

OPERATIONS & MAINTENANCE MANUAL

Administrative

No. A • 1 Operational Requirements - Company Policy

As a general policy of the **Company**, employees who have questions or problems with published policies should refer these questions or problems through the normal chain of command.

Philosophy

The image of the **Company** is supported to a large extent by the quality of the buildings associated with our **Company** throughout our market presence. Managers have the responsibility to enhance this positive perception of our **Company** by ensuring that the operation of our buildings is performed in a professional manner and at a quality standard acceptable to the owner. The responsibility of the day-to-day management of the properties should not be taken lightly; it will require a multifaceted real estate discipline to ensure vendors and personnel are properly trained and procedures are implemented. It will be the attention to details which will set us apart from our competition.

Policy

The Manager shall identify means of measuring the quality of operational activities on each facility on a monthly basis.

Procedures

The intent of this section is to provide Managers with a general overview of operational requirements for five categories of commercial buildings: highrise office, suburban office, service centers and industrial and retail facilities for which the commercial **Company** has a responsibility. In reviewing the operational aspects of these property types there are a significant number of management disciplines which have applications across all categories.

It is recommended that a written project-specific procedures manual be adopted for all major real estate investments; in some cases it is appropriate to group similar properties under the same procedures manual if activities are similar.

OPERATIONS & MAINTENANCE MANUAL

Administrative

No. A • 1 Operational Requirements - Company Policy

General Overview

- **HIGHRISE OFFICE BUILDINGS**

The management of the highrise office building is probably the most complex of all of the five category types. The building's overall size, mechanical equipment and the operational expectations create a strong demand for well orchestrated procedures to ensure satisfactory performance. Buildings in this category are typically in the Central Business District, are multi-story, and range in square footage from 150,000 to in excess of one million square feet.

- **SUBURBAN OFFICE BUILDINGS**

The operational issues of the suburban office facility are as complex in most cases as the highrise facility but on a smaller scale. Typically the suburban building will be a two to five-story structure, consisting of 40,000 to 300,000 square feet. Management and maintenance services are provided through a combined effort of **Company** employees and outside vendors.

- **SERVICE CENTER BUILDINGS**

The service center building exists in a multi-building complex, and is a single story with office space on the front side and warehouse space in the back of the space. The size of the property can vary widely, but usually individual buildings range from 20,000 to 80,000 square feet.

- **RETAIL BUILDINGS**

Retail facilities are divided into strip center, shopping centers and shopping malls. The smallest of the three subcategories is the strip center, varying from 10,000 to 60,000 square feet. They are neighborhood oriented and consist of small local shops. Shopping centers range in size from 60,000 to 200,000 square feet, have anchor tenants and small shops. The malls have enclosed shopping areas, a good mixture of anchor, mid-size and small shops as tenants, and range in size from 200,000 to one million square feet.

OPERATIONS & MAINTENANCE MANUAL

Administrative

No. A • 1 Operational Requirements - Company Policy

Retail centers require tenant marketing services, which develop and implement promotional activities. These activities can vary widely in complexity and can be administered by in-house personnel or on a consulting basis. Many local advertising firms provide these services on behalf of the management.

- **INDUSTRIAL BUILDINGS**

The facilities are used for warehousing, distribution or light manufacturing. Construction can vary from location to location, but primarily consists of tilt wall or masonry brick, with wall heights of 18 to 30 feet.

PERSONNEL

- **REQUIREMENT FOR A HIGHRISE OFFICE BUILDING**

The overall size of the highrise office facility creates the economic environment to staff the facility in a more self sufficient manner than the other four remaining categories. Highrise office facilities typically have the following personnel permanently assigned to the facility on a full-time basis:

Property/Facility Manager - Responsible for all activities conducted on site and for interface with the management team, tenants and the owner of the property. Assumes specific responsibility for the financial operation of the property, contract administration, lease administration, operational issues, etc.

Chief Engineer - Responsible to the Manager and directs operation of all mechanical, electrical and plumbing systems.

Maintenance Personnel - Responsible to the **Chief Engineer** and handles specific operational maintenance tasks.

Energy Management Operator - This can be either a full-time position or an additional responsibility of maintenance personnel. Maintains the computerized temperature controls, manages computerized programs for the property, audits all energy programs and develops trends and realistic future cost targets.

OPERATIONS & MAINTENANCE MANUAL

Administrative

No. A • 1 Operational Requirements - Company Policy

Chief of Security - Responsible to the Manager for building security and property/life safety systems. This position can be either an employee of the building or contract services. Typically for buildings of 1 million SF or more.

- **SUBURBAN OFFICE, SERVICE CENTER, RETAIL AND INDUSTRIAL BUILDINGS**

These facilities typically require operational activities similar to the highrise office buildings. Because of the buildings' overall size, many of the requirements are performed on a shared basis or contracted through outside contractors. Personnel typically assigned to the operation of these buildings would be as follows:

Off-Site Property Manager - Responsible for the overall operational activities and for providing a multifaceted management discipline including budgeting, negotiating service contracts, regular inspection of the property, tenant/owner relations and implementation of the operating procedures.

Off-Site Maintenance Engineer - Maintenance responsibilities can be addressed by utilizing the resources of **Company** personnel and supplemented by vendor services. Typically there is a combination of these two services in the day-to-day operation of the buildings. **Company** personnel perform routine maintenance activities, and vendors are relied upon for more intricate repairs or scheduled preventive maintenance.

OPERATIONS & MAINTENANCE MANUAL

Administrative

No. A • 1 Operational Requirements - Company Policy

Contract Services

The following is a list of contract services that are typically provided for the various facilities. Each contractor is responsible for providing job specifications, adhering to a standardized **Company** contract and competitively bidding on an annual basis.

Contract Services	Highrise	Suburban	Service Center	Industrial	Retail
Janitorial	X	X			
Landscaping	X	X	X	X	X
Elevator	X	X			
HVAC	X	X	X		
Trash Removal	X	X			X
Window Cleaning	X	X			
Pest Control	X	X			
Life Safety	X	X			
Sprinkler Repair				X	
Parking Lot Sweeping	X	X	X		X

Preventive Maintenance

Sound preventive maintenance programs, an integral part of any operating procedure for **Company**, can extend the useful life of an asset and reduce the overall operating costs of the property over the long term. Finalized preventive maintenance programs are required on the following items in the various building categories:

OPERATIONS & MAINTENANCE MANUAL

Administrative

No. A • 1 Operational Requirements - Company Policy

HIGHRISE OFFICE

Roof
Exterior Irrigation Systems
HVAC Equipment
Fire/Life Safety Equipment
Electrical

SUBURBAN OFFICE

Roof
Exterior Irrigation Systems
HVAC Equipment
Fire/Life Safety Equipment
Electrical

SERVICE CENTER

Roof
Exterior Irrigation Systems
HVAC Equipment (@ tenant direction)

RETAIL

Roof
Exterior Irrigation Systems
HVAC Equipment (@ tenant direction)

INDUSTRIAL

Roof
Exterior Irrigation Systems
HVAC Equipment (@ tenant direction)

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 2 Uniforms and Grooming

The **Company** provides uniforms for all non-management employees (Engineering/Maintenance Personnel). Employees who are assigned uniforms must wear them as designed, in their entirety and without modification, and with type and color of shoe and belt specified. It is preferred that a uniform rental and cleaning service be contracted so as to provide a neatly consistent engineering appearance.

The **Company** also provides coveralls for each engineer. M/E personnel are required to wear coveralls while performing any task that would damage or excessively soil the uniform. Nametags, patches, belt and shoe type and color shall be approved by the Manager in his/her jurisdiction, or as directed by **Company** policy.

Modifications or embellishments of uniforms (including wallet chains, knife or tobacco holsters, etc.) are prohibited. Where safety equipment is provided (hardhat, glasses, etc.), it must be worn at all prescribed times.

Polished shoes, a conservative hair style, good hygiene and an overall neatly groomed appearance is required of all employees.

Work Shoes

All M/E personnel are required to wear proper protective work shoes (black color), which comply with OSHA regulations. Tennis shoes are prohibited and work related injuries are not covered under workmen's compensation benefits.

OSHA Regulation

§1910.136 Foot Protection

(a) *General requirements. Employers shall ensure that employees wear protective footwear when working in areas where there is a danger of foot injuries due to falling and rolling objects, or objects piercing the sole.*

(b) *Acceptable designs. The design of protective footwear shall comply with the requirements of American National Standard, ANSI Z41.1-1983, "Personal Protection-Protective Footwear," which is incorporated by reference or shall be of a design which has been demonstrated to be equally effective.*

MAINTENANCE MANAGEMENT
OPERATIONS & MAINTENANCE MANUAL

No. A • 3 Evaluation

The **Chief Engineer** and/or designated engineering supervisor will be responsible for conducting personnel evaluations for all designated employees and/or as directed by the Manager.

(Also refer to **Company** Employee Handbook Policy “Performance and Salary Reviews.”)

Copyright Michael McCormick

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

It is the intent of this section to establish purchasing guidelines and to document **Company** policy regarding the use, administration and safekeeping of all **Company**-provided tools and equipment.

Purchasing - New Projects

Prior to the opening of a new project, the **Chief Engineer** will begin research to determine the furniture, fixtures and equipment (FF&E List) needs of the project. An example tool and equipment listing is provided at the end of this section which includes tools and equipment required to perform work in-house. *Please note that this listing is provided as an example of scope and format only*, and that only tools and equipment that can be justified by the needs and scope of the project should be considered for purchase.

Once the needs of the project have been identified and the tool and equipment listing has been developed, the **Chief Engineer** shall take the following actions:

1. Price each item of the tool and equipment list with three (3) vendors. The vendor selection process shall include the consideration of price, quality of product, service after the sale and availability/delivery date.
2. Submit the listing, including all three sets of pricing, to the Manager. The Manager will review for scope, quality and price, and provide appropriate comments or direction.
3. Once approved by the Manager, the **Chief Engineer** shall submit two sets of the listing and associated pricing to the Manager for approval and direction toward obtaining funds for the purchase.

Purchasing - Existing Operations

Typically, an existing project purchases new tools and equipment only due to breakage, or projects performed in-house to avoid contractor costs. As such, all unbudgeted tool and equipment purchases are subject to the requisition and purchase order procedures of the **Company**.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

Prohibited Tools and Equipment

The following items are considered unacceptable for use:

- Man lifts that utilize compressed air as the motive force. These units require excessive labor for maintenance and are considered by some to be a safety concern. Electro-hydraulic (12-24V) lifts are recommended.
- Powder activated guns (commonly referred to as “Hilti” Guns) for driving fasteners into concrete or steel. Due to operator and bystander safety concerns (and since alternate methods for fastener installation exist), this equipment is prohibited.
- Electric cable pulling equipment.
- Sand blasting equipment, due to the high incident of eye injury to the operator and bystanders.
- Refer to No. B • 18, “Prohibited Tasks,” for related policy.

