

Operation & Maintenance Manual

TCC requires a comprehensive, site specific, Operation and Maintenance (O&M) manual and operator training to ensure the efficient and effective operation of the system. The contractor is required to provide the following O&M manual and training services:

O&M Manual Minimum Content:

1. System Overview
 - a. A general overview of the system, including descriptions of all major components and their functions.
 - b. A schematic of the system layout.
2. Operational Procedures
 - a. Step-by-step instructions for the safe and efficient operation of the system.
 - b. Procedures for startup, shutdown, and emergencies.
3. Component-Specific Operational Guides
 - a. Overview and parts description for components (e.g., Solar PV Inverter).
 - b. Normal operating procedures, troubleshooting steps, and established set points (as applicable).
 - c. Maintenance tasks and frequency.
4. Preventive Maintenance Plan
 - a. Operator logs and maintenance checklists.
 - b. Detailed maintenance procedures and a list of critical spare parts.
 - c. Complete equipment list and as-built drawings.
5. Manufacturer's Literature
 - a. Comprehensive technical specifications for all system components, including manufacturer information, model numbers, and warranty details.
6. Safety Information
 - a. Detailed safety guidelines and procedures to ensure personnel safety during operation and maintenance activities.
7. Contact Information
 - a. Technical support and warranty service contact details.

Training Requirements:

The contractor must provide comprehensive training to TCC and designated personnel to ensure the safe operation and maintenance of the system.

Training Content:

1. Operational Training
 - a. Hands-on training for standard and emergency operation procedures.
2. Maintenance Training
 - a. Detailed guidance on routine and preventive maintenance tasks.
 - b. Troubleshooting and repair techniques.
3. Safety Training
 - a. Comprehensive safety training, covering specific equipment, procedures, and best practices to ensure a safe working environment.

Training Material:

The contractor must provide the following:

1. Training Resources
 - a. All training materials (manuals, slides, videos, etc.) used during the sessions must be submitted for approval to TCC before the training sessions.
2. Training Plan
 - a. A detailed training plan must be submitted to TCC for approval before the initial training session. Training forms, signed by both operator and trainer, must be completed at the final session. The plan must ensure the operator is fully competent with the system's O&M requirements by the end of the training.

Training Schedule:

The contractor must propose a training schedule that accommodates TCC and designated personnel availability. The schedule must include two independent training sessions:

- Initial Training: Upon successful commissioning.
- Final Training: Following the final inspection.

Certification of Training Completion:

Upon the successful completion of the training, the contractor must provide certification that designated personnel have completed the required training by submitting the signed training forms.

Documentation Delivery:

All O&M manuals and training materials must be delivered in both printed and electronic formats.