

APPLIED FACILITIES MANAGEMENT

FOR THE HOSPITALITY INDUSTRY



2nd EDITION

• JOHN E. EDWARDS •

APPLIED FACILITIES MANAGEMENT FOR THE HOSPITALITY INDUSTRY

Second Edition

By John E. Edwards

Texas Tech University

Bassim Hamadeh, CEO and Publisher
Kassie Graves, Director of Acquisitions and Sales
Jamie Giganti, Senior Managing Editor
Miguel Macias, Senior Graphic Designer
Carrie Montoya, Manager, Revisions and Author Care
Natalie Lakosil, Licensing Manager
Kaela Martin, Associate Editor
Berenice Quirino, Associate Production Editor

Copyright © 2018 by Cognella, Inc. All rights reserved. No part of this publication may be reprinted, reproduced, transmitted, or utilized in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying, microfilming, and recording, or in any information retrieval system without the written permission of Cognella, Inc. For inquiries regarding permissions, translations, foreign rights, audio rights, and any other forms of reproduction, please contact the Cognella Licensing Department at rights@cognella.com.

Trademark Notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

Cover image copyright© © 2012 iStockphoto LP/BassittART.

Printed in the United States of America

ISBN: 978-1-5165-1575-2 (pbk) / 978-1-5165-1576-9 (br)



I dedicate this work to all of those general managers in the hospitality industry who are not really sure what facilities managers do or how they do it. I hope that the principles, thoughts, and ideas in this book will help current and future general managers to understand the complex functions and responsibilities of the facilities manager.

BRIEF CONTENTS

Preface	xi
Acknowledgements	xiii
Chapter One: The Practice of Facilities Management	1
Chapter Two: Facilities Management within an Organization	17
Chapter Three: Functions and Responsibilities of a Facilities Manager	27
Chapter Four: Information Management in Facilities Operations	51
Chapter Five: Communication Requirements for Facilities Operations	65
Chapter Six: Workload Planning and Staffing for Facilities Operations	87
Chapter Seven: Mechanical, Electrical, and Plumbing (MEP) Maintenance Management	117
Chapter Eight: Facilities Management to Operations Management	125
Chapter Nine: Financial Management for Facilities Operations	135
Chapter Ten: Energy Management	151
Chapter Eleven: Integrating Technology into Facilities Management	165
Chapter Twelve: The Environmental Impact of Facilities Operations	177
Chapter Thirteen: Outsourcing/Contracting for Facilities Operations	187
Chapter Fourteen: Facilities Planning and Design	199
Chapter Fifteen: Health, Safety, and Security Concerns for Facilities Operations	213
Appendix One: Electricity	229
Appendix Two: Water Systems	249
Appendix Three: Heating	259
Appendix Four: Cooling	271
Appendix Five: Lighting	283
References	295

DETAILED CONTENTS

Preface	xi	Chapter Three: Functions and Responsibilities of a Facilities Manager	27
Acknowledgements	xiii		
Chapter One: The Practice of Facilities Management	1	Chapter Learning Objectives	27
Chapter Learning Objectives	1	Operational Systems	28
The Role of a Facility Manager	2	Rules, Regulations, and Codes Affecting Facilities Management	30
What is Facilities Management?	3	Facilities and Facilities Management Certifications	39
Facilities Management Never Stops Growing	4	Chapter Summary	42
Ethical Behavior for Facilities Managers	8	Glossary of Terms	42
Maintenance Produces Profit	9	Study Questions	45
Training for Facilities Managers	10	Study Quiz	47
Chapter Summary	12	Chapter Four: Information Management in Facilities Operations	51
Glossary of Terms	12		
Study Questions	13	Chapter Learning Objectives	51
Study Quiz	14	Critical Required Information	52
Chapter Two: Facilities Management within an Organization	17	Information Growth	53
Chapter Learning Objectives	17	Organizing Required Information	54
The Executive Management Team	17	Automatic Data Processing Systems	55
Maintenance Activities as a Profit Source	19	Computerized Facilities Maintenance Management Systems	57
Facility Manager Responsibility for Profit	20	Management Decisions	58
Relationships between the Facilities Manager and Other Managers	21	Chapter Summary	59
The Primary Management Tool of the Facilities Manager	22	Glossary of Terms	59
Chapter Summary	23	Study Questions	60
Glossary of Terms	24	Study Quiz	62
Study Questions	25	Chapter Five: Communication Requirements for Facilities Operations	65
Study Quiz	26		
		Chapter Learning Objectives	65
		Effective Communication	66
		Written Communication	67

