cross-training to sustain essential functions by taking personnel who work in "non-essential" areas of the control center with a working knowledge of the relevant systems, procedures, and tools (for instance, a real-time system engineer). Internal mutual assistance also could include identifying employees who previously have worked in control centers and now serve in different capacities (such as corporate management), employees who recently have retired, or previous employees who may work for another organization but retain a functional knowledge of the system. Except for extreme circumstances, these personnel only should monitor and help maintain situational awareness, enabling real-time operations on the system to be performed by certified system operators.

- **External Assistance (Region-Specific):** Operator job descriptions and tasks are more likely to be aligned among the asset owners/operators within the same Reliability Coordinator (RC) footprint. Familiarity with these norms, general knowledge of neighboring system infrastructure, and joint outage management training within RCs is likely to reduce the time needed to integrate external personnel properly. In some instances, certain grid balancing functions can be delegated to transmission and distribution control centers to reduce workload on regional entities for periods of time.
- **External Assistance (Tool-Specific):** A deep working knowledge of common EMS software is essential to the workforce compatibility of mutual assistance personnel. Organizations should identity in advance the IT/OT tools of greatest importance by work function to match them to the areas of greatest need for possible assistance.
- **Remote External Assistance (Organization-Specific):** If two neighboring territories have substantial EMS overlap and shared oversight, it may be possible for one territory to provide control center mutual assistance remotely. In this instance, the neighboring organizations already would have a fundamental working knowledge and shared understanding of each other's systems and already may have such assistance plans in place. Although this option is lower risk than other external forms of mutual assistance, it is less likely to be viable for many organizations.

Additional Considerations

- **Advance Planning for Mutual Assistance:** As an organization has increasing constraints to ensure the effective staffing of its control center functions and begins to anticipate the need for mutual assistance, that organization should coordinate with neighboring entities to identify potential mutual assistance resources in advance. Additionally, the entity should proactively consider remote training options to begin familiarizing and training potential mutual assistance resources to advance their knowledge of grid topography, specialized system operating knowledge, and EMS tools.
- **Limitations Based on Qualification or Certification:** In all but the most extreme circumstances, the functions that either an internal or external mutual assistance resource could perform would be limited and could include non-control functions, like monitoring, data analytics, or compliance documentation, among others. Additionally, it should not be assumed that all certification requirements will be lifted for every position, even in a black sky event.

Additional Resources

FERC and NERC Provide Industry Guidance to Ensure Grid Reliability Amid Potential Coronavirus Impacts

News Release - March 18, 2020

FERC Acts to Prioritize Reliability, Provide Regulatory Relief

News Release - April 2, 2020

Mutual Assistance Considerations

Updated: July 7, 2021
Changes since the last version are highlighted in red.

Section Summary

This section outlines considerations for mutual assistance practices between organizations during the COVID-19 pandemic. Mutual assistance requests and responses may arise due to the impacts of the pandemic on a utility or to support response operations to a concurrent disaster. Specifically, this section highlights a COVID-19 informed approach to mutual assistance planning, including:

- Recommendations for supporting and protecting personnel on and off worksites.
- Lessons learned from mutual assistance operations during the COVID-19 pandemic in 2020.
- Contact tracing guidelines for personnel involved in mutual assistance operations.

The guidance in this document was collected from organizations across the industry. The intent is to serve as a general information resource and not to set any industry standards. This document is evergreen and will be updated regularly to reflect additional or revised guidance as it is received.

Pandemic Mutual Assistance Checklist (Updated)

This checklist is designed to provide requesting and responding investor-owned electric companies, public power utilities, and electric cooperatives guidance on how to conduct mutual assistance during the COVID-19 pandemic.

Investor-owned electric and/or natural gas companies, electric cooperatives, and public power utilities are committed to protecting the people working for them and to ensuring energy operations and infrastructure are supported throughout an emergency. The items in this checklist can help provide guidance for mutual assistance efforts while protecting the health and safety of employees, customers, and communities. These practices are suggested for all organizations, regardless of the number of confirmed COVID-19 cases in the area.

This checklist may be used when providing mutual assistance for outage incidents during the COVID-19 pandemic. It also may be used when providing mutual assistance if a requesting organization is so impacted by COVID-19 cases that it is not able to conduct normal daily operations without assistance. Organizations providing or requesting mutual assistance should follow the terms and conditions of their existing mutual assistance or mutual aid agreements.

Work Practices

- ☐ Responding and requesting organizations should follow the latest CDC and OSHA guidelines regarding COVID-19 as well as any local or state laws, rules, and regulations. *(See CDC recommendations.)*

- ☐ Responding crews should follow their organization's policies and procedures, and responding investor-owned electric companies, public power utilities, and electric cooperatives should work to minimize the chance of infected workers travelling.

- ☐ A responding organization may wish to use the COVID-19 Questionnaire with their employees before sending them to the requesting organization. *(See COVID-19 Mutual Assistance Questionnaire.)*

- ☐ Requesting organizations should minimize movement of crews to different regions in their territory. By assigning the same crews to the same work areas, cross pollination and potential exposures are limited. Note, this may require additional resources and could impact restoration times.

- ☐ Investor-owned electric companies, public power utilities, and electric cooperatives should consider moving toward more isolated and self-contained responding teams, where necessary, to limit the exposure between crews who work for the requesting organization and responding crews. Keep crew teams intact to minimize exposure and execute "transfer of control" best practices for restoration, when possible, to limit exposure between crews of the requesting organization and responding crews.

- ☐ When information is available, requesting organizations should avoid sending responding crews into areas or facilities with significant COVID-19 outbreaks. The requesting company should restore in those areas.

- ☐ When information is available, the requesting organization should provide full situational awareness of the COVID-19 impact, the number of cases in the community (or region), and what protective measures are in place to responding crews and their organization, with regular updates.

- ☐ Requesting organizations should clarify how long they expect responding crews to be in their area.

- ☐ Requesting organizations should identify a liaison who can work with each responding entity to provide information about local conditions. Consider providing this information in advance of receiving responding crews.

- ☐ Requesting organizations should try to minimize person-to-person contact for material distribution and use drop points.

- ☐ Requesting organizations should use technology for onboarding and briefings (e.g., online conferencing services, conference calls) or conduct briefings in the field to reduce large meetings. Have safety onboarding on videos that can be distributed to crews in advance, with conference calls for Q&A. Conduct daily briefings remotely where feasible.

- ☐ If practicable, extensive pre-staging should be avoided unless the threat is imminent. Pre-staging should follow social distancing practices.

- ☐ Requesting organizations should look for opportunities within the restoration process to execute the function remotely (dispatching functions, advanced metering infrastructure (AMI) functionality, assessment, etc.).

- ☐ Both requesting and responding organizations may want to consider screening of crews using non-contact thermometers before deployment and upon arrival to verify employees do not have fevers equal to or above 100.4 F. According to the CDC, a lower temperature threshold (e.g., 100.0 F) may be used.
- ☐ Organizations should encourage workers to report situations to their supervisors in which social distancing cannot be maintained so mitigation options can be explored.

General COVID-19 Safety Practices

- ☐ If you are sick or have any flu-/virus-like symptoms, report this immediately to your supervisor and consult your physician.
- ☐ Cover your coughs and sneezes with a tissue, then immediately throw the tissue in the trash.
- ☐ Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom; before eating; and after blowing your nose, coughing, or sneezing.
- ☐ Avoid touching your eyes, nose, and mouth with unwashed hands.
- ☐ Regularly clean your phones and handheld devices as these are some of the dirtiest items we carry.
- ☐ Maintain social distancing whenever possible [six (6) feet distance from anyone coughing or sneezing]. Avoid shaking hands and touching others.
- ☐ Use “non-circulating mode” for vehicle air conditioning/heating/ventilation.

Staging Sites

- ☐ Requesting organizations should consider having staging sites that allow social distancing recommendations to be followed (currently 6 feet of distancing at all times). Note: this may require organizations to request more self-sufficient resources, such as crews from investor-owned electric companies, public power utilities, and/or electric cooperatives rather than contractors.
- ☐ Cleaning supplies, hand sanitizer, sanitation supplies, etc. should be available for all crews located at staging areas.

Lodging and Meals

- ☐ Requesting organizations should establish lodging and dining sites where social distancing can be established, and the requesting organization can manage and control access and direct sanitation.
    - Keep crews that are working together in the same lodging and dining facilities.
    - This can include appropriately sized sleeper trailers, tents, renting out entire hotels/motels, or nontraditional spaces for crew-only use. If shared lodging is necessary, consider allowing workers who share a vehicle and/or are on the same crew to share lodging facilities. Sleeper trailers and similar facilities should be used at reduced capacity.

- Consider ways to maximize social distancing, such as keeping different organizations on different floors, minimizing servicing of rooms, having pickup locations for linens and room supplies, or limiting rooms to one per person, where necessary.
- Consider working with local authorities to develop exemptions from emergency closure and/or stay-at-home orders for hotels or other lodging facilities and their staff so they can serve mutual assistance crews.
- Have a plan for feeding crews in the event restaurants are closed by government order.
- Have lodging, dining, and common areas cleaned following CDC guidelines. *(See CDC recommendations.)*
- Cleaning supplies, hand sanitizer, sanitation supplies, etc. should be available for all crews located at all lodging and meals areas.
- Provide laundry service, if needed.
- Minimize travel in large vehicles such as buses by having crews use trucks for transportation between lodging and work sites.
- Have vehicles cleaned following CDC guidelines. *(See CDC recommendations.)*
- Try to minimize exposure by providing box lunches, snacks, water, etc.
- Electric companies, public power utilities, and electric cooperatives should check with hotel operators to confirm preferred hotels will remain open for mutual assistance crews. If hotels currently are closed, verify the length of time necessary for operators to reopen hotels, which could delay access to lodging.

External Outreach and Communication

- ☐ Requesting organizations should proactively communicate to regulators and government partners that power restoration and recovery may be slower due to the new response regime. Establish and disseminate information to customers that travel and restoration times may be longer.
- ☐ Requesting organizations should proactively communicate with customers about social distancing efforts. Ensure responding crews have consistent messaging and practices.
- ☐ Requesting organizations should work with local and state officials to ensure responding crews are designated as critical workers and are able to travel to and through the requesting entity's service territory. Travel documents and authorizations from requesting organizations should be as specific and clear as possible.
- ☐ Requesting organizations should consider sharing the Department of Homeland Security's *Guidance on the Essential Critical Infrastructure Workforce* with local and state officials to support waivers for quarantine requirements and to minimize limitations on crew movement.

