

FocusOn **FACILITIES**

Maintenance: In-House, Service Contracts, Mobile — Knowing the Limits

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If one is not a building owner or someone responsible to operate and maintain a building, then this individual will probably not give a thought to the fact that there are three methods of maintaining buildings:

1. In-house maintenance staff
2. Out-sourced maintenance staff and/or service contractors
3. Mobile maintenance that could be provided by in-house staff or service contractor coming and going via a service van.

The areas of maintenance associated with a building and the method of maintenance most commonly used are usually in the following categories:

- General Construction Maintenance
- HVAC Maintenance
- Plumbing Maintenance
- Fire Protection and Fire Alarms Maintenance
- Electrical Power
- Lighting Maintenance
- Security Maintenance
- Communications Maintenance
- Landscaping Maintenance
- Snow Removal Maintenance

GENERAL CONSTRUCTION MAINTENANCE

- **Roof:** routine maintenance, e.g., visual inspection annually can be completed by in-house staff. Roof repairs, e.g., shingle replacement and patching of rubber roof material is usually completed by a service contractor insured and qualified to perform the work and provide some level of roof warranty.
- **Exterior Walls:** routine maintenance, e.g., visual inspection annually can be completed by in-house staff. Making maintenance repairs, e.g., re-pointing bricks and masonry may be completed by in-house staff, but a service contractor insured and qualified to perform the work might be a better choice.
- **Windows and Doors:** routine maintenance, e.g., visual



inspection annually can be completed by in-house staff. Recaulking/resealing can be completed by in-house staff unless the building is more than two stories high. In this case, maintenance, including window cleaning will probably be completed by a service contractor insured and qualified to perform this work.

- **Foundation:** routine maintenance, e.g., visual inspection annually can be completed by in-house staff. Should a foundation leak occur, then this repair work is usually completed by a service contractor insured and qualified to perform the work and provide some level of sealed foundation warranty, e.g., 10-year warranty.

HVAC MAINTENANCE

- **Air-Conditioning:** one and two story buildings will usually have in-house staff and, depending on the total square feet of facility, staffing may consist of only a custodian with additional maintenance support from a mobile in-house staff servicing a number of buildings owned by one organization. Multi-level buildings, e.g., high-rise may be

maintained by an out-source maintenance company especially if the space is leased.

For those buildings maintained by in-house staff, the refrigeration side of the air-conditioning system will usually be maintained by a certified refrigeration service company and contracted for specific times of the year, e.g., seasonal inspection and be on-call for cooling failure emergency.

- **Heating:** Maintenance will usually follow the same format as air-conditioning maintenance. Servicing of boilers on the burner side of the heating system, e.g., oil-fire burner, will usually be maintained by a certified oil or gas service company and contracted for specific times of the year, e.g., seasonal inspection and be on-call for boiler failure emergency.
- **Filters:** Usually the in-house staff, including facilities with custodian-only personnel, will be responsible for filter replacements based on a specific schedule, e.g., quarterly replacement. If the building owner has multiple one and two story facilities, filter replacements are an ideal application for mobile unit maintenance application or a filter service contractor.
- **Automatic Controls:** Routine resetting and reprogramming of room thermostats will be done by in-house maintenance staff and/or custodians. Actual servicing of a building automation system (BAS) may be services by a BAS service company.

PLUMBING MAINTENANCE

- **Domestic Hot Water Heating:** Systems will usually follow the same format as boiler maintenance with servicing of hot water heater's burner's, e.g., gas-fire burner, will usually be maintained by a certified gas service company and contracted for specific times of the year, e.g., seasonal inspection and be on-call for burner failure emergency.
- **Backflow Preventors:** Depending on the specific State, inspection is once a year and is performed by a certified backflow preventer service company.
- **City Water:** As a rule, there is no servicing required. The local water company will monitor the usage and associated billing. If the building has well water, the building owner's maintenance staff or custodian will be responsible for monitoring and changing the well water filter as needed during the year.
- **Lawn Sprinkler Systems:** If the building has an outdoor, below grade sprinkler system, including the automatic

controls and sequencing of zone "on-off", will usually be maintained by a qualified sprinkler service contractor including annually certifying all backflow preventor devices, Spring start-up, and Fall pipe distribution evacuation.