Administration of Tools and Equipment

Shop Tools

Shop tools can be defined as those tools provided for use by the engineering department (available to each M/E personnel) and centrally located in the shop, central plant or other secure area. **Company** policy regarding the administration and control of these tools is as follows:

- All shop tools and equipment (including but not limited to hand tools, power tools, instruments, cabinets and benches) shall have the appropriate project name engraved in a visible area.
- Master lists of shop tools shall be kept up-to-date and shall be used to verify tool inventory once every three months and at such time as an engineer is promoted, transferred, terminated or has resigned from the **Company**.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

- Each M/E personnel shall have access to a file or other collection of operating instructions/ safety precautions for all power tools or other equipment requiring such instruction. It is the responsibility of the **Chief Engineer** to provide this data.

M/EPersonnel Tool Pouches and Accessories

M/E's tool pouches/accessories are defined as tools provided by the **Company** for the exclusive use of each individual engineer. **Company** policy regarding the administration and control of these tools is as follows:

- All tools shall have the appropriate project name engraved in a visible area.
- Inventory of each tool pouch should occur on a quarterly basis, or at such time as an engineer is promoted, transferred, terminated or resigns from the **Company**.

General

- The loaning of **Company** tools and equipment (to tenants, contractors, etc.) should be discouraged, but may at times be unavoidable. It is therefore the responsibility of each engineering department to maintain a "Tools Loaned" log sheet. The log sheet shall include date, description, name and signature for control of loaned tools and equipment.
- At the discretion of the **Chief Engineer**, tools and equipment may be loaned to engineers and other **Company** personnel if the above-noted log sheet is used for documentation.

Personal Inventory

"I acknowledge receiving the tools listed below. I recognize that these tools belong to **Company** and upon my resignation, termination or transfer, they must be returned. I agree to reimburse **Company** for any tools that are missing upon my separation or transfer." (Refer to No. H, "Sample Forms", Form 4-1, Personal Inventory Receipt.)

When filling out this form, please use one per individual and indicate (N/A) for items not applicable to that particular individual.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

The **Chief Engineer** must update the personal inventory receipt form on a semiannual basis and when personnel changes occur.

Project Inventory

The **Chief Engineer** will be responsible for conducting the following scheduled inventories, using the computerized Excel spreadsheet inventory program, for each of his/her projects. (Refer to No. H, "Sample Forms", Form A4-2 to assist you when establishing the initial inventory.) Future inventory inspections can be conducted by making a copy of the previous Semiannual or Annual inventory and editing it accordingly. Forward a copy of the inventory to the Manager for review.

Inventory Schedules

- *January - Annual Inventory*
A complete inventory will be conducted for all engineering tools, furniture, equipment, parts, supplies and attic stock materials.
- *July - Semiannual Inventory*
A complete inventory will be conducted for all engineering hand tools, equipment and consumable parts and supplies.

Note: These inventory schedules should set-up two to three months subsequent to preparing your annual/fiscal operating budget.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

CONSUMABLES

The following is only a guideline of tools, equipment and supplies typically used and will vary with each project. The prices will also vary depending on the vendor used. All purchases must be approved by the Manager.

<u>#</u>	<u>F.P.#</u>	<u>Quantity</u>	<u>Description</u>	<u>Cost</u>
1.	C-1	1	Cap Screw Assortment	\$350.00
2.	C-2	1	Pan Head Sheet Metal Asst.	30.79
1.	C-3	1	R.H. Machine Screw Asst.	32.49
2.	C-4	1	O-Ring Kit	36.40
3.	C-5	1	Gasket Material	20.00
4.	C-6	1	U.S.S. Set Screw Asst.	49.50
5.	C-7	1	S.A.B. Set Screw Asst.	49.50
6.	C-8	1	Poly Tite Fitting Asst.	139.95
7.	C-9	1	Brass Fitting Asst.	98.20
8.	C-10	1	Grease Fitting Asst.	45.70
9.	C-11	1	Pull Rivit Asst.	30.00
10.	C-12	1	Heavy Duty Anchor Asst.	111.79
11.	C-13	1	80 Pc. Allen Screws	7.35
12.	C-14	6	Master Locks	23.34
13.	C-15	6	Master Locks	28.80
14.	C-16	6	Master Locks	32.70
15.	C-17	1	140 Pc. Electrical Repair Kit	24.42
16.	C-18	1	1008 Pc. Terminal Repair Kit	32.58
17.	C-19	1	Heavy Duty Work Gloves	3.90

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

#	F.P.#	Quantity	Description	Cost
18.	C-20	2	Jersey Work Gloves	2.00
19.	C-21	2	Chem Resistant Work Gloves	4.50
20.	C-22	2	Safety Face Shield	12.10
21.	C-23	2	Safety Goggles	6.38
22.	C-24	2	Safety Glasses	8.20
23.	C-25	1 Lot	Dust Masks	33.90
24.	C-26	2	Respirator	29.98
25.	C-27	10	Respirator Filters	9.90
26.	C-28	50	Hacksaw Blades	44.50
27.	C-29	2	2" Tape Cloth	8.00
28.	C-30	10	Pipe Tape	6.50
29.	C-31	1	Repair Tape	4.79
30.	C-32	4	Duct Tape	13.92
31.	C-33	10	Electrical Tape	4.90
32.	C-34	3	Wire Nuts	8.28
33.	C-35	1	STA CON Connectors	14.52
34.	C-36	1	Aerosol Penetrating Lube	25.50
35.	C-37	1	Aerosol Silicone Lube	27.24
36.	C-38	10	Grease Cartridges	15.60
37.	C-39	1	Hand Cleaner	30.00
38.	C-40	1	Silicone Sealant	47.50
39.	C-41	1	White Silicone	49.00
40.	C-42	1	Floor Sweeping Compound	19.95

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

<u>#</u>	<u>F.P.#</u>	<u>Quantity</u>	<u>Description</u>	<u>Cost</u>
41.	C-43	3	32 Gallon Brute Trash Container	46.41
42.	C-44	2	Cleaning Solvent	31.40
48.	C-48	4	Paint Drop Cloths	20.88
49.	C-49	1	Masking Tape	42.24
50.	C-50	12	Electrical Contact Cleaner	23.04
51.	C-51	10	Tarpaulin	52.28
TOTAL				<u>\$1,791.12</u>

ENGINEERS' TOOLS AND STOCK

	<u>F.P.#</u>	<u>Quantity</u>	<u>Description</u>	<u>Cost</u>
1.	ET 1	2	Tool Pouches	\$ 8.94
2.	ET 2	2	Tool Pouch Belt	3.38
3.	ET 3	2	Claw Hammer	7.00
4.	ET 4	2	25' Tape (Measuring)	9.81
5.	ET 5	2	Voltage/Continuity Tester	34.82
6.	ET 6	2	Folding Hex Head Key Set (Sm)	3.70
7.	ET 7	2	Folding Hex Head Key Set (Lg)	4.10
8.	ET 8	2	Wire Cutters 10"	8.25
9.	ET 9	2	Wireman's Pliers 10"	10.44
10.	ET 10	2	Nut Driver Set	15.83
11.	ET 11	2	Screwdriver Set	32.58
12.	ET 12	2	6" Adjustable Wrench	5.94
13.	ET 13	2	12" Adjustable Wrench	12.35
14.	ET 14	2	10" Channel Locks	6.95

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

#	F.P.#	Quantity	Description	Cost
15.	ET 15	2	10" Channel Locks w/o Teeth	6.85
16.	ET 16	2	Dry Wall Saw (Hand Type)	3.01
17.	ET 17	2	Needle Nose Pliers 8"	8.15
18.	ET 18	2	Utility Knife	1.99
19.	ET 19	2	Magnetic Torpedo	5.75
20.	ET 20	2	Flashlights	3.18
21.	ET 21	2	Combination Crimper Wire Stripper	7.40
22.	ET 22	2	Refrigeration Service Wrench	8.60
23.	ET 23	2	Heavy Hammer	6.14
24.	ET 24	2	Scratch Awl	3.01
25.	ET 25	2	Mechanic's Tool Box	16.60
26.	ET 26	2	Racet Offset Screwdriver	3.40
27.	ET 27	2	Pocket Calipers	5.28
			TOTAL	\$243.45

SHOP TOOLS

#	F.P.#	Quantity	Description	Cost
1.	ST 1	1	Skill Saw	\$ 138.50
2.	ST 2	1	30 Gallon Wet Vacuum	146.60
3.	ST 3	1	Portable Standing Fluorescent Work Light	63.20
4.	ST 5	1	Medium Duty Come-Along	24.42
5.	ST 11	2	Wall Clock	36.52
6.	ST 12	2	Hacksaw Frame	19.54
7.	ST 13	1	Preso-Lite General Maintenance Kit	213.40
8.	ST 14	1	Oxygen Tank "R"	72.04

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

#	F.P.#	Quantity	Description	Cost
9	ST 15	1	Acetylene Tank "B"	74.70
10	ST 16	1	Tempscribe Temp Recorder	165.00
11	ST 17	2	Sling Psychrometer	86.00
12	ST 18	1	Portable High Vacuum Pump	197.80
13	ST 19	1	Air Velocity Instrument Kit	352.30
14	ST 23	1	1 Ton 20" Gear Hoist	114.39
15	ST 24	1	Chain Sling SSS	65.08
16	ST 25	1	Chain Sling DOS	161.83
17	ST 26	2	Clevis Slip Hook 3/8"	6.12
18	ST 27	2	Double Clevis 3/8"	3.94
19	ST 28	1	20' Ton Chain 5400 Lb	36.25
20	ST 29	1	Steel 2-Wheel Hand Truck	65.60
21	ST 30	1	Platform Truck 700 Lb	78.58
22	ST 31	1	Rigid Portable Drain Gum	183.04
23	ST 32	1	Rigid K-50 Drain Rodder	325.00
24	ST 33	1	13 Pc. Hole Saw Kit	50.67
25	ST 34	3	Wire Brush Curved	1.20
26	ST 35	3	Wire Brush Shoe	1.35
27	ST 36	1	4000 RPM Tachometer Photoelectric	37.56
28	ST-37	1	3 Jaw Head Bearing Puller	27.70
29	ST-38	1	2/3 Combo Jaw Head Puller	34.26
30	ST-39	1	Push Puller	51.35
31	ST-40	1	Heavy Duty Grease Gun	15.15
32	ST-41	1	Milwaukee 2-Speed Barrel Saw Kit	122.00