Health Issues

- ☐ Requesting organizations and responding crews should utilize the COVID-19 Visitor Questionnaire to evaluate health risks. [*See COVID-19 Mutual Assistance Questionnaire and follow CDC guidance on health screening. (See CDC recommendations.)*]
- ☐ Workers who become ill should follow CDC guidelines. *(See CDC recommendations.)*
- ☐ Workers should minimize the use of currency and use credit cards instead to avoid hand-to-hand contact.
- ☐ Follow CDC recommendations for when individuals infected with COVID-19 can discontinue home isolation and return to work. *(See CDC recommendations.)*
- ☐ Follow CDC recommendations on implementing safety practices for critical infrastructure workers who may have had exposure to a person with suspected or confirmed COVID-19. *(See CDC recommendations.)*
- ☐ Before sending crews for mutual assistance, consider how your organization would quarantine workers after deployment if they were exposed during the mutual assistance work or how you would comply with local and/or state requirements.
- ☐ Organizations should consider what, if any, mitigation measures are needed when workers return from mutual assistance deployments. This may include contact tracing procedures (see below), testing policies, work practices and isolation policies, as well as coordination with local and state health officials.

CDC Recommendations (Updated)

Interim Public Health Recommendations for Fully Vaccinated People
https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated-guidance.html

Guidance for Business and Employers
Guidance for Businesses and Employers Responding to Coronavirus Disease 2019 (COVID-19), March 8, 2021 - CDC

Cleaning and Disinfection Recommendations
Cleaning and Disinfection for Community Facilities - CDC

What to Do If You Are Sick
What to Do If You Are Sick - CDC

Guidance for Large Events (for unvaccinated people)
Community Organizations and Gatherings - CDC

Interim Guidance for Discontinuation of Home Isolation for Persons with COVID-19
Discontinuation of Isolation for Persons with COVID-19 Not in Healthcare Settings - CDC

Implementing Safety Practices for Critical Infrastructure Workers Who May Have Had Exposure to a Person with Suspected or Confirmed COVID-19
COVID-19 Critical Infrastructure Sector Response Planning - CDC

Protecting Workers: Guidance on Mitigating and Preventing the Spread of COVID-19 in the Workplace – OSHA
https://www.osha.gov/coronavirus/safework

COVID-19 Mutual Assistance Questionnaire

Current as of 7/7/21

The health and well-being of employees, strategic partners, families, and visitors remains our industry's top priority. To prevent the spread of COVID-19 and to reduce the potential risk of exposure to our workforce, contractors, and visitors, we are requesting mutual assistance workers fill out a simple screening questionnaire. The participation of the screening questionnaire is required for all visitors/contractors who are expected onsite and for employees who are responding to a mutual assistance request at another investor-owned electric company, public power utility, and/or electric cooperative. This will be required for each contract employee or visitor prior to coming onsite or travelling to another investor-owned electric company, public power utility, and electric cooperative.

Visitor's Name:	Personal Phone Number (mobile/home):
Visitor's Organization:	Name of Requesting Organization Sponsor:
Facility Name:	

SELF-DECLARATION BY VISITOR

Have you returned from any of the countries listed by the CDC as a travel/health advisory warning for Covid-19 Level 3 or higher in the last 14 days? Current list can be found here: Travel Health Notices - CDC

□ Yes □ No

Have you returned from any of the states with travel restrictions within the last 14 days? Links to state health departments can be found here: State & Territorial Health Department Websites - CDC

□ Yes □ No

Have you had close contact with or cared for someone diagnosed with COVID-19 within the last 14 days?

□ Yes □ No

Have you been in close contact with anyone who has traveled within the last 14 days to one of the countries listed as a level 3 or higher travel/health advisory by the CDC for Covid-19? □ Yes □ No

Have you been in close contact with anyone who has traveled within the last 14 days to one of the states listed in the domestic travel advisory by the CDC for Covid-19?

□ Yes □ No

Have you experienced any cold or flu-like symptoms in the last 14 days (to include fever of 100.4 degrees F or higher, dry cough, difficulty breathing, or shortness of breath)? According to the CDC, a lower temperature threshold (e.g., 100.0 F) may be used.

□ Yes □ No

Have you or any member of your household traveled within the last 14 days?

□ Yes □ No

Please report any air travel, cruise ship travel, and/or destinations visited within the last 14 days, both work-related and personal travel.

If you answer "yes" to any of the questions above, access to the facility will be denied.

Signature (Visitor): _____
Date:_____

Note: If you plan to be on requesting organization's property for consecutive days and your response to this self-declaration changes, please notify your requesting organization sponsor immediately.

Please complete and return this form electronically to: POC

ACCESS TO FACILITY (circle one): APPROVED DENIED

Lessons Learned: 2020 Response Efforts

During 2020, the electric power industry undertook many restoration efforts to address outages caused by severe windstorms, ice events, hurricanes, and wildfires while confronting the challenges of conducting mutual assistance during the COVID-19 pandemic. Following are some key lessons learned from these weather events.

The Mutual Assistance Response

- Overall, the mutual assistance response and restoration processes worked well during these storms. Organizations providing mutual assistance used the ESCC COVID-19 protocols to ensure social distancing and proper hygiene and to keep employees, contractors, and customers as safe as possible.
- COVID-19 safety procedures did not create significant delays in restoration efforts. In some cases, productivity gains occurred because crews were closer to work locations and materials and supplies were delivered or obtained from multiple, decentralized locations.
- Decentralized distribution worked well, including using runners to distribute materials.
- Large staging sites were not used, where possible.
- PPE was brought by responding crews, but requesting organizations did supplement where needed.
- Conducting temperature checks of arriving workers while in vehicles helped eliminate lines and speed up on-boarding.

Work Practices

- Onboarding, briefings, work order distribution, and meetings were conducted successfully while maintaining distancing protocols. Organizations used electronic methods and communication tools, as well as steps such as meeting outside in small groups.
- The ESCC health screening questionnaire was used by organizations.
- Some entities processed all off-system responders with touch-free temperature checks and health questionnaires.
- Safety debriefs were conducted remotely via electronic tools, videos, etc. In some instances, DocuSign was used as proof of review, otherwise crew leaders were requested to collect written documentation.
- Most organizations had one worker per vehicle.
- Responding crews met requesting organizations' representatives in decentralized locations such as parking lots for onboarding.
- Work orders were issued using electronic tickets and were supported by decentralized planners. Some organizations assigned staging sites and work orders at lodging locations.

- Damage assessment personnel were staged off-site or in vehicles to avoid contact with others. In some instances, deploying damage assessors was a challenge, as was developing precise estimated times of restorations.
- Good monitoring and management of responding contractors helped to ensure they had and utilized appropriate PPE (masks) and followed social distancing protocols. Some entities found using a coordinator, liaison, or consultant to assist in assessing COVID safety practices at base camps, staging sites, and other locations was very helpful.

Lodging, Meals, and Support Services

- For the most part, hotel rooms were readily available except in the most rural locations. Responders were placed one person to a room.
- However, in some locations where workers shared a vehicle, those workers were permitted to share a room.
- Organizations should continue to engage closely with hotels, restaurants, and caterers to ensure their availability for future incidents.
- For future responses, organizations should keep in mind that some hotels require a 3-day buffer in rooms between guest stays.
- Organizations should consider using boxed meals to facilitate social distancing to avoid problems with restaurant closures. For future large-scale events, consider food trucks and caterers who can provide boxed meals.
- The number and storage capacity of meal delivery vehicles should be increased to deliver boxed meals, food storage containers, and coolers.
- Portable bathrooms may be required in areas where public facilities are closed, especially in non-urban areas.
- Organizations should identify high-traffic areas, like water dispensing locations, that can create social distancing challenges.
- Organizations should avoid dispensing beverages from coolers.
- Delivering meals and work packets directly to hotels where responders are housed can help reduce the number of personnel who need to go to base camps or staging sites.

Challenges and Improvement Opportunities

- It was a challenge to ensure crews kept social distancing at meal locations, while using elevators in hotels, or in hotel lobbies. Additional supervision/leadership may be needed for future responses.
- Crews experienced somewhat more “windshield” time depending on where they stayed due to efforts to ensure lodging was one person per room and to keep crews and job sites segregated.
- Additional vehicles were required to support restoration.
- Due to decentralization, more local supervision/leadership, material runners, and logistics runners were needed to support the response.

- Large-scale power outages can impact electric industry employees who are teleworking and may need to support mutual assistance. Consider having alternate work locations and assessments of employees' ability to work during outages.
- Similarly, large-scale outages can impact the availability of lodging and meal facilities in the impacted areas. Consider alternate sites, wrap-around support service providers, and how support service contractors may be affected.
- Some PPE challenges included having adequate touch-free thermometers and masks.
- Hotels may not provide adequate space for trucks, which may require responders to be transported by bus to base sites, creating social distancing challenges.

Planning Considerations for COVID-19 Contact Tracing During Mutual Assistance

- Investor-owned electric and/or natural gas companies, electric cooperatives, and public power utilities should implement and utilize contact tracing programs to identify and assist employees who may have been exposed to the virus.
- Organizations should consider how those tracing programs would be utilized during a mutual assistance deployment that includes non-native employees/contractors from other organizations.
- Prior to the mobilization of crews, a requesting organization should provide responding organizations, including contractors, with an overview of how it will conduct contact tracing for any mutual assistance crew member who tests positive, or has been exposed to the virus, while deployed.
- These contact tracing plans for mutual assistance deployments should consider addressing the following:
    - Reporting
        - What process should a mutual assistance crew member use to report a positive test result, symptoms, or possible exposure to the virus?
        - Will the requesting/responding organization provide access to testing and access to medical care for mutual assistance crew members with symptoms?
    - Mitigate
        - How will the requesting/responding organization support the isolation of the impacted crew member? Will that crew member(s) be released and required to return home immediately?
        - Will the entire crew be required to isolate, or will they be released from the mission?
    - Investigate
        - Will the impacted mutual assistance crew member be included as part of the requesting organization's internal contact tracing efforts?
        - Will mutual assistance crews be required to complete additional documentation, such as detailed logs and summaries of locations visited, to facilitate contact

tracing investigations? If so, how will this be facilitated, and what is the retention policy for that documentation?

