

## **ENERGY MANAGEMENT - STORE OPERATIONS COVID-19 FAQ**

This document summarizes questions discussed during RILA member or Edison Electric Institute (EEI) customer benchmarking call for companies operating in 4 different scenarios:

1. Fully Operational or Reduced Hours
2. Reopening Offices
3. Significantly Reduced Operations
4. Unoccupied or Closed Stores

*Mutually relevant questions are repeated across multiple operational scenarios.*

See the [RILA COVID-19 Resources for Retailers News & Info Page](#) for the latest operational, executive order, agency, employment, state and local, compliance, and industry communications tracking resources, as well as all RILA COVID-19-related upcoming calls and webinars.

**Note:** The FAQ discussion summaries provided represent a "snapshot in time" of some companies' policies and activities in response to COVID-19. The results do not represent a complete picture of the policies and activities of the whole RILA membership or the retail or any other industry on these issues. Moreover, the results are not intended as a definitive statement on the subject addressed. Rather, they are intended to serve as a tool providing reference material and information for the reader. No endorsement of any provider is either intended or implied through our publication of the FAQ discussion summaries.

**Have a proposed contribution or correction, including other useful resources?**  
Contact Erin Hiatt, Sr. Director of Sustainability & Innovation: [Erin.Hiatt@rila.org](mailto:Erin.Hiatt@rila.org).

# FULLY OPERATIONAL OR REDUCED HOURS

## HVAC

### How are most companies handling HVAC for operational stores?

- Many companies are changing HVAC schedules and set points to reflect changes in store hours.
- Of HVAC options to limit virus spread, the highest priorities should be good ventilation and good air quality in all indoor spaces – especially small spaces. It is important to note that preventative personal measures (e.g. hand washing, avoiding touching the face, social distancing, use of PPE, etc.) are the most effective way to limit spread.
- Strategies are not one-size fits all, and to know a store building its system, and potential efficiency impacts. Also note that recommendations may not be achievable in every place, some may be weather-dependent, and there are still many unknowns. According to ASHRAE, the most cautionary practices for HVAC operation during COVID-19 include:
  - Keep humidity above 30-40% when possible and below 60-degree F dew point.
  - Extend hours of operation for HVAC, flush 2 hours pre- and post-occupancies.
  - Operate exhaust fans and open outside air dampers.
  - Perform necessary heating, ventilation, and air-conditioning system maintenance and filter changes.
  - Use portable room air cleaners with HEPA filters to recirculate if outside air has high particulate levels (PM 2.5).
  - Recommend using higher MERV air filters such as MERV 13.
- Practices recommended by benchmarking companies include:
  - Do not turn off ventilation systems except to disinfect systems where infected individuals have been present, there are systems with inadequate outside air or inadequate filtration, or there is major outdoor contamination.
  - Keep HVAC running during occupied times and increase ventilation when possible.
    - HVAC systems are setup to provide minimum outside air flow based upon total design occupancy of space, with reduced occupancy CFM per person is much greater.
    - Outside air flow adjustments can be a manual process, especially with increases in outside air temperature.

- Ensure air flow when unoccupied – run system on minimum, open exhaust fans and air dampers.
  - Will impact energy consumption– preopen purge may be an alternative but consider humidity and system capabilities.
- Consider potential issues with higher MERV air filters.
  - Potential issues with MERV-13 air filters, including less efficiency or increased energy costs, freezing coils, and more blower motor failures.
  - In some experiences, these issues arise in a minority of cases, especially with reduced occupancy and if system is running over longer period of time.
  - May need more maintenance checks.
- Companies can consult with their HVAC manufacturer regarding the limits of their HVAC units and manual adjustments.
- Companies with stores in shopping malls can consult with mall management and common area management teams.
- Companies should check plumbing traps to make sure they are kept full and there are not backups and to inspect HVAC traps to make sure they are not clogged.
- When considering electronic air cleaners, companies should ensure technologies are rated by a third party.
  - Companies should be cautious of dry hydrogen peroxide, it is an oxidizer and there is uncertainty around potential consequences.
- Some companies are testing flushing sequences.
- Some companies are exploring different technologies or new procedures including handheld UV light wands or other UV solutions – at least three companies are testing ionization, at least one in its distribution centers.
  - Researching new or not widely tested technologies may take time and includes considering effectiveness as well as impact on equipment. Technologies must be used properly to be effective.
  - There is no consensus that using UV or UVC retrofits provides enough exposure to air during circulation to kill the virus at a rate that will make an impact.
- At least one company is testing ionization in its distribution centers.

**Are companies with operational stores making any changes to their setpoints?**

- Several companies have lowered indoor setpoints to help improve the comfort of associates wearing personal protective equipment (PPE), particularly in hot climates or where they have "runners" supporting curbside pick-up.
  - Some companies are lowering setpoints only in certain regions, only if requested, or only through a temporary override. Some companies that have not lowered setpoints are considering it.

- Some companies have transitioned to their summer setpoints.

