C** or **S**, for Vital, Critical or Secondary.

The criticality codes should come from a RCM study.

This information is useless for Systems and Units, **required for Main Tags** and optional for Sub-Tags.

6.3.7 Catalog Profile:

A catalogue profile is a link from the FL to a set of failure codes (damages, causes, activities) that can be used to populate the notifications and notifications reports. These codes allow the COMPANY to make failure analysis.

Refer to the list of values provided by the COMPANY.

6.3.8 Position:

This field is used to sort the FL at each level when the structure is displayed in UNISUP/SALSA. It is recommended to increment this number by ten to allow the future insertions.

6.3.9 Construction type:

This field, dedicated to Tags and forbidden for Systems and Units, allows allocating a BOM (list of spare parts) to the FL by use of an **Assembly code**.

It can be used when the required BOM already exists in UNISUP/SALSA. In this case, the list of the reusable BOM is provided to the ME/IE by the COMPANY.

The link between BOM and FL is usually done with the Template BOM or BOMAss.

6.3.10 Install Equipment:

This field, dedicated to Tags and forbidden for Systems and Units, may be filled in with:

- **X →** to mean the single installation of Equipment on the FL.

In this case:

- The Class, the Manufacturer Name, the Model Number and the Serial Number are mandatory.
- In addition to the FL, an Equipment will be created in UNISUP/SALSA (automatic numbering) and linked to the FL.
- The Manufacturer Data and the Construction Type will be created on the Equipment and not on the FL.
- **Y →** to authorize the installation of several Equipment on the FL.

This value is reserved for specific FL like workshops and warehouses.

See chapter 7 for more explanations about Equipment.

6.3.11 Equipment description:

The Equipment description is mandatory when the field 'Install Equipment' contains "X" and shall mention the technical function of the equipment (for example the class description).

6.4 FL Long Description

Additional descriptions concerning Functional Location can be stored in UNISUP/SALSA as free text.

If needed, these data shall be populated in the sheet "FL Texts".

Field	Description/Comments	Format	LoV	
FL Code	Functional Location Code	C(40)		
Line number	Line number	N(3)		
Text	One line of text	C(64)		

6.5 Classification(x)

The classes for FL are already defined in the sheet 'Functional Locations'.

The classification sheets (**Classification(1)** to **(3)**) shall only be used to enter characteristics values for the FL.

Enter the characteristic without taking into account the installation of the EQ on the FL.

If needed, the splitting of characteristics between the FL and the EQ will be automatically done during the checking of the Template.

Specific Templates for FL & EQ classification are also available to provide the classification when it can't be delivered with the FL template.

Field	Description/Comments	Format	LoV	
FL Code	Functional Location Code	C(40)		
Class	Class Code	C(18)	X	
Characteristic	Characteristic Code	C(30)	X	
Value	Characteristic Value	C(30)		

When several lines are needed to classify a FL (more than one characteristic value) the header data (FL Code and Class) must be repeated on each line.

6.5.1 Class:

Must be the same as the one assigned to the FL in the sheet 'Functional Locations'.

6.5.2 Characteristic:

Refer to the **Referential for technical objects classification in UNISUP/SALSA** to get the characteristics codes (**TO_nnnnnnn**) and to know the list of allowed characteristics per class.

6.5.3 Value:

If possible, a value shall be filled in for each characteristic declared in the class. Some characteristics are mandatory.

Refer to the **Referential for technical objects classification in UNISUP/SALSA** to identify the mandatory characteristics and to get the requirements for the values (format, number of characters, number of decimals, restrictive list of values, etc.).

7. Equipment

7.1 General

To describe a technical object in UNISUP/SALSA, a Tag is necessary and, in some cases, an Equipment must also be declared.

An Equipment represents a unique physical component that can be installed on a Tag for which it ensures the required function.

An Equipment should be declared according to the COMPANY requirements and the following rules:

- Its location may change during its lifetime.
- Historical records of movements (installation and removal) need to be kept for technical, economic or regulatory reasons.

Examples: PSV, Pumps, Electrical motors, etc.

Refer to **GS EP EXP 207** for more details about Equipment and to know the classes for which Equipment are required.

7.2 Equipment Creation

In a normal way, the Equipment are created at the same time as the Functional Locations (field 'Install Equipment' in the 'FL' Template).

Nevertheless, the Template named **11-PM_Template_Equipment (Vx.y).xls** is available to create Equipment.

This Template may be used in two cases:

- When the Equipment has not been created at the same time as the Functional Locations.
- To create Equipment located on specific Functional Locations (as workshops and warehouses for example).