- Inform
  - Will the requesting organization be required to inform local health authorities when a mutual assistance crew member reports positive test result to the virus?

- How will other native and non-native crews, base camp support teams, other housing support staging site staff, food service staff, and customers be informed of the potential exposure?
- Additional information and planning considerations are included in the "Responsible Reentry and Return to the Workplace" section of this Resource Guide and in a two-page contact tracing document that is available on the ESCC website at www.electricitysubsector.org.

Generation Operational Continuity

Section Summary

This section provides guidance to investor-owned electric companies, public power utilities, electric cooperatives, independent power producers, and federal government-owned utilities responsible for the safe and reliable operation of generation power plants and generation control centers during and throughout the COVID-19 pandemic. This section:

- Develops credible scenarios that could impact generation operations.
- Identifies mitigation options, supports information sharing across the industry.
- Outlines needed government actions.

The guidance in this document was collected from organizations across the industry. The intent is to serve as a general information resource and not to set any industry standards. This document is evergreen and will be updated regularly to reflect additional or revised guidance as it is received.

Governmental Support Needs

The mitigation strategies for the scenarios described below cannot be executed unless: (1) COVID-19 testing is available and streamlined for essential personnel who work in shift environments, i.e., operations personnel; (2) relief from certain regulatory obligations is obtained to ensure the continued availability of operators and other skilled employees; (3) travel restrictions for the general public exclude personnel essential to the reliable operation of generating facilities; and (4) supplies for cleaning/hygiene are readily available.

A summary of specific government actions ESCC leadership could advocate for to ensure successful mitigation of risk to control center continuity is presented below:

- **High Priority**
  - Request that governmental authorities direct medical facilities to prioritize testing for asymptomatic generation control room operators, operator technicians, instrument and control technicians, and the operations supervisor (treat comparably to first responders) in advance of sequestered, extended-duration shifts; and obtain state regulatory approval for corporate health services organizations to administer testing for coronavirus to essential employees, if applicable.

  - Request that governmental authorities direct medical facilities to prioritize testing for asymptomatic control room operators (treat comparable to first responders) in advance of sequestered, extended-duration shifts; and obtain state regulatory approval for corporate health services organizations to administer testing for coronavirus to essential employees, if applicable.
  - If local, regional, state, or federal governments enforce a populace-wide quarantine/curfew or other travel restrictions, ensure that operators of generating facilities still can move freely outside of hours.
  - Request EPA and state level permitting agencies allow for non-compliance operations of generating facilities in the event sufficient resources or personnel are not available.

- **Medium Priority**
  - Obtain authority for priority supply of sanitizing supplies and PPE for generating facilities.
  - Obtain state approval for non-medical professionals (such as generating facility employees) to administer health questionnaires and temperature checks without ADA or other legal constraints.
  - Obtain enough Fire Retardant (FR) clothing (vests and hoods) and PPE, including masks and face coverings, to enable technicians to conduct work and not have to share items. Generation entities also are encouraged to seek FR clothing and PPE from vendors and other suppliers in their local areas, if available.

Identifying Essential and Critical Generation Personnel

The personnel needed to staff and operate generating facilities are essential to the reliable operation of the energy grid. The facilities needed to perform these functions generally are well-isolated and physically secure, or at least conducive to the sequestration of on-site staff as needed. However, given the long lead times required to train personnel to operate and maintain control systems at generating facilities properly, the limited number of people with these qualifications places a higher risk to reliable operations and requires a higher priority for protection from the spread of COVID-19 than the general population. Individual organizations still will have discretion to identify essential personnel unique to their organization, but a more uniform approach to categorizing staff will support the communication of likely areas of government support at the local, state, and federal levels.

Non-Nuclear Generation Personnel

Specific to non-nuclear generating facilities, each organization has employees who fit into two categories, with essential personnel being extremely difficult to replace given training and familiarization with each specific generation plant control room:

- **Tier One – Essential Generation Employees**
  - Control Room Operators
  - Operator Technicians
  - Instrument and Control Technicians (I&C Techs)
  - Operations Supervisor/Team Leader/Shift Supervisors
- **Tier Two – Critical Generation Employees**

- — Chemical/Lab Technician
- — Maintenance (Mechanical, Electrical)
- — Materialman (Warehouse)
- — Contractors – Ash Handling, Emergency Maintenance Repair, Critical Commodities, OEM
- — Other Support – Engineer, Specialist, Accounting

Nuclear Generation Personnel

The Nuclear Regulatory Commission (NRC) and federal statutes have very specific reliability and security requirements for the operation of a nuclear generating station. Therefore, as it stands, nuclear generation owners and operators are obligated to staff their plants as normally required. [2] Tier two employees are not required by the NRC, however, the loss of Tier two employees may result in insufficient support for plant operators over time. The job titles of these nuclear generation employees are:

- **Tier One – NRC-required Essential Nuclear Generation Employees**
  - — Licensed control room operators and designated supervision
  - — Non-licensed operators
  - — Radiation protection technicians
  - — Fire brigade members and designated supervisor
  - — Maintenance personnel (I & C, electrical and mechanical)
  - — Armed security officers, armed responders, and other committed positions in the physical security plan
  - — Emergency Response Organization positions described in licensee's emergency plan
- **Tier Two – Critical Nuclear Generation Employees**
  - — Engineering Support
  - — Maintenance Support
  - — Management/Administrative
  - — Procurement
  - — Quality Assurance

[2] Title 10 Code of Federal Regulations (CFR), Parts 50 and 73, essential workers for commercial nuclear power reactors are specified in each facility's licensing basis. The applicable licensing basis documents are the licensee's Technical Specifications, Physical Security Plan, and Emergency Plan. These documents describe the site-specific positions required for plant operations, physical protection of the plant, and implementing emergency measures – all are needed to maintain the plant's operating license.

Scenario Development

Given the limited ability of generating facilities to be operated remotely, mitigating strategies and contemplation of other issues must be developed to ensure adequate generating facility availability and operation. The scenario contemplated incudes 40 percent workforce attrition, a nine-month pandemic, and no mutual assistance. This scenario will test the effectiveness of social distancing and quarantine and the need for proactive testing of priority employees (and/or essential contractors). Mitigating strategies and other important considerations will be contemplated under the framework below. The mitigating strategies will attempt to represent existing industry and government policies, standards, and capabilities, as well as proposed actions going forward. Some entities have used this 40 percent workforce attrition scenario as the basis for designing plans to address COVID-19 reduced operations and have implemented these plans prior to the arrival of a positive test at generating plants. Early adoption of these reduced operation plans may minimize the impact to workforce attrition as the pandemic continues, while ensuring the ability to run facilities.

Possible Mitigation Strategies for Scenarios

This section first describes universal preventive measures that should be taken prior to having any essential employees with COVID-9, in addition to measures that would apply in all scenarios where employees are diagnosed with the virus. Thereafter, specific recommendations for the escalating impacts of the above scenarios are provided.

Universal Mitigation Strategies

- Involve union leadership in discussions around possible mitigation strategies up front to ensure transparency and collaboration.
- Proactively develop and communicate compensation, attendance and reliability, PTO, and related polices that will apply during these conditions.
- Encourage social distancing at work and on personal time; identify opportunities to create greater physical separation of operator workstations; utilize adjacent rooms where possible; eliminate interactions across shifts.
- Reinforce good personal hygiene practices; conduct home self-administered wellness checks prior to departure for shift; ensure CDC & State Health Org flyers are posted at control room entrance(s); deliver pre-shift safety-hygiene message(s).
- Incorporate the CDC's most current travel advisories into event planning and travel arrangements and consider practices to increase awareness of employees' personal travel plans to areas with active advisories.
- Require employees who travel to a location with a CDC Level 3 Travel Health Notice to adhere to a 14-day self-quarantine at home and be cleared by their organization's health services before they return to work.
- Require COVID-19 testing of asymptomatic control room operators and support staff to the extent available.

- Increase the frequency and extent of cleaning and disinfecting surfaces and equipment that comes into routine contact with multiple people.
- Secure resources and establish processes for further sanitizing and segregating work areas in the event exposure occurs.
- Provide a dedicated building entrance, a significant distance from all other employees, for all personnel working in the control room.
- Do not allow outside visitors in control rooms or other designated protected areas (e.g., no tours or non-essential personnel from the same organization).
- Implement additional access restrictions, such as limiting visitors or non-essential meetings within spaces in proximity to control centers.
- Screen non-badged contractors/vendors with health questionnaire and temperature check before allowing on site for deliveries, repairs, etc., and limit access during this time to critical activities only.
- Segregate crews on shift work schedules. Split operators (days/nights) or split individual shifts.
- Cut back control room operators to a minimum.
- Ensure business continuity plans have clearly defined thresholds and procedures for initiating organization's shelter-in-place, sequestration, and self-quarantining of essential personnel.
- Sequester a complete healthy shift (if available) and hold that shift in reserve for extreme scenarios, such as when minimum staffing levels cannot be met.
- Develop a resource plan for potential use of retirees, supervisors, managers, engineers, and recently transferred operators with the requisite skills to backfill operators and support staff in the event staffing is reduced due to COVID-19 infections.
- Allow generating facility support staff (engineering, compliance, maintenance, etc.) to work remotely to the extent permissible within remote access and cybersecurity requirements of the organization.
- Ensure information and communications technology resources are appropriate to accommodate increased use of remote work arrangements consistent with business continuity plans, without compromising security. Consider conducting planned stress tests for these arrangements.
- Develop logistics to house operators on-site, including bedding, entertainment, and food accommodations.
- Identify alternate workstations outside of the control room that can monitor and possibly control all or a limited part of a generating unit. Alternate workstations can allow operators to monitor unit functionality while a "dirty" control room is cleaned and returned to service.
- Begin planning a 'return-to-work' protocol for mission-essential staff who test positive or who are exposed to COVID-19 and complete any required self-quarantine period. A protocol will be needed to integrate these employees back into shift. Use CDC guidance to determine the criteria (e.g., the length of time an employee needs to remain symptom free, if he/she is exposed at home, and what PPE should be mandated, etc.).

