

Module Title : Course CDFOM : Certified Data Centre Facilities Operations Manager
Duration : 3 days

Course Description

Managing the facilities of today's hi-end and hi-availability data centres is an extremely demanding and complex task which is often underestimated. There is often very little appreciation and understanding of the complexities of managing today's mission critical data centres, especially since many of the data centres are operating at, or near, their design limits and downtime is never an option. The way a data centre is managed at the facilities layer makes all the difference. Even a data centre designed to Tier-4 as per the ANSI/TIA-942 standard could still experience many unscheduled down time events due to poor planning, operations, maintenance and management processes.

The CDFOM® course is a 3 day course which will enable participants to gain in-depth knowledge in managing data centre operations which include the following key subject matters; capacity planning, latest green initiatives, how to properly commission and de-commission equipment, compliance to safety standards, statutory compliance and international standards, managing people, vendor management, handling incident/crisis management as well how to keep operations really simple, manageable, effective and efficient and much more.

Audience

The primary audience for this course is an IT, facilities or Data Centre Operations professional working in and around the data centre and having oversight accountability or responsibility for achieving and improving high availability and manageability of the data centre operations.

Prerequisites

It is advisable for the participants to have some experience in data centre operations although it is not required. Highly recommended is to attend the CDCP® prior to attending CDFOM®.

At Course Completion

After completing this course, you will be able to:

- To setup a data centre facilities operations team
- To manage and motivate your facilities management team
- To setup SLA's and manage them including liabilities, KPI's etc.
- To manage vendors and measure their performance
- To manage physical security taking into account requirements of standards such as ANSI/TIA-942 etc.
- To manage safety & statutory requirements
- To effectively and efficiently manage data centre operations
- To manage documents
- To set-up equipment life cycle including testing
- To define data centre design limits and set-up and manage a proper capacity management plan
- To commission and de-commission equipment
- To go about IT cable management
- To manage the day-to-day data centre operations

Course Outline

The Data Centre Operations Team

- Criteria and attributes to leadership
- How to set-up up an efficient and effective facility management operations team structure
- Defining roles, responsibilities and skill metrics
- Key Performance Objectives (KPO) and appraisals
- Job rotation, reward, promotion and succession planning as strategies to grow and retain talent
- Training and assessments
- Shift management, scheduling and roster planning

Vendor Management

- Vendor selection and qualification Managing risk and dealing with non-compliance, public liability, legal, escalation and complaint procedures
- Key considerations of a vendor agreement for services
- Performance measurement and reporting

Maintenance Contracts

- Maintenance options
- Main considerations for maintenance agreements
- The practicality in deciding between comprehensive/non-comprehensive maintenance regimes
- Warranty pit falls

- Service reports alignments with maintenance agreements

Managing Safety & Statutory Requirements

- Statutory and industry compliance/regulations
- Emergency response and safety policies and procedures
- PTW (Permit To Work) requirements and procedures
- General rules and regulations for the Data Centre
- Ergonomic workspace
- SOP's for power outage, fire, bomb threat etc.

Service Level Agreement (SLA) Management

- Defining the Data Centre design limitations
- Defining measurement criteria and reporting
- Alignment of business SLA with vendor SLA
- Defining change management procedure for installation and de-installation of new equipment
- Reporting and escalation management

Managing Physical Security

Guidelines from standards; ANSI/TIA-942, ISO/IEC- 27001/02, SS507, ISO/IEC-24762

- SOP (Standard Operating Procedures) in managing day to day security access control, such as;
 - Entry/exit control and access management
 - Permit-To-Work (PTW) and contractor work in progress
 - Delivery of goods
 - Customer access
 - Etc.
- Effective patrols routing and how to ensure 24x7 vigilance
- Handling external threats; crisis/emergency situations
- Security incident management

Managing Daily Data Centre Operations / Floor Management

- ITSM/ITIL (IT service management) in the Data Centre
- Shift hand-over requirements and procedures
- Asset and inventory management for hardware, software, spares, consumables, etc.
- Floor management procedures and duties such as rack space allocations, management of installers

Walk Around Duties

- SOP of managing A&A /_t-out work-in-progress
- Pre-installation analysis for power, cooling, weight, EMF, fire protection and other influencing factors
- From truck to rack
- Handling of incoming equipment
- Inspection, unpacking and security procedures
- Staging procedure and requirements
- Equipment movement into the computer room
- Finishing up the installation
- De-installation/commissioning procedures

Capacity Management

- Defining the design limits of the Data Centre
- Setting up thresholds, monitoring and reporting
- Business review and future capacity planning
- Technical solutions aiding capacity planning such as Computational Fluid Dynamics (CFD), capacity and configuration management solutions

Cable Management

- Overview of ANSI/TIA-942, ANSI/TIA-606 requirements
- Cabling specification & labelling based on ANSI/TIA-606
- In-rack power and network cabling
- Labelling requirements
- Cabling/cable tray layout documentation

Data Centre Cleaning and Pest Control

- Types of pollution found in Data Centres such as H₂S, air-particulates etc.
- Common causes of pollution in the Data Centre
- Standards, policies and techniques to reduce and cleanup dust, pests and other pollution and disturbances

Best Practices for M&E Maintenance Regime

- Tiered maintenance considerations
- Preventive, Predictive, Condition and Reliability Centred (RCM) based maintenance
- Requirements of a comprehensive maintenance program including descriptions on what should be tested for which type of equipment such as generator, UPS etc.
- The importance and actions for predictive maintenance; thermo-scan, pumps vibration and alignment test, BMS failure and system back-up testing, generator load testing etc.
- Annual testing for main equipment like transformer, genset, HT gear, chiller, cooling tower etc;

- Managing on-site /off-sites spares and how to determine which spares to keep on-site
- Daily maintenance routines such as data logging, daily checks, daily measurements, reporting and analysis etc.

Data Centre Monitoring and Automation

- Data Centre monitoring requirements
- Threshold setting and reporting requirements
- Notification and escalation requirements
- Automated 24hrs helpdesk ticketing systems
- Incident and customer complaint management & change management
- Performance measurement and monitoring requirements such as fuel and water consumption, PUE/DCiE etc.

Managing Documentations/Archives

- Document management standards
- Document management process requirements
- Minimum and desired design documentation set
- Operational management documents

Equipment Life-Cycle Management

- Policies and procedures governing life cycle management
- Asset management including software and firmware
- Service situations
- Review, triggers and reporting
- Test life cycle

Mock Exam

EXAM: Certified Data Centre Facilities Operations Manager

Examination

Certification exam papers can be taken in paper based format at the end of the last day of the course, or online via an authorised training partner, depending on the country in which the course is delivered. The exam is a one and a half hour, 60 questions, multiple choice and closed book exam. The attendee needs to have 45 out of 60 questions correct in order to pass the exam. Results of the exam will be communicated to the attendee within four weeks following the examination.

Certification

Attendees who successfully pass the exam will receive the official 'Certified Data Centre Facilities Operations Manager' certificate. Certification is valid for a three years period after which the student needs to re-certify. More information on re-certification and verification of the current status of certification can be found on the EPI corporate website, <http://www.epi-ap.com>.