### **How are retailers approaching outdoor intake as stores reopen and the weather is hotter?**

- Some companies initially pulled back on increasing outdoor air intake as much they are getting heat and humidity intake and comfort complaints. Companies are monitoring outdoor conditions.
- Another company initially raised their damper minimum valve, but now are starting to go back to some pre-COVID settings as temperatures are getting hotter.

### **Are companies still using economizers when stores are closed (after hours)?**

- Yes, but most companies are not adjusting their pre-COVID after hour settings.
- Many companies are starting their building conditioning an hour to two before store opening but are not making changes during closure periods.

### **Do any national organizations have guidance for running HVAC systems?**

- Companies are reviewing HVAC recommendations from ASHRAE, which would require extensive testing and could require changing store setup.
- ASHRAE provides the following suggestions for HVAC systems in buildings that remain open:
  - Increase outdoor air ventilation, using caution in highly polluted areas.
  - Disable demand-controlled ventilation (DCV).
  - Further open minimum outdoor air dampeners, as high as 100%.
  - Improve central air filtration to MERV-13 or the highest compatible with the filter rack and seal edges of the filter to limit bypass.
  - Keep systems running longer hours, if possible 24/7.
  - Consider portable room air cleaners with HEPA filters.
  - Consider UVGI (ultraviolet germicidal irradiation), particularly in high-risk spaces.
- For more information, see <https://www.ashrae.org/news/ashraejournal/guidance-for-building-operations-during-the-covid-19-pandemic>. See also, ASHRAE guidance on filters, <https://www.ashrae.org/news/ashraejournal/guidance-for-building-operations-during-the-covid-19-pandemic>.
- For additional ASHRAE resources, see:
  - Webinar, *Managing COVID-19 and HVAC in Buildings for Emerging Economies*, <https://www.youtube.com/watch?v=GNI4eKgBrEM&feature=youtu.be>
  - Presentation, *Fundamentals of COVID-19 Risk Management*, [https://www.ashrae.org/file%20library/technical%20resources/covid-19/bb\\_ashrae-emergingecon-covid-18jun2020.pdf](https://www.ashrae.org/file%20library/technical%20resources/covid-19/bb_ashrae-emergingecon-covid-18jun2020.pdf)

- Presentation, *Commercial Building Design for COVID-19 & Beyond*, <https://www.ashrae.org/file%20library/technical%20resources/covid-19/covid-19-developing-countries1.pdf>
- For more information regarding HEPA filters and MERVs, see <https://www.epa.gov/indoor-air-quality-iaq/what-hepa-filter-1>.
- The U.S. Department of Energy hosted a webinar regarding Managing HVAC Systems to Reduce Infectious Disease Transmission, available at <https://betterbuildingssolutioncenter.energy.gov/webinars/managing-hvac-systems-reduce-infectious-disease-transmission>.

## EMS/CONTROLS

**Do national health and safety organizations have any recommendations regarding engineering controls?**

- The CDC recommends considering improving the engineering controls using the building ventilation system, including increasing ventilation rates and increasing the percentage of outdoor air that circulates into the system. For more information, see [https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fspecific-groups%2Fguidance-business-response.html](https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fspecific-groups%2Fguidance-business-response.html).
- OSHA recommends using engineering controls in workplaces where they are appropriate to reduce exposure to hazards, including installing high-efficiency air filters and increasing ventilation rates in the work environment. For more information, see <https://www.osha.gov/Publications/OSHA3990.pdf>.

## WATER

**How are most companies handling water for fully operational stores?**

- Companies should check plumbing traps to make sure they are kept full and there are not backups and to inspect HVAC traps to make sure they are not clogged.

## MAINTENANCE

**Are companies that are operational conducting routine maintenance or repairs?**

- Some companies are only conducting maintenance that is critical to the operation of the store and have suspended all other building projects.
- Some companies are conducting only repairs that are essential, including cooking and refrigeration.
- Few companies are reviewing repairs on a case by case basis and utilizing reduced opening hours to conduct repair work when customers are not in the store.

- Some companies are requiring technicians or third-party service providers to wear personal protective equipment (PPE), some service companies may have their own requirements for their employees.
- **Comment from DOE Better Buildings SME**
  - Companies are repairing HVAC systems. Some companies have a policy to replace HVAC units within 48 to 72 hours of failure.
- OSHA recommends that where appropriate, customers' and the public's access to the worksite should be limited or restricted to only certain areas. For more information, see <https://www.osha.gov/Publications/OSHA3990.pdf>.

## UTILITIES

### **Are companies still proceeding with planned energy efficiency or construction projects?**

- Many companies are putting energy and sustainability projects that require entering the store on hold.
- Some companies are delaying all projects and new construction or remodels, while other companies are continuing new construction as planned if vendors are able to perform, and others have placed site inspections on hold but are moving forward with new construction.
- **Comments from DOE Better Buildings SME:**
  - Some companies that are essential businesses are moving up or adding more projects due to increased capital. These companies are mainly grocery or supermarket, convenience stores, or retail with a grocery presence.
  - Utility Energy Efficiency Programs are conducting remote or virtual inspections to minimize person to person contact.
- ASHRAE guidance recommends that engineers who perform field observations, commissioning, or special inspections must consider what work can be postponed, performed remotely, or conducted using photographic documentation, and what personal precautions to take when site visitation is unavoidable. For more information, see <https://www.ashrae.org/news/ashraejournal/guidance-for-building-operations-during-the-covid-19-pandemic>.