- Ensure workers wear face coverings or masks at generation plants, both in sequestration and/or reduced operations, to minimize the spread within the workforce per CDC guidance.[3]
- Given that distractions might increase during these unpredictable times, remind essential employees to be vigilant and aware of surroundings. Management and supervisors should recognize and reward awareness efforts by employees.
- Eliminate non-essential work, especially if it would require two or more people to be within 6 feet.
- Alter assignments for work tasks that must occur in proximity (less than 6 feet) by pairing technicians into a "team" and do not rotate individuals with other teams – ensure technicians have appropriate face coverings and other PPE.
- Ensure FR clothing and PPE (including masks/face coverings) are not shared between employees or contractors.
- Ensure that there is only one employee per vehicle, per shift, where possible. Adopt appropriate cleaning procedures between shifts.

Scenarios – Single Operator Impacted

A mission-essential control room operator or technician in the primary control room tests positive for COVID-19. Both categories of employees work in tightly controlled shifts in terms of working hours, skill sets, and physical proximity during work. A positive case in any shift comes with a high risk of infection for other personnel in the same shift if the infected individual is not identified quickly.

While there is some amount of redundancy in skills sets on a single shift, allowing for a degree of interchangeability, this option does not apply to all positions and is limited in both the quantity of people available and the duration of operational tempo. Having at least one confirmed case during a shift puts the entire crew at risk for infection. The control room would require disinfection. Furthermore, the employees in contact with the infected employee would require observation and possibly testing to clear them to return to work.

Mitigation Strategies

- All staff on shift with the impacted operator(s) should immediately be self-quarantined, and the work hours/coverage of all non-impacted shifts extended. Ideally a relief shift would be available to cover the employees removed from duty.
- Execute sanitizing procedures with a pre-approved contractor to clean the control room area.
- Utilize alternate workstations, if available, to ensure unit operation can continue while the control room is disinfected and returned to service.
- A body temperature screening process should be used, or symptoms should be reviewed before admission into control rooms. This typically is required to be performed by licensed medical professionals and may require relief from HIPAA requirements for supervisors/managers to perform if necessary.

[3] Considerations for Wearing Masks - CDC

- A supplemental staffing plan should be implemented, and refresher training and simulations offered (if needed) for supervisors, managers, engineers, and retirees with the requisite skills to backfill control room staff in the event control center staffing is further reduced due to COVID-19 infections.
- The family circumstances of operators impacted by self-quarantine should be considered, and assistance/support should be offered where needed to ensure quarantined operators do not feel they are placing their family at risk (e.g., transportation, housing, childcare, eldercare, video chats).
- To return employees back to work, access to testing and analysis must be prioritized and made available.
- Have HR or Incident Command (IC) preemptively provide direction to supervisors about next steps if someone tests positive. A standard series of questions to help with an investigation should be considered, following applicable regulations, that discuss isolation (does employee have support to do that?). HR/IC should investigate direct contact or close contact (30 minutes or more) between employees. Additionally, HR/IC should determine which notifications need to go out throughout the organization. Rather than sending out a communication on every case, consider discussing incidents in a weekly call for all employees.

Case Studies and Lessons Learned from COVID-19

As the electric power industry continues its response to COVID-19 and pandemic plans remain activated, this section will be updated with anonymized real-world case studies and lessons learned to inform other organizations' pandemic planning and operations.

Generation Scenario – "I don't feel well."

At approximately 9:15 a.m., a control room board operator alerted the shift supervisor that he was not feeling well. Specifically, the operator felt some chills and thought he possibly had a fever. The shift supervisor immediately called disability management. The operator left the work area and was sent for medical care. Although it was not known if the operator was sick, site management considered the control room "dirty" and in need of cleaning. A review was held to determine if other employees were exposed, and disability management assisted with caring for those employees.

Per the site Pandemic Plan, an available operator was sent to the engineering workstation where the unit could be controlled and monitored safely. Access to the control room was stopped and the pre-approved cleaning contractor was called to clean the control room. By the end of day, shift operators could reenter the control room.

- **Case Study Lessons Learned**
  - Employees should speak up if they do not feel well.
  - Disability management should be contacted immediately for guidance.
  - Pandemic plans should have guidelines in place for this type of event.

Generation Scenario – Operator Tests Positive, Commence Safe Shutdown

A generation control room operator began coughing on Day 1, the last night shift of the scheduled rotation (the crew practiced social distancing). On Day 11, the employee returned to shift with a cough. The plant manager heard the cough and sent the operator home. After a diagnosis of bronchitis by a physician, the employee returned on Day 16, worked until Day 18, and then left for previously planned paid time off. On Day 20, the employee returned to the physician not feeling well, and was tested for COVID-19. On Day 22, the employee tested positive for COVID-19.

Due to the positive test, the operator's two crewmates also were sent home for 14 days of self-isolation, even though neither had symptoms. Given critical and sensitive equipment in the control room, the decision was made to remove the unit from service in a controlled manner immediately, instead of waiting for a scheduled hard trip-out on Day 22, without impact to overall grid reliability. A thorough deep clean was conducted. Employees could not be in the areas while the disinfecting process took place, so the non-operational plant was monitored from the remote engineering workstation. This engineering station was suitable for monitoring but could not safely control an operating unit.

Once deep cleaning was completed, employees could return, and the plant resumed operation.

- **Case Study Observations**
  - — Multiple individuals are unable to work based on exposure, not symptoms. Having access to testing with readily available results potentially would return those individuals to shift.
  - — Organizations should use a cleaning process with a heavy misting spray system, with products that saturate the areas with a stronger concentration.
  - — Plant management exhibited a good proactive response by sending possibly infected employees' home as quickly as possible to prevent further spread of the disease.
  - — Other craft employees should encourage employees to discuss with supervisors when they are exhibiting symptoms.
  - — Prior to the event, plant management contracted with a vendor to come daily to perform "Tough Point" cleaning with an antibacterial product on all personnel spaces. This activity continues.

Sequestration for Generation Considerations

Owners and operators of generating units will consider the sequestration of mission-essential generation control center staff to keep them healthy and to ensure continuity of operations. Separating these essential and hard-to-replace employees from their families is not an easy decision, but it is a decades-old industry practice to ensure electricity is available in times of need.

This section lays out important guidance and suggested critical lessons learned from generator operators, nuclear generating stations, and independent power producers already practicing sequestration during the COVID-19 pandemic. To ensure that a sequestration plan is implemented effectively and that enough employees are willing to volunteer to be sequestered, the quality and availability of support services are critical.

Suggestions for Sequestration at a Generation Plant

- **Hygiene**
  - Establish clear, hygienic shift turnover practices.
  - Establish a clear, hygienic procedure for shift relief after two weeks.
  - Follow clear sanitization procedures at beginning and end of every shift.
  - Remember that the external environment (i.e., cold) can influence temperature readings when conducting screens and lead to false readings. Consider rapid testing if available.
- **Mission-Essential Personnel**
  - Perform temperature checks of all personnel entering the plant site (employees and contractors), following CDC recommendations.
  - Reinforce social distancing and secure control room personnel to limit/prevent exposure in the event of a suspected or confirmed case. Perform routine temperature checks of plant-sequestered employees to monitor conditions.
  - Develop a procedure for handling critical chemicals and supplies.
  - Reduce or eliminate employees moving from one site to another.
  - Close as many gates and access points on a site as possible. Minimize traffic.
- **Other General Lessons for Entities Implementing Sequestration**
  - Communicate relentlessly. Use all platforms.
    - Provide general employees with updates.
    - Tell employees who do not feel well that it is ok to stay home.
  - Follow internal accounting and human resources policies to ensure appropriate record keeping.
  - Maintain an engaged business continuity team (corporate level) to support the site.
  - Use volunteers as much as possible.
  - Negotiate with unions before sequestration to develop appropriate HR processes.

Different Approaches to Sequestration

The following chart describes different approaches taken by generation operators practicing sequestration.

	Generator A	Generator B	Independent Power Producer A	Independent Power Producer B	Lesson
Trigger for sequestering	Statewide outbreak. Generator A proactively sequesters employees to prevent attrition.	Low reserves coupled with COVID threat led Generator B to decide to sequester employees to maintain fleet reliability.	Employees exhibiting flu-like symptoms and potential exposure to approximately 90% of plant personnel.	Company decision not to be a conduit of infection among employees. Some sites have a small staff, cannot afford attrition. Did not want to wait for confirmed cases in the workforce.	Drivers to sequester can include many factors including surrounding area infection rates.
Type of employees sequestered	Control Room Operators, Field Operators, Operations Supervision, Security, Cleaning Staff, Contractor Operators	Control Room Operators, Control Room Supervision, Technicians	Control Room Operators, Operations and Maintenance Manager, Outside Operators – day and night shift	Control Room Operators, Outside Operators, and I&C Techs. No contractors sequestered, and contractors are kept offsite unless essential.	Control Room must be isolated, and a clean environment must be maintained. Consider assigning keyboards / mice to each specific operator. Shut down the plant and perform deep cleaning of the control room area using outside cleaning resources.
Sequester location	Onsite in two separate areas: 1. Testing / triage 2. Housing	Offsite hotels Hotel rooms are plentiful Caterer or Hotel meal prep	Onsite; trailers brought in for lodging, shower capability onsite, food brought in from offsite	Site dependent Mobile Homes / RVs; offices Employees washing own linens onsite, arrangements made with wholesaler and local businesses for food. Wi-Fi network extended for personal use.	Onsite requires more logistical coordination for accommodations, food, room sanitization, linens, entertainment. Hotel easier to implement meal prep, hotel sanitization practices, transportation, linens. Food left at the gate for pick up.

Sequester schedule	2 weeks / 12-hour shifts	2 weeks / 12-hour shifts	6 days / 12-hour rotating shifts	14 days / 12-hour shifts	Put criteria in place for employee “At Home Reserve” with protocols to follow away from work to ensure health. Employees at home regardless of classification are paid straight time. Maintain list of potential people to supplement operators (e.g., retirees). Non-sequestered employees paid their regularly scheduled hours to stay home. Sequestered employees paid for all hours inside the plant (straight time for regularly scheduled shift, time-and-a-half for all other hours). Next sequester crew identified and monitored.

