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1 OBJETIVE

This Technical Specification defines the types of Operational Modes (MOP) that will be used to classify each system, process, package or equipment in the Stationary Production Unit used in Basic Design.

The specific MOPs for each system, process, package or equipment are presented in documents listed in item [2].

2 REFERENCE DOCUMENTS

- I-ET-3010.00-1200-800-P4X-002 – AUTOMATION, CONTROL AND INSTRUMENTATION ON PACKAGE UNITS
- I-ET-3010.2D-1200-800-P4X-014 – AUTOMATION INTERFACE OF PACKAGE UNITS
- I-ET-3010.00-5140-797-P4X-001 – ELECTRICAL SYSTEM AUTOMATION ARCHITECTURE

3 GLOSSARY

- AEPR = Automation and Electrical Panels Room
- CCR = Central Control Room
- CSS = Control and Safety System
- ESA = Electrical System Automation
- HMI = Human-Machine Interface
- O&M = Operation and Maintenance
- Operation = Actuation
- SOS = Supervision and Operation System
- Supervision = Monitoring

4 OPERATIONAL MODE DEFINITION

In order to standardize integration between the Unit Automation System (Control and Safety System – CSS and Supervision and Operation System - SOS) and third-party equipment (package units), a specific classification in project documentation was defined. This classification is done based on the Automation level and Operation philosophy of each equipment/package unit, and applies only to package units that have associated control and safeguarding.

There are many equipment on board that will be used standalone or manually operated and thus, do not take part of the Unit Automation System. These have an associated Operation Philosophy (MOP), but are not classified as package units from Automation's point of view.

The above mentioned package unit classification and interface signals are found in I-ET-3010.00-1200-800-P4X-002 – AUTOMATION, CONTROL AND INSTRUMENTATION ON PACKAGE UNITS.

A correlation between Operation Modes (MOPs) and the classification of package units with associated control and safeguarding is defined below:

MOP MODE	AUTOMATION PACKAGE
MOP1	NO AUTOMATION PACKAGE
MOP2	P0
MOP3	P1
MOP4	P2
MOP5	P2S
MOP6	P2C
MOP7	P2SC
MOP8	NO AUTOMATION PACKAGE
MOP9	NO AUTOMATION PACKAGE

Note 1: MOP1 – Equipment is not a package unit from Process Automation point of view.

Note 2: MOP8 – Equipment is not a package unit from Process Automation point of view (Electrical equipment and/or loads).

Note 3: MOP9 – Equipment is not a package unit from Process Automation point of view (Telecommunications equipment).

For classification about MOP8 and MOP9, from Electrical System point of view, see I-ET-3010.00-5140-797-P4X-001 - ELECTRICAL SYSTEM AUTOMATION ARCHITECTURE.

5 MOPS DEFINITION

- MOP1

Operational Mode 1 (MOP1): Operation, Supervision and Control are executed locally by the Operator at the equipment.

Note: When the Operational Mode is not specified, for Automation System, MOP1 shall be the reference mode to be adopted, if compatible with such operation. It can also be present, in a complementary way, within more complex Operational Modes.

- MOP2

Operational Mode 2 (MOP2): Operation, Supervision and Control are remote at the CCR. Operation and Supervision executed by HMI of the SOS. Control and Interlock executed by CSS.

- MOP3

Operational Mode 3 (MOP3): Operation, Supervision and Control are locally executed at the equipment, through the dedicated HMI of the local panel. Remote supervision summary is available on SOS' HMI's.

- MOP4

Operational Mode 4 (MOP4): Operation, Supervision and Control are remotely executed through the HMI of the panels installed at the AEPR. Remote supervision summary is available on SOS' HMI's.

- MOP5

Operational Mode 5 (MOP5): Operation, Supervision and Control are remotely executed through the HMI of the panel installed at the AEPR. It is also available a dedicated HMI at the CCR. Remote supervision summary and relevant variables are available on SOS' HMI's.

- MOP6

Operational Mode 6 (MOP6): Operation, Supervision and Control are remotely executed through the HMI of the panel installed at the AEPR. It is also available a shared HMI at the CCR. Partial Remote operation and remote supervision summary is available on SOS' HMIs.

- MOP7

Operational Mode 7 (MOP7): Operation, Supervision and Control are remotely executed through the HMI of the panel installed at the AEPR. It is also available a dedicated HMI at the CCR. Operation and supervision can also be remotely executed through the SOS' HMIs at the CCR.

- MOP8

Operational Mode 8 (MOP8): Operation and Supervision are executed at the equipment or through the ESA (Electrical System Automation) at AEPR. It is also available a redundant ESA at the CCR.

- MOP9

Operational Mode 9 (MOP9): Operation, Supervision and Control are executed locally at the equipment by the Operator. Only remote supervision is available at the AEPR (ESA) and at the CCR (redundant ESA).