Verbal Communication	74	Chapter Seven:	
Staff Communication	76	Mechanical, Electrical, and Plumbing (MEP)	
Communication Problems in Facilities Management	77	Maintenance Management	117
Successful Communication in Facilities Management	79	Chapter Learning Objectives	117
Routine Communications Systems	79	Mechanical, Electrical, and Plumbing Systems	118
The Cost of Poor Communication	80	Management Tools in an Integrated Approach	119
"Tell It Like It Is"	81	Lodging Utilities versus Food Service Utilities	120
Chapter Summary	82	Profitability of a Balanced Approach to Utilities	121
Glossary of Terms	82	Chapter Summary	122
Study Questions	83	Glossary of Terms	122
Study Quiz	84	Study Questions	122
		Study Quiz	123
Chapter Six:		Chapter Eight:	
Workload Planning and Staffing for Facilities Operations	87	Facilities Management to Operations Management	125
Chapter Learning Objectives	87	Chapter Learning Objectives	125
Work Control	88	The Correlation of Facilities and Operation Activities	126
The Basic Elements of Task Organization	92	Maintenance Schedules versus Operational Schedules	126
The Basic Steps of Work Flow	94	Priority Management in Operational Schedules	128
The Four Categories of Maintenance	96	Managing Repetitive Requirements	129
Maintenance Records	97	Work Schedule Adjustments	129
Scheduling Work	100	Facilities Management is Always in Support	130
Staffing and Budgeting Labor for Workload	102	Chapter Summary	131
Contracting to Complete a Task	104	Glossary of Terms	131
Workload Production Management	104	Study Questions	132
Work Order Register	108	Study Quiz	133
Concepts, Models, and Principles for Maintenance Management	109		
Chapter Summary	111		
Glossary of Terms	112		
Study Questions	113		
Study Quiz	114		

Chapter Nine:		Technology and Effective	
Financial Management		Facilities Management	171
for Facilities Operations	135	Structural Considerations	172
Chapter Learning Objectives	135	Impact of Future Technology	173
Financial Responsibilities of		Glossary of Terms	173
a Facilities Manager	136	Study Questions	174
Zero-Based Budgeting	140	Study Quiz	175
Cost-Control Tools	141		
Shortcuts, Quick Fixes, and Substitutes	142	Chapter Twelve:	
Production Accounting	143	The Environmental Impact	
Warranty Management	144	of Facilities Operations	177
Chapter Summary	146	Chapter Learning Objectives	177
Glossary of Terms	146	The Concept of Sustainability	178
Study Questions	147	Management and Conservation	179
Study Quiz	148	The Correlation of Economics,	
		Equity, and Environment	179
Chapter Ten:		Reuse and Recycling	181
Energy Management	151	Environmentally Friendly Facilities	182
Chapter Learning Objectives	151	Ethical Conflict of Sustainability	183
Effective and Efficient		Chapter Summary	183
Energy Management	152	Glossary of Terms	184
Energy Conservation Concepts	153	Study Questions	184
Developing an Energy		Study Quiz	185
Management Plan	154		
Energy Use Index	155	Chapter Thirteen:	
Chapter Summary	160	Outsourcing/Contracting	
Glossary of Terms	161	for Facilities Operations	187
Study Questions	162	Chapter Learning Objectives	187
Study Quiz	163	Why Outsource or Contract?	188
		The Benefits of Outsourcing	189
Chapter Eleven:		The Cost of Outsourcing	190
Integrating Technology into		Effective Contracts	191
Facilities Management	165	Contract Management	193
Chapter Learning Objectives	165	Chapter Summary	194
The Increasing Complexity		Glossary of Terms	194
of Technology	166	Study Questions	194
Technology—Beneficial or Detrimental?	167	Study Quiz	195
Technology Expands			
Facilities Management	168		
Building System Controls	170		

Chapter Fourteen:			
Facilities Planning and Design	199	Electric Codes	234
Chapter Learning Objectives	199	Common Electrical Components	236
The Design Process	200	Electrical Billing	242
Food Service versus Lodging Design	205	Deregulation	244
The Role of the Facilities Manager in Design and Development	205	The Need for Technical Expertise	244
Design for the Location and Environment	206	Study Quiz	245
Design for Future Growth	207	Appendix Two:	
Redesign for Renovation	207	Water Systems	249
Chapter Summary	209	Water Consumption in the Hospitality Industry	249
Glossary of Terms	209	Water System Structure/Features	250
Study Questions	210	Water Problems	252
Study Quiz	211	Water Heating	253
		Water System Maintenance	254
Chapter Fifteen:		Swimming Pools	255
Health, Safety, and Security Concerns		Water Conservation	256
for Facilities Operations	213	Study Quiz	257
Chapter Learning Objectives	213	Appendix Three:	
The Ethics of Safety	214	Heating	259
Safety Responsibilities of Facilities Management	214	Factors that Influence Heat and Comfort	259
Managing Safety Programs	215	Heating Loads	261
Legal Requirements for Safety	216	Heating Systems	262
Fire Safety	218	Decentralized Heating	263
Guest Room Safety	222	Centralized Heating	264
Growing Threats to Safety	223	Heating System Issues	266
Chapter Summary	224	Improving Heating Efficiency	267
Glossary of Terms	224	Summary	268
Study Questions	225	Study Quiz	269
Study Quiz	226	Appendix Four:	
		Cooling	271
Appendix One:		Factors that Influence Cooling and Comfort	272
Electricity	229	Cooling Load	273
Sources of Electricity	229	The Refrigeration Cycle	274
Electrical Terms and Definitions	230	Decentralized Systems	275
Ohm's Law	231	Centralized Chilled-Water Systems	276
Plug Configurations	233		
Wiring	233		

