

# Zen And The Art Of Facility Maintenance

## The Facility Operations Audit: An Essential Tool

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Facility managers are constantly challenged by the task of capturing information in a form that can be used to reduce operating expenses and improve customer satisfaction. Knowing precisely how the building is currently operating enables the facility manager to develop more accurate and workable ideas to improve functions and reduce costs. Consequently, a facility operations audit is an important tool that can help managers harness important operations and building data.

This audit is a simple, yet comprehensive, method to collect and organize information related to the day to day workings of a facility. The process of initiating an audit may seem daunting, but by following these procedures, facility managers can obtain the necessary information quickly in a form that is easy to evaluate.

### Defining The Core Business

The first step in completing a facilities audit is to determine the company's core business activity. For example, in a recent audit for a major beverage manufacturing facility, the owner was able to define the core business as the production, packaging, and distribution of beverage products. After further analysis, the core business activities were expanded to include scrap handling and aluminum can recycling as well as the operation of the main ammonia refrigeration systems at the site. All other functions were then accurately identified as support services.

Upon completing an audit, the facility managers will be able to identify and understand the cost of operations related to all support service activities associated with the core business. By extracting the costs of production related activity, facility executives can take steps to control or modify practices and procedures in support service activities without affecting the core business.

### The Existing Building

There are three major categories of support service activity considered integral to the facility management function: the condition of the existing building, direct maintenance and operating services, and indirect maintenance and operation services.


The first category is the physical plant itself. This part of the support service audit begins with an overall evaluation of the condition of the existing building, including mechanical and electrical systems and site infrastructure.

Understanding the ongoing capital needs required to maintain the building structure and systems will determine the capital amount to be allocated for preventive maintenance on an annual basis. This key component of the audit requires a comprehensive walk through to inspect and document the condition of each area of the facility.

Based on the findings of the physical plant assessment, a detailed cost analysis for each item should be developed. Various resources for estimating are readily available, including RS Means Construction Data or local engineering and contracting service companies. The total cost of all building deficiencies may then be prioritized into categories as follows:

- Immediate maintenance, health and safety initiatives;
- Short-term projects with investment payback or functional improvement (one to two years); and
- Long term projects to improve the value of the asset, production viability, or code compliance (three to five years).

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By completing the project priority list, a five year capital plan can be generated. The facility manager can then determine, based on the size and condition of the building, the necessary allocation of funds required for annual capital projects.

### Direct Maintenance And Operating Services

The second category of the support service audit is the costs associated with the direct maintenance and operations services at the facility. Direct support services are defined as those maintenance and operation activities required to support the core business at the facility.

This category should incorporate all maintenance and repair departments, including facility managers, building mechanics, electricians, and all general building services positions. This will be helpful in determining staffing needs.

This category also encompasses fixed building expenses. Annual building expenses include insurance, taxes, and utilities such as gas, electric, water, and sewer.

Lastly, direct maintenance includes service contracts. These items are typically contracted on an annual basis and are related to upkeep of the facility. Service contract categories are generally comprised of: snow removal, landscaping, environmental testing, food service, and security.

The tabulation of the facility maintenance and operating cost enables the facility manager to examine direct expenses associated with day to day operations and functions for the company.

### Indirect Maintenance and Operation Services

The final category of the support service audit is the cost associated with the indirect maintenance and operation services. This category describes the activities and business services that support the repair and upkeep of the facility. They include:

- IT support services to encompass computer hardware, software, repair services, technical support, implementation, and network and systems integration;

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- Accounting personnel and support software required to monitor and manage work orders and monthly tabulation of the operating expenses;
- Facility and maintenance engineering and design services necessary to complete a renovation or repair;
- Construction management services for major renovations or expansion;
- Shipping/receiving to sort and deliver as well as staff warehouse personnel for delivery of materials for the plant; and

- Reprographics to manage printing and copying of all documents and reports (cost of personnel and equipment all included as part of this service).

#### Data Analysis and Evaluation

The final step of conducting a facility operations audit is analysis and evaluation of the information. From the three categories of raw data it will be necessary to divide all values into separate headings.

Although the type and description of each heading may vary from site to site, most national organizations such as BOMA International and IREM regularly publish bench-

mark data in approximately 19 individual headings. Further dividing cost data will enable facility executives to analyze specific areas of operation and compare with other sites that are similar in size and complexity.

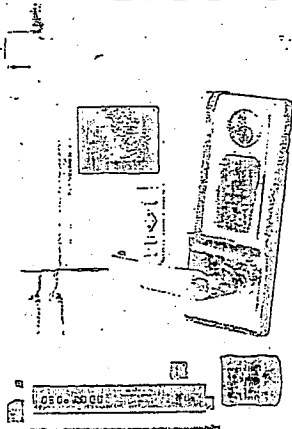
The total operating values for a typical building can range from \$5 per square foot to \$11 per square foot depending on the size, hours of operation, complexity of the organization, and core business of the facility. Through the audit process, reductions in operating costs of \$1 per square foot or more are not uncommon.

The audit gives the facility manager a means to track costs from

year to year, compare operating costs with national benchmark averages, and identify areas of improvement within support activities and services for the site. Ultimately, the audit is an important and useful tool to help the facility manager meet the challenges of today's fast paced and ever changing environment by adding real value to the organization. □

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