Mutual Assistance for Generation Considerations

This section is designed to provide requesting and responding investor-owned electric companies, public power utilities, independent power producers, and electric cooperatives guidance on considerations for mutual assistance when needed to continue generation plant operations during the COVID-19 pandemic.

Specific guidance for traditional mutual assistance during this pandemic can be found in the "Mutual Assistance Considerations" portion of this Resource Guide.

Regardless of the method of staffing generation plant control rooms, the safety and health of all employees is the priority. Site-specific and company-specific training will be required to operate any generation plant.

Mutual assistance normally is used to help restore electric service to customers and typically is focused on transmission and distribution infrastructure. The COVID-19 pandemic has motivated generation entities to consider the use of mutual assistance for generation plant operation.

Considerations for Fossil, Gas, Nuclear, and Renewable Generators:

Personnel

Consider the use of existing employee work stoppage plans as a resource in planning for the use of personnel not currently assigned to plant operation.

- Keep a central list of all employees with skills who can be called from corporate/tech support (such as former operators or plant engineers/managers) and use that list for consistent communications across the fleet.
- Maintain a list of retirees or other individuals with relevant qualifications who could be called upon to help operate the control room first, prior to reaching out to another company/utility.
  - Consider recent control-board-trained operators (retired, transferred, etc.) for temporary employment.
  - Share retiree list, including qualifications, with other companies for operators.
  - Keep in mind retirees likely will fall into a higher-risk group for COVID-19.
- Consider the use of third-party contractor operators to supplement plant operators, keeping in mind they may lack familiarity with the site and will require additional training and supervision.
- Create a thorough list of experience and qualifications needed to operate a particular unit. Important details include fuel type, OEM technology, DCS type, environmental controls, certifications, etc. Consider proactively sharing this information internally within your company first and then with neighboring companies.
  - Provide sufficient detail from manufacturers (Emerson Ovation, GE Mark VI, ABB, Honeywell, etc.) without exposing proprietary information.
- Subject to maintaining compliance with pertinent regulatory requirements and NERC Reliability Standards, if reserves permit and the system operator concurs, consider optimizing fleet operations and removing non-committed units from dispatch. Transfer qualified operations

personnel from non-running units to other higher priority units to supplement the operational workforce.

- Maintain an active list of qualified operators who have recovered from COVID-19 and who can return to the workplace. A returning worker should meet CDC requirements for returning to work.

  Criteria for Return to Work for Healthcare Personnel with SARS-CoV-2 Infection (Interim Guidance) - CDC

- Make specific requests when seeking mutual assistance for generation control room personnel. Details should include generation type, fuel type (fossil, hydro, single-cycle gas, combined-cycle gas, nuclear, renewable) as well as equipment and process descriptions, etc.

- Consider proactively developing a Mutual Assistance Agreement with strategic companies within the region or system.

Operations

- Subject to maintaining compliance with pertinent regulatory requirements and NERC Reliability Standards, safely shut down and lay up units not committed for dispatch and/or reserve margins based on load forecasts and other business considerations.

- Consider leaving units in extended or planned maintenance outages in that state as long as possible. Operators at these offline sites could be considered available for a site responding to pandemic challenges.

- Consider shifting operation control to remote operation room to limit onsite operators where possible. This may create additional cybersecurity vulnerabilities that will need to be mitigated; coordination with cybersecurity and IT teams will be important.

Specific Consideration for Nuclear Generation

- Nuclear power plants hold robust emergency plans that define indefinite coping strategies for managing the asset in all conditions, including their minimum staffing requirements. Due to regulations, mutual aid is managed by each license holder.

Lodging and Meals

- Incorporate additional employees into sequestering plans if requesting mutual assistance. Considerations should include (but not be limited to) lodging capability, food/snacks/hydration, food restrictions, other personal needs, transportation, etc.

- Additional guidance for lodging and meals for sequestered employees can be found in the "Control Center Continuity" section of this Resource Guide.

Actions to Take if Mutual Assistance for Generation is Triggered

- Review existing mutual assistance agreements to determine if they apply to generation control room personnel and associated indemnification and liability.

- Engage with unions given the pandemic situation and the path forward to supplement the control operator employee base.

- Engage with state and local licensing and commissions for regulatory relief during the pandemic.
- Coordinate with your respective ISO/RTO, TO, and TOP to ensure they are aware of your pandemic plan.
- Identify potential qualified workers who could be called upon to operate a site.
- Consider using the visitor questionnaire from the "Mutual Assistance Considerations" section of this Resource Guide.
- Follow the terms and conditions of existing mutual assistance or mutual aid agreements.

COVID-19 Interim Cleaning and Disinfection Protocol for Generation Control Rooms

Currently, there are no disinfection protocols that have been tested specifically forCOVID-19 as an emerging viral pathogen. Per current CDC recommendations, evidence suggests that the novel coronavirus may remain viable for hours to days on surfaces made from a variety of materials. CDC disinfection recommendations are linked below; the details noted in this document are not meant to supersede CDC's guidance:

Cleaning and Disinfection for Community Facilities - CDC

Cleaning of visibly dirty surfaces followed by disinfection is a best practice measure for prevention of COVID-19 and other viral respiratory illnesses in community settings. Following are recommendations from the CDC's April 1, 2020, guidance on the cleaning and disinfection of rooms or areas where those with suspected or with confirmed COVID-19 cases have visited. This guidance is aimed at limiting the survival of COVID-19 in key environments.

Cleaning and Disinfection Protocols

After person(s) suspected to have COVID-19 has been at facility

- Close off areas used by the potentially ill person(s) and wait as long as practical before beginning cleaning and disinfection to minimize the potential for exposure to respiratory droplets. Open outside doors and windows to increase air circulation in the area. If possible, wait up to 24 hours before beginning cleaning and disinfection.
    - Due to criticality, some areas (i.e., control rooms) may require immediate disinfection and operation from remote locations such as DCS rooms.
    - When cleaning the control room, have all operations personnel operate the unit from the DCS room. Before operations personnel depart the control room, have them deenergize all keyboards and mice (removing batteries.) This will prevent the risk of cleaning personnel tripping the unit.
    - Before the contractor begins cleaning the control room, show them the areas that are not to be cleaned, such as red E-Stop push buttons.
    - DO NOT use a bleach cleaning solution on any computer equipment. Use a 70% alcohol cleaning solution.

- Cleaning staff should clean and disinfect all areas (e.g., offices, bathrooms, and common areas) used by the potentially ill person(s), focusing especially on frequently touched surfaces.
- Signage and red barricades will be utilized to prevent access to suspected areas.
- Heads-up notifications will be sent to plant personnel as an alert.
- Appropriately trained and approved contract personnel will handle cleaning and disinfection upon plant request.

How to Clean and Disinfect

Surfaces

- If surfaces are dirty, they should be cleaned using a detergent or soap and water prior to disinfection.
- For disinfection, diluted household bleach solutions, alcohol solutions with at least 70% alcohol, and most common EPA-registered household disinfectants should be effective.
  - Diluted household bleach solutions can be used if appropriate for the surface. Follow manufacturer's instructions for application and proper ventilation. Check to ensure the product is not past its expiration date. Never mix household bleach with ammonia or any other cleanser. Unexpired household bleach will be effective against coronaviruses when properly diluted.
- Prepare a bleach solution by mixing:
  - Five tablespoons (1/3 cup) bleach per gallon of water or 4 teaspoons bleach per quart of water.
  - Products with EPA-approved emerging viral pathogens claim icons are expected to be effective against COVID-19 based on data for harder to kill viruses. Follow the manufacturer's instructions for all cleaning and disinfection products (e.g., concentration, application method and contact time, etc.).
  - For soft (porous) surfaces, such as carpeted floor, rugs, and drapes, remove visible contamination if present and clean with appropriate cleaners indicated for use on these surfaces.
  - If the items can be laundered, launder items in accordance with the manufacturer's instructions using the warmest appropriate water setting for the items and then dry items completely.
  - Otherwise, use products with the EPA-approved emerging viral pathogens claims that are suitable for porous surfaces:

    Novel Coronavirus (COVID-19)—Fighting Products - American Chemistry Council

Linens, Clothing, and Other Laundry Items

- Do not shake dirty laundry; this minimizes the possibility of dispersing virus through the air.
- Wash items as appropriate in accordance with the manufacturer's instructions. If possible, launder items using the warmest appropriate water setting for the items and dry items

completely. Dirty laundry that has been in contact with a potentially ill person(s) can be washed with other people's items.

- Clean and disinfect hampers or other carts for transporting laundry according to guidance above for hard or soft surfaces.

Personal Protective Equipment (PPE) and Hand Hygiene

- Cleaning staff should wear disposable gloves and gowns for all tasks in the cleaning process, including handling trash.
  - Gloves and gowns should be compatible with the disinfectant products being used.
  - Additional PPE might be required based on the cleaning/disinfectant products being used and whether there is a risk of splash.
  - Gloves and gowns should be removed carefully to avoid contamination of the wearer and the surrounding area. Be sure to clean hands after removing gloves.
- Gloves should be removed after cleaning a room or area occupied by potentially ill persons. Clean hands immediately after gloves are removed.
- Cleaning staff should report breaches in PPE (e.g., tear in gloves) or any potential exposures to their supervisor immediately.
- Cleaning staff and others should clean hands often, including immediately after removing gloves and after contact with a potentially ill person, by washing hands with soap and water for 20 seconds. If soap and water are not available and hands are not visibly dirty, an alcohol-based hand sanitizer that contains 60-95 percent alcohol may be used. However, if hands are visibly dirty, always wash hands with soap and water.
- Follow normal preventive actions while at work and home, including cleaning hands and avoiding touching eyes, nose, or mouth with unwashed hands. Additional key times to clean hands include:
  - After blowing one's nose, coughing, or sneezing.
  - After using the restroom.
  - Before eating or preparing food.
  - After contact with animals or pets.
  - Before and after providing routine care for another person who needs assistance (e.g., a child).

