Building Systems

Because the virus is transmitted through droplets carrying the virus, the building system of concern is primarily Heating, Ventilation and Air Conditioning (HVAC).

**NOTE:**
Persons working on building systems can carry and transmit the virus. Therefore, FMs should require that all building system employees and contractors receive pandemic prevention training. Appropriate personal protective equipment should be made available.

**HVAC**

- HVAC systems should continue running, increasing the amount of outside air and reducing the amount of recirculated air. Alternatively, increase ventilation in the workplace by opening windows, if applicable.
- Increase the frequency at which air-handling device filters are replaced and implement a coil cleaning protocol to improve indoor air quality.
- Consider using HEPA air filters to improve air quality.

**CLEANING AND DISINFECTING HVAC COILS**

Because a building’s HVAC system continuously recirculates the air through coils, a significant risk exists for pathogens to take root deep within these coils. Coil cleaning needs to be performed periodically and routinely utilizing a process that makes it possible to penetrate entirely through the heat transfer coils resulting in delivering near perfect surface area coverage. This makes it possible to both remove these biofilms and kill any pathogens that may be present within the coils or underneath them.

Cleaning and disinfecting HVAC heat transfer coils is a proven approach to improving a facility’s indoor air quality and energy efficiency. This process and protocols must be designed to remove the biofilm growths that often form deep inside the coils of the HVAC system, thereby eliminating potential breeding areas for viruses, bacteria, and fungi.

The objective is to mitigate the potential risks of a building’s HVAC system being exposed to Coronavirus (COVID-19) and other pathogens. The process should be designed as follows:

- First, execute a deep clean to prepare the building and remove the existing biofilm and blockages within the coils using enzymes and disinfectants.
- Next, execute shorter follow up treatments every four to six weeks, depending on a building’s requirements.

It is recommended to use a hospital-type disinfectant, like the powerful disinfectant Chlorine Dioxide (ClO2), that is effective against human coronavirus (ATCC VR-740). ClO2 is a well-known and highly effective disinfectant used to kill viruses, bacteria, and fungi such as Coronavirus, Rhinovirus, Staphylococcus Aureus, and MRSA. The use of these disinfectants combined with enzymes creates a unique and effective formulation for removing biofilms ensuring the elimination of microbial growths while also improving the HVAC energy performance.

**ALARMS**

Assess your alarm notification process. Understand who receives alarms: which employees have access to HVAC system alarms? What if they get sick or are otherwise unavailable? What is the backup process – are backup personnel identified and notified? What if backup is not receiving the alarm? Where are passwords stored; who has access to them?

**Power**

While a pandemic is not expected to lead to power outages, a pandemic will impact power company staffing levels, and if an outage does occur, the response timeframe may be delayed.

Proactive testing of the stand-by generator will help ensure power availability to the site. Fuel levels in stand-by generators should be periodically checked, and tanks should be filled after each test.

Site Access Restrictions and Closure

- It may be appropriate to restrict visitors and other non-employees from entering facilities. Notify Site Security of all third-party service providers/vendors that are authorized access to the facility during a site closure or when access is restricted.

- If a site closure is deemed appropriate, coordinate the closure with Site Security, executive leadership, and corporate communications. Reduce misinformation and speculation by communicating with other company locations about the circumstances of the closure.

- Establish communications protocols for notifying employees when a building will be closed as well as re-opened.

- Identify any prerequisites to be met by employees and third-party service providers/vendors prior to entering closed or restricted access sites:
  - Medical evaluations
  - Vaccinations (if available)
  - Self-health assessment questionnaire
  - Personal protective equipment use

- Notify personnel and third-party service providers/vendors of any prerequisites prior to entering a closed or restricted site.

- Identify access control support that can be provided from remote locations.

- Ensure all entrances to the affected facility can be effectively secured. Access to the facility should come through the main entrance only.

- Direct all incoming and outgoing personnel through the main entrance of the facility to assist in access monitoring.

- Ensure documentation of all visitors and personnel into and out of the facility, including:
  - Name
  - Company
  - Time entered
  - Time exited
  - Completion of facility entrance prerequisites

Supply Chain Management

Verify or continue implementing:

1. Evaluate ongoing or potential supply shortages resulting from the pandemic
2. Evaluate the effects of transportation disruptions on the supply chain
3. Verify, as appropriate, excess stock of necessary supplies has been ordered, received, and stored in a secure location
4. Assess pandemic impacts to suppliers and estimate ongoing supply chain shortages
5. Identify alternate sources of critical supplies and services
6. Execute contracts with alternate suppliers
7. Establish arrangements for 24/7 communications with critical suppliers

Critical Vendor and Supplier Strategies

If a vendor, supplier, or contractor cannot provide support to the performance of a critical function, consider the following strategies:

▶ Alternate suppliers. Identify other third parties that can provide like products or services. Establish contracting mechanisms prior to a disruption to expedite the procurement process.
▶ Service-level agreements (SLAs). Negotiate or purchase acceptable service levels that may be invoked in the event of a disaster. SLAs may include 24/7 emergency communications, service priority, and minimum response times.

Vital Records Recovery

Options for recovering vital records depend upon the vital record storage strategy as implemented in the Planning/Preparedness Phase. These included:

▶ Off-site document storage
▶ Imaging
▶ Retrieval from document source or recipient
▶ Document recovery