Capital Budgeting Issues	277
Energy Conservation	278
Summary	279
Study Quiz	280
Appendix Five:	
Lighting	283
Artificial Lighting	283
Lighting Terms	285
Available Lamps	286
Selecting the Lamp and Fixture to Use	288
Maintenance of Lighting Systems	289
Conserving Energy	290
Summary	292
Study Quiz	293
References	295

PREFACE

This second edition of *Applied Facilities Management for the Hospitality Industry* is an enhancement of the original text, developed to increase the awareness and recognition of facilities management as an essential element for success in present-day hospitality establishments. While the study of this book by itself will not produce a completely qualified facilities manager (which requires extensive on-the-job experience), it is designed to assist the general manager and the aspiring hospitality student in understanding the scope and impact that the facilities manager contributes to an enterprise, along with some of the management tools that are used.

It is my hope that hospitality industry operations managers and future general managers gain a greater familiarity with the facilities manager's functional and managerial responsibilities, and by doing so, they will enjoy an improved probability for success property-wide. When the general manager knows how to effectively use or task his facilities manager, the entire operation will run more smoothly in an environment with increased potential for profit.

Many people in the hospitality industry think of facilities management as dull and boring. Permit me to wholeheartedly disagree. I have found facilities management demanding to the point of daunting, busy to the point of exhaustion, trying to the point of frustration, difficult to the point of defeating, detailed to the point of utter confusion, and enormous to the point of overwhelming bewilderment. But I have

never found it to be dull nor boring. It certainly held my attention. In fact, a facilities manager might sometimes feel unappreciated, but he or she will never feel unneeded.

To all the readers of this book, whether you are an experienced manager or a promising student who hopes to be an experienced manager one day, I hope that you find the contents compelling and informative. Thank you for your interest in studying facilities management. I believe that you will find many of the concepts presented here to be beneficial to your career.

JEE

ACKNOWLEDGEMENTS

I have been greatly aided in the composition of this book by the support and proof-reading of my wife, Josephine, and I admire her patience and efforts to help me in this and all other parts of my life. I also am extremely grateful to David Bartl who corrected my punctuation and grammar as he helped me to focus my thoughts into a teachable format. Thanks are also due to Dr. Lynn Huffman who had the confidence to allow a facilities manager the opportunity to become a teacher.

Also, I am extremely grateful to the multitude of carpenters, electricians, plumbers, refrigeration technicians, custodians, and all the other workers who taught me the value and benefit of effective facilities management. They knew and helped me to understand the excitement of an unglamorous role of doing unrecognized work and the resulting satisfaction of a good days work done. They taught me to take pride in the accomplishments of the operations that occupied our facilities, even when the operators didn't realize that their success depended on our efforts as much as their own.

1

THE PRACTICE OF FACILITIES MANAGEMENT

CHAPTER LEARNING OBJECTIVES

After reading this chapter, the student should be able to:

1. Describe the role(s) of the facility manager as the responsible custodian of a property.
2. Describe a clear definition of “effective” facilities management.
3. Describe the volume of tasks that must be completed for effective facilities management.
4. Explain the expansion and increasing complexity of facilities management issues with the passage of time and future projections.
5. Understand and discuss the ethical responsibilities of a facility manager.
6. Understand and describe the concept of facilities management as a profit center rather than an operational cost burden.
7. Describe the training and education requirements to obtain the professional credentials for effective facilities management.

THE ROLE OF A FACILITY MANAGER

The position of facility manager exists in every business that has a physical location. In the hospitality industry this position has many titles such as “Chief Engineer,” “Superintendent,” “Property Manager,” “Director of Engineering,” or, in smaller operations, the position might simply be called “Maintenance Man” or even the “Owner.” Whatever it is called, the role of this position remains the same. This position is responsible for maintaining the physical structure and operating systems of the establishment in a profitable and functional condition.