Additional Resources

Nuclear Generation: NRC Issues Instructions for Obtaining Relief from Work Hours Rules

On March 28, 2020, Ho Nieh (Director, Office of Nuclear Reactor Regulation) sent a letter to the Nuclear Energy Institute outlining a streamlined process for operating nuclear power reactors to obtain exemptions from the requirements of 10 C.F.R. 26.205(d)(1)-(7). The purpose of the exemptions "is to ensure that the control of work hours and management of worker fatigue do not unduly limit licensee flexibility in using personnel resources to most effectively manage the impacts of the COVID-19 [Public Health Emergency]. . . ." The letter provides that if a licensee determines that its staffing levels will be affected by the COVID-19 emergency and no longer can meet the requirements of 10 CFR 26.205(d)(1)- (7), then the licensee should submit an email requesting an exemption to the facility's NRC project manager (with a copy to the NRC Document Control Desk). The request should be submitted "as soon as practicable and no less than 24 hours before [the licensee] would be out of compliance with the regulations." All such requests should include the following information:

- a statement that the licensee no longer can meet the work-hour controls of 10 CFR 26.205(d) for certain positions;
- a list of positions for which the licensee will maintain current work-hour controls under 10 CFR 26.205(d)(1)-(d)(7);
- the date and time when the licensee will begin implementing its site-specific COVID-19 Public Health Emergency fatigue-management controls for personnel specified in 10 CFR 26.4(a);
- a statement that the licensee's site-specific COVID-19 Public Health Emergency fatigue-management controls are consistent with the constraints outlined in this letter and its attachment; and
- a statement that the licensee has established alternative controls for the management of fatigue during the period of the exemption and that, at a minimum, the controls ensure that for individuals subject to these alternative controls:
    - not more than 16 workhours in any 24-hour period and not more than 86 workhours in any 7-day period, excluding shift turnover;
    - a minimum 10-hour break is provided between successive work periods; 12-hour shifts are limited to not more than 14 consecutive days;
    - a minimum of 6-days off are provided in any 30-day period; and
    - requirements are established for behavioral observation and self-declaration during the period of the exemption.

Supply Chain Considerations

Section Summary

This section provides guidance that investor-owned electric and/or natural gas companies, public power utilities, and electric cooperatives can consider for maintaining adequate supply of inputs and physical equipment during this health emergency. Lists were developed for consideration so that both the volumes of the supply chain need, and the geographic location of suppliers can be determined. Clearly, the extent and duration of this emergency will influence the importance of one supply chain component compared to another.

The three sections provided are:

- Supply Chain Considerations for Industry Critical PPE
- Power Delivery Materials
- Bulk Chemicals Needed for Power Generation and Delivery

The guidance in this document was collected from organizations across the industry. The intent is to serve as a general information resource and not to set any industry standards. This document is evergreen and will be updated regularly to reflect additional or revised guidance as it is received.

It is acknowledged that access plays a key role both for organizations and their suppliers in a pandemic. The access issue is covered more fully in the "Access Considerations" section of this Resource Guide.

Supply Chain Considerations for Industry-Critical PPE

As the COVID-19 pandemic spreads, the electric power industry recognizes that Personal Protective Equipment (PPE) is in short supply even for first responders and the healthcare sector. Energy and other critical sectors now are considering alternatives to keep workers safe while maintaining reliable service. To assist with these efforts, this section of the Resource Guide provides planning considerations and resources to help investor-owned electric and/or natural gas companies, public power utilities, and electric cooperatives meet their PPE needs by identifying:

- Mission critical PPE, cleaning products, and related supplies for the electric power and natural gas industry;
- Non-government vendors/suppliers for PPE;
- Guidance for engaging those suppliers;

- Creative practices for creating alternative PPE and other protective equipment.

While our sector recognizes that the priority is to ensure that PPE is available for workers in the healthcare sector and first responders, a reliable energy supply is required for healthcare and other sectors to deliver their critical services. The Department of Homeland Security (DHS) emphasized the importance of the energy sector, recently releasing an advisory guidance on Essential Critical Infrastructure Workers (ECIW), that includes energy company and utility workers.

In addition, the ESCC identified a subset of highly skilled energy workers who are unable to work remotely and who are mission-essential during this extraordinary time. Consequently, there is a need to elevate the availability of PPE for workers in the energy sector at the federal, state, and local levels.

Personal Protective Equipment Needs

The supply chain tiger team developed the following material list, which summarizes the critical PPE needs for the electric power and natural gas industries. Tier I items are those items that serve an immediate need where critical infrastructure workers are subject to contact. Tier II are items that are not needed at the time of contact but are in the horizon of the planning scenario of nine months and a 40 percent reduction in workforce.

- Tier I:
  - Nitrile gloves
  - Shoe covers
  - Tyvek suits
  - Goggles / glasses
  - Hand sanitizer
  - Dust masks
  - N95 respirators
  - Anti-bacterial soap
  - Trash bags
- Tier II:
  - Anti-bacterial wipes
  - Disposable thermometers
  - Batteries
  - Alcohol wipes
  - Antiseptic wipes

Non-Government PPE Vendors/Suppliers

The key suppliers of PPE include [4]:

[4] Please note that many retailers and suppliers of PPE now only are selling N95 masks to the healthcare sector and government.

- 3M
- McKesson
- Walmart
- Amazon
- Costco
- Ecolab
- Johnson & Johnson
- Procter and Gamble

Due to regional variations in the availability of PPE, organizations also are encouraged to look to local sources and partners for obtaining PPE. These localized sources may include hospitality wholesalers (Sysco, US Foods) restaurants, malls, and hotels that may have supplies that are not being used. Some organizations also are working with local distilleries to produce disinfectant products.

Energy sector companies and utilities also are encouraged to connect with their local or state energy officials or emergency operations centers to engage in a discussion about the prioritization of PPE needs, access to restricted areas, and testing.

Guidance for Engaging Suppliers and Local Authorities

When contacting vendors and suppliers, organizations should consider the following key points.

- Our sector recognizes that workers in the healthcare and first responders have first priority when it comes to receiving PPE.
- However, the energy industry is a lifeline sector that generates, transmits, and delivers electricity and natural gas to critical services and end-use customers, such as hospitals, clinics, and other first responders.
- The Department of Homeland Security emphasized the importance of these workers, and recently released an advisory guidance on Essential Critical Infrastructure Workers (ECIW), that includes energy company and utility workers. That guidance document can be found online at:

  Guidance on the Essential Critical Infrastructure Workforce - CISA

- The sector is not looking for PPE for the entire workforce. Rather, we are working to prioritize supplies for mission-essential workers – a subset of highly skilled energy workers who are unable to work remotely and who are mission-essential during this extraordinary time. More information on these mission-essential workers online at:

  Ensuring Energy Reliability Throughout the Pandemic - ESCC

Creative Solutions

With PPE being in short supply and priority being given to health care workers, the energy sector has sought alternative solutions to adequately supply mission essential workers.

- Hand sanitizer formulation:
  - WHO Guidance:

    Guide to Local Production - WHO

    WHO Guidelines on Hand Hygiene in Health Care - WHO
  - Bleach-based sanitizing solution:

    How to Properly Make and Use Sanitizers and Disinfectants - DHS

    Cleaning and Disinfection for Households - CDC
  - Industrial products can be used as alternatives to medical supplies, such as face shields and masks:
    - Face shields:

      Face Protection - Grainger
    - 3D printer file for face shields:

      3D Printer File for Face Shields - ESCC
    - Respirator masks with HEPA filters:

      Respirators - Buy Insulation Products
  - Guidance for safely reusing PPE with proper decontamination.
    - Decontamination Methods for Filtering Facepiece Respirators:

      Evaluation of Five Decontamination Methods for Filtering Facepiece Respirators - NCBI
    - Ultraviolet germicidal irradiation (UVGI):

      N95 Filtering Facepiece Respirator Ultraviolet Germicidal Irradiation (UVGI) Process for Decontamination and Reuse - Nebraska Medicine

      Protector Evidence Drying Cabinets with Washdown - Labconco

      UVC & UVA Ultra-Violet Light Meter (YK-37UVSD) DataLogging - Inspect USA
    - Ethylene oxide (EtO):

      Ethylene Oxide "Gas" Sterilization - CDC
    - Vaporized hydrogen peroxide (VHP):

      Using Vaporized Hydrogen Peroxide for Bio-Decontamination - Dräger

      Battelle deploys decontamination system for reusing N95 masks - Battelle
  - Maximize use of existing stocks:

    Strategies for Optimizing the Supply of Facemasks - CDC

    Guidance for PPE conservation and alternatives when PPE is unavailable - King County

— Homemade masks with pockets for HEPA filter inserts:

Approved Pattern Info for Homemade Masks - Great Falls Clinic

— *CDC recommendations on using cloth face coverings, including ways to make cloth* masks. (Note, these may not be appropriate for situations where Fire Retardant face coverings are required.)

Considerations for Wearing Masks - CDC

Organizations also should be aware that the OSHA has relaxed some regulatory requirements to permit the extended use and reuse of respirators, as well as the use of respirators that are beyond their manufacturer's recommended shelf life. This guidance can be found online at:

Enforcement Guidance for Respiratory Protection and the N95 Shortage Due to the Coronavirus Disease 2019 (COVID-19) Pandemic - CDC

Power Delivery Materials List

The purpose of this section is to list frequently used critical electric power transmission and distribution materials needed for continued safe and reliable operations. It is not intended to include critical spares for major pieces of equipment such as large power transformers. While investor-owned electric companies, public power utilities, and electric cooperatives maintain a certain stock level of the materials that they frequently use, normal consumption rates, potential spikes in regional demand driven by storms or hurricane landfalls, or a disruption to transportation networks rapidly could deplete these stocks over a broad area. Maintaining a functional manufacturing and delivery supply chain for these materials will support safe and reliable operations over the planning scenario of nine months and a 40 percent reduction in workforce.

