



FM / O&M

Mission

Objectives

Cycle

Mission

- ✓ **Handle FM / O&M needs and Implement Total.**
- ✓ **Provide Backbone for Long Term Commitment**
 - **Partnership philosophy**
 - **Open Book policy**
 - **Quality Assurance strategy**
 - **Personalized Concept & Services Balanced with Owners Needs.**
 - **Optimized Standards**
 - **Optimal FM Cost to Facility Cost Ratio**
 - **Focus on Quality & Customer Satisfaction**
 - **Well Established Procedures**
 - **Professional & Qualified Employees.**

Objectives

- Sustain Facility & Assets in a working condition suitable for their intended use.
- Ensure that risks are effectively managed.
- Monitor the condition of assets.
- Assess the performance of asset use.
- Ensure there is adequate information to allow for the planning and monitoring of maintenance programs.
- Facility & Assets Sustainability:

Condition	/	Performance
✓ Excellent	/	Highly Sensitive & Critical
✓ Good	/	Good Presentation, High Quality Work Environment
✓ Fair	/	Utilitarian Use
✓ Poor	/	No Critical Role
✓ Very Poor	/	No Functional Use, Pending Renewal or Disposal

Cycle

- ❖ Entrust Professional Experts
- ❖ Establish Transparent Partnership Relation
- ❖ Design FM Concept & Determine FM Team Requirements
- ❖ Recruit, Train & Monitor Dedicated Team (As Applicable)
- ❖ Select and Monitor Specialized Sub-Contractors
- ❖ Implement Activities via Quality System & Procedures
- ❖ Create Safe, Clean and Comfortable Environment
- ❖ Ensure the Most Reliable Operation
- ❖ Optimize Operation & Maintenance Costs
- ❖ Manage Facility with Perspective of its Life Cycle
- ❖ Maximize the Resale Value
- ❖ Ensure Satisfaction & Safety with Personalized Services
- ❖ Achieve the FM Spirit & Culture

Maintenance Consultancy Services

Maintenance Consultancy Services

1. Owner's Project Requirements (OPR)
2. Advisory Design Review
3. Advisory Specifications Review
4. Review / Validation of Major Equipment Selection
5. Supervision of Hand-Over Process
6. Ensuring Conformity of O & M Manuals
7. Ensuring Adherence of Construction Contractor to Post Completion Obligation
8. Maintenance Concept (Scope & Specifications)
9. Maintenance Costs Estimate
10. MEP Suppliers (Hard Services) PM Agreement
11. Maintenance Procedures
12. Service Provider Request For Proposals (RFP)
13. Recruiting Key Personnel

Maintenance Consultancy Services

14. Training Key Personnel
15. Selection of CAFM / CMMS
16. Ensuring IT Integration : Help Desk, (CMMS), (BMS)
17. Ensuring Inventory, Spare Parts, Consumables & Supplies Management
18. Ensuring Energy & Environment (IAQ & Waste) Management
19. Life Cycle Cost
20. Ensuring Conformity of Implementation
21. Maintenance Audit
22. Establishing Key Performance Indicators
23. Measuring Satisfaction & Adjusting the Level of Service
24. Benchmarking (Self-Evaluation & Ensuring Consistency)
25. Measuring, Assessing & Analyzing Performance
26. Ensuring all Activities are Planned & Implemented in a Quality and Health & Safety System

The background of the slide is a photograph of a marina. In the foreground, several white motorboats are docked. In the background, a tall, modern glass skyscraper stands out against a blue sky with light clouds. Other buildings and a city skyline are visible in the distance.

FM / O&M Specifications Implementation Service Level



○ Construction Specifications

1. Division 01
2. Divisions 02 to 09
3. Divisions 10 to 16
4. Drawings

○ FM / O&M Implementation

5. Concept
6. Costs
7. Implementation & Procedures 1
8. Implementation & Procedures 2
9. Request For Proposals

○ Service Level

10. Determine Service Level – What to Do
11. How to Do
12. Adjust Service Level

Construction Specifications

General Requirements:

Division 01

- Submittals
- Coordination of Trades and Execution
- Operation & Maintenance Manuals
- As-Built Documents and Construction Progress Documentation
- Commissioning, Testing, Adjusting & Balancing
- Handing Over Strategy & Taking Over, Deficiencies & Snags
- Free Spare Parts & Extra Materials
- Free Maintenance Contracts
- Warranties, Guaranties & Defects Liability Period (DLP)
- Demonstration, Training & Occupancy Adjustments
- Close-Out Procedures
- Practical Procedures for Ensuring Compliance & Adherence

