



TERMS OF REFERENCE
CABLING WORKS FOR UPS AT DATA CENTER
ASEC NEW BUILDING

I. BACKGROUND

The ASEAN Secretariat was established in February 1976 by the Foreign Ministers of ASEAN. It was first housed at the Department of Foreign Affairs of Indonesia in Jakarta and moved to the current location at 70A Jalan Sisingamangaraja, Jakarta since 1981. Currently, the ASEAN Secretariat (ASEC) is housed at two buildings:

1. The Heritage Building since 1981. The building has 9 stories with approximately 11,000 sqm in total areas.
2. The New Building which was established in 2019. The building consists of two towers, and each has 16 stories with approximately 44.000 sqm in total area. Located adjacent to the ASEC Heritage Building.

To support the daily activities of the ASEAN Secretariat mission, ASEC has designated the 6th Floor of the New Building as the Data Center, housing essential hardware equipment, servers, data storage drives, and network infrastructure. However, since its establishment in 2019, the current data center requires improvements in its cabling system and power backup infrastructure. Urgent improvements include the replacement of the existing cable system with Fire Resistant Cable (FRC) and upgrades of By Pass Panel, UPS Panel and other electrical instruments to ensure compliance with safety requirements.

Considering these issues, ASEC seeks a professional contractor with a proven track record in electrical works within data centers. The selected contractor will be tasked to improve the cable and power backup systems at the current ASEC data center, contributing to the overall reliability and safety of the data center facility.

II. OBJECTIVES

The objective of this work is to improve the cabling systems alongside with the electrical power system and its accessories at the ASEC Data Center as well as to comply with the standard of cable safety requirements for the Data Center's UPS. The appointed contractor shall provide comprehensive design of cable wiring, panel configuration that comply with the safety requirements and inline with the capacity of UPS as well as all electrical instrument at ASEC data center.

III. EXPECTED DELIVERABLES

Improving the cable and power backup systems at the current ASEC Data Center, contributing to the overall reliability and safety of the data center facility. Improving cable and power backup systems for increased reliability and safety at the ASEC Data Center.

IV. SCOPE OF WORKS

The Scope of Work for this project consists of the following but not limited to:

- 1) Mobilization and preparation for works (Material On-Site, Tools and Safety Equipment needed to complete the project)
- 2) Installation of FRC Cables (4x50mm) from B1 (LVMDP) to the new UPS Panel in the Server Room (approximately 120 meters cable length required).
- 3) Installation of FRC Cables (4x50mm) from B1 (Generator Control Panel) to the New UPS Panel in the Server Room (approximately 130 meters cable length required).
- 4) Provide and Install New Panel for UPS 80 Kva bypass process
- 5) Installation of MCCB 3 phase 160A in the Generator Control Panel, including cable installation in panels at B1 and at the ASEC Server Room.
- 6) Installation of FRC Cables 3x2.5mm from the Server Rack to the UPS Distribution Panel (12 cable lines with an estimated length requirement of approximately 300 meters).
- 7) Temporary installation from the temporary panel to the UPS bypass panel (for backup power preparation for the server from the Generator Set during the process of replacing UPS cables to the new UPS Bypass Panel).
- 8) After the servers are backed up by the Generator Set, the following cable replacement works can be carried out:

- a) Replacement of existing power cables with FRC cables 4Cx50mm (cable length approximately 20 meters), including full installation from the UPS Bypass Panel to the 80 KVa UPS.
 - b) Replacement of existing power cables with FRC cables 4Cx50mm (cable length approximately 10 meters), including full installation from the UPS panel to the Distribution Panel.
- 9) Replacement of existing 3 Pole MCCB (320A) with a 3 Pole 400A MCCB in the LVMDP panel.
 - 10) Upgrading the MCCB 3 phase 100A to 160A in the LVMDP room.
 - 11) After point 9 is completed, proceed with connecting the PLN power to the LVMDP Panel (prior to powering up from PLN, the contractor must conduct Megger Test to ensure the integrity of the newly installed cables).
 - 12) Checking UPS voltage in the Server Room from incoming & outgoing UPS and ensuring stable and safe voltage.
 - 13) Channeling voltage from UPS to the UPS Distribution Panel.
 - 14) Transferring FRC cables 3x2.5mm from the Temporary Panel to the UPS Distribution Panel and removing the temporary panel
 - 15) Any other work necessary to complete the whole project.

V. GENERAL REQUIREMENT

1. The Contractor is recommended to attend the preliminary site visit to check existing condition to ensure that the proposal submitted will cover all the possible condition. ASEC will not be responsible for covering additional costs due to differing site conditions.
2. The Contractor must complete the work in accordance with the proper method of electrical code and must follow specifications specified in this TOR or follow manufacturer recommendation, whichever more stringent.
3. The Contractor is required to do all the work items by supplying the manpower and building materials, within the prescribed time schedule in professional manner in accordance with the standard engineering practice and Indonesian Standard (SNI).

4. The Contractor is responsible to maintain the cleanliness and tidiness of working site and path to the working site. Any accident or damage to ASEC property shall be repaired to satisfactory condition by the contractor.
5. The contractor shall use proper safety equipment as required by the health and safety standard code.

VI. CONTRACTOR QUALIFICATIONS AND SUBMITTED DOCUMENTS

1. The contractor must have at least 5 (five) years of experience in electrical works, with a minimum of 3 previous projects related to data center electrical system. Evidence of experience in electrical works and/or specifically in data center electrical works must be provided by the contractor in their submitted documents.
2. The Contractor must provide the following documents in their submitted documents:
 - a) Proof of experience: at least 5 (five) years of experience in electrical works, with a minimum of 3 previous projects related to data center electrical system.
 - b) Work method that complies with Engineering Standards and Safety Regulations
 - c) Provide single line diagram for cabling works for UPS 80 KVa with detailed manpower information and material specifications.
 - d) Provide detailed information on the material specifications required to complete the project:
 - Provide brochure / cutsheet for Fire Resistance Cable (FRC), Bypass Panel Equipment and other essential materials. Material must be provided by recognized top-tier manufacturers.
 - e) Provide a schedule of completion for the project. Schedule must comply with work schedule in ASEC premises (refer to chapter VIII)
 - f) Provide at least 3 (three) references with good recommendations from their previous clients in their submitted documents.
 - g) Provide proof of valid company certification related to electrical works (SBUJPTL or other similar certification) and valid personnel certification of expertise in electrical works from recognized institutions.
 - h) Provide evidence of company legal documents such as valid business license, tax identification number and other supporting documents

VII. TERMS OF PAYMENT

The terms of payment for this project consist of a 25% Down Payment (DP) and the remaining 75% payment upon completion of all works.

VIII. DURATION AND WORK SCHEDULE

The work shall be finished in 3 (three) months. The work schedule in accordance with ASEC procedures are as follows:

- a) Weekdays after office hour: 06.00pm until 10.00pm
- b) Saturday, Sunday, and national holiday: 07.00am until 10.00pm