### **What are companies doing about projects that require signatures?**

- Some companies are working with their utilities so that the utilities will accept electronic signatures.
- Some companies where headquarters staff is working remotely are sending staff into the office to review incoming mail and scan documents to other staff members.

### **What are companies doing about the potential for increased hacking dangers or scams?**

- Companies should contact their utility with any concerns or experiences related to hacking.
- Some companies may be targeted by impostor utility scams. For more information about how customers can protect themselves from common scams, visit Utilities United Against Scams at <https://www.utilitiesunited.org/>.

**Are companies experiencing utility invoice delays?**

- Some companies are experiencing invoice delays from their utilities, this may be particularly true for utilities that typically come to retail sites to read meters.

**Are companies experiencing increased water use due to increased hand washing?**

- A few companies are monitoring this potential impact.

## **SUSTAINABILITY GOALS**

**What are companies doing about their sustainability goals?**

- Most companies are maintaining sustainability goals for now but are considering how they will engage in compliance and reporting.

## **GENERAL OPERATIONS**

- RILA members can access the RILA [Store Operations](#) and [Supply Chain COVID-19 Resource Libraries](#) to see if the resources and operational actions collected from RILA's other operational communities are useful for informing their operations.
- See also the [RILA COVID-19 Resource to Monitor State Executive Orders : PPE, Essential Sales, BOPIS & Other Policies](#) and the broader [RILA COVID-19 Resources for Retailers News & Info Page](#).

# REOPENING OFFICES

## GENERAL OPERATIONS

### What should companies consider when reopening corporate offices?

- Strategies for ensuring employee safety include staggering employee schedules to help enforce social distancing guidelines, requiring staff to work from home certain days to reduce number of people in the office at once, and requiring employees to wear masks at the office. Companies should consider how implementation of these strategies may impact an office's HVAC system or usage and how the office uses energy.
- It is important to change filters. Some companies are considering using MERV-13 filters.
  - For more information regarding HEPA filters and MERVs, see <https://www.epa.gov/indoor-air-quality-iaq/what-hepa-filter-1>.

### Is there any guidance for steps to take to reopen offices?

- While every workplace is different, the following resources may provide useful general information and guidance:
  - RILA Corporate Headquarters Resource Library <https://www.rila.org/corporate-headquarters-resource-library>
  - CDC Businesses and Workplaces Reopening Guidance: <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/businesses-employers.html>
  - OSHA Guidance on Preparing Workplaces for COVID-19: <https://www.osha.gov/Publications/OSHA3990.pdf>
  - U.S. Department of Energy webinar Managing Buildings During a Shutdown and Bringing them Back Online: <https://betterbuildingsolutioncenter.energy.gov/webinars/managing-buildings-during-a-shutdown-and-bringing-them-back-online>.
  - ASHRAE Guidance: <https://www.ashrae.org/technical-resources/resources>
  - Cushman & Wakefield Commercial Real Estate Services: <https://rila-fonteva.informz.net/rila-fonteva/data/images/Cushman%20and%20Wakefield%20Recovery%20Readiness1.pdf>



## SIGNIFICANTLY REDUCED OPERATIONS

### HVAC

#### How are most companies handling HVAC for stores with significantly reduced operations?

- Generally, companies continue to run HVAC and fans at reduced rates to ensure quality of air, manage humidity, and avoid maintenance issues.
- Some companies with reduced operations are not making changes to air balance or airflow.
- Companies are monitoring server rooms and IT locations for increased temperatures, as some do not have dedicated HVAC supply or sensors.
- Some companies are leaving HVAC on in portions of facilities, such as managers' offices, but are turning systems off in other portions.
- Some companies that are filling online orders from stores are operating HVAC settings as though the store were open, while others are raising the sales floor temperature but continuing to run AC units.
- Some companies have adopted standard settings for all closed stores, while others are fine tuning settings at the individual store level.
- Companies should consider how cooling water heaters and boilers may impact tanks.
- Some companies are not conducting or are reducing pre-summer cooling.

#### What set points are companies using?

- Many companies have setbacks that range from 74 to 80 degrees. Some companies are allowing a setting override.
- Companies may want to adjust temperatures based on humidity.