The physical structure of the building or property usually represents the largest capital investment for the business and establishes the corporate image of the firm. This includes the visual association of the building with the services or products provided. That means that the way the property looks, either by design or condition, provides the potential customer with a clear expectation of the nature or quality of the products or services that can be obtained and a reasonable idea of the price range involved. A customer does not go into a fast food restaurant to buy a lobster dinner and would not expect to find sushi available at a family-oriented, casual-dining restaurant. The facility itself creates an expectation and the facility manager is responsible to protect and project that image. A customer may be interested in a “mom and pop” style small-town motel, but will pass it by if it seems to project a rundown or dilapidated appearance. In a similar fashion, the same customer may be attracted to the shiny and well-kept outward appearance of a chain hotel, but will form a lasting unfavorable impression of the quality of service if the hot water tap does not produce hot water. That impression would be applied to not only that particular accommodation but, in his mind, will also be associated with every hotel in the chain. The physical impression on the customer, good or bad, is a direct result of the efforts of the facility manager.

The facility manager maintains the factory for the products and services that the establishment sells. Just as an automobile manufacturer cannot build cars without a manufacturing facility, a hotel cannot sell rooms without a building and a restaurant cannot sell prepared food without a kitchen. The facility provides the physical location where a service or good is produced and the facility manager ensures that the structure or building meets the functional requirements for that production. The owner of the firm depends on the facility manager to do this as do all the other employees. Not only does the building represent the factory for production, it also provides a workplace for the employees. Therefore, they are depending on the facility manager to maintain the property in a condition that allows them to earn a living. All of the departments of the firm use the facility to support their activities and are therefore dependent on the skills and efforts of the facility manager.

Many people think that the facility manager makes sure that “things get fixed” if they fail or break, but this is only a minor part of the role. The facility manager has to concentrate on maintaining the property. Repair is only a small part of maintenance. In fact, repair can be viewed as the result of failed maintenance. If the facility manager could achieve perfect maintenance, then no system, component, or fixture would ever need repair because nothing would ever fail. This level of maintenance has never been achieved, but professional facility managers continue to try. The overall objective is to maintain the physical structure of the firm, not only to maintain the corporate image and the ability to produce services or goods, but also to allow for the growth of the firm. That growth may be a response to an increasing volume of business, but it will also be driven by the changing technology and progression of customer expectations. It is not enough for the facility manager to meet the business needs for the present. He or she must plan for the future of the property to allow for continued growth and expansion of the operation.

If the facility manager is successful, the customers’ expectations will be met, the owner will realize a profit, and the business will grow. However, the customers and the owner will never consciously realize that their needs have been met. It is human nature to not notice the things that are going well, but to be concerned about the problems that are encountered. Therefore, if the structure is successfully maintained, very few people will notice. In fact, this author has often been amazed at the number of people who seem to believe that buildings are maintained by magical elves that come in at night to clean or repair everything before anybody gets up in the morning.

WHAT IS FACILITIES MANAGEMENT?

If maintenance is not done by magical elves in the middle of the night, then how is it accomplished? The answer that has developed over the past several centuries is that effective maintenance activities are provided by effective facilities management. Effective facilities management is defined as the actions and activities required to maintain a building or property in a suitable condition to allow operations to continue in a profitable environment. All available revenue and resources could be expended on a structure to keep it cleaned, maintained, and updated to the highest possible level, but if so many resources are being used that the business conducted in the structure does not show a profit, the entire enterprise will fail. Conversely, if no revenue or resources are expended to maintain the structure and it deteriorates to an unserviceable condition, the business will show a diminishing profit over time and ultimately fail as well. To prevent either situation the facility manager balances his efforts against costs to ensure that the firm continues to prosper. This balancing act means that some events in his activity list such as broken pipes and failed electrical circuits must be taken care of immediately,

but replacing wearing carpets or renewing aging paint can be scheduled for more appropriate times. All of the tasks must be accomplished if the business is to continue to operate profitably, but the facility manager uses his management skills to complete requirements in a logical and managed sequence.

FACILITIES MANAGEMENT NEVER STOPS GROWING

Not too many years ago, facility management included making sure that the thatch roof didn't leak, the garbage was swept out of the common room downstairs, and not much else. In fact, it was a common practice in the inns of the original American colonies for customers to share beds. The fee that one paid to stay at the inn bought only a portion of a bed and if you wanted a discount rate, you could elect to curl up in a corner of the common room for the night. Buying a meal meant that you purchased a portion of whatever was in the pot over the fire and for an extra fee you could get a flagon of homemade beer in a dirty mug. The standards and practices of facility management matched the quality of the fare and board of the times. These conditions were the accepted level of accommodations of the period. Through the years, customers have come to demand a higher quality of service in their lodging and dining facilities and the industry has changed to meet those demands.

As the accommodations have changed to meet expanding and growing customer expectations, the requirements of facility management have expanded and grown to support the industry. As customers began to expect clean sheets, clean floors, glass windows, running water, modern sanitary equipment, and roofs that don't leak, the people taking care of the buildings had to develop more sophisticated skills and procedures to provide for those expectations. This growth has been accelerated by the advent of ever-increasing technology requirements. Not long after running water became more available, hot water was being demanded, causing the facility manager to learn how to maintain water heaters and fuel sources. Central heating systems led to the development of air conditioning. A formal postal system led to the development of the telegraph and then the telephone, followed by electronic mail and the internet. The customer has come to expect those services to become available very soon after they are developed. This meant that the facility manager had to either obtain the skills to support those services, or find a source of qualified technicians to install and maintain them.