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

#	F.P.#	Quantity	Description	Cost
33	ST-42	1	1/2" Polypropylene Rope 600'	48.27
34	ST-42	1	Air Sprayer Bottle Pump 3 Gal	27.30
35	ST-44	1	6' OSH Fiberglas Ladder	81.00
36	ST-45	1	Refrigerant Leak Detecto	135.00
37	ST-46	3 Lots	Coil Prod Chain 8/8" x 20'	59.40
38	ST-47	2	25' Drop Light	14.50
39	ST-48	1	66 Pc. Standard Tape & Die Set	162.90
40	ST-49	4	Commercial Garden Hoses	74.00
41	ST-50	1	Fiberglas Ladder 6'	81.00
42	ST-51	1	Fiberglas Ladder 8'	110.00
43	ST-52	1	Extra Heavy Duty Wood Ladder 12'	107.89
44	ST-53	1	2 HP Portable Electric Air Compressor 120/220V	398.64
45	ST-54	2	1/4" Quick Connector	5.92
46	ST-55	1	1/4" Stud Set	3.25
47	ST-56	1	Tire Air Chuck	.75
48	ST-57	1	Air Blow Gun	3.58
49	ST-58	1	Impact Gun 3/4" Reverse Air	196.34
50	ST-59	1	21 Pc. Socket Set 3/4" Air	147.7
51	ST-60	1	Drill Gage	5.95
52	ST-61	1	8" Dial Caliper	82.50
53	ST-62	1	2 in 1 Riveter	12.40
54	ST-63	1	Soldering Gun Kit	23.50
55	ST-64	1	69 Pc. A/C Tool Kit	338.67
56	ST-65	1	Heavy Duty Tubing Cutter	12.00

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

#	F.P.#	Quantity	Description	Cost
57	ST-66	1	Plumbers Kit	138.46
58	ST-67	1	2" Pipe Cutter	28.50
59	ST-68	1	18" Pipe Wrench	16.28
60	ST-69	1	10" Pipe Wrench	9.77
61	ST-70	1	14" Pipe Wrench	12.21
62	ST-71	1	24" Pipe Wrench	30.13
63	ST-72	1	Chain Vise and Stand	197.07
64	ST-73	1	Electric Engraver	14.65
65	ST-74	2	4" C-Clamps	8.96
66	ST-75	2	Spring Clamps	2.90
67	ST-76	2	Extendable Pipe Gripping Clamp	12.50
68	ST-77	1	Plumb Line	2.85
69	ST-78	1	24" Plumb Level	8.15
70	ST-79	1	48" Plumb Level	15.00
71	ST-80	1	Compass Saw Set	7.32
72	ST-81	1	Taper Ground Saw Course	16.28
73	ST-82	1	Taper Ground Saw Fine	16.28
74	ST-83	1	Needle File Set	49.95
75	ST-84	1	Screw Extractor Set	11.39
76	ST-85	1	Tin Snips	7.95
77	ST-86	1	Tin Snips Left	7.95
78	ST-87	1	Tin Snips Straight	7.95
79	ST-88	1	10 T-Handle Hex Key Set	7.89
80	ST-89	1	20 Pc. Hex Key Set	2.80

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

#	F.P.#	Quantity	Description	Cost
81.	ST-90	1	205 Pc. Gen. Maint. Tool Set	767.35
82.	ST-91	1	60 Pc. Drill Bits	30.27
83.	ST-92	1	7 Pc. Masonry Bits	8.20
84.	ST-93	1	Drill Bit Sharpener	195.48
85.	ST-94	1	Cordless Dual Range Drill	62.21
86.	ST-95	1	1/2" Elec. Impact Wrench	89.90
87.	ST-96	1	12" Plastic Mud Pan	2.67
88.	ST-97	1	Tapin Knife	5.75
89.	ST-98	1 Lot	Putty Knives	15.98
90.	ST-99	1 Lot	Scrapers	15.98
91.	ST-100	1	24" Bolt Cutter	22.55
92.	ST-101	1	Reciprocating Saw	126.70
93.	ST-102	1	3 HP 7" Hand Grinder/Sander	1,111.40
94.	ST-103	1	7" Kit Guard & Disc for Grinder	17.39
95.	ST-104	1	Fleet Duty Starter Charge Tester 6/21/18/24 Volt	244.35
96.	ST-105	1	Genie Lift PCL 30	5,160.00
97.	ST-106	1	Key Machine Key Code	1,775.00
98.	ST-107	1	Switch Gear Mat 1/4" ASTM	10.10
99.	ST-108	1	Johnson Control Tool Kit	170.00
100.	ST-109	1	Teel Submersible Pump 1/2 HP	194.68
101.	ST-110	1	Teel 1/2 HP Portable Self-Priming Pump	92.40
102.	ST-111	1	Commercial Wardrobe	103.99
103.	ST-112	1	Safety Chemical Storage Cabinet	360.00
104.	ST-113	1	Oily Waste Trash Can	24.88

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

#	F.P.#	Quantity	Description	Cost
105	ST-114	12	Safety Traffic Cones	12.30
106	ST-115	1	1 HP Bench Grinder	185.00
107	ST-116	1	Floor Drill Press 5 Speed 1/3 HP	259.14
108	ST-117	1	5" General Purpose Drill Vise	24.42
109	ST-118	1	Heavy Duty Bench Vise 6"	65.15
110	ST-120	1	6 Draw Cart	246.22
111	ST-121	1	5 Drawer Roll-a-Way Cart	195.48
112	ST-122	1	6 Drawer Tool Chest	116.48
113	ST-123	1	Amprobe	68.60
114	ST-124	1	Multi-Meter	115.00
115	ST-125	1	TE 17 HILTI	495.00
116	ST-128	1	3000 Watt Electric Gas-Powered Generator	699.87
117	ST-129	2 each	Extension Cords 25', 50', and 100' each	67.02
118	ST-131	1	Electronic Temp. Probe	66.70
119	ST-132	1	Capacitor Tester	22.59
120	ST-133	2	Workbench	419.34
121	ST-134	1	Workbench Back Riser	115.48
122	ST-139	1	Fuse Puller (Small)	8.40
123	ST-140	1	Fuse Puller Intermediate Size	8.40
124	ST-144	3	Rubber Boots	41.85
125	ST-145	1	Chalk Line	2.70
126	ST-146	1	3/8" Drill	90.30
127	ST-147	1	Stapler	8.98
128	ST-149	1	Hand Saw	11.40

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 4 Project and Personnel Inventory

#	F.P.#	Quantity	Description	Cost
129	ST-150	1	Band Saw	349.70
130	ST-151	1	Carpenter Square	4.40
131	ST-152	1	Jig Saw	65.99
132	ST-153	1	Chain Saw	167.40
133	ST-154	2	Vise Grips	12.24
134	ST-155	1	Chain Wrench	16.27
135	ST-156	1	Basin Wrench	8.14
136	ST-157	1	Wood Chisels	18.95
137	ST-158	1	Gasket Punch	20.36
138	ST-159	1	Brush Kit	59.00
139	ST-160	1	Pry Bar	4.40
140	ST-161	1	Sledge Hammer	14.50
141	ST-162	1	Fire Ax	18.50
142	ST-163	2	Fire Blanket	60.00
143	ST-164	1	16' Extension Ladder	170.27
144	ST-165	1	24' Extension Ladder	199.69
145	ST-166	1	Pressure Washer (Hot)	1,083.00
146	ST-167	4	First Aid Cabinet	247.48
147	ST-168	1	Blackboard	89.18
148	ST-169	1	Bulletin Board	45.00
			TOTAL	<u>\$22,345.16</u>

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 5 Restricted Access

It is the **Company**'s policy to restrict access to certain areas of the property to assure security and/or safety. Areas requiring restricted access include but are not limited to:

- Major mechanical/electrical areas such as central plants, switchgear rooms, fire pump or generator rooms, etc. Short-term visitors to these areas should be escorted by an engineer or other **Company** personnel.
- Air handling unit rooms, electrical rooms, telephone closets, janitors' closets, etc. Visitors to these areas may be unescorted provided that a "loan key" log sheet or other ID record is maintained by the management office or engineering office. The loan key system will provide control of keys by requiring date, name of individual and **Company** (verified by ID), areas visited and code number of key issued. All loan keys should be stamped "Do Not Duplicate" and all loan keys should be returned to the office each day. No loan key may leave the property overnight.
- Roof areas, unless required to be left unlocked by local fire code.
- Engineering areas, such as the shop, breakroom, locker room, offices, etc.
- Any area having an extension set on the building office telephone system.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 6 Record Drawings

Record Drawings (also called As-Built Drawings) shall be maintained at each project. The Record Drawings are separated into two categories:

- **Base Building** - Record Drawings for base building work are generally provided in the form of sepias, or mylars to facilitate the revision of dimensions, locations, etc., and to allow easy reproduction. It is required that each property record appropriate changes or revisions to the building design on these drawings. The contractor's shop drawings, etc., shall be maintained as part of the Record Drawings set.
- **Tenant Drawings** - Tenant design drawings shall be kept on file. It is not required that minor modifications to tenant work be recorded on the Tenant Drawings.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 7 Tenant Request Record System

The **Chief Engineer** is responsible for delegating and/or conducting all issued Tenant Work Orders under the following guidelines. If you're using a computerized work order system, the procedures will vary on the processing of completed work order tickets. Verify with your Manager for specific procedures.

- A. Administration and implementation of all Tenant Work Order tickets will occur as follows:
 - 1. Depending on the priority level of the ticket, all tickets are to be completed within 2 working days.
- B. Priority Levels:
 - 1. Emergency - Floor or water leaks, complete power failure.
 - 2. Maximum one hour response time: HVAC and temperature complaints (Response Time Goal: 15 minutes).
 - 3. Maximum one half hour: Blown breaker, tenant lock-out during building hours (Response Time Goal: 15 minutes).
 - 4. 24 hours turnaround for cutting keys.
 - 5. Miscellaneous repairs within 2 working days (Response Time Goal: 24 hours depending upon request).
- C. Tenant Involvement:
 - 1. *Tenant signatures:* Tenant Work Order tickets must be signed by someone in their space to acknowledge our being there regardless of whether or not the ticket has been completed.
 - 2. *Tenant charges:* When there is a charge incurred, inform that tenant of the charge prior to commencing the work. If the tenant has any questions concerning the cost or why there is a charge, advise them to contact the Management Office. The charge amounts will be determined and filled out by the **Chief Engineer** within the guidelines established by the **Manager** or **Company**.
 - 3. *Tenant requests:* All direct verbal requests by the tenants to any Engineering personnel are to be directed through the Management Office,

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 7 Tenant Request Record System

except for emergency situations. Use your best judgment to decide whether or not to handle such requests immediately. If you decide to perform such emergency work, please pick up a ticket at the Management Office and return to the tenant for signature. Keep in mind, we do not wish to encourage instant verbal service but controlled first class service.

