SCOPE OF WORKS

SUPPLY & INSTALLATION OF PILOT ACTIVATED LIGHTING INCLUDING LED LIGHTING

Scope of Works for the Supply and Installation of Pilot Activated Lighting System with LED Lighting

Project Title: Supply and Installation of a Pilot Activated Lighting System with LED Lighting and Windsock Lighting

1. Objective

The objective of this project is to supply and install a Pilot Activated Lighting System (PALS) with new LED lighting at a minimum distance of 60 meters apart, along with the provision of lighting for one windsock as part of an airfield lighting system upgrade. The system should be capable of being activated by a pilot and provide clear, bright, and reliable lighting for safety during nighttime or low-visibility conditions. The Council will undertake all training for the system's operation and maintenance.

2. Scope of Works

The Contractor is responsible for the supply, installation, and commissioning of the following systems:

2.1 Pilot Activated Lighting System (PALS)

- **Design & Configuration**: Supply and install a fully functional Pilot Activated Lighting System (PALS) with appropriate communication and activation technology to trigger the lighting system. This includes:
    - Control equipment (e.g., radio-frequency receivers, switch gear, communication equipment). Housed within a dedicated cabinet.
    - Integration with the existing airfield infrastructure.
    - Programming to ensure the system activates based on pilot radio communication.
    - System verification and testing to ensure functionality and safety.

2.2 LED Lighting Installation

- **Lighting Fixtures**: Supply and install new energy-efficient LED lighting units, each spaced a minimum of 60 meters apart.
    - LED lights must comply with applicable aviation lighting standards.
    - The LED lights should be designed for outdoor and harsh environmental conditions.

- Provide clear and bright illumination for the runway/taxiway, with appropriate intensity levels.
- The colour of the lights should meet regulatory standards (e.g., white, green, amber, or red as required).

2.3 Windsock Lighting

- **Windsock Illumination**: Supply and install lighting for one windsock, to ensure it is visible during low-visibility conditions.
  - The lighting must be mounted securely and provide adequate illumination.
  - The system should include LED lights compatible with the windsock's location and design.

2.4 Backup Power System

- **Battery Backup Supply**: Supply and install a backup battery system to ensure continuity of lighting operations during power failures. The backup battery system should meet the following criteria:
  - **Standby Power Duration**: Capable of providing standby power for a minimum of 12 hours.
  - **Full Load Duration**: Capable of supporting the full load of the lighting system for a minimum of 2 hours.
  - The backup power system must include:
    - Sufficient capacity to handle the full load of all lights and associated systems.
    - Proper charging system for the batteries and a maintenance-free operation.
    - Automatic switch-over to backup power in the event of a power failure.
    - Battery monitoring and warning systems to ensure functionality.

2.5 Electrical and Wiring Works

- **Power Supply**: Ensure the electrical supply meets the required specifications to operate the lighting system reliably.
  - All wiring should be laid underground, within suitable conduits to prevent damage and ensure durability.

- Protection of all electrical components from environmental elements (weatherproofing, surge protection, etc.).
- Necessary transformers and converters to support the LED lighting system and PALS.
- Integration of the backup power system with the existing electrical network.
- All associated cabling will have an additional 10 meters of length and will be coiled and securely stored behind the PAL cabinet to accommodate any future developments or modifications to the Airport Terminal Shed. This extra length ensures flexibility in system layout or infrastructure changes.

2.6 Testing & Commissioning

- **System Testing**: Upon installation, the contractor will perform necessary testing to ensure all components function correctly.
  - System activation tests, including communication and light intensity checks.
  - Testing of the pilot activation signal to ensure reliable operation.
  - Windsock light intensity and coverage checks.
  - Battery backup system testing, ensuring it meets the required standby and load durations.
- **Commissioning Report**: Provide a detailed commissioning report outlining the system's operational status, along with any adjustments or calibration carried out.

2.7 Site Restoration

- **Site Clean-up**: The contractor is responsible for restoring the site to its original condition after installation, including the removal of any construction debris and leftover materials.

3. Exclusions

The following are not included in the scope of works and are the responsibility of the Council:

- **Trenching**. All trenching works including spoil removal will be undertaken by Council with the free supply of bedding materials.
- **Maintenance**: Ongoing maintenance and servicing of the lighting system post-the 12-month warranty period will be undertaken by the Council as per their internal processes.

4. Project Deliverables

- Fully installed and functional Pilot Activated Lighting System (PALS) with LED lights at minimum 60-meter spacing.
- Windsock lighting with adequate visibility and durability.
- A backup battery system with specified standby power, full load duration, and lighting runtime.
- Testing and commissioning report.
- Documentation for the system (manuals, technical specifications).
- Warranty for the supplied equipment and installation (typically 12-24 months).

5. Timeline

The contractor must complete the installation, testing, and commissioning of the lighting system, including the backup power system, within 10 weeks from the execution of the contract.

6. Acceptance Criteria

- The system must meet all applicable safety and operational standards for aviation lighting.
- The lighting system must be capable of being activated by a pilot and provide clear, adequate illumination.
- The windsock lighting must ensure the windsock is visible from a distance and operate reliably during low-visibility conditions.
- The backup battery system must meet the required standby power and runtime specifications.

7. Health, Safety, and Environmental Requirements

- All work must comply with relevant health, safety, and environmental regulations.
- The contractor must implement safety measures to protect workers, site visitors, and the environment during installation.

8. Project Management

- The contractor will provide a project manager to oversee the installation and liaise with the Council throughout the project.
- Weekly progress meetings and updates will be provided to the Council to ensure the project remains on schedule.

Location of New PAL System

Existing System to upgraded