While technology and customer expectations changed facilities, society itself also began to raise its standards of service. Regulatory bodies began to establish rules and regulations that did not exist before in areas such as fire safety and environmental impact. Other areas of general interest have also produced new requirements. The "green" movement and the resulting government controls on environmental concerns and regulation of resource use as well as the

institution of equal opportunity laws and regulatory actions to support disabled persons or the special interests of children, elderly people, and any other identifiable category, all serve to increase the magnitude of building management. As various agencies and elements of authority write new laws and building codes, the facility manager must expand the expertise of his or her staff and the complexity of standard procedures to ensure compliance. This trend toward complexity in regulation not only applies to customer expectations but also to employee expectations. The rules involving a safe and discrimination-free workplace have also increased the activities that the facility manager must perform to provide it.

Changing customer and employee expectations, changing technology, and expanding regulations are constant factors in the world of facility management. Interestingly, new regulations or technology do not often remove the requirements of old regulations or old technology that might still be present in a building. Therefore, the field of facility management continues to grow and modernize, but older requirements do not go away. Sometimes the older requirements have been replaced by newer ones. For example, very few hotels still maintain a stable to take care of customers' horses, but most are expected to have paved parking facilities available. Cutting and stacking firewood has been replaced by maintaining electrical heating, natural gas, and central heating systems. Every service that a hospitality firm adds to its menu to serve the customer will have a corresponding set of requirements that the facility manager must meet in order to provide that service. Since the progression and growth of the hospitality industry is expected to continue, it is reasonable to say that the field of facility management and the duties of the facility manager will continue to grow with it. Figure 1-1 provides an example of the duties of a facilities manager extracted from an actual job description.

Continued growth and development not only expand the requirements for the facility manager, they also expand the number of management tools that are available to fill those requirements. Specifically, in the area of systems and workload management, the progress of technology and information management systems has allowed facilities managers to index, manipulate, and manage a much larger volume of work. In addition, the new tools of Computerized Maintenance Management Systems (CMMS) and Computerized Facilities Management Systems (CFMS) also provide a much higher level of service to the occupants of a building. The Heating, Ventilation, and Air Conditioning (HVAC) control systems that are now available will maintain occupant comfort in an automatic mode with very little required input from the manager. New supply-handling systems coupled with maintenance management systems greatly improve the availability of replacement parts and materials to keep systems in service and simultaneously reduce the stockpiles that formerly were maintained by the engineering or facilities management department. These systems ensure that the right item is available at the right time with a greatly reduced down-time or out-of-service time for

Building Maintenance Engineer.

- The B----- Living Center is.... A multi-story, low-rise residential apartment community with 210 units made up of studio, one and two bedroom models.
- The Building Engineer's duties include : Maintaining the building and grounds in accordance with corporation guidelines. Coordinating vendor services and work within established budget guidelines. Managing and completing service requests in a timely manner.
- The Building Engineer reports directly to the Executive Director.

Essential Functions:

- Ensure facility meets all life safety requirements.
- Carry out preventive maintenance program, including managing lawn services.
- Keep sidewalks clean, swept and clear of obstructions including ice and snow.
- Perform maintenance tasks for residents.
- Ensure proper removal of trash.
- Refurbish Living units for the next occupants (paint, repair holes in walls, etc.).
- Repair or replace broken light fixtures, bulbs, and ceiling tile.
- Assist with setup and clean up for special events.
- Match paint specifications for repainting.
- Maintain all mechanical equipment per preventive maintenance program.
- Maintain and Log facility key system.
- Maintain MSDS manuals.
- Change filters in air conditioning units.
- Coordinate property suppliers.
- Perform resident appliance/electrical inspections.
- Perform move-in, move-out inspections.
- Perform property inspections on a monthly basis.
- Take weekly water meter readings.
- Respond to afterhours emergency calls from the facility.
- Be a member of the facility emergency team.
- Be a member of the safety inspection team.
- Actively communicate health and safety information to employees.
- Actively participate in accident, injury, and illness prevention activities.

- Verify that job-specific safety procedures are established.
- Train employees in safe work practices.
- Verify that routine inspections are conducted by trained personnel and include task observations.
- Conduct timely accident investigations.
- Correct hazards and unsafe conditions in a timely manner.
- Reinforce the use of good health and safety practices through positive recognition programs and disciplinary actions.
- Complete health and safety audit finding closure within 30 days.
- Other duties as assigned.