D. Completed Work Tickets

1. Tenant signature
2. Engineer signature
3. description of actual work conducted
4. Date and time completed
5. Carbon copy to tenant
6. Original copy to **Chief Engineer**

E. Incomplete Work Tickets - When a ticket cannot be completed for the problem identified, sign off incomplete on the ticket and turn the ticket back into the **Chief Engineer** for his follow-up.

F. **Chief Engineer** Review:

1. The **Chief Engineer** is to review all work tickets processed back to him by the end of each work day for his/her review and initials.
2. The **Chief Engineer** will determine the charge amounts if applicable within the guidelines established by the Management Division and then submit original ticket to the Property **Manager** for his/her review.
3. Final engineering ticket copy, if applicable.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 8 Rules of Conduct

Employees are expected to maintain the highest standards of integrity and professionalism in carrying out their duties and responsibilities relative to the positions they hold, and whenever they are representing **Company** Mid-Atlantic. Included in these expectations of proper conduct are the requirements that employees must not interfere with the performance of the **Company's** activities, nor may they infringe upon the rights of other employees on the **Company** premises or during working hours. This policy neither imposes regulation upon the personal and private lives of employees, nor does it prescribe an absolute ethical standard or code of conduct. However, because good judgment is the basic requirement for adherence to this policy, the following guidelines are applicable.

The following list contains some of the more obvious forms of improper conduct and is for the purpose of illustration only. It should not be construed as a limitation of the general standards discussed above.

1. Bringing intoxicants or controlled substances on the job or consuming intoxicants or controlled substances on **Company** premises or during working hours.
2. Reporting to duty, coming on **Company** premises or interfering with **Company** property or work while under the influence of intoxicants or controlled substances.
3. Public consumption of intoxicants, while in uniform, on or off of property.

NOTE: "Controlled substances" exclude legally obtained and properly used prescription medicines.

4. Disobedience or refusal to perform lawful work satisfactorily as assigned or required, or insubordination.
5. Willful violations, or repeated violations of safety rules established by the **Company** or by government agencies. Failure to wear appropriate safety equipment (hardhat, safety glasses, etc.).
6. Disorderly conduct, dishonesty, insubordination or willful neglect of duty.
7. Persistent failure or refusal to cooperate with co-workers.
8. Refusal to comply with **Company** policy and procedures.
9. Theft or deliberate, negligent or repeated abuse, damage or destruction of **Company's** property or the property of the public or tenants or co-workers.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 8 Rules of Conduct

10. Discourtesy toward a tenant or client.
11. Fighting (not to include unavoidable self-defense). Threatening or abusive outbursts of anger. Horseplay.
12. Excessive absenteeism or tardiness or leaving early.
13. Sleeping on duty.
14. Falsifying **Company** records or documents.
15. Gambling.
16. Refusing to take or failing to clear a polygraph examination (where permitted by law).
17. Smoking in tenant or public areas and in any area where natural gas, diesel fuel, oily rags or any other combustibles are used or stored.

(Also refer to the **Company** Employee Handbook, “Code of Ethics.”, if applicable).

Confidential Information

At the **Company**, we encourage open and active communications among our employees. However, when communicating with anyone outside **Company**, remember that any information concerning the **Company**'s business, its customers, suppliers, dealers, employees, or personnel associated with the **Company** is confidential and restricted. You may not reveal any such information to anyone outside the **Company** except under the direction of your Supervisor or with his/her approval. If you are not sure about whether particular information is subject to this confidentiality duty, refer inquiries to your Supervisor.

All information regarding employee compensation, including salary, bonus and 401K information is to be treated with the utmost confidentiality. Employees are not to discuss such information about themselves or other employees except as required in confidential discussions with their Supervisors. Violations of this policy jeopardize the reputation and integrity of the **Company** and its employees and will not be tolerated. Violation of this policy is grounds for termination.

(Also refer to the **Company** Employee Handbook, “Confidential Information.”, if applicable).

MAINTENANCE MANAGEMENT
OPERATIONS & MAINTENANCE MANUAL

No. A • 8 Rules of Conduct

Copyright Michael McCormick

MAINTENANCE MANAGEMENT

OPERATIONS & MAINTENANCE MANUAL

No. A • 9 Event Reports

It will be essential to provide consistent communication between all individuals affected by what each of us do. To ensure that these occasions (Saturdays, fire alarms, engineering call backs, etc.) are properly documented with all the necessary details pertaining to each event, the “Event Report Form” (refer to Section H, “Sample Forms”, A9) must be filled out accordingly.

1. *Saturday Work Duty:* It will be the responsibility of the Saturday duty engineer to report to the immediate supervisor on Friday for the specific Saturday work duties and any scheduled building events (i.e., contractors, cleaners, move-ins, etc.). All scheduled building events not completed by the scheduled time frame, which will affect engineering overtime and/or building operations, must be reported to the **Chief Engineer** and to the **Manager**.
2. *Equipment Failure:* Each engineer will be responsible for equipment malfunction reports, if the engineer is present at the time of the malfunction or is called in on an emergency call.
3. *Incident Report:* An incident report will be required with all necessary details as to the nature of the problem, who was involved and what transpired regarding:
 - a. personnel conflicts;
 - b. personal conflicts;
 - c. security conflicts;
 - d. tenant conflicts; and
 - e. witness to an(y) accident(s).

File copy to appropriate building file and forward the original to the immediate supervisor.

NOTE: Building files should include but are not limited to:

Saturday Work Duty Events
Equipment Failure Events
Fire Alarm Events
Elevator Events
Security Events

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 10 Elevator Inspections

New State Self-Inspection Regulation

Since 1990, many Elevator Inspection Branches throughout the United States have initiated a Semi-Annual Self Certification Program. The program, in short, puts the responsibility on the owners (agents) to contract with a private elevator entity to conduct semi-annual inspections of the elevators, escalators, etc. The elevator inspections will not be conducted by the elevator service contractor. Independent elevator consultant will be contracted for annual inspections.

There will be three (3) inspections each year which are to include the following:

1. Two (2) inspections - Semi-annual - every 6 months including general maintenance and safety inspection.
2. One (1) inspection - annual - in conjunction with the second semi-annual inspection electrically/electronically simulate elevator over speed safety test.
3. One (1) inspection - 5 year weight test to be conducted by elevator service contractor and evaluated by the elevator consultant inspector.

Also, during each of these inspections, the contracted elevator service company is to assist during all inspections, at no additional expense to the project, and will stated in the contractor's contract.

Administration of Elevator Inspections

The **Chief Engineer** will be responsible for coordinating the appropriate personnel and contacting the Elevator Service Contractor to assist the designated Elevator Inspecting Agent (Contractor) to meet the requirements of the State's Jurisdiction for semi-annual and annual inspection, and test of all vertical transportation equipment in the building. For your scheduling needs, you should anticipate having each elevator out of service for about 20-30 minutes per elevator for semi-annual inspections. Annual inspections also require actuation of the overspeed governor and safety device and the pit buffer. This will increase the downtime for each elevator to approximately 50-60 minutes. Failure of any of these devices to properly operate will result in the recommendation to leave the car out of service until repairs can be completed. As it is necessary to have the elevator maintenance contractor's personnel on site to conduct these tests, additional downtime for repairs should be minimal.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 10 Elevator Inspections

Elevator Inspecting Agent (Contractor)

Contractor agrees to furnish semi-annual and annual Certification Inspection services to meet the requirements of the State's Jurisdiction for semi-annual and annual inspections and tests of the vertical transportation equipment in the designated building.

- A. Inspections will be performed in accordance with the ASME/ANSI A17.1 Safety Code for Elevators and Escalators Sections 1000.1, 1002.1 and ASME/ANSI A17.2 Inspector's Manual as required by the State's Jurisdiction.
- B. A written report of the inspection results will be forwarded to the State's Jurisdiction Elevator Inspection Branch and to the signee of agreement between Contractor and Owner or Owner's Agent.

State's Jurisdiction Elevator Code

The following is an example of the District of Columbia's Elevator Inspection regulation and each State will vary its regulation and or may not require such regulation:

The Elevator Inspection Branch instituted a Semi-annual Self-Certification Program on January 1, 1990. The program requires owners of elevators, escalators, dumbwaiters lifts and conveyor systems on non-government sites to contract with a private elevator entity to conduct semi-annual inspections on the aforementioned systems. The Self-Certification Program will enable private building owners to receive timely semi-annual inspections.

The District of Columbia Building Code BOCA 84, Section 2102.3 requires that the aforementioned system be inspected and or tested by an approved agency. Only companies licensed to operate in the District are allowed to inspect the systems. The approved entity shall submit a detailed report of the inspection to the Building Inspection Division, Elevator Inspection Branch not more than 30 days following completion of the inspection. Refer to the American Society of Mechanical Engineering Check List when performing inspections. The inspector or supervisor signing the report must include his or her certification number and name of the national elevator certification organization. The report must be notarized. The inspection shall be made at the expense of the owner. An approved inspection entity is one having supervisory staff that has been certified in elevator inspections by a recognized national elevator certification organization. The District's Elevator Inspectors reserve the right to periodically perform random inspections of self-certification sites.

Failure to have the aforementioned systems semi-annually inspected will result in the elevator equipment being placed out of service. All questions should be directed to the Elevator

MAINTENANCE MANAGEMENT
OPERATIONS & MAINTENANCE MANUAL

No. A • 10 Elevator Inspections

Inspections Branch between the hours of 7:30 a.m. and 12:00 noon Monday through Friday at (202) 727-7545.

Copyright Michael McCormick

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 10 Elevator Inspections

Typical State Inspection Regulation

The **Chief Engineer** will ensure that all required inspections are coordinated with the elevator service contractor and local governing agency in accordance with the ASME/ANSI A17.1 Safety Code of Elevators and Escalators Section 1000.1, 1002.1 and ASME/ANSI A17.2 Inspector's Manual.

Inspections

1. One (1) inspection - annual - electrically/electrically simulate elevator over speed safety test, and or as required by the inspector.
2. One (1) inspection - 5 year weight test to be conducted by the elevator service contractor.