FIRE PROTECTION AND FIRE ALARMS MAINTENANCE: The required monitoring, inspection, and servicing of the fire protection system will be most likely inspected annually by a certified service company. In regard to the building's fire alarm maintenance, and more specifically the regularly annual fire alarm testing should be performed by a certified fire alarm service company. Replacement of battery operated smoke detectors, as well as carbon monoxide detector, will usually be maintained by the in-house staff, custodian, or mobile maintenance unit.

ELECTRICAL POWER: Any maintenance, up to the utility service entering the building, as well as meter reading and billing will be completed by the local electrical service provider, including emergency response during the year.

LIGHTING MAINTENANCE: Light bulb replacement will usually be provided by in-house maintenance staff, custodian, or mobile maintenance unit.

SECURITY MAINTENANCE: Maintenance will be completed by a certified security service contractor including remote monitoring and notification to the building management staff and/or maintenance manager.

Communications Maintenance: There is a wide variety of communication systems, e.g., maintenance of the computer network, and this work will usually be performed by a certified information system service including emergency response when a system is malfunctioning.

Landscaping Maintenance: Depending on the size of the owned property lawn, number of bushes, and garden size, the maintenance of the landscaping may be performed by in-house maintenance staff or a combination of staff with a landscaping service contractor.

Snow Removal Maintenance: Aside from parking lot snow removal, which is usually completed by a snow removal contractor, shoveling of stairs and walkways may be maintained by in-house staff or a custodian.

In-house maintenance staff can be any combination of maintenance personnel assigned to a specific building, a custodian assigned to a specific building, or a mobile unit made up of in-house staff assigned to a specific number of units to visit and complete scheduled preventive maintenance work orders including replacement of filters. This staffing flexibility can allow certain facilities to retain one individual on

site filling the role of custodial but not trained to perform a specific list of maintenance tasks.

Focusing on heating, ventilating, and air-conditioning (HVAC) maintenance within a facility, the advantages to having an in-house staff are as follows:

- Personal commitment
- Localized staff
- A member of the community
- Ability to take instructions from the building owner and/or the on-staff building manager or facility manager
- Certain emergencies can be readily responded to
- Encourages team building

Disadvantages:

- Cost to train staff, as needed, to fulfill a specific job description
- Qualification limits on certain tasks, e.g., servicing a refrigeration system
- Financial overhead expense, e.g., holiday, sick, and vacation benefits, etc.

Outsourcing the HVAC maintenance, as well as operation within a facility to a separate company will place their employees on site to perform the tasks they are hired to do and has the following advantages:

- Elimination of in-house maintenance staff and associated costs with benefits
- Possibly localized personnel
- Pre-trained to the job description to be fulfilled
- Financial overhead expense, e.g., holiday, sick, and vacation benefits, is the responsibility of the out-source firm
- Contract may include performance incentives, e.g., reduce utility consumption costs

Disadvantages:

- Maintenance personnel will take their instructions from the out-source project manager who will be overseeing a number of contracted buildings within a specific area or region
- Specialist may not be full time on-site personnel splitting his or her time at other site(s)
- Certified technicians, e.g., refrigeration technicians may be subcontracted to this out-source maintenance management firm, still requiring additional service contracts
- There may be different approaches, management styles and philosophies, which can lead to conflict
- Emergency response may be delayed, first passing

through the out-source firm

- Team building may be difficult with the overall support services within the facility

Other discussions on building maintenance can be found in past FOCUS on FACILITIES columns to be referred back to:

[Servicing Those Hot Water Heaters](#)
[More Pollen = More Air Filter Changes](#)
[What a Preventive Maintenance Work Order Includes](#)
[City Water Backflow Prevention and Its Importance to Your Health](#)
[Air-Handling Unit Visual Inspections](#)
[Fall Cleanup In Your Equipment Room](#)
[Preventive Maintenance of Roofs](#)
[Preventive Maintenance of Parking Lots](#)
[Fire Protection & Life Safety Preventive Maintenance](#)
[Boiler Maintenance](#)
[Air-Handler Maintenance](#)
[Pump Maintenance](#)
[Hot Water Heater Maintenance](#)

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