

Facilities Engineering Management (POM)



Simple Management Solutions, LLC.

Integrated Facilities Management
and Design

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Facilities Engineering Management (FEM) is a practice essential to all buildings and infrastructure. Industrial processing plants, manufacturing plants, hospitals, hotels, education facilities, prisons, museums, bridges, ships, offices, energy power plants, roads, streets and so on. The list is nearly endless. FE departments tend to have an extremely broad scope of responsibility, usually covering the infrastructure itself and all of the utility, safety, and mechanical systems inside and out, as well as the grounds and landscape surrounding it. In some cases, the practitioners and departments may be known by different names, but make no mistake, the desired outcome of their efforts is the smooth operation and maintenance of their assigned facility. Everything from a squeaky door hinge to a broken fire sprinkler head is within their jurisdiction.

What Does a Facilities Engineer do?

The myriad tasks associated with the overall scope and responsibility assigned to the FEM department in any of the several facility types listed above, are exacting and require a large array of specific skill sets to accomplish. Each facility is different in the details, but at the core, there are a lot of similarities. Accordingly, the tasks set for any one FEM department and specific technician will be highly dependent on the type, size, and sophistication of the facility.

The management staff of these departments will vary in number and specialization as will the rank and file associates. Below is an outline of the basic components of a Facility Engineering program dedicated to healthcare. I have chosen healthcare as the example because the level of sophistication required will likely meet or exceed the essential needs of the other facilities listed.

I have written manuals focused on every aspect of performing FEM responsibilities in a given facility. For the purpose of this document and to show proof of concept, I have provided some detail specific to the General Administration Manual below. Beyond that, I have listed other manuals that may be needed to provide a full grasp of the department.

General Administrative

1. **Organizational Charts:** Showing the reporting structure for the Facility, the Department, if applicable, the corporate structure of the contracting entity.
2. **Scope of Service:** Clearly define the areas of responsibility to be assumed by the department.
 - a. Determine the skill sets necessary to meet the scope. Discipline groupings from painters and carpenters to boiler operators, plumbers, pipe fitters, electricians, and welders, among others may be needed.
 - b. Set the staffing and supervision levels necessary to meet the scope by discipline grouping.
 - c. **Hours of Service:** Analyze the workload, itemize tasks, and set frequency for each. Clearly set the operating hours of service for each discipline group and technician.

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3. **On Call Procedure:** No matter how well plan and execute for completing the scope of work, occasionally there will be staffing shortages. Because of this a rotating “on call procedure” will be needed and communicated to the staff.
4. **Emergency Response:** From time to time emergency situations will occur. Planning for them ahead of time can save time, money, property, and lives. A response plan should be devised for everything from hurricanes to gas leaks. Once developed, the plans have to be communicated to all affected personnel as to their role and, to the extent possible, the procedures drilled.
5. **Telephone Log:** An up to date telephone log listing all department personnel, management staff, facility administration and offsite emergency services. This is not to be circulated widely but is to be used when attending to items 3 and 4 above. Access to this log must be on a need to know basis. It is vital that communication be as fluid as possible during times of stress.
6. **Contracted Services Management:** Sometimes it will not be practical to employ certain skillsets on a full-time basis, or you may embark on a short project, or a particular piece of equipment requires the supplier to maintain it to keep the warranty valid. For whatever reason, it will be necessary to contract out some maintenance tasks. Copy machines usually fall into this bracket. It is especially important to keep copies of all such contracts and any related documentation in a readily available file for easy administration.
7. **Vendor Control Form:** All vendors used in the operation must be vetted for service excellent and operational reliability. They also will likely need to be set-up in the accounts payable system for payment.
8. **Regulatory Agencies Management:** Every industry and by association, every facility operating in that industry must be compliant with all regulatory entities having jurisdiction. It is imperative that FEM Management be aware of all such agencies and be expert in compliance to all applicable regulations. The FEM director must insure that, in every case applicable to the operation of the facility, its systems, personnel, and practices are in full compliance and that all policies and procedures are designed to maintain compliance.
9. **Blueprint and Specification Index:** All facilities have blueprints, schematics, diagrams, manuals and other such documents that show the deep details of its structure and systems. Without these a quality FEM program would be impossible. A complete and fully indexed set should be held in hard copy and in electronic copy. As changes transpire, all affected documents need to be updated and replaced in both the hard and electronic archives.
10. **Manufacturers' Product Library:** It frequently falls to the FEM department to maintain all of the equipment used in the facility regardless of the department to which it is assigned. If the facility doesn't have a dedicated department to maintain and calibrate medical equipment and devices, usually called, biomedical instrumentation, or Healthcare Technology Services, the responsibility will likely fall to the FEM department and in

