TR1005 SPIR registration

Operation and maintenance

Requirements, TR1005, Version 3.03

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Document replaces version 3.02

Relevant versions:

- **3.01** (2017-06-23 09:59)
- **3.02** (2022-03-15 13:14)
- **3.03** (2024-04-22 09:31)

1 Objective, target group and provision

1.1 Objective

SR-36856 - The purpose of a spare part list and interchangeability record (SPIR) is to ensure spare part recommendations of high quality for projects, modifications and operations. A SPIR shall be delivered to support repair strategy for equipment units. For bulk and other equipment unit with repair strategy “scrap and replace” only the complete replacement equipment shall be listed in the SPIR.

1.2 Target group

Projects and suppliers.

1.3 Provision

This document is provided for in TR3110 Life Cycle Information (LCI), Technical Requirements and Standards.

2 Requirements

SR-36862 - The Spare part list and interchangeability record shall be filled out in the SPIR form in appendix A, and handed over to Equinor in excel format.

2.1 SPIR distribution

SR-36864 - A SPIR template shall be issued to the contractor and all suppliers to the project. A completed SPIR shall be delivered in accepted status in due time according to TR2381.

2.2 Material data requirements

SR-36866 - To be able to verify that information given in the SPIR is correct, the company require detailed drawings, bill of material list (BOM) or product catalog information, according to TR2381 and TR3111.

2.3 Spare parts requirements

SR-36868 - The spare part list shall contain spare parts as defined in section 2.4., as well as necessary special tools, required for the replacement or repair of the unit on the installation.

Guidelines to 2.3
A spare part can be a:

- a complete item (tag)
- part of an item
- a complete repair kit

- a part of a kit

2.4 Spare parts selection

SR-36872 - When defining spare parts the following elements shall be taken into consideration:

1. The probability that a spare part will be required due to a failure.
2. The failures' effect on the system, or the main function of the equipment.
3. That field operators are able to perform the necessary repairs.

2.5 SPIR data registration

SPIR information should be registered by the equipment supplier to ensure correct and accurate data and to reduce unnecessary double work.

SR-36875 - The contractor and supplier shall provide data in the yellow boxes in the SPIR for all relevant spare parts. If maintenance concepts for selected equipment groups have been forwarded to the contractor and supplier, the SPIR shall also include the “essential spare parts” as indicated in the concepts.

SR-36876 - The information shall be complete (including drawing references, dimensions, material, etc.) in order to enable Equinor to identify identical parts (interchangeability) on different SPIRs, and to assign material numbers to relevant parts.

SR-36877 - Explanations to all columns in SPIR are given in section 2.6. The supplier shall not complete columns marked “Equinor use only”.

2.6 Information input to SPIR

The spreadsheet can be filled in cell by cell, but it may be more convenient to utilise the buttons on the top of the screen:

- Start with "Supplier Information", and provide data in the dialogue box that appears on the screen
- Continue with "Equipment Information" and complete the work with "Spare Parts Information List" along with tag information in column 2 to the left on the sheet
- Select correct cell (column 2) and click the button "Add Tag" to display the dialogue box for easy data input
- Use "Return" to save data and selection of next tag cell
- Several tags can be listed in each cell separated with comma and space. Tag and serial numbers (if provided) shall be completed in corresponding order.
- Check that all cells with yellow heading are completed

Explanation to the columns in SPIR

Col.	Heading	Description	Comments
1		- Equinor SPIR number (SPIR document number) - Equipment's description - Tag number - Purchase agreement number - Purchase agreement date - Price in currency - model/type - Ref./serial number	
2	Tag number	Tag number of equipment, unit or component. Several tags can be listed in each cell separated with comma and space. Spares and equipment shall be assigned to tag on lowest level of the tag hierarchy. e.g.: 10-XV029A, 10-XV029B	More cells can be found in continuation sheet on the right side
3	Model/type number	Enter manufacturer's model/type number of equipment, unit or component.	
4	Serial number	Enter manufacturer's serial number for the equipment, unit or component when relevant. Batch number can be listed for equipments produced based on batches, and where serial numbers are not assigned to the equipment. Please fill “NA” when not relevant.	
5	Number of units	Number of TAG's listed in column 2 for given field.	
5A	Level of spare	Indicate level of spare as follows: U - Spare is identical with complete tag P - Spare is part of tag S - Spare is complete kit K - Spare is part of kit	
6	Qty. per equipment or unit.	Enter quantity of spare parts installed per tag, equipment, unit or component.	
7	Equinor material number	Equinor material number for complete equipment or unit.	Equinor use only