Certificates

All properties, must comply with proper posting of elevator certificates and or elevator signs, referencing location of certificates. The **Chief Engineer** will be responsible for the operation, maintenance and inspection preparation procedures for all equipment inspections as required under local jurisdictions.

MAINTENANCE MANAGEMENT
OPERATIONS & MAINTENANCE MANUAL

No. A • 11 Boiler and Air Compressor Inspections

Inspection Certificates

All certificates must be posted in a glass/frame and mounted visually by appropriate equipment. Refer to your local State licensing regulations for specific requirements for boilers, air compressures and new refrigeration using high pressure refrigerants, like HCFC-134a.

MAINTENANCE MANAGEMENT

OPERATIONS & MAINTENANCE MANUAL

No. A • 12 Operating Engineers' Licensing

Operating Licenses

This requirement will vary by States. The following is an overview of the licensing requirement in Washington, DC:

All Washington, D.C. projects must employ a 3rd Class licensed engineer among its staff, preferably the **Chief Engineer**, as required under the District of Columbia Municipal Regulations, Title 17, dated May 1990. If the **Chief Engineer** does not hold a 3rd Class License, he/she must obtain one within an agreed upon time period with the **Manager**, but no greater than 2 years. All Engineers and Maintenance Engineers with one (1) or more years of experience will be required to obtain a D.C. Class 8a - Operating Engineer-Refrigeration License within one (1) year tenure of employment for new employees and all current employees from effective policy date of January 1, 1993. *Note: All M/E personnel working or operating any HVAC equipment with refrigerant will be required to have or obtain Refrigeration Certification within one (1) year of employment start date. Certification will reflect level of responsibility in accordance with EPA and OSHA regulations.*

The following outlines all District of Columbia requirements and responsibilities for licensing engineers.

STEAM ENGINEERS

Secs.:

- 400** *Requirements for Licensed Operators*
- 401** *Duties of Licensed Operators*
- 402** *Board of Examiners of Steam and Other Operating Engineers*
- 403** *Classes of Licenses*
- 404** *License Requirements*
- 405** *Application for License Examination*
- 406** *Certification of Applicants*
- 407** *Issuance and Display of Licenses*
- 408** *Expiration and Renewal of Licenses*
- 409** *Renewal of Expired Licenses*

400 REQUIREMENTS FOR LICENSED OPERATORS

- 400.1** *The operation and maintenance of the following equipment shall be exempt from the requirement of having licensed operating engineers:*

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 12 Operating Engineers' Licensing

- (a) *Vehicles operated under the regulations of the D.C. Public Service Commission or the U.S. Interstate Commerce Commission;*
- (b) *Machinery on boats or vessels operated under the regulations of the United States Coast Guard;*
- (c) *Automotive vehicles used solely for traction purposes;*
- (d) *Packaged, self-contained air conditioning units;*
- (e) *Automatically operated air conditioning systems with non-toxic and non-inflammable refrigerant and not over a total of one hundred twenty-five (125) compressor horsepower, where no one refrigerant circuit is in excess of seventy-five (75) horsepower;*
- (f) *Automatically operated air conditioning system using the heat absorption cycle with a non-toxic and non-inflammable refrigerant and not over a total of one hundred twenty-five (125) tons of refrigeration, where no one refrigerant circuit is in excess of seventy-five (75) tons except where a boiler of a type and capacity that requires a licensed engineer is used;*
- (g) *Cold storage and refrigeration systems using non-toxic and non-flammable refrigerant not in excess of seventy-five (75) compressor horsepower;*
- (h) *Cold storage and refrigeration systems using the heat absorption cycle with a non-toxic and non-flammable refrigerant not in excess of forty (40) tons;*
- (i) *Cold storage and refrigeration systems using toxic or inflammable refrigerant not in excess of five (5) compressor horsepower;*
- (j) *Cold storage and refrigeration systems using the heat absorption cycle with a toxic inflammable refrigerant not in excess of three(3) tons;*
- (k) *Automatically operated pumping stations;*
- (l) *Hot water heating boilers where the total boiler horsepower is not in excess of seventy-five (75) horsepower [sixteen thousand eight hundred square feet (16,800 ft.²) of water radiation at one hundred fifty degrees Fahrenheit (150°F.)].*

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 12 Operating Engineers' Licensing

- (m) *Air compressors having a capacity of less than one hundred ten cubic feet per minute (110 ft.³/min.) at one hundred pounds per square inch (100 lbs./in.²) pressure;*
- (n) *Motor or engine driven electric generator sets used for welding or lighting not in excess of fifty kilovolt amperes (50KVA); or*
- (o) *Low pressure steam boilers having gravity or trap returns.*

400.2

The operation and maintenance of the following equipment shall be by or under the daily supervision of a steam or other operating engineer who is duly licensed in the proper class by the Board of Examiners for Steam and Other Operating Engineers in the District of Columbia:

- (a) *Boilers and boiler auxiliaries;*
- (b) *Steam engines;*
- (c) *Refrigeration equipment with non-toxic and non-inflammable refrigerant driven by electric motors in excess of twenty-five (25) horsepower;*
- (d) *Refrigeration systems using the heat absorption cycle with non-toxic and non-flammable refrigerant;*
- (e) *Refrigeration systems of five (5) or more compressor horsepower using a toxic or inflammable refrigerant;*
- (f) *Refrigeration systems of three (3) or more tons using the heat absorption cycle with a toxic or inflammable refrigerant;*
- (g) *Internal combustion engines in excess of twenty-five (25) horsepower; and*
- (h) *Air compressors driven by electric motors or internal combustion engines.*

401

DUTIES OF LICENSED OPERATORS

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 12 Operating Engineers' Licensing

- 401.1** *The licensed operating engineer shall be responsible for the safe operation and maintenance of all equipment in his or her charge.*
- 401.2** *The operating engineer licensed under this chapter shall personally inspect all equipment in his or her charge at least once every twenty-four (24) hours when the equipment is in continuous operation.*
- 401.3** *When the equipment is in operation for a period or periods of less than twenty-four (24) hours duration, the licensed operating engineer shall personally inspect the equipment at least once during each period of operation.*
- 401.4** *The continuous presence at all times of a steam or other operating engineer duly licensed in the proper class by the Board of Examiners for Steam and Other Operating Engineers in the District of Columbia shall be required for the operation, maintenance, or supervision of the operation or maintenance of high-pressure steam boilers as defined in this chapter.*
- 401.5** *If the engineer-in-charge is on the premises and within call, he or she shall be deemed to be in continuous presence for the purpose of this section.*

SOURCE: §1.1 Of Commissioners' Order No. 301,945, 5M DCRR §§1.1.

402 BOARD OF EXAMINERS OF STEAM AND OTHER OPERATING ENGINEERS

- 402.1** *The Board of Examiners (appointed by the Mayor in accordance with the provisions of D.C. Code §2-2402 (1981)) shall meet not less than thirty (30) times per year for the examination of applicants for steam and other operating engineer licenses and for the transaction of other business which may be necessary in connection with their office.*
- 402.2** *The examination for steam and other operating engineer licenses shall include questions, diagrams, and practical tests of sufficient scope to thoroughly demonstrate to the board that the applicant has the necessary experience; knowledge of the basic principles involved in the safe operation, care, and maintenance of the applicable equipment; and is qualified to take complete charge of and safely operate the engine of steam or hot water boiler or machinery of the class for which an application for a license has been made.*
- 402.3** *An applicant for a license for portable and construction equipment operator shall not be required to be examined unless the board is in doubt about the applicant's ability as expressed by his or her statement of experience and endorser.*

MAINTENANCE MANAGEMENT
OPERATIONS & MAINTENANCE MANUAL

No. A • 12 Operating Engineers' Licensing

SOURCE: §§2.1 and 2.2 of Commissioners' Order No. 301, 945, 5M DCRR §§2.1 and 2.2.

403 CLASSES OF LICENSES

403.1 *The following classes of licenses shall be offered:*

- (a) *Class 1 - Steam Engineer;*
- (b) *Class 2 - Steam Engineer;*
- (c) *Class 3 - Steam and Hot Water Heating boiler Engineer;*
- (d) *Class 4 - Steam Engineer;*
- (e) *Class 5a - Steam Engineer;*
- (f) *Class 5b - Miniature Boiler Engineer;*
- (g) *Class 6 - Steam and Hot Water Heating Boiler Engineer;*
- (h) *Class 7 - Portable and Construction Equipment Operator;*
- (i) *Class 8a - Operating Engineer - Refrigeration; and*
- (j) *Class 8b - Operating Engineer - Stationary Internal Combustion.*

403.2 *The total horsepower rating of all boilers and machinery installed and connected in the building or plant, except in the case of Class 3 Engineers as provided in §404.4 shall be the basis of determining the grade of license required. Machinery specifically exempted in §400.1, fractional horsepower motors, and electric motors used as prime mover of machinery not covered this chapter shall not be included.*

SOURCE: §§3.1, 3.2, and 3.12 Commissioners' Order No. 301, 945 5M DCRR §§3.1, 3.2, and 3.12

404 LICENSE REQUIREMENTS

404.1 *To qualify for a license under this chapter, the applicant shall be required to meet the qualifications set forth in this section for each class of license.*

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 12 Operating Engineers' Licensing

404.2 *An applicant for a Class 1 - Steam Engineer license shall have the following qualifications:*

- (a) *The experience and knowledge to take charge of and operate any plant; and*
- (b) *Two (2) years of experience in addition to the experience required for the Class 3 license (§404.4), one of which shall be as an engineer in a 2nd class plant, or as a Class 2 Steam Engineer and assistant engineer in a 1st Class plant while holding a 2nd Class License.*

404.3 *An applicant for a Class 2 - Steam Engineer license shall have the following qualifications:*

- (a) *The experience and knowledge to take charge of and operate a high pressure steam plant where total horsepower of the boilers and engines or refrigeration machinery is not in excess of seven hundred fifty (750) horsepowers; and*
- (b) *In addition to the experience required for examination for the Class 3 Steam Engineer license, one (1) year of experience as an assistant engineer in charge of a 3rd Class plant.*

404.4 *An applicant for a Class 3 - Steam and Hot Water Heating Boiler Engineer license shall have the following qualifications:*

- (a) *The experience and knowledge to take charge of and operate any of the following:*
 - (1) *A plant having high pressure steam boilers not to exceed four hundred (400) horsepower or a combination of high pressure boilers and heating boilers or refrigeration equipment, not to exceed as total of four hundred (400) horsepower;*
 - (2) *A heating plant having low pressure steam boilers with a pump return and refrigeration equipment, with no limitation on total capacity; or*
 - (3) *A heating plant having hot water boilers and refrigeration equipment, with no limitation on total capacity.*