#### Does ASHRAE have any recommendations regarding HVAC operation during building shutdowns?

- Yes, ASHRAE has extensive recommendations on its website. See, <https://www.ashrae.org/technical-resources/frequently-asked-questions-faq>.
- For additional ASHRAE resources, see:
  - Webinar, *Managing COVID-19 and HVAC in Buildings for Emerging Economies*, <https://www.youtube.com/watch?v=GNI4eKgBrEM&feature=youtu.be>
  - Presentation, *Fundamentals of COVID-19 Risk Management*, [https://www.ashrae.org/file%20library/technical%20resources/covid-19/bb\\_ashrae-emergingecon-covid-18jun2020.pdf](https://www.ashrae.org/file%20library/technical%20resources/covid-19/bb_ashrae-emergingecon-covid-18jun2020.pdf)

- Presentation, *Commercial Building Design for COVID-19 & Beyond*, <https://www.ashrae.org/file%20library/technical%20resources/covid-19/covid-19-developing-countries1.pdf>

## EMS/CONTROLS

**How, if at all, do companies' current EMS settings differ from typical unoccupied settings (i.e. operational store during closed hours)?**

- Some companies have adopted standard settings for all stores with reduced operations, while others are fine tuning settings at the individual store level. Companies that have EMS providers are working with them to make adjustments.
- Companies are monitoring humidity levels in stores.

**Do national health and safety organizations have any recommendations regarding engineering controls?**

- The CDC recommends considering improving the engineering controls using the building ventilation system, including increasing ventilation rates and increasing the percentage of outdoor air that circulates into the system. For more information, see [https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fspecific-groups%2Fguidance-business-response.html](https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fspecific-groups%2Fguidance-business-response.html).
- OSHA recommends using engineering controls in workplaces where they are appropriate to reduce exposure to hazards, including installing high-efficiency air filters and increasing ventilation rates in the work environment. For more information, see <https://www.osha.gov/Publications/OSHA3990.pdf>.

**Are there any recommendations for managing buildings that are closed?**

- The U.S. Department of Energy hosted a webinar regarding Managing Buildings During a Shutdown and Bringing them Back Online, available at <https://betterbuildingsolutioncenter.energy.gov/webinars/managing-buildings-during-a-shutdown-and-bringing-them-back-online>.

## LIGHTING

**How, if at all, do companies' current lighting levels or settings differ from typical settings?**

- Some companies that are filling online orders from stores are running lights at 50%, while others are operating lighting as though the store were open.
- Some stores that are open but allowing minimal customers on premises (appointment-based visits) and have minimal staff working on site are keeping lights mostly off.

## WATER

**What are companies doing about water systems?**

- Some companies are sending maintenance staff to run all sinks and taps on a bi-weekly basis.
- Some companies are keeping maintenance staff onsite to address water issues.

## UTILITIES

**What are companies doing about utility bills and demand charges?**

- Some companies are paying utility bills on the due date instead of upon receipt. Other companies are making no changes to when they pay utility bills.
- Companies should contact their electric utility account managers to discuss extended or deferred payment plans for utility bills. Financial support opportunities may include payment deferrals and waiving late fees.
- Companies that have an electric generation supplier that is different from their electric utility may also contact their electric generation supplier.
- Some electric utilities may be able to assist companies in estimating demand charges or tariffs.
- Companies should be aware of how utility bill payment or nonpayment may impact their credit.

**What are companies doing about reduced electricity use and its impact on budgeting?**

- Many companies are assuming about 90% energy reductions and carrying over monthly demand charges to conservatively estimate usage.
- Some companies are using modelling based on previous year costs and applying it to the accrual process.
- Some companies estimate that a one-degree change in HVAC settings equates to a 10% reduction in cooling or heating cost.

- Some companies are contacting their electric utilities and electric generation suppliers to proactively discuss planned or ongoing store closures or reduced hours. This can help electric utilities to plan and support customers.
- If asked, some utilities may be able to assist companies with forecast modeling.
- If asked, some utilities may be able to assist companies with accessing meters that are not otherwise accessible.

#### **Where can I find more information about demand charges?**

- Each electric utility calculates demand charges differently. Companies should contact their electric utility account manager for utility-specific information.
- For general information, the following resources may be useful:
  - <https://www.renewableenergyworld.com/2017/06/06/making-sense-of-demand-charges-what-are-they-and-how-do-they-work/#gref>
  - <https://www.northwesternenergy.com/docs/default-source/documents/E-Programs/E-demandcharges.pdf>

#### **What are companies doing about the potential for increased hacking dangers or scams?**

- Companies should contact their utility with any concerns or experiences related to hacking.
- Some companies may be targeted by impostor utility scams. For more information about how customers can protect themselves from common scams, visit Utilities United Against Scams at <https://www.utilitiesunited.org/>.

#### **Are companies experiencing utility invoice delays?**

- Some companies are experiencing invoice delays from their utilities, this may be particularly true for utilities that typically come to retail sites to read meters.

## **ENERGY EFFICIENCY**

#### **What are companies doing about energy efficiency projects?**

- Some companies are taking advantage of closed stores to complete projects, some companies are continuing to consider such projects, and some companies put all projects on hold unless they are high priority.