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many cases be handled through service contracts administered by the FEM Department. To be sure of the proper care and handling of all equipment and devices in the facility, including those of medical purpose, each piece is to be entered into a computerized maintenance management system (CMMS). All documentation related to the purchase, warranty, operation, and servicing of each piece is to be stored electronically and each document related to an equipment entry is to be linked to that entry. Associated maintenance tasks and frequencies will be developed from these documents and related regulatory guidelines. From all of this, the FEM department will be able to provide precise equipment histories for every item in the system.

11. ***Inventory Control:*** If 10 above is done correctly, a complete inventory of equipment and devices, as well as an inventory of the tools and spare parts necessary to support them can be developed and maintained. Appropriate procedures are to be developed to allow for the ebb and flow of the inventory in accordance with facility regulations and GAAP guidelines.
12. ***Key Request/Distribution:*** Some facilities assign access and egress mobility to the FEM department and some assign it to the Security department. If it falls to FEM, a catalogued index and inventory of all keys, by serial # and level, as well as the cylinders they fit must be maintained. This inventory should be cross referenced against an inventory of the doors they open. Key assignment will be logged to individual associates and done according to the policies of facility administration. Keys will be produced by the FEM department and stamped with all necessary identifiers and be labeled “do not duplicate”. The hierarchy will be as follows:
 - a. Grand Master
 - b. Submaster
 - c. Zone-master
 - d. Door specific
13. ***Use of Hospital / Facility Vehicle:*** In larger facilities, it will be necessary, on a regular basis to use vehicles provided by the facility. Assignment of vehicles and driver privileges will be determined by department need and be done in accordance with facility policies and procedures.
14. ***Use of Personal Tools:*** When it becomes necessary to terminate and associate, it is best if there is no debate on the subject of who owns the tools used in their work. Consequently, I recommend a strict policy forbidding associates from bringing personal tools to the workplace. Each day associates are to be assigned a tool kit, sufficient to their duties. At the end of their shift, they are to return the tools to their supervisor for reassignment. Tools are to be kept in a secure location when not assigned to a specific technician. All tools should be engraved with specific identifiers to allow for responsible check out and check in procedures.
15. ***JCAHO Compliance:*** The Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) has been, for decades, the gold standard by which healthcare operations are done. Very few hospitals survive without JCAHO accreditation. FEM

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departments are involved in many areas of this process, but they are, by far the biggest contributor to passing the standards specific to the “Environment of Care”. The standards associated with the environment of care are too numerous to adequately cover in this document, but any successful director of facilities engineering must be expert in knowledge of the standards and in consistently meeting those standards in every aspect of their operation. Any company contracting to manage an FEM department must be able to assure that their program and personnel have what it takes to be successful in meeting these standards.

16. **Monthly Summary Report (MSR):** A report outlining the operating components of the FEM department and its level of success in fulfilling the duties assigned, should be prepared each month. These reports are to be made available to facility administration and contract management above the unit level, as well as archived in the department. The monthly reports will be used collectively to create the agenda for quarterly business reviews and annual reports.
17. **Policy and Procedure Addition / Revisions / Reviews:** All policies and procedures will be designed to provide operational direction on performing the assigned duties of the FEM department and will meet all the elements of purpose and regulatory compliance. All policies and procedures will be reviewed annually. Any revisions will be prescribed by the reviewing committee and approved by same.

Safety Management (separate manual)

Life Safety Management (separate manual)

Equipment Management (separate manual)

Utilities Management (separate manual)

Maintenance Workload Management (separate manual)

Hazardous Materials Management (Right to Know) (separate manual)

Training and Development (separate manual)

Financial Management (separate manual)

Quality Management (separate manual)

Human Resources Management (separate manual)

Computer System Management (separate manual)

Energy Management (separate manual)

Control Documents / Contracts Management (separate manual)