These Functional Locations have the specific characteristic of being able to receive several Equipment simultaneously. It is consequently not possible to declare such Equipment in the 'FL' Template.

7.3 Equipment Identification in the Templates

Equipment are automatically codified by UNISUP/SALSA during creation.

As a consequence, the Equipment codes are usually not known when the Templates are compiled.

To simplify the completion of some Templates (essentially BOM Assignment and Equipment Classification), it's possible to identify an Equipment by its Functional Location (where it is or will be located).

7.4 EQ General Data

The following data shall be populated in the sheet "**Equipment**".

Field	Description/Comments	Format	LoV	
Equipment description		C(40)		
Class	FL Class (GS EP EXP 207)	C(18)	X	
Weight	Weight of the object in Kg.	N(10,2)		
Manufacturer	Manufacturer Name	C(30)	X	
Manufacturer Part Number	Reference of the Object for the Manufacturer	C(30)		
Manufacturer Model Number	Model identification (Type)	C(20)		
Manufacturer Serial Number		C(30)		
Year of Construction		N(4)		
Month of Construction		N(2)		
Acquisition Date		DD/MM/YYYY		
FL Code	Functional Location Code	C(40)		
Installation Date		DD/MM/YYYY		
Construction type	Assembly code, see below.	C(18)		



7.4.1 Equipment description:

The Equipment description shall mention the technical function of the equipment (for example the class description).

7.4.2 Class:

The classes allow identifying the different categories of materials referenced in UNISUP/SALSA.

- electric motors
- horizontal centrifugal pumps
- pressure safety valves
- pressure transmitters
- etc.

The ME/IE must refer to the list of values provided by the COMPANY.

7.4.3 Manufacturer Data:

These data come from the Manufacturer's documentation.

Manufacturer Name:

The Manufacturer Name must be completed by the ME/IE by using the list of values provided by the COMPANY.

If new Manufacturers are needed, the names will be proposed by the ME/IE and validated by the COMPANY.

Part Number:

This is the reference given to the object by the manufacturer.

Model number:

This is the model identification (type) for the object.

Serial Number:

The serial number is the number assigned by the manufacturer for an individual object.

7.4.4 Acquisition Date:

Specific to Total E&P Indonesia.

This date is used to store the expired date of Migas certificate (recertification purpose).

7.4.5 FL Code:

This is the complete code of the Functional Location where the Equipment must be located.

7.4.6 Installation Date:

This is the date of the installation of the Equipment on the Functional Location. If it's not informed, the Equipment creation date will be used as installation date.

7.4.7 Construction type:

This field allows allocating a BOM (list of spare parts) to the FL by use of an **Assembly code**.

It can be used when the required BOM already exists in UNISUP/SALSA. In this case, the list of the reusable BOM is provided to the ME/IE by the COMPANY.

The link between BOM and FL is usually done with the Template BOM or BOMAss.

8. Classification

8.1 General

The classification is the assignment of a Class and characteristics values to Technical objects (FL and Equipment).

The **GS EP EXP 207** gives the main rules for classes' assignment.

The COMPANY provides the **Referential for technical objects classification in UNISUP/SALSA**. This Referential contains:

- The list of classes.
- The list of characteristics with their format.
- The list of characteristics allowed per class.
- The list of allowed values per concerned characteristic.

The FL and EQ can be classified with the 'FL' Template but three other Templates are available for classifying the Technical Objects:

- **32-PM_Template_TO Classification (Vx.y).xls**, for Functional Location and Equipment
- **30-PM_Template_FL Classification (Vx.y).xls**, for Functional Location
- **31-PM_Template_EQ Classification (Vx.y).xls**, for Equipment

Those files are used both for implementing the classes on FL/Equipment and their attached characteristics values.

- The 'TOClass' Template presents several advantages:
 - It can be used in most of the cases:
 - to classify a FL alone (no EQ installed),
 - to classify a FL and its EQ,
 - to classify an EQ alone by using its code.
 - It contains three sheets, thus it allows processing more data.
- The 'FLClass' Template must be used to classify a FL without classifying the EQ located on it.
- The 'EQClass' Template must be used to classify only an EQ when its code is unknown (the EQ must be identified by its FL).

Specific to inspection: For some classes (e.g. Piping, Corrosion monitoring related classes) it is mandatory to assign some of the characteristics defined in the **GS EP EXP 207** since those will cascade down to the Measuring Points to allow calculation to be performed within the

system. These characteristics are as is identified "TO_0nnnnnn" in the reference documents "UNISUP_InspMPs_Route(v...).xls" and "Procedure for the creation of Written Scheme of Examination.doc".