## REOPENING STORES

### GENERAL

#### What are companies doing to plan for reopening stores?

- While most companies do not have a set timeframe for re-opening stores, some companies are in the early stages of planning for how to reopen. These companies should consider optics, develop strategies, and empower local store representatives to ensure that customers and associates feel safe.
- Some companies are considering adopting or extending new business models that include curbside pick-up, increased online ordering, or one-way aisles. Some companies are fully opening select stores to the public, while opening other stores only for online order fulfillment or curbside pickup. Some of these models may impact how a store uses energy or its HVAC system.
- Some companies are engaging in deep cleaning, beginning up to five days before store reopening.
- Companies should consider developing a store start-up checklist for onsite staff that covers tasks for pre- and post-opening. Pre-opening tasks may need to begin several days before a scheduled reopening. Any checklist should be developed with multiple departments and multiple stakeholders. Such a checklist may include:
  - Run at normal operations before re-opening to check equipment and address maintenance needs.
  - Stage equipment prior to opening to manage demand and avoid setting a high peak demand.
  - Per ASHRAE's recommendation, run HVAC and change filters to reduce humidity and ensure quality air flow.
  - Review any new technologies such as disinfectant lighting, fogging machines, and admitting dry hydrogen peroxide through HVAC systems and consider how implementation may impact HVAC systems or how a store uses energy.
    - See Fully Operational or Reduced Hours section for more information regarding implementation of new technologies, in particular about hydrogen peroxide.
  - Ensure water systems are working properly and water is safe for use.
- Companies should review the information in the Fully Operational or Reduced Hours section of this document for additional information regarding operational stores.
- RILA members can access the RILA [Store Operations](#) and [Supply Chain COVID-19 Resource Libraries](#) to see if the resources and operational actions collected

from RILA's other operational communities are useful for informing their operations.

- See also the [RILA COVID-19 Resource to Monitor State Executive Orders : PPE, Essential Sales, BOPIS & Other Policies](#) and the broader [RILA COVID-19 Resources for Retailers News & Info Page](#).

### **What are companies doing about maintenance in planning for reopening stores?**

- Companies should be prepared for an increase in service calls and maintenance issues around the time a store reopens and expect that maintenance contractors and vendors will be busy and need to prioritize service calls.
- Some companies are requiring technicians or third-party service providers to wear personal protective equipment (PPE), some service companies may have their own requirements for their employees.

## **HVAC**

### **What are companies doing to plan for reopening stores?**

- Some companies are considering using foggers to ensure that stores are clean; these companies should consider if use of such devices may impact a store's HVAC system or how the store uses energy.
- As part of the store start-up checklist described above, companies may want to consider:
  - Per ASHRAE's recommendation, run HVAC and change filters to reduce humidity and ensure quality air flow.
  - Review any new technologies such as disinfectant lighting, fogging machines, and admitting dry hydrogen peroxide through HVAC systems and consider how implementation may impact HVAC systems.
    - See Fully Operational or Reduced Hours section for more information regarding implementation of new technologies, in particular about hydrogen peroxide.

### **What are companies doing about maintenance in planning for reopening stores?**

- Some companies are deferring scheduled maintenance during store closures and may need to plan for additional maintenance before and after stores re-open. Areas that may require maintenance include HVAC units, belts, air filters, and water contraptions.
- Some companies are considering using different types of air filters when they reopen, and how this may impact energy use.

### **Are there any recommendations regarding how to return HVAC systems to normal operation?**

- Yes, ASHRAE recommends running ventilation and HVAC to ensure filtering and clean air. Stores should start running normally, including HVAC, before reopening to maintain fresh air in stores.
- ASHRAE has extensive recommendations on its website. See, <https://www.ashrae.org/technical-resources/frequently-asked-questions-faq>.
- See also, ASHRAE guidance on filters, <https://www.ashrae.org/news/ashraejournal/guidance-for-building-operations-during-the-covid-19-pandemic>.
- For additional ASHRAE resources, see:
  - Webinar, *Managing COVID-19 and HVAC in Buildings for Emerging Economies*, <https://www.youtube.com/watch?v=GNI4eKgBrEM&feature=youtu.be>
  - Presentation, *Fundamentals of COVID-19 Risk Management*, [https://www.ashrae.org/file%20library/technical%20resources/covid-19/bb\\_ashrae-emergingecon-covid-18jun2020.pdf](https://www.ashrae.org/file%20library/technical%20resources/covid-19/bb_ashrae-emergingecon-covid-18jun2020.pdf)
  - Presentation, *Commercial Building Design for COVID-19 & Beyond*, <https://www.ashrae.org/file%20library/technical%20resources/covid-19/covid-19-developing-countries1.pdf>
- The U.S. Department of Energy hosted a webinar regarding Managing Buildings During a Shutdown and Bringing them Back Online, available at <https://betterbuildingsolutioncenter.energy.gov/webinars/managing-buildings-during-a-shutdown-and-bringing-them-back-online>.

### **Are there any recommendations for managing HVAC systems to reduce disease transmission?**

- The U.S. Department of Energy hosted a webinar regarding Managing HVAC Systems to Reduce Infectious Disease Transmission, available at <https://betterbuildingsolutioncenter.energy.gov/webinars/managing-hvac-systems-reduce-infectious-disease-transmission>.