Col.	Heading	Description	Comments
8	Total number of identical parts installed	Total number of identical spare parts installed in each PO package.	Calculated automatically, based on column 5 and 6
9	Description of recommended spare parts	Describe all parts in English. If an item is interchangeable between two or more units it shall be listed only once on the same sheet.	
10	Detailed drawing number / Data Sheet number	State detailed drawing number or other document where real manufacturer's (rmf) name and rmf part number can be verified.	TR2381 chapter 5, Detail drawing with parts list and Product catalogue information
11	Item ref. number	Enter the spare part position and reference number on the drawing quoted in column 10.	
12	International material specification	Give material specification in terms of full international standards and accepted conventions (not the supplier's references!).	
13	Supplier's part number	Enter the supplier's part number (identification number.).	
14	Real manufacturer's part number	Enter the real manufacturer's part number (Ordering code).	Shall be verified in document referred to in column 10. If any other information is needed to identify the product uniquely and unambiguously, it should be entered in the extension of the part number
15	Real manufacturer's name	Enter the name of the real manufacturer.	Shall be verified in referred document listed in column 10
16	Supplier's recommendation	Specify recommended quantities of project spare parts likely to be needed for construction and commissioning period.	
17	Engineering's recommendation	Number of spare parts recommended by engineering unit for commissioning.	Equinor use only
18	Quantity to be ordered	Quantity of commissioning spare parts to be ordered.	Equinor use only

Col.	Heading	Description	Comments
19	Supplier's recommendation	Specify recommended quantities of spare parts.	
20	Maintenance's recommendation	Number of spare parts recommended by maintenance unit for operation.	Equinor use only
21	Qty. to be ordered	Quantity of operational spare parts to be ordered.	Equinor use only
22	Equinor material number	Equinor material number.	Equinor use only
23	Classification of parts	Enter a "C" if any of the recommended spares are to be considered capital spares - otherwise "N" for normal spare parts.	
24	Unit price	Specify price, in the correct currency, per unit in accordance with the terms stated in the contract.	
25	Delivery time for operational spares	Specify delivery times (in weeks) for operational spare parts per item.	
26	PROJECT	Project information for purchase of commissioning spare parts.	Equinor use only
27	PRODCO	Project information for purchase of operational spare parts.	Equinor use only
28		- name of project and plant - engineering contractor - supplier's name, address and contact person	
29	Revision field	- revision - date - supplier's responsible sign. on all SPIR sheets	
30	Evaluation field	Signature field for evaluation of SPIR.	Equinor use only
31	General information	Explanation of conditions having influence on the choice of spare parts, such as: • replacement of parts/units in pairs (may be listed as a set with two in each) • part /unit is used as a test tool • limited storage time	
32	Criticality	Criticality of equipment (from criticality evaluation).	Equinor use only

Col.	Heading	Description	Comments
33	Redundancy	Degree of redundancy: A - no unit can fail without functional effect B - one unit can fail without functional effect C - more units can fail without functional effect	Equinor use only
34	Maintenance concept number	Maintenance concept number	Equinor use only
35	Demand rate	Failure rate (demand rate). MTBF (in times per million hours).	If available
36	Replacement time	Change-out time of component at site (in hours).	If available
37	Repaired or discarded	Is spare part normally: R - repaired after change-out? F - discarded after change-out?	If available
38	Demand time	Acceptable waiting time for the spare part.	Equinor use only
39	Turn around time, workshop	Only used for repairable units.	If available
40	Previously delivered	Y - if previously delivered to Equinor N - if not previously delivered to Equinor	

3 Additional information

3.1 Definitions and abbreviations

SPIR	Electronic spare parts interchangeability record
Spare parts - capital/insurance	Parts that comply with all four of the following criteria: • High unit price • Very low failure rate (MTBF) and an unpredictable failure pattern • Either long delivery time on new unit, or long repair time (if it can be repaired) • Large economical consequence if spare parts are not available when needed. Due to cost and delivery time capital spare parts should normally be purchased and manufactured as part of the main order. Examples: Large gear boxes, large electrical motors, pump casing, compressor casing, etc.
Spare parts - commissioning	Parts, which may be required during the construction and commissioning period. Typical examples are: Gaskets, seals, ball/roller bearings, oil glasses, miscellaneous instruments and electrical items likely to be consumed during the commissioning period.
Spare parts - operations	Parts or units required to maintain the operational and safety capabilities of the equipment during its normal operational lifetime. Typical examples are: Pump impellers; pump wear rings, compressor seals and complete valves.

3.2 Changes from previous version

From version 3.02 to version 3.03:

Added information to "explanation to the columns in SPIR" (Col. 14 - Real manufacturer's part number)
Extra information added to comments.

From version 3.01 to version 3.02:

Published in new version with updated link to App A - SPIR form and Statoil name changed to Equinor.
There is no major changes in the content and practice for SPIR registration.

From version 3 to version 3.01:

Published in new minor version as part of the GEM-project (Governing Element Management). TR-document is digitalized, and each requirement element is now identified with a unique ID.

There is no major changes in the content and practice for SPIR registration.

3.3 References

"Life Cycle Information (LCI), Technical Requirements and Standards" (TR3110)

"LCI Requirements Master" (TR2381)

4 App A - SPIR form

App A SPIR form