

# **IMO Guidelines**

## **Chapter 6 Appendix 6.2**

### **Substantial Upgrade or Refurbishment**

#### **1. General**

- 1.1. The following are guidelines on what constitutes a “substantial upgrade or refurbishment” as referred to in the Market Rules Chapter 6 Appendix 6.2
- 1.2. The “substantial upgrade or refurbishment” is found in the following sections of Appendix 6.2
  - 1.2.1. Section 1.2.5.2 Compliance with Blondel’s theorem
  - 1.2.2. Section 1.6.4 Instrument Transformers - Power Switching
  - 1.2.3. Section 1.7.4 Instrument Transformers - Accuracy Requirements
  - 1.2.4. Section 1.8.4 Instrument Transformers - Secondary Cabling
  - 1.2.5. Section 1.11.4 Instrument Transformers - Primary Connection Point
  - 1.2.6. Section 1.12.3 Instrument Transformers - Primary Cable
  - 1.2.7. Section 1.13.3 Instrument Transformers – Burdens

#### **2. Substantial Upgrade or Refurbishment**

##### **2.1. Meters**

- 2.1.1. Changes to the meter in a metering installation do not trigger the substantial upgrade clause, including:
  - 2.1.1.1. Emergency changeout, like for like
  - 2.1.1.2. Installation of a compliant main/alternate
  - 2.1.1.3. Upgrade to firmware or software settings
  - 2.1.1.4. Failure of a standalone meter

##### **2.2. Instrument transformers**

- 2.2.1. Failure of two or more ITs (CTs or PTs or any combination) in a metering installation triggers the substantial upgrade clause. There is no time limit.
- 2.2.2. Note: Failure of a single tank PME metering unit that is replaced as a complete unit comprising two or more ITs, will trigger the substantial upgrade clause.
- 2.2.3. The addition of two or more ITs (CTs or PTs or any combination) in a metering installation triggers the substantial upgrade clause. There is no time limit.

##### **2.3. Blondel Compliance**

- 2.3.1. Installations registered under Appendix 6.2 can be non-Blondel or comply with Measurement Canada 2.5 element rulings. MECs must be supplied in all cases. One condition imposed is that the error cannot exceed 3% and if it does it must be upgraded within 2 years of this rule coming into force or at substantial upgrade or refurbishment. Considering that this rule has been in force for longer than 2 years, these installations have to be brought into compliance immediately. The substantial upgrade or refurbishment clause is irrelevant.

##### **2.4. Power Switching**

- 2.4.1. Where power switching affects the accuracy of the metering data, switching must be limited to not more than two occasions in any 12-month period. This does not apply to outages or shutdowns for maintenance where a different procedure applies. Where the 2X p.a. limit is exceeded, the installation must be upgraded.

##### **2.5. Cabling**

- 2.5.1. Changes to the cabling should be checked with the IMO on an individual basis. Minor changes do not trigger the substantial upgrade clause, but major changes will. Details of what the intended changes are should be submitted to the IMO for review. The intent is to

allow changes that move towards a compliant installation except where clearly the cabling changes are significant to the metering installation or to the facility, in which case they would trigger the clause. There is no time limit.

2.6. Security

2.6.1. Changes to the security of a metering installation will not trigger the substantial upgrade clause, including:

2.6.1.1. Addition of seals

2.6.1.2. Addition of locks

2.6.1.3. Application of procedures to ensure access to MSP personnel

2.7. Cabinets

2.7.1. Changes to the metering cabinet will not trigger a substantial upgrade. Cabinets can be changed or relocated.

2.8. Communication

2.8.1. Changes to the communication system will not trigger the substantial upgrade clause, including

2.8.1.1. Changes to the PSTN

2.8.1.2. Changes to the modems

2.9. Facilities

2.9.1. Changes to a facility should be checked with the IMO. Minor changes or changes not related to electrical power will not trigger the substantial upgrade or refurbishment clause. Major changes to a facility that relates to the transmission, distribution or generation may trigger the clause. Check with the IMO. The intent is that the metering upgrade would be included in any substantial work on the facility where it is germane to the wholesale market. There is no time limit.