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 12 Operating Engineers' Licensing

- (b) *At least two (2) years of experience in a high pressure steam plant of more than seventy-five (75) boiler horsepower as an assistant engineer, fireman, or oiler; of four (4) years of experience in a plant of not less than fifty horsepower (50) [Seven thousand square feet (7,000 ft.²) of steam radiation or eleven thousand two hundred square feet (11,200 ft.²) of water radiation at one hundred fifty degrees Fahrenheit (150°F)]. One year of experience will be waived for a graduate mechanical engineer from a duly recognized school of technology or a graduate of an approved engineer apprentice training program.*

404.5 *An applicant for a Class 4 - Steam Engineer license shall have the following qualifications;*

- (a) *The experience and knowledge to take charge of and operate high pressure stationary steam boilers not in excess of seventy-five (75) horsepower and steam pressure not in excess of one hundred twenty-five pounds per square inch (125 lbs./in.²); and*
- (b) *At least six (6) months of experience in the care and operation of steam boilers.*

404.6 *An applicant for a Class 5a - Steam Engineer license shall have the following qualifications;*

- (a) *The experience and knowledge to take charge of and operate high pressure stationary steam boilers not in excess of twenty-five (25) horsepower and steam pressure not in excess of one hundred twenty-five pounds per square inch (125 lbs./in.²); and*
- (b) *At least six (6) months of experience in the care and operation of steam boilers.*

404.7 *An applicant for a class 5b - Miniature Boiler Engineer license shall have the following qualifications:*

- (a) *The experience and knowledge to take charge of and operate a boiler which does not exceed the following limits: sixteen inch (16") diameter of shell, forty-two inches (42") of shell, twenty square feet (20 ft.²) of heating surface, and one hundred pounds per square inch (100 lbs./in.²) allowable working pressure; and*

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 12 Operating Engineers' Licensing

- (b) *At least six (6) months of experience in the care and operation of steam boilers.*

404.8 *An applicant for a Class 6 - Steam and Hot Water Heating Boiler Engineer license shall have the following qualifications:*

- (a) *The experience and knowledge to take charge of and operate steam and hot water heating boilers, where the steam pressure does not exceed fifteen pounds per square inch (15 lbs./in.²) and the steam or hot water heating boilers do not exceed two hundred (200) horsepower (twenty eight thousand square feet (28,000 sq. ft.²) of steam radiation or forty-four thousand eight hundred square feet (28,000 sq. ft.²) of water radiation at one hundred fifty degrees (150°F); and*
- (b) *At least one (1) year of experience as a fireman or operator of a boiler other than miniature boiler.*

404.9 *An applicant for a Class 7 - Portable and Construction Equipment Operator license shall have the following qualifications:*

- (a) *The experience and knowledge to take charge of an operate portable and construction equipment and machinery where the prime mover is in excess of twenty-five (25) horsepower, or as otherwise designed in the following classification.*
- (1) *Air compressors having a pressure capacity in excess of one hundred ten cubic feet per minute (110 ft.³/min.) at one hundred pounds per square inch (100 lbs./in.²), hoists, and similar related equipment; at least six (6) months of experience in the care and operation of the class of equipment for which the license is to be applied;*
- (2) *Bulldozers, scrapers, rollers, graders, front-end loaders, trenching machines, and similar and related equipment; at least one (1) year of experience in the care and operation of the class of equipment for which the license is to be applied;*
- (3) *Cranes, shovels, derricks, draglines, clam shells, pile drivers, and similar and related equipment; at least two (2) years experience in*

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 12 Operating Engineers' Licensing

the care and operation of the class of equipment for which the license is to be applied.

404.10 *An applicant for a Class 8a - Operating Engineer - Refrigeration license shall have the following qualifications:*

- (a) *The experience and knowledge to take charge of and operate refrigeration systems where the total connected load is not in excess of two hundred (200) compressor horsepower, or two hundred (200) tons for an absorption system, and where there is no other equipment requiring a licensed steam or other operating engineer; and*
- (b) *At least one (1) year of experience in the care and operation of refrigeration equipment.*

404.11 *An applicant for a Class 8b - Operating Engineer - Stationary Internal Combustion license shall have the following qualifications:*

- (a) *The experience and knowledge to take charge of and operate stationary internal combustion engines where there is no other equipment requiring a licensed steam and other operating engineer; and*
- (b) *At least one (1) year of experience in the care and operation of internal combustion engines.*

SOURCE: §§3.1 Through 3.10 Of Commissioners' Order No. 301, 945, 5M DCRR §§3.1 through 3.10.

405 APPLICATION FOR LICENSE EXAMINATION

405.1 *Application for examination shall be made on a blank form furnished by the Board of Examiners.*

405.2 *The class of license applied for, together with a statement of the experience of the applicant in operating steam boilers and engines with machinery, must be given and sworn to before a Notary Public in the form of an affidavit.*

405.3 *Except as otherwise provided in this section, each application shall also include the endorsement of three (3) reputable citizens of the District of Columbia, regarding the character and moral habits of the applicant, one of whom shall be a licensed engineer of the District of Columbia.*

MAINTENANCE MANAGEMENT
OPERATIONS & MAINTENANCE MANUAL

No. A • 12 Operating Engineers' Licensing

- 405.4** *If an applicant holds or has held an unrevoked license as an engineer in another jurisdiction, the requirement for an engineer's endorsement (§405.3) may be waived.*
- 405.5** *The application for Class 7 - Portable and Construction Equipment Operator license shall include three (3) endorsees, as follows:*
- (a) A District of Columbia licensed operator who holds a license similar to that for which application is being made;*
 - (b) An employer, either past or present, for whom the applicant has worked in a capacity similar to the grade for which he is applying; and*
 - (c) An additional signature of either one of the groups identified in paragraphs (a) and (b) of this subsection.*
- 405.6** *Each endorser shall certify that the applicant is personally known to the endorser, and that the applicant has the necessary experience and qualifications to entitle the applicant to a license.*
- 405.7** *If the Board of Examiners has any doubt as to the qualification of an applicant, the Board may investigate the applicant's experience and endorsements, or may require a demonstration of the applicant's ability to perform the required duties of an operator. A competent operator may be asked to assist and advise the members of the Board if a practical demonstration is required.*
- 405.8** *Applications shall be filed in the office of the Board of Examiners by Thursday of the week of examination.*
- 405.9** *Each application shall be accompanied by two(2) unmounted full face photographs, 2.1/4" by 2.3/4" in size, taken not more than three (3) months prior to the date application is filed.*
- 405.10** *The license fee of three dollars (\$3) shall be paid to the D.C. Treasurer when the applicant procures his or her license.*

SOURCE: §5.1 of Commissioners' Order No. 301, 945 5M DCRR §5.1

406 CERTIFICATION OF APPLICANTS

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 12 Operating Engineers' Licensing

- 406.1** *If the statement of experience as given on the application and the endorsements are satisfactory to the Board of Examiners the applicant shall be granted a license in the grade for which he or she applies without further examination.*
- 406.2** *Applicant who successfully passes the required examination shall be certified by the Board of Examiners for a license in the class for which he or she was examined, or in a lower class if, in the opinion of the Board, the applicant lacks either experience or requisite knowledge in the class for which application was made.*
- 406.3** *An applicant who fails to pass the required examination for a Class 1, Class 2, or Class 3 license shall not be granted another examination until a period of six (6) months has elapsed.*
- 406.4** *An applicant who fails to pass the required examination for the Class 4, Class 5, Class 6, Class 7, or Class 8 license shall not be granted another examination until a period of three (3) months has elapsed.*
- 406.5** *Each applicant will be notified by letter as to whether or not he or she passes or failed the examination.*
- SOURCE: §§5.1 and 5.2 of Commissioners' Order No. 301,945, 5M DCRR §§5.1 and 5.2.*
- 407** ISSUANCE AND DISPLAY OF LICENSES
- 407.1** *Licenses shall be issued for steam or other operating engineers in the classes listed.*
- 407.2** *Steam Engineer License (Classes 1, 2, and 3) shall entitle the licensee to operate in any lower class except Class 7.*
- 407.3** *Operating engineer licenses shall restrict the license to operate in the class stated on the license.*
- 407.4** *When a license has been lost or otherwise misplaced, the owner shall present a statement properly notarized to that effect and pay a fee of five dollars (\$5) for the issuance of a duplicate license.*
- 407.5** *Each license shall bear a photograph and the name and signature of the person to whom it is issued.*

MAINTENANCE MANAGEMENT
OPERATIONS & MAINTENANCE MANUAL

No. A • 12 Operating Engineers' Licensing

407.6 *Each license shall be displayed in a glass frame in a prominent place in the plant where the licensee is employed; except in the case of Hoisting and Portable Operating Engineers, who are issued card-size licenses which must be carried on the person of the licensee.*

407.7 *All licenses shall be subject to examination by any police officer or official of the District government at all times.*

SOURCE: §6.1 Of commissioners; Order No. 301,945, 5M DCRR §6.1.

408 **EXPIRATION AND RENEWAL OF LICENSES**

408.1 *Licenses shall be issued to expire September 30, and shall be renewed every year by September 30.*

408.2 *Licenses may be renewed in the same class for which issued without reexamination upon the presentation of the current license and the payment of a fee of three dollars (\$3) prior to (but not more than as maximum of sixty (60) days before) expiration, or on the date of expiration of the license.*

408.3 *D.C. Government employees do not have to pay the renewal fee.*

SOURCE: §6.1 of Commissioners' Order No. 301, 945, 5M DCRR §6.1

409 **RENEWAL OF EXPIRED LICENSE**

409.1 *Reexamination and a fee of three dollars (\$3) shall be required for the renewal of licenses that have been allowed to lapse.*

409.2 *Any person licensed under the authority of this chapter who has failed to renew his or her license prior to its expiration shall be permitted to renew the license without being required to take an examination in connection with the renewal, subject to the following conditions:*

- (a) *That the license was not evoked during the period for which it was issued, and was in full force and effect on the date of expiration; and*

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 12 Operating Engineers' Licensing

(b) *That application for renewal has been made in writing within thirty (30) days after the date the license expired.*

409.3 *Nothing contained in this section shall be construed as authorizing or permitting the holder of a license which has expired and has not been renewed to continue to operate as if he or she were still holding a valid license.*

409.4 *Nothing contained in this section shall be construed as waiving any person from engaging in an activity for which a license is required without having first been issued a valid license to engage in that activity.*

409.5 *If a license expires while the licensee is in service in the U.S. Armed Forces, the license may be renewed without further examination upon presentation of his or her license to the Chairperson of the Board of Examiners within six (6) months after discharge with proof that the licensee was serving in the Army, Navy, Air Force, Marine Corps or Coast Guard at the date of the expiration of the license.*

409.6 *The usual renewal fee of three dollars (\$3) shall be paid, and the new expiration date shall be one (1) year from the date of approval by the chairman of the Board of Examiners. All licenses issued under this section shall expire September 30 of each year.*

SOURCE: §6.1 of Commissioners' Order No. 301,945, 5M DCRR §6.1

Note: Although this D.C. regulation was revised in May 1990, the Expiration and Renewal of Licenses, Section 408, is not consistent with what was mandated in September 1982, which requires renewals to occur every two years on September 30, and renewal fee of forty dollars (\$40). If you have not received your renewal form from the District of Columbia, Treasury Department, by August 1, of the renewal year, call them immediately. Don't assume it's in the mail.

