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1.0 Executive Summary

The outsourcing of the Facility Operations & Maintenance (O&M) function is a common and cost effective method used to ensure the optimum performance of mission critical technical facilities such as a data centers. The benefits of outsourcing include increased uptime, better capacity utilization, auditable program standards, longer asset life and increased energy efficiency. All of this translates into increased business continuity and a lower Total Cost of Operations (TCO).

The following are common reasons why companies consider outsourcing their critical facility O&M:

- Lack of internal resources with adequate expertise and current knowledge of industry best practices, trends and initiatives.
- Lack of an internal standards-based program to mitigate risk, ensure uptime and meet corporate and statutory energy efficiency requirements.
- A need to focus on corporate core competencies while still meeting stringent business continuity and operational cost requirements.
- A need to bring innovative, experience-based solutions to bear in an evolving competitive market.

Schneider Electric's Critical Facility Operations (CFO) offering is a specialized facility management program that has been created to meet the demanding requirements of the mission critical facility environment. This interdisciplinary program brings facility O&M practices into alignment with IT change management standards, while providing a framework for optimizing facility performance, reliability and efficiency. The methodology employed in the FO program consistently delivers both high system availability and a reduction in the total cost of operations.

Schneider Electric's FO program achieves its goals through the integration of people, process and technology. We provide skilled and experienced managers, engineers and technicians that have at their disposal a highly evolved set of processes and procedures, and provide them with specialized tools, systems and training. Our quality system ensures that each program implementation is tailored to our customer's needs, successfully applied in a wide variety of circumstances and continuously improved.

Program oversight and management is provided by a support team that is technically skilled and has a broad knowledge of industry solutions and best practices at their disposal. Their role is to provide ongoing hands-on support of the site teams and to partner with customer management to deliver high value services and advanced solutions.

There are two principle categories of engagement; the assumption of services at an existing operational facility (Transition Service), or the initial implementation of services at a newly constructed or renovated facility (Mobilization Service). Each has its own initial path, but the eventual sustained operational service model is identical.

2.0   Core Competencies

Schneider Electric Technicians, Engineers and Managers possess subject matter expertise in the following competencies for the core technical disciplines of Critical Facility Operations:

Discipline	Competency
Electrical Generation, Storage and Distribution	All electrical equipment from site utility entrance to individual computer room equipment circuits, and all electrical switchgear, distribution panels, protective power systems and circuits in between; including standby generators, UPS, static switches, PDUs, DC rectifiers and battery plants.
Heating, Ventilation and Air Conditioning	All equipment that provides cooling to the essential heat loads within the technical facility including air-handling and air conditioning units, heat exchangers, chillers, cooling towers, pumps and piping.
Building Control and Management	Control equipment such as PLC, SCADA, Building/Facility Management Systems (BMS/FMS) or other systems that are in any way connected to the critical facility equipment for control and/or monitoring purposes.
Fire and Life Safety	Protective equipment including fire and smoke detection and suppression systems, leak detection, and security systems.
IT Technical Space	The physical layout and characteristics of the IT technical space, including racks, raised floor systems, cabling systems, air management and physical security.
Quality Management	Quality Assurance, Quality Control and Quality Improvement procedures.
Environmental Health and Safety	Understanding of and ability to maintain a safe and healthy workplace. Detailed knowledge of applicable safety codes, regulations and policies. Understanding of the concepts and practices relating to hazard analysis and mitigation.

3.0   Scope of Responsibility

Critical Facility Operations encompasses a number of activities and initiatives that are designed to maximize equipment reliability and system uptime, and to minimize operational costs:

Activity	Description
Emergency Preparedness and Response	Scenario planning, emergency procedures and drills, business continuity and crisis management planning.
Preventative, Predictive and Corrective Maintenance	Self-performance and/or vendor management of all critical equipment maintenance events.
Change Management	Risk analysis, procedure development and change control processes for all operations and maintenance activities on or around the critical facility equipment.
Document Control and Management	Coordination of document generation and updates, management of document version control, organization and storage.
Technical Training	Four-level program tailored to each customer and facility for knowledge/skills development, evaluation and certification
Operational Safety	Hazard analysis and mitigation, training, policy coordination, and facility safety management.
Facility Monitoring	Continuous observation of facility status with scheduled walk-throughs, BMS/EPMS console monitoring and system alerts.
Management Reporting	Daily/weekly/monthly/quarterly reports on facility events, maintenance activities, system capacity, KPI performance and

	financial metrics.
Systems Optimization	Continuous efforts to measure system performance, adjust parameters for optimal performance, and identify innovative solutions for operational and cost improvements.
Operational Support Systems	Specialized IT systems for Critical Facility Management, such as Computerized Maintenance Management System (CMMS), Electronic Document Management System (EDMS), and Learning Management System (LMS).
Code and Regulatory Compliance	Current knowledge and understanding of the regulations, certifications, and documentation associated with regulatory requirements pertaining to all facility activities and systems.

4.0   Activities Performed

The following list outlines a typical process for mobilizing a Critical Facility Operations contract at a new data center facility:

a. Develop a complete understanding and working knowledge of all critical infrastructure system operations and document in the facility operations manual.

b. Schedule, coordinate and oversee all contractors during preventative and corrective maintenance events.

c. Create all required operating procedures, such as Standard Operating Procedures (SOPs), Emergency Operating Procedures (EOPs) and Methods of Procedure (MOPs). Perform periodic technical and quality reviews of all procedures to ensure that the most "up-to-date" techniques and safety guidelines are utilized.

d. Self-perform an appropriate level of scheduled and corrective maintenance based on available hours and technical qualifications.

e. Prepare materials for and participate in change control meetings.

f. Ensure all Operations and Maintenance (O&M) activities are performed in accordance with approved operating procedures and in accordance with the Critical Facility Work Rules.

g. Manage all critical facility systems (i.e. power, cooling, fire, control/monitoring) to maximize operational safety, performance, efficiency and reliability.

h. Collect, organize and maintain the accuracy of site documentation such as facility drawings, commissioning reports, equipment manuals, service reports, etc.

i. Create deficiency/reliability reports to assist in identifying areas of concern that could develop into future problems.

j. Conduct regular (typically weekly) meetings to review upcoming events, the status of open work orders, work accomplished, upcoming activities, system capacities and other facility topics. Provide weekly, monthly and quarterly reports.

k. Provide emergency response for critical facility equipment incidents. Prepare Incident Reports and remediation plans in a timely manner. Provide notification according to approved Escalation Procedures.

l. Monitor equipment status via customer provided monitoring and management systems.

m. Conduct a daily facility walk-through, documenting facility conditions and supplemental equipment readings.

n. Perform capacity trending and analysis, including site energy efficiency and optimization.

o. Monitor and report on conformance to statutory and corporate regulations.

p. Maintain operational readiness through staff training and scenario drills on site emergency procedures.

5.0   Deliverables

1. **On-Site Staff**

   Schneider works with its customers to develop a staffing model which is specific to their facility systems, business functions and operational mandates. The important factors in determining staffing levels are customer coverage specifications (e.g. weekday only, 24x7), emergency response requirements, maintenance activity workload, project supervision needs, and the operations budget. Schneider Electric analyzes the maintenance scope of each facility and determines how many man-hours of maintenance are required, factoring in administrative time for change management and training tasks. The objective is to right-size the staff for normal operations, and to augment it with subcontractor personnel for peak maintenance and project work. Schneider will typically staff a facility as follows:

   a. <u>Critical Facility Manager (CFM)</u>. Schneider will provide one (1) CFM on-site at the Facility working 40 hours per week on a shift to be determined by the customer and Schneider. The CFM is the main point of contact for the customer on-site personnel and manages the on-site Schneider staff.

   b. <u>Facility Technical Staff</u>. Schneider will provide an agreed upon number of Critical Facility Technicians (CFT) at the Facility working 40 hours per week on a shift schedule to be determined by the customer and Schneider. The CFTs consist of subject matter experts and experienced industry technicians that are trained to operate and maintain the facility systems. The on-site technical staff continuously develops, refines, implements, manages and maintains written procedures related to operating, maintaining and recovering the facility systems.

   c. <u>Other Facility Staff</u>. As needed, Schneider will provide staff on a permanent or temporary basis to manage facility projects, provide contractor escorts, provide specialized administrative support, or for other functions as requested.