## **EMS/CONTROLS**

### **What are companies doing to plan for reopening stores?**

- Companies are considering lowering indoor setpoints to help improve the comfort of associates and customers wearing personal protective equipment (PPE).

### **What are companies doing about maintenance in planning for reopening stores?**

- Some companies that are deferring scheduled maintenance are using their EMS system and work order system to keep track of known issues and address critical

issues. This list of known issues may help companies to plan for additional maintenance before or shortly after store reopening.

### **Do national health and safety organizations have any recommendations regarding engineering controls?**

- The CDC recommends considering improving the engineering controls using the building ventilation system, including increasing ventilation rates and increasing the percentage of outdoor air that circulates into the system. For more information, see [https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fspecific-groups%2Fguidance-business-response.html](https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fspecific-groups%2Fguidance-business-response.html).
- OSHA recommends using engineering controls in workplaces where they are appropriate to reduce exposure to hazards, including installing high-efficiency air filters and increasing ventilation rates in the work environment. For more information, see <https://www.osha.gov/Publications/OSHA3990.pdf>.

## **LIGHTING**

### **What are companies doing to plan for reopening stores?**

- When stores reopen, many companies plan to run lighting systems as they do under normal open operations.

## **WATER**

### **What are companies doing to plan for reopening stores?**

- As part of the store start-up checklist described above, companies should ensure water systems are working properly and water is safe for use.

### **What are companies doing about maintenance in planning for reopening stores?**

- Some companies are deferring scheduled maintenance during store closures and may need to plan for additional maintenance before and after stores re-open. Areas that may require maintenance include HVAC units, belts, air filters, and water contraptions.



# UNOCCUPIED OR CLOSED STORES

## HVAC

### How are most companies handling HVAC for unoccupied or closed stores?

- Companies continue to monitor and adjust HVAC setbacks. Generally, companies continue to run HVAC and fans at reduced rates to ensure quality of air, manage humidity, and avoid maintenance issues.
- Companies are monitoring server rooms and IT locations for increased temperatures, as some do not have dedicated HVAC supply or sensors.
- Some companies are leaving HVAC on in portions of facilities, such as managers' offices, but are turning systems off in other portions.
- Some companies have adopted standard settings for all closed stores, while others are fine tuning settings at the individual store level.
- Companies should consider how cooling water heaters and boilers may impact tanks.
- Some companies are not conducting or are reducing pre-summer cooling.
- **Comment from DOE Better Buildings SME:**
  - In order to ensure that customers are safe in their stores and that they are effectively scaling when operations resume in a normal capacity, many HVAC optimization companies are looking across building systems during this time and establishing new benchmarks that can be used to set a new baselines based on expected foot traffic and capacity.

### What set points are companies using?

- Many companies have setbacks that range from 74 to 80 degrees. Some companies are allowing a setting override.
- Some companies are using unoccupied setpoints.
- Companies may want to adjust temperatures based on humidity.

### What are companies doing about filters?

- Some companies are not changing filters and do not plan to until stores reopen.

### Are companies still using economizers when stores are closed (after hours)?

- Yes, but most companies are not adjusting their pre-COVID after hour settings.
- Many companies are starting their building conditioning an hour to two before store opening but are not making changes during closure periods.

**Does ASHRAE (a professional association that issues standards in this space) have any recommendations regarding HVAC operation during building shutdowns?**

- Yes, ASHRAE has extensive recommendations on its website. See, <https://www.ashrae.org/technical-resources/frequently-asked-questions-faq>.
- For additional ASHRAE resources, see:
  - Webinar, *Managing COVID-19 and HVAC in Buildings for Emerging Economies*, <https://www.youtube.com/watch?v=GNI4eKgBrEM&feature=youtu.be>
  - Presentation, *Fundamentals of COVID-19 Risk Management*, [https://www.ashrae.org/file%20library/technical%20resources/covid-19/bb\\_ashrae-emergingecon-covid-18jun2020.pdf](https://www.ashrae.org/file%20library/technical%20resources/covid-19/bb_ashrae-emergingecon-covid-18jun2020.pdf)
  - Presentation, *Commercial Building Design for COVID-19 & Beyond*, <https://www.ashrae.org/file%20library/technical%20resources/covid-19/covid-19-developing-countries1.pdf>

## EMS/CONTROLS

**How, if at all, do companies' current EMS settings differ from typical unoccupied settings (i.e. operational store during closed hours)?**

- Some companies have adopted standard settings for all closed stores, while others are fine tuning settings at the individual store level. Companies that have EMS providers are working with them to make adjustments.
- Companies are monitoring humidity levels in stores.
- Some companies are conducting indoor temperature checks.

**Are there any recommendations for managing buildings that are closed?**

- The U.S. Department of Energy hosted a webinar regarding Managing Buildings During a Shutdown and Brining them Back Online, available at <https://betterbuildingsolutioncenter.energy.gov/webinars/managing-buildings-during-a-shutdown-and-bringing-them-back-online>.