FIGURE 1.1. JOB DESCRIPTION EXCERPT

critical equipment. The management tools offered by Computerized Maintenance Management Systems (CMMS) and Computerized Facilities Management Systems (CFMS) protocols have improved staffing levels, reduced overtime requirements, reduced equipment and components costs, improved energy management, and have provided the facilities manager with the ability to provide a better-maintained facility at a lower cost to ensure continued profitability.

Using automatic data processing coupled with modern principles of facilities maintenance such as preventive maintenance, predictive maintenance, and reliability-based maintenance, facilities managers in the hospitality industry have developed and maintained building management systems that amplify the revenue-producing activities of an operation while reducing the maintenance cost to provide much better support to the profits of their establishments. As technology and research continue to expand the areas that a facilities manager must support, they will also allow the facilities manager to develop better tools to provide the required support. New materials, tools, equipment, and improved management efforts must all be incorporated into the daily operations of the facilities department. The facilities manager must constantly develop and research plans and improved management tools, allowing for future growth in all of his or her assigned or implied responsibilities and functions.

ETHICAL BEHAVIOR FOR FACILITIES MANAGERS

What do ethics have to do with facilities management? Doesn't facilities management deal with things? To the average building occupant, good facilities operations are invisible. As was stated earlier, some people seem to believe that magical elves take care of things overnight. Primarily for that reason the facilities manager must exhibit and require his staff to exhibit very high ethical standards. Very few people are watching them work and those who do notice their efforts usually do not have the technical expertise to discern that the work is being done correctly. Because of that, the only thing that binds the facilities manager and his technicians to produce good quality work is their own ethical values. It is easy to exhibit ethical behavior when someone is watching, but it can be difficult to control when activities are invisible.

The facilities manager is drawn in three different directions by his ethical responsibilities. First, he is ethically bound to provide the owner of the property with the best possible maintenance and facility support system. The system of building management that he devises must allow for the highest possible profit from the operation of the building. This means that costs must be reduced to the lowest possible level, but quality must be maintained to meet the operational and profit goals of the owner. The second element of the ethical dilemma for the facilities manager is his responsibility to meet the customers' expectations for quality of service, comfort, safety, and security. These expectations must be met regardless of the effect on the owner's goals, especially in the areas of safety and security. The facilities manager cannot take shortcuts or half-steps in providing a safe and secure environment for the customer. Occasionally, this will place the facilities manager in a conflict between the owner's goals and the customers' expectations. The third leg of the facilities manager's ethical dilemma is his responsibility to provide the employees with a safe, secure, and efficient workplace. Doing this involves ethical human resources management practices, balancing workloads, management of tool and materials requirements, and a myriad of other tasks and responsibilities that allow the employee to meet the requirements of the owner's goals and the customers' expectations. In a professionally managed operation, these three elements are not usually in conflict, but in some organizations, differing objectives or inefficient management can place the facilities manager in a three-way bind in making decisions.

The only way to solve such conflicts is to ensure that the owner or general manager is aware of the conflict. The facilities manager must tell his supervisor if a problem or situation is creating any difficulty in meeting the goals, objectives, or obligations in any or all of the three areas of his responsibility. Usually, priority adjustments or additional allocation of resources from the operations manager can resolve the problem. The facilities manager must keep the "Boss" informed of such problems to be ethically and professionally successful. This will often

put the facilities manager in the role of the “bearer of bad news,” but it is a measure of ethical performance that must be met head on.

If the facilities manager fails to behave ethically in any one of his three directions of responsibility, he will eventually fail in all three. Further, it is quite likely that his unethical behavior will also cause a loss of profits for the operation and possible failure of the business.

MAINTENANCE PRODUCES PROFIT

Accountants and general operations managers often identify maintenance requirements as an element of cost. Consequently, they are quite happy to reduce maintenance efforts in an attempt to reduce cost and therefore increase profits. This has often been a disastrous mistake in management philosophy in the hospitality industry. Maintenance is actually a profit multiplier. Without proper maintenance of equipment and facilities, the efficiency of the operation will deteriorate and the ability to show profits will deteriorate with it. Every dollar that is spent on maintenance of the structure or systems in a building multiplies its profitability by increasing the quality and efficiency of the service that is provided.

Maintenance requirements generally use approximately 20% of the annual revenues of a hospitality establishment. This is sometimes viewed as a drain on profitability and for a very short period of time profits can be increased by reducing maintenance operations. Such managerial attitudes are connected to the belief that has already been discussed, that maintenance means repairing problems when, in fact, maintenance prevents problems and the need for repair. Equipment and building systems do not go out of service when they are not being used. They only fail or go out of service when they are engaged and needed. Therefore, a lack of maintenance will stop a profitable operation and turn it into a losing operation. A hospitality establishment is only paid for providing a service or a product. If the equipment fails while the product is being produced, the opportunity for profit is lost until repairs can be made.