Broad categories

- Cable (bulk) and accessories
- Common supplies
- Conductor (bulk) and accessories
- Gases and chemicals
- Insulators
- Metering items
- Poles, structures, and accessories
- Sectionalizing and protection items
- Specialized hardware
- Street lighting items
- Transformers and accessories

- Substation control room and communication equipment

Cable (bulk) and accessories

- Cable connector block, lv insulated - various types
- Cable outdoor termination kit - various voltages and types
- Cable, fiber optic - various types
- Cable, lv control -various types
- Cable, primary ug - various sizes and voltages
- Cable, quadruplex urd - various sizes
- Cable, triplex urd - various sizes
- Conduit and fittings - various sizes
- Termination, fiber optic - various types
- Ug cable arrester elbow - various voltages and types
- Ug cable elbow - various voltages and types
- Ug cable splice kit - various voltages and types
- Wire, optical ground (opgw) - various sizes

Common supplies

- Batteries, common - various types
- Batteries, power tool - various types
- Indicator bulbs -various types
- Spill absorbent and containment - various types
- Tape, electrical

Conductor (bulk) and accessories

- Conductor, aac - various sizes
- Conductor, acsr - various sizes
- Conductor, insulated aac - various sizes
- Conductor, insulated copper - various sizes
- Conductor, quadruplex - various sizes
- Conductor, triplex - various sizes

- Connecter, auto sleeve for aac, acsr, copper - various sizes
- Connector, compression service - various sizes
- Connector, neutral sleeve for cu, acsr - various sizes
- Connector, sleeve for copper - various sizes

Gases and chemicals

- Corrosion inhibitor - various types
- Distilled water
- Gasoline fuel
- Diesel fuel
- Lubricant, dielectric - various types
- Nitrogen gas, bottled
- Sulfur hexafluoride gas, bottled

Insulators

- Insulator, distribution pin - various voltages and types
- Insulator, distribution post - various voltages and types
- Insulator, distribution strain - various voltages and types
- Insulator, distribution suspension - various voltages and types
- Insulator, house knob - various sizes
- Insulator, strain guy - various sizes and ratings
- Insulator, substation post - various types
- Insulator, transmission bell - various types
- Insulator, transmission non-ceramic - various voltages and types and associated hardware
- Insulator attachment/line construction hardware
- Pin, crossarm for insulator

Metering items

- Meter socket and hub - various types
- Meter, watthour - various types

Poles, structures, and accessories

- Crossarm, wood - various sizes
- Ground rod
- Ground strap, copper braided - various sizes
- Guy anchor shaft
- Guy anchor, helix - various types
- Hardware, guying - various types
- Lattice tower member, steel - various types
- Pole, steel - various sizes
- Pole, streetlight - various sizes
- Pole, wood - various sizes
- Wire, guy - various sizes

Sectionalizing and protection items

- Arrester, lightning distribution line - various voltages
- Capacitor, high voltage - various voltages and kvar
- Fuse cutout - various voltages
- Fuse holder, cutout - various sizes
- Fuse link, cutout - various ratings
- Fuse, low voltage control - various ratings and types
- Fuse, substation high voltage - various ratings and types
- Switch, overhead gang operated - various voltages and types
- Switch, overhead single phase - various voltages and types

Specialized hardware

- Armor rod line guard - various sizes
- Brackets, overhead equipment - various types
- Clamp, parallel groove - various sizes
- Clevis assembly, various types
- Deadend clamp - various sizes

- Deadend grip, preformed - various sizes
- Fasteners, distribution line - various types
- Fasteners, transmission line - various types
- Tie wire, aac - various sizes
- Tie wire, bare copper - various sizes
- Tie wire, preformed - various sizes
- Conductor splicing hardware – various sizes

Street lighting items

- Streetlight lamp
- Streetlight luminaire
- Streetlight photocell

Transformers and accessories

- Boxpad, fiberglass padmount transformer - various sizes
- Bushing, padmount transformer - various voltages and types
- Transformer and circuit breaker insulating mineral oil
- Transformer, overhead 1ph - various voltages and kva
- Transformer, padmount 1ph - various voltages and kva
- Transformer, padmount 3ph - various voltages and kva

Substation control room and communication equipment

- Storage battery cells

Bulk Chemicals Needed for Power Generation and Delivery List

The purpose of this section is to list bulk chemicals critical to power generation and delivery. These chemicals are consumed at various rates by power production processes, so maintaining continued reliable access is critical to generate electricity. The manufacturing and delivery supply chain of these chemicals must remain functional for continued reliable power generation.

- Additives
    - Coal

  - Coal Additives
  - Fuel Oil Additives
- Bulk Chemicals
  - Activated Carbon
  - Ammonia
  - Boric Acid
  - Glycol
  - Hydrazine
  - Hydrochloric Acid (HCl)
  - Lignosulfonate
  - Lithium Hydroxide
  - Sodium Bisulfate
  - Sodium Carbonate (Soda Ash)
  - Sodium Hydroxide (Caustic Soda)
  - Sodium Hypochlorite (Bleach)
  - Sulfur and Molten Sulfur
  - Sulfuric Acid
  - Urea
- Bulk Gases
  - Argon (AR)
  - Carbon Dioxide
  - Hydrogen (H2)
  - Nitrogen (N2)
  - Oxygen (O2)
  - Trailer or Tank Rentals
- Bulk Powders
- CEMS (Protocol) Gases
- Cylinder (Bottled) Gases
  - Argon (AR) Cylinder
  - Carbon Dioxide (CO2) Cylinder
  - Cylinder Rentals
  - Hydrogen (H2) Cylinder
  - Nitrogen (N2) Cylinder
  - Oxygen (O2) Cylinder

    - Propane
    - Sulfur Hexafluoride (SF6)
- Lime (Hydrated Lime)
- Wastewater Treatment
    - Flocculent
- Water Treatment
    - Demineralizers
    - Mobile Demineralizers Trucks
    - Water Filtration Equipment
    - Water Treatment Systems
- Water Treatment Chemicals
    - Resins
- Water Treatment Services

Natural Gas Delivery Materials List

Reliable natural gas delivery depends, in part, on the availability of several components and parts. The availability of these components depends on two key factors: lead times and chokepoints. Natural gas companies typically do not overstock certain components and parts because they tend to be widely available in the market under normal conditions. If these components and parts become in short supply and there are longer lead times for production, the natural gas delivery system could be challenged. In general, the availability of these components and parts also is subject to transportation constraints that can delay delivery. Therefore, both rail and fleet availability can create chokepoints, which, in turn, can create supply chain difficulties.

Long lead time items

- Large diameter valves and accessories
- Electro-fused fittings
- Prefabricated risers
- Prescriptive-based rebuild or maintenance kits for metering and/or regulating stations

Chokepoint items

- Nitrogen – for purging pipes and pressure testing
- Odorant (Mercaptan) – for odorizing natural gas

Responsible Reentry and Return to the Workplace

Section Summary

This section provides guidance that investor-owned electric and/or natural gas companies, public power utilities, and electric cooperatives may consider when planning a transition from remote work back to the workplace. It includes seven sections:

- Strategic Priorities for Returning to the Workplace
- Engagement with State/Local Governments
- Enterprise-Wide Reentry Planning
- Planning Considerations for COVID-19 Contact Tracing
- Planning Considerations for Reentry to Office Spaces
- Planning Considerations for Field and Construction Work
- Planning Considerations for Technology

The guidance in this document recognizes that the electric power industry has continued to work during the pandemic response. It is based on input from leaders across the industry as they begin planning a transition toward normal operations. The intent is to serve as a general information resource to inform independent, localized decisions and not to set any industry standards. This document is evergreen and will be updated regularly to reflect additional or revised guidance as it is received.

Strategic Priorities for Returning to the Workplace

As the industry prepares to shift from remote operations to return to the workplace, the ESCC has identified four strategic priorities that will help define this next stage in the pandemic response:

- **Industry plans for returning to the workplace should be coordinated with state/local governments and executed in phases.** Organizations will need to partner with their state and local government officials who are responsible for lifting restrictions and re-engaging the economies in their jurisdictions. Understanding what information these officials will use to begin their economic restart activities will help inform localized plans for industry to transition from

remote work back to the workplace. A phased approach to this process will be required, with the understanding that some business units can continue to rely on telework. School closures and a lack of day care services also will impact an organization's planning, as will increased mental health considerations for the workforce during a potentially challenging transition process. As these plans are developed, industry leaders should also consider engaging with regulators and/or oversight bodies.

- **Focus on the health and safety of our workforce and our customers.** Our workforce is the foundation for everything we do. The health and safety of our employees, contractors, and customers is a paramount consideration, shaping every decision we make. Organizations will need to adapt to the "new normal" of social distancing and enhanced hygiene in office settings and in field/construction work. These changes could include physically restructuring office space, schedule rotations, regular health screenings, more frequent cleaning of facilities, and changes in travel policies. In field settings where social distancing is challenging, additional PPE and safety protocols may be required. These requirements currently are stressing, and likely will continue to stress organizations' supply chains, as demand for PPE, COVID-19 tests, thermometers, and cleaning supplies increase. The industry will continue to work collaboratively with other critical sectors and suppliers, but also will need the continued support of federal, state, and local government partners to ensure supply chain requirements are filled. The ability to maintain a healthy and safe workforce as we re-enter the workplace depends greatly on the ability to ensure the electric power industry's supply of these items. The reliability and security of the electric system also depends on industry and government working together to ensure these supply chain needs are fully addressed. Industry mutual assistance needs currently are being met, but with storm season upon us, these supply chain needs will become even more critical for us to keep the lights on.

- **Anticipate and address any technology-related challenges and cyber threats associated with the return the workplace.** Organizations are aware that the transition from telework to the workplace may increase cyber vulnerabilities—in both Informational Technology (IT) and Operational Technology (OT) systems. Recognizing these challenges, we will need to continue our partnership with federal intelligence sources, the Department of Energy, Department of Homeland Security, and other relevant agencies to receive timely and actionable communications during the transition process.

- **Clear and consistent internal and external messaging will be critical for all aspects of a reentry plan.** Organizations already are developing comprehensive messaging plans to engage with the workforce, customers, and stakeholders on the reentry process. Messaging should be transparent, easy to understand, consistent, timely, and coordinated with government partners.

- **Organizations should consider taking a collaborative approach when examining whether a vaccination policy is appropriate.** This includes coordinating with labor unions (if applicable), state and local health departments, employment counsel, and their workforce, which could include contractors, where appropriate.

- Among the issues to consider:
  - — Surveys can help organizations understand how much of their critical workforce (first responders and control center operators) would want to be vaccinated (phase one of distribution). This could include contractors, where appropriate.
  - — If an organization develops a vaccination policy, has a contractor administer the vaccine, or has workforce members obtain the vaccine from a preferred health care provider, they should have a communications and education plan to answer key questions about who, what, where, and when.

  - Staggering the timing of vaccination may minimize impacts related to potential side effects if such scheduling does not negatively impact operations.