8.2 TO Classification

The TO Classification data shall be populated by the ME/IE in the sheet "**TO Classification(1)**" for each FL (Tags) having a class in the FL Template. If the number of lines exceeds the limit of Excel (65 536 lines today), the other sheets "**TO Classification(2)**" and "**TO Classification(3)**" can be used.

This Template can also be used to classify already existing technical objects in UNISUP/SALSA.

This Template allows classifying both FL and EQ.

Field	Description/Comments	Format	LoV	
FL code or Equipment code	Functional Location Code or Equipment Code	C(40) C(18)		
Class	Class Code	C(18)	X	
Characteristic	Characteristic Code	C(30)	X	
Value	Characteristic Value	C(30)		

When several lines are needed to classify an object (more than one characteristic value) the header data (FL Code or EQ Code and Class) must be repeated on each line.

To classify an object without characteristic value, one line with the header data is enough.

8.2.1 FL Code or Equipment Code:

Enter only one code:

- The FL code to classify the FL and the EQ located on it (if there is one).
- The EQ code to classify only the EQ.

8.2.2 Class:

Refer to the **Referential for technical objects classification in UNISUP/SALSA**.

8.2.3 Characteristic:

Refer to the **Referential for technical objects classification in UNISUP/SALSA** to get the characteristics codes (TO_nnnnnnn) and to know the list of allowed characteristics per class.

8.2.4 Value:

If possible, a value shall be filled in for each characteristic declared in the class. Some characteristics are mandatory.

Refer to the **Referential for technical objects classification in UNISUP/SALSA** to identify the mandatory characteristics and to get the requirements for the values (format, number of characters, number of decimals, restrictive list of values, etc.).

8.3 FL Classification

The FL Classification data shall be populated by the ME/IE in the sheet "**FL Classification**" for each FL (Tags) having a class in the FL Template.

This Template can also be used to classify already existing FL in UNISUP/SALSA.

Field	Description/Comments	Format	LoV	
FL Code	Functional Location Code	C(40)		
Class	Class Code	C(18)	X	
Characteristic	Characteristic Code	C(30)	X	
Value	Characteristic Value	C(30)		

When several lines are needed to classify a FL (more than one characteristic value) the header data (FL Code and Class) must be repeated on each line.

To classify a FL without characteristic value, one line with the header data is enough.

8.3.1 Class, Characteristic Code and Value:

See "TO Classification".

8.4 EQ Classification

The EQ Classification data shall be populated by the ME/IE in the sheet "**EQ Classification**" for each FL having a class in the FL Template and for which an Equipment is installed.

This Template can also be used to classify already existing Equipment in UNISUP/SALSA (in this case, the Equipment numbers are known).

Field	Description/Comments	Format	LoV	
FL code or Equipment code	Functional Location Code or Equipment Code	C(40) C(18)		
Class	Class Code	C(18)	X	
Characteristic	Characteristic Code	C(30)	X	
Value	Characteristic Value	C(30)		

When several lines are needed to classify an Equipment (more than one characteristic value) the header data (FL Code or EQ Code and Class) must be repeated on each line.

To classify an Equipment without characteristic value, one line with the header data is enough.

8.4.1 FL Code or Equipment Code, Class, Characteristic Code and Value:

See "TO Classification".

9. Bills of material

9.1 General

A Bill of material (**BOM**) is a list of the spare parts available to maintain a technical object (FL or Equipment).

The **GS EP EXP 205** specification gives the guidelines for the spare parts data definition:

- The spare parts basic data shall be defined in accordance with the **GS EP EXP 205**. These data will be implemented in the MM (Material Management) module of UNISUP/SALSA.
- The list of spare parts by FL/Equipment shall be defined by the ME in accordance with the **GS EP EXP 205** specification and will be loaded in the PM (Plant Maintenance) module.

Three different objects are used in UNISUP/SALSA to create the BOM:

- **The Main-Assembly.**

This is the header of the BOM which is linked to the technical objects.

- **The Sub-Assembly.**

It represents a sub-part of the technical object (1st stage compressor for example) or a technical grouping (bearings, safety devices, etc.) and it can be used to structure the BOM in manageable individual parts.

It's strongly recommended to use Sub-assemblies when the number of spare parts in the BOM is more than ten.

Sub-Assemblies should be avoided for grouping a very small number of spare parts.

- **The Material (spare part).**

It's an individual part that can be replaced, and it's managed either in stock or by direct purchase.

Note:

*In the BOM, both Sub-Assemblies and Materials are called **Components**.*