The best example of the profit production of maintenance is the building's roof. The roof of a building is its most critical external surface. Without a roof, the tallest building in the world is just a fence that is open to the sky. The roof keeps out the rain. If the roof fails and allows a leak into a room or a dining room, the establishment not only loses the services of that room or an area of tables, but it also begins to suffer structural damage from the water, and the repair costs will continue to rise until the roof is repaired. Unfortunately, a roof cannot be repaired until the rain stops, so the loss of revenue from the lost service will continue to multiply. If the roof was properly maintained before it started raining, it would not leak and there would be no loss of revenue. Therefore, profits are protected. Repair will not bring back the lost profits from a leak, but good maintenance will prevent the loss and ensure that profits continue.

All the structural and equipment systems in the establishment are critical and the facilities manager must schedule, direct, and control his efforts to protect all of them simultaneously. A pizza parlor will not suffer damage from rain if the roof is maintained, but if the pizza oven burns out because it was not properly cleaned, the restaurant is still going to be out of business. In like fashion, a loss of electrical power will close down the operation just as quickly as a collapsing roof. Failure of the air conditioning system will destroy the reputation of a hotel and a poorly maintained pump will cause a swimming pool to be unavailable on the hottest day of the year. A worn and torn carpet or a rickety chair presents the same threat of injury to a guest as a broken stairway step or an unlit hallway. A poorly cleaned kitchen or incorrect water temperatures in the dishwasher will cause food poisoning and close a restaurant just as quickly as a fire or a collapsing roof. All of these problems and countless more can and will destroy the profitable operation of any hospitality enterprise. Profits can only be realized and problems like these can only be prevented by systematic, repetitive, and carefully managed maintenance systems.

TRAINING FOR FACILITIES MANAGERS

The position of facilities manager requires an extensive and varied set of skills, both technical and managerial in nature. It is a popular stereotype that building superintendents, facilities managers, or maintenance managers are people who have been plumbers, carpenters, or handy-men for twenty or thirty years and gradually moved up into that position. While that is true in some cases, it does not acknowledge the learning and experience that must be gained during the worker's career to produce the qualifications to be an effective and successful facilities manager. The image of an old man with greasy coveralls and a worn tool belt moving up to become a facilities manager is no more true than that of a truck driver becoming the CEO of a major truck manufacturer. While there are instances where such careers have occurred, the person who does this has to develop and learn a great number of additional skills and techniques along the way to become successful.

There are a few universities that are now offering facilities management as a major course of study. Universities that offer management and hospitality management majors include at least a familiarization course in facilities management or facilities as a required area of study. Professional organizations such as the Building Owners and Managers Association (BOMA), the American Hotel and Lodging Association (AHLA), the Association of Physical Plant Administrators (APPA), and others offer professional skill-development courses, seminars, and distance learning opportunities to help building managers and others working in facilities careers develop the knowledge and skills necessary to advance to the management level. Community colleges, local trade schools, and university extension programs also present educational opportunities

in this field. Many facilities managers have taken advantage of these educational opportunities and combined them with the curriculum of the universal school of hard knocks and hands-on experience to become very professional in their field. Recognition of this extra effort to develop management skills can be obtained by certification or credentials from the BOMI, the AHIA, and other professional organizations. Usually retention of these credentials requires participation in continuing education programs to ensure current skills and knowledge of the field.

The required credentials and certification to obtain a position as a facilities manager are not standard. A facilities manager with professional certification and a master's in business administration (MBA) has no greater guarantee for success than the individual who worked his way up from electrician's helper. However, all facilities managers who wish to be successful will need to obtain and develop skills that are not usually associated with the building trades. Such things as effective business correspondence, staff management, team organization, inventory management, human resources management, operational scheduling, contract administration, safety management, risk management, digital controls, basic accounting, information management, and many other areas must be added to the repertoire of the aspiring facilities manager's skills to ensure effective and successful facilities management. A partial list of the responsibilities of the facilities manager's position is presented in Figure 1.2, but it must be realized that this is not a complete list and often the job description of the facilities managers will have a final sentence that states, "other duties as assigned ..." or a similar catch-all phrase to make sure that nothing is left out.

- 
- | | |
|----------------------------------|---------------------------------|
| • Equipment Selection | • Quality Control |
| • Equipment Installation | • Digital Information Systems |
| • Maintenance Contracts | • Accounting and Cost Control |
| • Contractual Compliance | • Operations Coordination |
| • Utilities Operations and Costs | • Scheduling |
| • Waste Management | • Budget Development |
| • Security | • Parts Inventory and Control |
| • Safety | • Emergency Planning |
| • Staff Training | • Budget and Cost Control |
| • Staff Hiring | • Corporate Reporting |
| • Staff Firing | • (anything else that comes up) |