2. **Included Support Services**
   a. Review of all operational procedures by the Schneider Quality Assurance team
   b. Annual site audit by Quality Control team
   c. Annual safety audit
   d. On-site and remote training and training administration
   e. Operational support with at least one per quarter by Regional Operations Management
   f. Financial management for budget creation, purchasing and OPEX tracking

3. **Other Expenses Covered in Base Contract**
   a. Program mobilization activities
   b. Staff Uniforms
      - Work shirts with Schneider logo. Customer logo available for a small surcharge.
      - Jackets with Schneider logo. Customer logo available for a small surcharge.
      - Safety shoes
   c. Laptop for Critical Facility Manager
   d. Cell phone for Critical Facility Manager and the site duty phone
   e. Safety training for all Schneider site personnel
   f. PPE for individual use (i.e. safety glasses, gloves, earplugs, coveralls)
   g. Technical and process training for all Schneider site personnel.
   h. Travel expenses for all Operations Management, Quality Systems, Technical Training, and Safety personnel for routine site visits.

i. Continued education and proficiency training for site personnel. Includes travel expenses for off-site training as required.
j. Installation and maintenance of web-based Computerized Maintenance Management System (CMMS), with two licenses per site.
k. Installation and maintenance of web-based Electronic Document Management System (EDMS).

6.0 Exclusions

The following items are outside the scope of the Critical Facility Operations standard offer but are negotiable upon request to be provided in a customized Statement of Work (SOW).

a. Janitorial
b. Landscaping
c. Doors & Locks
d. Painting & drywall repair
e. Ceiling tile repair
f. Utility Plumbing (restrooms, irrigation)
g. Furniture/cubicle assemble and repair
h. Moving Services
i. Glazing (washing, caulking, replacement)
j. Roofing repair
k. Security
l. Recycling
m. Signage
n. Carpentry *(millwork repair)*
o. Carpeting
p. Elevator Maintenance
q. Lighting Maintenance
r. Garbage disposal
s. Parking lot maintenance (sealing, striping, curb and asphalt repair, catch basin cleaning)
t. Snow removal and deicing
u. Shipping and Receiving

7.0 Mobilization

Mobilization (transition) activities include staff hiring, site surveys by support personnel, training program development, training delivery, procedure development, and mobilization project management. During the mobilization (transition), a high level of support is provided for both Schneider and customer personnel. The support staff works with customer personnel and their contractors to understand and document facility functionality, and to develop Key Performance Metrics for service delivery. The On-Site Staff will receive training on Schneider's systems, work process, critical facility work rules and safety procedures, as well as customer policies, processes and procedures.

During the mobilization (transition) the CMMS is loaded with the asset data, PM schedules established and programmed into the system. A dedicated site is created in the EDMS for the facility documentation, lists, schedules, calendars, etc.

For newly constructed facilities, Schneider believes that it is crucial for operations personnel to be brought on board to witness the construction and commissioning of the data center. In particular, commissioning allows the data center operations personnel to witness the data center systems operating in conditions that they will not be able to simulate once the date center is in live operation.

At existing operational facilities, Schneider's Transition Team works with the on-site personnel to create the EOPs, MOPs and SOPs that will be required to properly operate and maintain the facility infrastructure. The process includes the review and modification of existing procedures as well as the creation of new procedures. All MOPs and SOPs to be used in the facility will undergo Schneider's Quality Assurance reviews. Schneider then conducts a planning meeting with the Customer team to present, review and modify the Schneider-generated maintenance program and documents.

Schneider understands that the number of on-site staff needs to adjust to the needs of the customer's business, particularly as the site ramps up from the start of operations with a minimal occupancy to the sustained operating capacity. Schneider will work with the customer to develop a flexible staffing plan that aligns to and changes with the actual occupancy rates or other business drivers.

8.0   Terms and Conditions

Schneider Electric standard terms and conditions apply.