## LIGHTING

**How, if at all, do companies' current lighting levels or settings differ from typical unoccupied settings (i.e. operational store during closed hours)?**

- Companies continue to monitor and adjust lighting setbacks.
- Many companies with closed stores are leaving select lighting on, or dimmed lighting, for security purposes. Some companies have partial lighting overnight at high-risk locations. Some companies turn parking lot lights off but keep vestibule lights on. Some companies have no lighting.

## WATER

### What are companies doing about water systems?

- Some companies are sending maintenance staff to run all sinks and taps on a bi-weekly basis.
- Some companies are keeping maintenance staff onsite to address water issues.

## CHECK-INS

### Are employees checking in on unoccupied stores in-person?

- Companies with remote monitoring capabilities are checking those systems periodically and, in some cases, setting up alert parameters.
- Many companies have a small group of staff operating onsite.
- Some companies suggest an operations staff member or manager should visit the site every five days or once per week to check the facility and look for potential issues.

## UTILITIES

### What are companies doing about utility bills and demand charges?

- Some companies are paying utility bills on the due date instead of upon receipt. Other companies are making no changes to when they pay utility bills.
- Companies should contact their electric utility account managers to discuss extended or deferred payment plans for utility bills. Financial support opportunities may include payment deferrals and waiving late fees.
- Companies that have an electric generation supplier that is different from their electric utility may also contact their electric generation supplier.
- Some electric utilities may be able to assist companies in estimating demand charges or tariffs.
- Companies should be aware of how utility bill payment or nonpayment may impact their credit.

### What are companies doing about reduced electricity use and its impact on budgeting?

- Many companies are assuming about 90% energy reductions and carrying over monthly demand charges to conservatively estimate usage.
- Some companies are using modelling based on previous year costs and applying it to the accrual process.
- Some companies estimate that a one-degree change in HVAC settings equates to a 10% reduction in cooling or heating cost.

- Some companies are contacting their electric utilities and electric generation suppliers to proactively discuss planned or ongoing store closures or reduced hours. This can help electric utilities to plan and support customers.
- If asked, some utilities may be able to assist companies with forecast modeling.
- If asked, some utilities may be able to assist companies with accessing meters that are not otherwise accessible.

#### **Where can I find more information about demand charges?**

- Each electric utility calculates demand charges differently. Companies should contact their electric utility account manager for utility-specific information.
- For general information, the following resources may be useful:
  - <https://www.renewableenergyworld.com/2017/06/06/making-sense-of-demand-charges-what-are-they-and-how-do-they-work/#gref>
  - <https://www.northwesternenergy.com/docs/default-source/documents/E-Programs/E-demandcharges.pdf>

#### **What are companies doing about the potential for increased hacking dangers or scams?**

- Companies should contact their utility with any concerns or experiences related to hacking.
- Some companies may be targeted by impostor utility scams. For more information about how customers can protect themselves from common scams, visit Utilities United Against Scams at <https://www.utilitiesunited.org/>.

#### **Are companies experiencing utility invoice delays?**

- Some companies are experiencing invoice delays from their utilities, this may be particularly true for utilities that typically come to retail sites to read meters.

## **ENERGY EFFICIENCY**

#### **What are companies doing about energy efficiency projects?**

- Some companies are taking advantage of closed stores to complete projects, some companies are continuing to consider such projects, and some companies put all projects on hold unless they are high priority.

## REOPENING STORES

### GENERAL

#### What are companies doing to plan for reopening stores?

- While most companies do not have a set timeframe for re-opening stores, some companies are in the early stages of planning for how to reopen. These companies should consider optics, develop strategies, and empower local store representatives to ensure that customers and associates feel safe.
- Some companies are considering adopting or extending new business models that include curbside pick-up, increased online ordering, or one-way aisles. Some companies are fully opening select stores to the public, while opening other stores only for online order fulfillment or curbside pickup. Some of these models may impact how a store uses energy or its HVAC system.
- Some companies are engaging in deep cleaning, beginning up to five days before store reopening.
- Companies should consider developing a store start-up checklist for onsite staff that covers tasks for pre- and post-opening. Pre-opening tasks may need to begin several days before a scheduled reopening. Any checklist should be developed with multiple departments and multiple stakeholders. Such a checklist may include:
  - Run at normal operations before re-opening to check equipment and address maintenance needs.
  - Stage equipment prior to opening to manage demand and avoid setting a high peak demand.
  - Per ASHRAE's recommendation, run HVAC and change filters to reduce humidity and ensure quality air flow.
  - Review any new technologies such as disinfectant lighting, fogging machines, and admitting dry hydrogen peroxide through HVAC systems and consider how implementation may impact HVAC systems or how a store uses energy.
    - See Fully Operational or Reduced Hours section for more information regarding implementation of new technologies, in particular about hydrogen peroxide.
  - Ensure water systems are working properly and water is safe for use.
- Companies should review the information in the Fully Operational or Reduced Hours section of this document for additional information regarding operational stores.
- RILA members can access the RILA [Store Operations](#) and [Supply Chain COVID-19 Resource Libraries](#) to see if the resources and operational actions collected

from RILA's other operational communities are useful for informing their operations.