FIGURE 1.2. FACILITIES MANAGER RESPONSIBILITIES

CHAPTER SUMMARY

In the role of facilities manager, an individual maintains not only the structure and systems of the building but also exercises oversight and support management for all of the activities within the building. The primary goal of all elements of an operation is to produce a profit. The facilities manager is responsible for ensuring that the physical location and structure of the establishment not only allows for profitable operations, but also is maintained in a suitable condition to sustain profitable operation into the future. To accomplish this, the facilities manager is occupied with an endless array of tasks stretching from routine and mundane such as removing trash and debris to the manipulation of complex automated data systems. The activities of the facilities manager are often invisible to the occupants of the building who only notice when something does not happen as planned or a system goes out of service. Therefore, the only thing forcing a facilities manager to do things “right” is his or her own ethical values. No one is watching so only the facilities manager knows if the job is being done within prescribed codes or proper parameters. If the facilities manager is successful in maintaining the structure to established standards of condition or operation, then the occupying firm has a profitable environment in which to operate. Thus it can be said that the facilities manager and his or her activities allow profits to be realized. This supports a statement that maintenance activities should be viewed as profit centers rather than elements of cost. The skills required to successfully maintain a modern building continue to expand as the complexity of technology continues to expand. These skills cannot all be learned “on the job” and formal training is necessary for a facilities manager to grow professionally. This training never really stops and professional organizations within the field of hospitality and facilities management have established qualification and certification standards to verify the attainment of required skills for the professional facilities manager.

GLOSSARY OF TERMS

Facilities Management

Those activities involved in maintaining the structural and physical condition of a building or property to meet the requirements of its intended purpose. In the hospitality industry, the focus of all facilities management actions is to support profitable operations.

Maintenance

The actions required to sustain the upkeep of a structure, building, or operational system in a serviceable condition. Any service failure is a reflection of failed maintenance. Therefore, repair

is the action required to return something to serviceable condition and can be considered as a maintenance failure.

Computerized Maintenance Management Systems (CMMS)

Automated or digital management systems specifically designed to support the management of equipment or property maintenance activities.

Computerized Facility Management Systems (CFMS)

Automated or digital management systems designed to support and coordinate the management of operational and property maintenance activities.

Heating, Ventilation, and Air Conditioning (HVAC)

Utilities systems designed to control internal building environmental conditions to meet established standards for human comfort.

Ethics

This is the study of human values concerning the concepts of right and wrong in reference to human behavior.

Building System

An integrated element of a structure or building that can be addressed as distinctive entity within the property: electrical system, irrigation system, paint system, transportation system, HVAC system, etc.

STUDY QUESTIONS

1. Describe and define the primary role of the facility manager in a hospitality operation.
2. Describe and define the essential characteristics of “effective” facility management.
3. Discuss the progress of facilities management through history.
4. Will facilities management become simpler or more complex in the future? Explain your reasoning to support your answer.
5. Should facility management activities be considered as an overhead cost or a profit multiplier? Explain your reasoning to support your answer.
6. Describe the skills and knowledge that must be learned by the professional facilities manager. Where can these skills be obtained?

STUDY QUIZ

1. If a property is well-maintained:
 - a. everybody knows it.
 - b. very few people notice.
 - c. nothing ever goes out of service.
 - d. everything gets fixed immediately.
2. The facilities manager must always maintain the property to:
 - a. produce the highest possible standards of physical condition.
 - b. make sure that the right things are done to support profitable operations.
 - c. make sure things are done right to support profitable operations.
 - d. provide the lowest possible cost levels.
3. In the completion of his or her duties to meet assigned and implied responsibilities, the facilities manager can be drawn into conflicting ethical requirements between what three entities?
 - a. Other departments, facilities employees, and the general manager
 - b. The general manager, the employees, and the corporation
 - c. The general manager or owner, the customers, and the employees
 - d. The government, the corporation, and the employees
4. Expanding technology has increased the tasks that a facilities manager must monitor.
 - a. True
 - b. False
5. Ethical behavior is important for facilities managers and facilities workers because:
 - a. everybody is watching them.
 - b. the customers abuse them.
 - c. other departments don't know what they are doing.
 - d. nobody is watching them.

6. Accountants consider maintenance activities to be:
 - a. an overhead cost.
 - b. a capital investment.
 - c. a profit source.
 - d. a revenue multiplier.
7. Facilities management training or certification is absolutely necessary for success in the hospitality industry.
 - a. True
 - b. False
8. What is the single largest item of capital investment in a hospitality enterprise?
 - a. The building
 - b. The advertising
 - c. The furniture, fixtures, and equipment
 - d. Staff training
9. As long as the facilities manager maintains all existing systems in functional condition, the property will remain profitable indefinitely.
 - a. True
 - b. False
10. The primary role of the facilities manager can be defined as:
 - a. repairing broken equipment.
 - b. maintaining the physical structure of the property.
 - c. maintaining all operating systems in an acceptable condition.
 - d. maintaining the operating systems and structure in a profitable condition.