Structural & Architectural: Divisions 02 to 09

- ❖ Selection Criteria of Architectural Materials.
- ❖ Extra Materials
- ❖ Warranties & Guaranties
- ❖ Demonstration & Training

Specialties, Mechanical & Electrical: Divisions 10 to 16

- ☐ Selection Criteria of Equipment, Systems and Materials
- ☐ Access of MEP services in shafts
- ☐ Access of A/C components in apartment ceilings
- ☐ Redundancy, Contingency, Criticality.
- ☐ BMS's Energy Management Capability

Drawings

- Installation Details
- Accessibility and Maintainability of equipment
- Access of MEP services in shafts
- Access of A/C components in apartment ceilings
- Coordination of Trades and Execution

FM / O&M Implementation

FM / O&M Concept

- ✓ Surveying Site
- ✓ Description of the Project
- ✓ Scope of Works
- ✓ Service Level
- ✓ FM Parameters
- ✓ In-House & Subcontracted FM Activities
- ✓ Manpower (Team Hours)
- ✓ Management & Administration Requirements
- ✓ Organizational Chart
- ✓ Complete List of All Tasks
- ✓ Distributing the Tasks as per the Organizational Chart
- ✓ Profiles and Qualifications of Personnel
- ✓ Strategies, Policies & Procedures for All Scopes

FM / O&M Costs

- Manpower
- Subcontractors
- Preventive Maintenance Contracts'
- Other Costs
- Insurances, Subscriptions and Taxes
- Spare Parts & Consumables
- Energy Consumption
- Annual Budget
- Cash Flow Matrix
- Life Cycle Cost (LCC)

Implementation & Procedures 1

- ✓ Employment & Employee Procedures
- ✓ Training Procedures
- ✓ Preventive Maintenance (In-House / Outsourcing)
- ✓ Emergency Procedures (Fire, Earthquake, Flood)
- ✓ Cost Control
- ✓ Purchasing & Procurement
- ✓ Work Flow & Communication
- ✓ Help Desk
- ✓ Performance Management
- ✓ Environment, Health & Safety

Implementation & Procedures 2

- ✓ Inventory, Spare Parts, Consumables & Supplies
- ✓ Energy & Environment (including Waste)
- ✓ Satisfaction & Service Level
- ✓ Benchmarking
- ✓ Performance
- ✓ Key Performance Indicators
- ✓ Risk

Request For Proposals (RFP)

- ✓ Tendering Instructions & Procedures
- ✓ Pre-Qualification, Qualification and Eligibility of Vendors
- ✓ Evaluation and Selection Criteria
- ✓ Description of Project & Available Facilities
- ✓ FM / O&M Concept and Procedures
- ✓ Scope of Works and Service Level
- ✓ Contractor's Responsibilities
- ✓ Contract Form, Price Structure, EH&S Requirements
- ✓ Other Forms and Special Conditions or Requirements
- ✓ Analyzing Results & Recommending Best Service Provider
- ✓ Finalizing the Contract
- ✓ Auditing the Contractor's Activities to Ensure Adherence

Service Level

Determine Service Level: What to Do

- ✓ Operate Equipment and Systems
- ✓ Perform Preventive Maintenance
- ✓ Perform Corrective Maintenance
- ✓ Manage Energy
- ✓ Manage Spare Parts and Consumables

How to Do

- ✓ Frequency
- ✓ Program
- ✓ Procedures
- ✓ Tools & Equipment
- ✓ Subcontractors / Suppliers
- ✓ CMMS
- ✓ Personnel Qualifications
- ✓ Performance Measurement
- ✓ Key Performance Indicators

Adjust the Service Level

- ✓ Use questionnaires, internal audits and spot checks in order to determine the satisfaction of customers and employees as well as the performance quality.
- ✓ Analyze and Evaluate the gathered data.
- ✓ Adjust parameters if the performance is above the agreed standard in order to achieve the best possible level of cost effectiveness.
- ✓ Improve service if the performance falls short of the standard.
- ✓ Consider adjusting the service level agreement If the quality of performance vary greatly.