- See also the [RILA COVID-19 Resource to Monitor State Executive Orders : PPE, Essential Sales, BOPIS & Other Policies](#) and the broader [RILA COVID-19 Resources for Retailers News & Info Page](#).

#### **What are companies doing about maintenance in planning for reopening stores?**

- Companies should be prepared for an increase in service calls and maintenance issues around the time a store reopens and expect that maintenance contractors and vendors will be busy and need to prioritize service calls.
- Some companies are requiring technicians or third-party service providers to wear personal protective equipment (PPE), some service companies may have their own requirements for their employees.

## **HVAC**

#### **What are companies doing to plan for reopening stores?**

- Some companies are considering using foggers to ensure that stores are clean; these companies should consider if use of such devices may impact a store's HVAC system or how the store uses energy.
- As part of the store start-up checklist described above, companies may want to:
  - Per ASHRAE's recommendation, run HVAC and change filters to reduce humidity and ensure quality air flow.
  - Review any new technologies such as disinfectant lighting, fogging machines, and admitting dry hydrogen peroxide through HVAC systems and consider how implementation may impact HVAC systems.
    - See Fully Operational or Reduced Hours section for more information regarding implementation of new technologies, in particular about hydrogen peroxide.

#### **What are companies doing about maintenance in planning for reopening stores?**

- Some companies are deferring scheduled maintenance during store closures and may need to plan for additional maintenance before and after stores re-open. Areas that may require maintenance include HVAC units, belts, air filters, and water contraptions.
- Some companies are considering using different types of air filters when they reopen, and how this may impact energy use.

### **Are there any recommendations regarding how to return HVAC systems to normal operation?**

- ASHRAE recommends running ventilation and HVAC to ensure filtering and clean air. Stores should start running normally, including HVAC, before reopening to maintain fresh air in stores.
- ASHRAE has extensive recommendations on its website. See, <https://www.ashrae.org/technical-resources/frequently-asked-questions-faq>.
- See also, ASHRAE guidance on filters, <https://www.ashrae.org/news/ashraejournal/guidance-for-building-operations-during-the-covid-19-pandemic>.
- For additional ASHRAE resources, see:
  - Webinar, *Managing COVID-19 and HVAC in Buildings for Emerging Economies*, <https://www.youtube.com/watch?v=GNI4eKgBrEM&feature=youtu.be>
  - Presentation, *Fundamentals of COVID-19 Risk Management*, [https://www.ashrae.org/file%20library/technical%20resources/covid-19/bb\\_ashrae-emergingecon-covid-18jun2020.pdf](https://www.ashrae.org/file%20library/technical%20resources/covid-19/bb_ashrae-emergingecon-covid-18jun2020.pdf)
  - Presentation, *Commercial Building Design for COVID-19 & Beyond*, <https://www.ashrae.org/file%20library/technical%20resources/covid-19/covid-19-developing-countries1.pdf>
- The U.S. Department of Energy hosted a webinar regarding Managing Buildings During a Shutdown and Bringing them Back Online, available at <https://betterbuildingsolutioncenter.energy.gov/webinars/managing-buildings-during-a-shutdown-and-bringing-them-back-online>.

### **Are there any recommendations for managing HVAC systems to reduce disease transmission?**

- The U.S. Department of Energy hosted a webinar regarding Managing HVAC Systems to Reduce Infectious Disease Transmission, available at <https://betterbuildingsolutioncenter.energy.gov/webinars/managing-hvac-systems-reduce-infectious-disease-transmission>.

## **EMS/CONTROLS**

### **What are companies doing to plan for reopening stores?**

- Companies are considering lowering indoor setpoints to help improve the comfort of associates and customers wearing personal protective equipment (PPE).

### **What are companies doing about maintenance in planning for reopening stores?**

- Some companies that are deferring scheduled maintenance are using their EMS system and work order system to keep track of known issues and address critical

issues. This list of known issues may help companies to plan for additional maintenance before or shortly after store reopening.

### **Do national health and safety organizations have any recommendations regarding engineering controls?**

- The CDC recommends considering improving the engineering controls using the building ventilation system, including increasing ventilation rates and increasing the percentage of outdoor air that circulates into the system. For more information, see [https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fspecific-groups%2Fguidance-business-response.html](https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fspecific-groups%2Fguidance-business-response.html).
- OSHA recommends using engineering controls in workplaces where they are appropriate to reduce exposure to hazards, including installing high-efficiency air filters and increasing ventilation rates in the work environment. For more information, see <https://www.osha.gov/Publications/OSHA3990.pdf>.

## **LIGHTING**

### **What are companies doing to plan for reopening stores?**

- When stores reopen, many companies plan to run lighting systems as they do under normal open operations.

## **WATER**

### **What are companies doing to plan for reopening stores?**

- As part of the store start-up checklist described above, companies should ensure water systems are working properly and water is safe for use.