The **Chief Engineer** will be responsible for implementing a "Safety Awareness" program by setting up a safety suggestion box for the employees to submit safety suggestions. The **Chief Engineer** will evaluate which ideas are beneficial and submit them on a quarterly basis, using the "Safety Ideas" reporting form (refer to SectionH, "Sample Forms", Form A13) and sending it to the **Manager**.

When developing a safety awareness program, keep in mind that when employee pranks and practical jokes are not actively discouraged, the results can be tragic. Since the people involved in such horseplay usually ignore any safety pitch, consider the following:

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 15 Radio Procedures

- Keep a close eye on the worker who laughs too heartily at another's accident. Before the situation gets out of control, you should schedule a nonaccusing, nonthreatening conference with the employee to try to find out what the “joke” is.
- No practical jokes can be tolerated in the work environment. This doesn't mean that you must issue a “no laughing allowed” rule. There is a difference between physical humor and spoken humor.
- Curb the chuckles. If someone slips and falls without injury, most people have a hard time stifling a laugh. You would be wise to curb the tendency to chuckle, especially if some worker seem to be getting too big a charge out of such incidents.
- Outlaw horseplay. A strict rule against horseplay should be part of every safety code and it should be discussed regularly in safety briefings. The practical joker may say that dropping the banana peel in a co-worker's path was “all in fun” - but is it? Someone who's angry about being passed up for a raise or promotion may carry a “get even” prank a little too far. These score-setters are dangerous.
- Discipline anyone who tries to start a fight or is guilty of some small safety infraction that endangers another person. Verbal and written warnings will usually stop such behavior before it goes too far. If, however, a fight actually results in blows, one or both parties should be suspended without pay for a day or longer. Moreover, if a safety infraction actually does result in someone else's injury, the infraction definitely does merit suspension.
- The troublemaker who refuses to change his or her behavior should be referred to the human resources coordinator for assistance. If not, you should issue a full report of a worker's pranks to your **Manager**.

Unexplained accidents can alert you to the presence of a serious offender. If safety inspections and detailed studies or accident reports can provide no clues to accidents, then it's time to consider the possibility that these accidents might be staged.

The responsibility for investigating such accidents and finding the culprit will be largely out of a supervisor's hand. But the supervisor who knows the working methods and temperaments of a crew can provide a lot of helpful background information and maybe a vital clue--a clue that could save an innocent employee from a tragic accident and **Company** from crippling compensation costs.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 15 Radio Procedures

The **Chief Engineer** is responsible for developing employee injury reporting procedures and responsible for processing all injury reports within the time frame required by law and **Company** policy. (Also refer to **Company** Employee Handbook, “Your Safety and Well-Being on the Job.”)

For example, under D.C. Law, you are required to submit a “First Report of Injury” to the Office of Workers Compensation, no later than ten (10) days following an accident. Failure to do so exposes the employer to a “civil penalty” not to exceed \$1,000.00.

For those projects which do not have the necessary forms, they can be obtained from the Human Resources Director, or contact the D.C. Office of Workers Compensation at (202) 576-6265 and conatc the appropriate Office of Workers Compensation for all other States.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 15 Radio Procedures

It is the intent of this section to establish radio procedure guidelines for the proper and consistent use of radios at each project. The **Chief Engineer** will be responsible for implementing radio procedures in accordance with FCC regulations, facility type and staffing structure.

Definition: An emergency is an set of circumstances which threaten bodily injury or serious property damage.

Types of Building Emergencies

	<u>Radio Code</u>	<u>Emergency Category</u>
1.	Red	Fire
2.	Orange	Bomb Threat
3.	White	Heart Attack, Stroke, Serious Injury
4.	Black	Power Failure
5.	Green	Elevator, Trapped Occupant
6.	Blue	Flood
7.	Yellow	Civil Disturbance

Remember, the ability to act quickly can prevent or control most injuries or property damage.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 15 Radio Procedures

CODE RED

FIRE EMERGENCY

I. In the Event of an Alarm.

Security

1. Call 911.
2. Call Management Office and report type and location of alarm.
3. Go to fire control room and radio **Chief Engineer**, Assistant Chief or Lead Engineer, and report type and location of alarm.
4. Return to the ground floor and direct evacuees away from the building entrances.
5. In the event of a false alarm, notify people outside.
6. File incident report.

Engineers

1. **Chief Engineer** (or in his absence Assistant Chief or Lead Engineer) to go directly to Fire Control room and monitor annunciator.
2. Engineers to report locations to Chief (or in his absence, Assistant Chief or Lead Engineer).
3. **Chief Engineer** to direct closest engineer to alarm location. If other engineers are available, **Chief Engineer** will assign in this order. 1) One man to Equipment Location to monitor fire pump and generator and 2) One man to rooftop to monitor smoke evacuation system, if applicable.
4. In the event of a false alarm, **Chief Engineer** (or in his absence Assistant Chief or Lead Engineer) will silence and reset alarm and make an announcement over the public address system, if applicable.
5. Chief will initiate and supervise any clean up, as result from an actual fire alarm.

CODE RED - Cont.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 15 Radio Procedures

6. **Chief Engineer** to file an Event Report.

Management Office

1. The **Manager** will go directly to the location of the alarm and assess the emergency. The **Chief Engineer** will be the primary contact for the Fire Department.
2. Property Assistant will evacuate the office unless otherwise directed by the **Manager**.

After Hours

1. Security Guard to call 911.
2. Security Guard to go directly to Fire Alarm Annunciator panel, assess location of fire as indicated on panel and report information to responding Fire department. If other security personnel are available, dispatch one individual to the actual location of the fire alarm to determine the nature of the alarm and report accordingly.
3. Security Guard to notify **Chief Engineer** at home (or in his absence, the Assistant Chief) and the **Manager** as soon as time allows.
4. If alarm is false Security Guard will wait until the Fire Department arrives and let the Fire Department make the announcement and reset the alarm system. Then contact the external monitoring **Company** on status and verify that the fire alarm panel reset has cleared.
5. Security Guard to file an incident report.
6. Advise **Chief Engineer**.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 15 Radio Procedures

CODE ORANGE

BOMB THREAT

- II. If the Management Office is advised of a bomb threat, the procedures listed below will be followed. If you receive the call, follow the Bomb Threat Check List procedures.

Management Office

1. Building Assistant will call the Security Guard and Engineers via radio.
2. All tenant contacts will be notified, but the decision to evacuate will be left up to the tenant. Tenant contact will be telephoned by the Property Manger and/or the Property Assistant.
3. The **Manager** or **Chief Engineer** will direct the bomb squad to the suspected location, if known.

Engineers

1. Monitor fire control room.
2. Provide service elevator for bomb squad.

Security

1. Security Guard will attempt to notify any tenant present in the building.
2. Security Guard will direct the bomb squad to the suspected location, if known.
3. Make sure all areas remain secured.
4. Notify Management Emergency Contact list personnel.
5. Security Guard to fill out incident report.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 15 Radio Procedures

CODE WHITE

HEART ATTACK, STROKE, SERIOUS INJURY

III. Engineers

1. **Chief Engineer** (or in his absence Assistant Chief or Lead Engineer) sends one man to the street entrance to direct ambulance to the nearest elevator. Meanwhile, another member of the Engineering Staff recalls an elevator and waits to assist the rescue team.

Security

1. Security Guard goes to the street entrance to direct ambulance to the elevators and assist.
2. Contact Management Emergency Contact List Personnel.
3. File incident report.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 15 Radio Procedures

CODE BLACK

POWER FAILURE

IV. Engineers

1. Check generator (if applicable) and fire control panel for property operation.
2. Implement equipment power failure restart procedures.
3. File Equipment Malfunction Report.

Security

1. Check to see if anyone is trapped in elevators.

After Hours

1. Call Management Emergency Contact List Personnel.
2. Check to see if anyone is trapped in elevators.
3. Initiate evacuation of remaining tenants.
4. File incident report.

Engineers

1. **Chief Engineer** or Duty Engineer returns to building and waits for power to return.
2. Implement equipment power failure restart procedures.
3. File Equipment Malfunction Report.

Note: Some procedures will not apply if the property is not equipped with an emergency generator.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 15 Radio Procedures

CODE GREEN

ELEVATOR MALFUNCTION

V. Security

1. Call Elevator Contractor.
2. Check to see if anyone is trapped.
3. Establish voice contact once every five minutes.
4. Wait for Elevator mechanic. DO NOT TRY TO OPEN DOOR.

After Hours - Security

1. Contact Elevator Contractor.
2. Contact **Chief Engineer** and advise.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 15 Radio Procedures

CODE BLUE

FLOOD

VI. Security

1. Contact **Chief Engineer** and notify as to the type and location of leak.
2. Contact Management with same information and stand by for further instructions.

Engineers

1. Respond to location of leak reported and report conditions to the **Chief Engineer** and stand by for further instructions.
2. **Chief Engineer** directs the appropriate action and advises Management.

Management

1. Inspects the damages (if applicable) from the leak and advises all parties concerned, i.e., tenants, cleaners, engineers, contractors.

After Hours - Security

1. Call **Chief Engineer** for instructions.

Engineers

1. **Chief Engineer** returns to building.
2. Call Property **Manager** with water damage assessment.
3. Management to contact Tenant Emergency Contact Person, if Tenant space has been affected.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 15 Radio Procedures

CODE YELLOW

CIVIL DISTURBANCE

VII. Security

If the disturbance occurs outside:

1. Call the **Manager**.
2. Lock entrance doors.
3. Call 911.
4. Call Engineering for back up assistance, if necessary.

Radio Usage

The **Chief Engineer** will be responsible for the training and proper use of all radios in accordance with FCC regulations and the following standard radio communication language and procedures:

Radio Language

- | | | |
|----|-----------------|---|
| 1. | What's your 20? | What is your specific location |
| 2. | 10-4 | Acknowledgment of request |
| 3. | ETA | Estimated Time of Arrival |
| 4. | Landline | Give that person a call on the telephone |
| 5. | Clear | End of transmission |
| 6. | Go ahead | Transmission received, proceed with request. |
| 7. | Stand-by | To have the person you're talking to wait temporarily |
| 8. | Stepped on | Someone keyed their radio up while you were talking |

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 15 Radio Procedures

Failure to use or maintain proper use of radios may result in disciplinary action.