FM / O&M

In-House

Vs

Outsourcing

- 
- 1. Facilities Management Services**
 - 2. Property Management Services**
 - 3. Full In-House**
 - 4. Full Management, Personalized Reception / Help Desk**
 - 5. Full Outsourcing**
 - 6. Advantages / Disadvantages / Requirements**
 - 7. Service Provider / Supplier Selection Criteria**

3 Modes for Operation:

1, Full In-House Hard Services (O&M)

In-House Maintenance Team conducts Maintenance of regular equipment and systems (FCUs, AHUs, pumps, plumbing, etc.): this requires minimum qualifications of personnel and large volume of works.

Maintenance of sophisticated MEP systems and equipment, architectural materials and finishes is outsourced to suppliers / specialized contractors managed by the department head.

Carpentry, painting and decoration works (ceilings, etc.) are executed by the In-House Team.

3 Modes for Operation:

2, Full Management and Personalized Help Desk Service

- **Hard Services:** All Maintenance activities of equipment and systems (regular / sophisticated MEP, architectural) is outsourced to suppliers and specialized contractors managed by the department head.
- **Help Desk** is executed by the In-House Team to ensure a “Signature” personalized Service.

3 Modes for Operation:

3, Full Outsourcing

All Services are fully Outsourced:

- Hard Services: All Maintenance activities including Help Desk.

1, Full In-House:

Advantages / Disadvantages / Requirements

- **Complete Management and Execution Setup.**
- **Qualified Personnel.**
- **Large Volume of works.**
- **All requirements may be superseded by the desire / decision to provide a personalized service.**
- **Full Control of the situation.**
- **Full savings.**
- **If anything goes wrong, responsibility /liability is on you.**

2, Full Management and Personalized Help Desk Service: Advantages / Disadvantages / Requirements

- Only Management Setup dealing with multiple interfaces.
- Volume of works should justify 1 Manager presence.
- The desire / decision to provide a personalized service is almost fully satisfied.
- Potential savings on individual Service Providers markup in case Main Service provider subcontracts some of the activities.
- If anything goes wrong, responsibility /liability is shared.

3, Full Outsourcing:

Advantages / Disadvantages / Requirements

- Vacate to your Core Business.
- Full Price.
- No responsibility /liability is on you.
- Only 1 interface.

Service Provider / Supplier

Selection Criteria

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Preferred Service Provider / Supplier

- Price
- Quality
- After Sales Service
- Response Time
- Know-How
- Compatibility
- Availability
- Solvability
- Reputation
- Support

CAFM / CMMS

Functional Requirements 1

- ✓ Help desk interface for receiving service requests and generating maintenance tasks.
- ✓ Maintenance Management including
 - ❖ Preventive and corrective tasks with the capability of recording all readings and observations against equipment during maintenance visits
 - ❖ Preventive maintenance inspection lists for all equipment
 - ❖ Work order generation
 - ❖ Maintenance Task scheduling.
- ✓ Maintenance history generation (reporting) per equipment / Building / Site, including
 - ❖ All preventive and corrective maintenance activities carried out, labour allocated, Tools allocated, and spare parts used
 - ❖ Annual maintenance costs.
 - ❖ Generate Maintenance Cost Report Per Area
 - ❖ Maintenance Budget Tracking
 - ❖ Generate equipment failure (Break Down) report
 - ❖ Generate equipment replacement report to inform decision makers.

Functional Requirements 2

- ✓ Two-way Integration Extension with Building Information Modelling (BIM) Software, Autodesk REVIT in particular.
- ✓ Project Management for monitoring all renovation, construction or relocation projects including tasks, schedules and budgets.
- ✓ Asset Inventory management including
 - ❖ Barcode generation and reading
 - ❖ Supplier details
 - ❖ Ability to add multiple assets based on a common attribute.
- ✓ Spare parts management including
 - ❖ Data on spare parts prices and supplier contact details
 - ❖ Spare parts stock management to monitor spare parts stock levels and generate purchase orders for items not in stock
 - ❖ Multi-store management.
- ✓ Mobile Platform preferably through IOS/Android Applications installed on compatible devices.
- ✓ Performance Measurement using metrics such as Key Performance Indicators (KPIs).
- ✓ Supplier Management including monitoring of Service Level Agreements (SLAs).