Addendum 3.2.3

3.2.3 Type of fire fighting system for the Substations

Consumer is required to install fire fighting system in substations of following types:

i. Attached type substation  
ii. Transmission Main Intake (PMU) / Main Distribution Substation (PPU) / Main Switching Station (SSU)  
iii. Standalone substation with generator room attached.

The fire fighting system for use in substation must be certified by TNB with valid “Certificate of Product Acceptance” (Sijil Guna Pakai -- SGP) by TNB.

The fire fighting system must be designed to suit the substation and meet following criteria:

i. Shall be a complete system consists of suppression system and alarm and detection system.  
ii. Must be certified and tested by certified agencies (UL, FM, LPCB or equivalent)  
iii. Must be verified by Bomba as a total flooding system.  
iv. Must be designed to suit and use in substation.  
v. Extinguishing Agent must be clean and residual-free and must not be corrosive on electrical and electronic equipment.  
vi. Environmentally friendly as determined by Kyoto Protocol, Montreal Protocol and EPA SNAP List / EPEE.  
vii. Occupant safe  
viii. Must be suitable for extinguishing Classes of fire (Class A, B, C and E)  
ix. Fire fighting system shall be given a warranty of 5 years from date of commissioning by installer that covers all of above and in the event of accidental discharge occurs, warranty shall cover damages on TNB equipment.

Fire fighting system installed at TNB installation shall be approved according to standards given below:-

1. Suppression system  
   a. MS ISO 14520 - Gases Fire Extinguishing System  
   b. NFPA 2001 - Clean Agent Fire Extinguishing System  
   c. NFPA 2010 - Aerosol System

2. Alarm and detection system  
   a. ISO 7240 - Fire Detection and Alarm System  
   b. NFPA 72 - Standards for Protective Signaling  
   c. EN 54 - Standardization for All Component Parts of a Fire System
All maintenance work shall be conducted by the consumer or owner of building based on standard NFPA:2001 and ISO14520.

Exhaust fan with thermostat control is required to be installed at all attached substation (SSU 11kV and PE 11/.4kV) as well.