1. Mary needs to talk with John:

Mary: Management to Unit 1, come in please.

John: This is Unit 1, go ahead.

Mary: Please give me a landline in my office.

John: 10-4, Unit 1 clear.

Mary: 10-4, Management clear.

2. Kate needs to know if the keys are cut for the cleaners.

Kate: Management to Unit 2, come in please.

Tom: This is Unit 2, go ahead.

Kate: Unit 2, or Tom, what's the status of the keys for the cleaners requested yesterday?

Tom: Kate please stand by while I verify.

Response: Unit 2, this is Unit 4, the keys are being cut at this time and will drop keys off to Management in the next 15 minutes.

Tom: 10-4, Unit 4, thank you.

Unit 4: 10-4, Unit 4 clear.

Tom: Unit 2 to Management, did you copy that transmission?

Kate: 10-4 Tom, thank you, Management clear.

Tom: 10-4, Unit 2 clear.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 16 Utility Reporting

The **Chief Engineer** will be responsible for conducting the monthly Electricity Budget Profile for each of his/her projects. Copies to be forwarded to the **Manager** (refer to Section H, "Sample Forms", Form A16, Electricity Budget Profile). The PC you are using must have Excel 5.0 or higher to print properly.

Profile Information

The following information must be obtained prior to inputting any data in the program diskette:

1. Utility Invoice - a copy of monthly invoice reflecting the Net Current Bill amount and Total KWH Billed.
2. Sub-meter Readings - For those projects required to bill back tenants for electrical consumption for computer rooms, A/C equipment, etc., must have the monthly total tenant KWH consumption meter readings. Refer to No.C•3, Meter Readings.
3. OTAC KWH Consumption - All OTAC billback hours per month must be accounted for and multiplied by the average KWH per hour unit value, to determine total OTAC KWH consumption.

Once the information is assembled, you can proceed with the inputting the data on the program diskette included in No.I of this Manual. For those not familiar with this program, please direct your questions and/or schedule training to the **Manager**.

Electricity Profile Procedures

When using the computer diskette, make sure you are familiar with the program and the computer you are using; when in doubt, call the **Manager**.

Insert either diskette into your computer and change your C:\ drive to the appropriate drive (i.e., A:\ or B:\) while in your the Excel program. To print the electricity profile, your PC system must have a printer.

Once in your Excel program, type in back slash (\), file retrieve, and select Form A16. Once the file is up, save the program file on another formatted diskette, so not to modify the original manual diskettes.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 16 Utility Reporting

When renaming the diskette file name, use the following guidelines:

Example: Market Square 1992 Electricity Profile

File Name: 92MSELEP

The file name should also be typed in the lower left hand corner of the spread sheet, by editing the Form A16 with the proper file name.

When using the program file, the program will be in World Global Protection, preventing or editing of cells or date accidentally. Do not disable this function, unless you know what you're doing. Depending on the type of monitor you have, protected cells will be coded with a PR in the cell string at the top left hand corner of your screen or the cells will be white for protected with a color monitor and green for unprotected.

The unprotected cells or green cells, are the areas where the data will be inputted and or edited as necessary each month to update the monthly electricity profile.

Input Procedures

1. Go to cell K7, input Project Name.
2. Go to cell K8, edit year of profile.
3. Go to column #13, Gross Amt., enter dollar value from monthly electrical invoice, Net Current Bill amount and enter in appropriate row/month.
4. Go to column #12, Gross KWH, enter KWH value form monthly electrical invoice, Total KWH Billed and enter in appropriate row/month.
5. Go to column #9, OTAC KWH and enter Total OTAC KWH for the appropriate month.
6. Go to column #8, Submeter KWH and enter Total Tenant Submetering Billback for the appropriate month.
7. Go to column #2, Occupancy Square Feet and enter actual occupied square footage number in each month known and carry through the remaining months, to December.

Once the data is inputted, the following cells or data will have to ve edited to reflect the total months of the profile.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 16 Utility Reporting

Example: Profile reflects to June or six (6) months total.

Refer to the following cells and by using the F2 Key (edit) the formula can be changed to reflect six (6) months of data.

Formula Editing:

Cell G32 = KWH/SQ,FT. Occupied = (K28/12) - G35

Go to cell G32, press F2 Key, cursor back to the 12 in formula, delete and add the number 6 to the formula, and enter.

Example: Formula - (K28/12) - G35
 Edited Formula - (K28/6) - G35

The formula means - got to cell K28 divide by value (12 or 6) and subtract cell G35 equals data in cell on spread sheet.

Conduct the same procedures for the following cells:

G35 = ((M28/12)/G28)*(I28/G41)
 Edited = ((M28/6)/G28)*(I28/G41)

M35 = (Q28/12*12/G41)
 Edited = (Q28/6*12/G41)

M38 = (AA28/12*12/G41)
 Edited = (AA28/6*12/G41)

M41 = (AC28/12*12/G41)
 Edited = (AC28/6*12/G41)

Additionally, cell G41 will have to be edited one time, to reflect the projects actual total net rentable area (NRA).

MAINTENANCE MANAGEMENT
OPERATIONS & MAINTENANCE MANUAL

No. A • 16 Utility Reporting

Formula Legend: **Divide - /**
 Multiply - *

Copyright Michael McCormick

MAINTENANCE MANAGEMENT

OPERATIONS & MAINTENANCE MANUAL

No. A • 16 Utility Reporting

Graph Changes

Once all the data is inputted, go to the Graph file in your Excel directory by pushing the ?/Key. Enter Graph, go to View and make sure the graph reflects your current data. Then enter; go to Name, enter and select Create and enter; select graph name and enter; go to Save, enter; go to proper directory, select graph name, enter and replace. When done, save Excel file.

Key Stokes:

?/Key:	Press
Excel Directory:	Select Graph, press enter;
Graph Directory:	Select View, press enter, after review, press enter;
Graph Directory:	Select Name, press enter;
Name:	Select Create, press enter;
Create:	Select Graph name, press enter, or enter new file name;
Graph Directory:	Select Save, press enter;
Graph File:	Select Graph file name, press enter, or enter new file name;
Graph Directory:	Select Quit, press enter; and
?/Key:	Press, and select File, Save and enter Replace.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 17 Service Contracts

The **Chief Engineer** will be responsible for assisting the Property **Manager** with the service contract specification development, pricing and contract enforcement with the following areas related to the operation of the building:

- Elevator Maintenance
- Water Treatment
- Life Safety Systems
- Emergency Generators
- Energy Management Systems
- Centrifugal Chillers
- Electrical Switchgear Maintenance

(Also refer to TCMS Policies and Procedures Manual, Section A, "Contract Administration," pages A-1 to A-12.)

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 18 Fire Drill Reporting

The **Chief Engineer** is responsible for conducting routine fire drills as outlined in the “Life Safety Program Policy”, No. F • 1, and submit a written report to the Fire Chief twice a year (refer to Section H, “Sample Forms”, Form A18, Fire Drill Report Form).

Fire Drills

In accordance with the District of Columbia Fire Prevention Code Supplement, Section F-106.0, Fire Drills, the following will be conducted accordingly:

F-105.3 Records. A record of all fire drills shall be kept on the premises and persons in charge of such occupancies shall file written reports at least twice a year with the Fire Chief giving the following information:

1. Time of drill;
2. Date of drill;
3. Weather conditions when occupants are evacuated;
4. Number of occupants evacuated;
5. Total time for evacuation; and
6. Other information relevant to the drill.

F-106.4 Evacuation. In educational uses, fire drills shall include complete evacuation of all persons from the building. In institutional uses, fire drills shall be conducted to familiarize operating personnel with their assigned positions of emergency duty. Complete evacuation of occupants from the building at the time of the fire drill shall be required only where it is practicable and does not involve moving or disturbing persons under medical care or restraint.

MAINTENANCE MANAGEMENT
OPERATIONS & MAINTENANCE MANUAL

No. A • 19 Customer Service

Remember Courtesy

As a policy, we view service to our customers and business associates as our most important responsibility. You are expected to help us carry out this policy by extending every courtesy and all assistance necessary, not only to clients, business associates and your fellow employees, but to any callers or visitors. If someone asks you for assistance that you are unable to give, please refer them to your Supervisor.

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 20 Security

Pay Attention to Security

Our office buildings and the properties we manage contain valuable equipment and other property. It is important, in order to protect your job and the job of everyone employed here, that all employees pay close attention to the security of those facilities as well as their equipment, merchandise and other property. Please notify your Supervisor immediately if you see anything suspicious, including the presence of strangers on our premises or those we manage.

Personal property (i.e., radios, tape recorder, etc.) may be brought onto **Company** property by employees. However, **Company** cannot accept responsibility for the personal property of employees and it is the employee's responsibility to safeguard such property from theft, damage, misuse, etc.

(Also, refer to **Company** Employee Handbook Policy, "Personal Property.")

MAINTENANCE MANAGEMENT OPERATIONS & MAINTENANCE MANUAL

No. A • 21 Communications

Work Assignments

All engineering personnel will be responsible for the information presented when meeting with their supervisor about a work assignment, you should make appropriate notes rather than rely on memory. Never leave your Supervisor or any other person assigning work to you without fully understanding exactly what is to be done, when it is wanted, what resources you will need, and how long it will take to complete the work assignment. Do not let your Supervisor rely on you if you do not understand all aspects of the assignment. While he or she should endeavor to make this clear to you, it is your responsibility to ask questions. We cannot overemphasize the importance of this policy. At **Company**, we pride ourselves in taking the highest degree of care in our work as well as the attention to details.

Personal Conflicts

We recognize that some problems may be of such a personal nature or that, for some other good reason, you may prefer not to discuss the matter within your department or with you Supervisor. In such a case, you should take the problem directly to the Senior Property **Manager**.

If you fail to follow this procedure in a timely manner, it is understood that you will not contest **Company**'s action further. Remember that we cannot help you solve your problems if you do not tell us about them or work them out effectively.

This problem solving procedure is your "hot line" to our management--please use it! Gossip and backbiting do not resolve problems. They are disruptive and counterproductive to employee morale and effectiveness and will not be tolerated.