- There are, of course, other factors and risks to consider when deciding if a vaccination policy is appropriate for your organization, and, if so, what that policy entails. Some other potential factors and risks include, but are not limited to, infection rates; vaccine availability; choice of vaccine; labor and employment laws at the federal, state, and local levels; worker safety laws; collective bargaining agreements (if applicable); and worker compensation schemes. Of course, some factors and risks can change over time and may need to be revisited.

Engagement with State and Local Governments

The decision to re-engage a local economy will be made by individual state and local governments and will be informed by federal guidelines. While these decisions likely will impact an organization's reentry planning, industry leaders should consider internal objectives and criteria before beginning the transition from remote work back to the workplace.

Organizations should consider taking the following steps when engaging with state and local governments on reentry planning:

- Develop a regular line of communication with government decision makers either directly or through the applicable statewide organization. As appropriate, encourage executive-level participation in state/local work groups on economic restart activities.
- Identify and attempt to address inconsistent guidance on economic restart between state and local levels of government. To be effective, guidance needs to be aligned across all levels of government and must be clearly communicated.
- Engage, either directly or through appropriate statewide or regional organizations, with the state department of emergency management and state/local emergency operations centers to discuss preparations for potential major incidents (e.g., hurricanes, wildfires, etc.) and how organizations will mitigate COVID-19 exposure during response operations.

In addition to outreach to state and local governments, organizations also should consider engaging with regulators, as appropriate. It is important to communicate with local government leaders and regulators about plans to transition employees who are working remotely back to the workplace. Organizational leaders also should consider outreach to their congressional delegation, either directly or in coordination with statewide and national organizations, to outline their reentry plans. In addition, organizations should ensure consistent messaging to all government stakeholders.

Enterprise-Wide Reentry Planning

Because of the critical nature of our sector, the electric power industry has continued to work – albeit in different configurations – during this pandemic response. As we enter a new phase in this response, organizations across the sector are encouraged to be responsible, measured, and flexible when transitioning employees who are working remotely back to the workplace.

Be Responsible

- Maintain the safety of employees and the public as the number one priority.
- Expect employees to actively participate in ensuring a healthy workplace.
- Remain focused on critical onsite operations to meet the needs of customers.

Be Measured

- Continue to effectively work remotely where appropriate.
- Develop a phased/staged workplace reentry approach based on external and internal criteria.
- Closely track, reassess, and reevaluate criteria/triggers between each stage.

Be Flexible

- Establish enterprise-wide guidelines/approaches but implement them locally.
- Consider federal, state, and local guidance.
- Incorporate lessons learned and respond to changing circumstances.
- Be responsive to employees' needs.

Phases/Stages for Workplace Reentry

Organizations should consider developing reentry plans that include a gradual, phased de-escalation of heightened health/safety protocols in stages that are based on an evaluation of internal and external criteria.

- **Internal and External Criteria/Triggers for Stages:** Organizations should identify internal and external criteria that can be tracked and evaluated to determine whether and when to move between stages.
  - **Examples of External Criteria**
    - Federal,[5] state, and local government guidance support the movement toward normal operations.
    - Available local data indicate a declining trend in new COVID-19 cases and deaths.
    - Local health care systems (facilities, equipment, and personnel) can treat all patients requiring care safely without any capability or capacity issues.
    - Coordinated economic restart planning with governments and other businesses in the area is completed.
  - **Examples of Internal Criteria**
    - Initial deep cleaning of all company facilities is completed.

[5] The White House has proposed "gating criteria" for states and regions to consider before beginning a phased effort to re-engage economies. That criteria can be found here: Opening Up America Again - The White House

- Procedures are in place for scalable daily facilities cleaning.
- Established guidelines are in place for occupancy, workplace access, employee screening.
- Physical distancing measures are in place by location.
- Adequate and appropriate PPE is available.
- There is adequate access to COVID-19 testing for employees.
- Health and safety reminders and signage are placed strategically in common areas, elevators, and conference rooms.
- Employee/manager training and a communications/messaging plan are implemented.
- Survey results indicate employees can return to the workplace due to family situations (school closures, lack of daycare, etc.).

- **Phased/Staged Plan Example:** Below is an example of an outline for a phased/staged reentry plan that identifies specific actions based on an evaluation of internal and external criteria. As those criteria are evaluated, it is important to note that the time to move between stages could be shortened or extended depending on the situation, and different business units within the organization may have separate timelines for each stage. In general, organizations should allow 21-28 days before transitioning between stages to account for COVID-19's incubation period. Organizations also should consider that the criteria may indicate a need to move back a stage, rather than moving forward.

  Organizations should designate the appropriate level of senior leadership to evaluate these criteria/triggers before transitioning through a stage – considering the impacts that these actions will have on employees currently performing their jobs onsite and how each business function will impact others as they transition back to the workplace.

  - **Stage 1: Full Restrictions**
    - Stay-at-home orders in place.
    - Restricted access to facilities for employees, contractors, and visitors.
    - Extensive remote work/work from home.
    - Suspended/deferred non-essential or emergency field work.
    - Restricted business travel.
    - Contact tracing for employees that report symptoms, a positive COVID-19 test result, or contact with a confirmed COVID-19 case.
    - Clear, consistent messaging to employees and contractors on restrictions in place.
  - **Stage 2: Limited Reentry**
    - Limited facility reentry for employees and contractors with health screenings. Organizations should consider maintaining restrictions for visitors.
    - Strict social distancing, increased hygiene measures, and appropriate PPE at facilities.
    - Limited employee return to the workplace based on analysis of business units.
    - Alternate days for initial return to acclimate employees back into the workplace (e.g., T, TH or M, W, F).
    - Resumption of some suspended or deferred field work based on priority/criticality/risk.

- Restricted business travel, with approval; consider requiring employees to self-quarantine, per CDC guidance, after they return from personal travel.
- Contact tracing for employees that report symptoms, a positive COVID-19 test result, or contact with a confirmed COVID-19 case.
- Clear, consistent messaging to employees and contractors on reentry process.

— **Stage 3: Expanded Reentry**

- Expanded facility reentry for employees, contractors, and visitors with health and medical screenings.
- Maintain social distancing, increased hygiene measures, and appropriate PPE at re-opened facilities.
- Continue to alternate days and expand as appropriate based on need and if space constraints are not a concern.
- Most suspended field work and projects reinstated based on priority/criticality/risk.
- Limited business critical travel permitted, with approval; consider requiring employees to self-quarantine, per CDC guidance, after they return from personal travel.
- Contact tracing for employees that report symptoms, a positive COVID-19 test result, or contact with a confirmed COVID-19 case.
- Clear, consistent messaging to employees and contractors on reentry process.

— **Stage 4: Unrestricted**

- Reliable vaccine widely available.
- All pandemic-related facility restrictions lifted.
- All suspended field work and projects resume.
- Business travel permitted, with approval.
- Establish a “new” normal business model with consideration for allowing greater flexibility and work from home.
- Clear, consistent messaging to employees and contractors.

Evaluating the Return to the Workplace by Business Unit

Organizations should evaluate which business units and/or roles (such as those that require system monitoring, emergency response, or technology within the office) that should be prioritized to return to the workplace first. Many organizations are exploring whether remote work/telework can be institutionalized, which will impact a reentry plan. School closures and a lack of daycare services for some employees also may impact a reentry plan and require flexibility for returning to the workplace in stages.

- **Remote Work Considerations:** Organizations should consider the following when evaluating the use of telework.
  - Among the benefits of telework, it:
    - Helps meet social distancing guidelines.
    - Can be a good retention/recruitment tool.
    - Allows quick reaction if there is a resurgence in infections.
    - Reduces strain on mass transit.
    - May reduce some long-term capital construction expenditures for office space.
  - Organizations should review the impact to existing company policies, such as those addressing employee benefits and healthcare, and agreements with organized labor prior to considering and establishing guidance for long-term teleworking.
- **Employee Feedback on Returning to the Workplace:** Organizations should consider using survey tools to gauge the ability of employees to return to the workplace based on their family situations (school closures, lack of daycare, etc.). Employees with high-risk health factors or with close family members with such risks also should be able to indicate their preferences relating to telework.
- **Employee Role in Maintaining a Healthy Workforce:** Organizations should communicate that employees play an important role in maintaining a healthy workforce. For instance, employees should not come to work if they have flu-like symptoms. They also should perform self-temperature checks prior to coming to work, especially if they have been near anyone who is sick or who has tested positive.

ICS Structure to Support Reentry Transition Process

Organizations should consider implementing an Incident Command System (ICS) structure to support the staged transition from remote work back to the workplace. This structure would pull employees from across the enterprise to monitor, track, and report on each stage of the transition, which may vary by business unit. As part of its oversight, the structure could track resources used during the COVID-19 mitigation period (such as PPE and cleaning supplies) to maintain adequate supplies and to ensure that all business units fully are coordinated during the transition. The structure also could be integrated into an organization's existing incident planning efforts to ensure an all-hazards approach to enterprise-wide risk.

In addition, organizations should consider changes in their emergency operations centers (EOCs) to mitigate possible virus exposure. These mitigation efforts may include:

- Adjusting the workplace, for example using every other cubicle or workstation in a checker-board pattern to increase space between employees.

- Exploring whether portions of the EOC can operate remotely with expanded use of emergency management collaboration software, such as WebEOC. (Additional information on "Virtual EOCs" can be found online at: A Brand New World – Virtual Emergency Operations Centers (VEOC) - Risk and Resilience Hub.)
- Identifying alternate/remote locations where smaller teams of EOC staff could deploy separately.
- Designating alternating teams to staff the EOC on rotations.
- Designating narrow hallways or doors as one-way only.
- Installing plexiglass or other physical barriers in areas where social distancing is not possible.

For additional mitigation options, see the "Office Cleaning and Upgrades to Meet COVID-19 Requirements" in this Resource Guide.

Planning Considerations for COVID-19 Contact Tracing

As organizations begin to consider when and how to transition employees from working remotely to reentering the workplace, they also should consider contact tracing programs as a tool to identify and to assist employees who potentially are exposed to COVID-19. These programs are designed to protect workers, their families, and their communities by slowing or stopping the transmission of the virus.

In general, contact tracing includes the following steps:

- **Report**: An employee reports that he/she has symptoms of COVID-19, has tested positive for the virus, or has had contact with a person who has a confirmed COVID-19 case to the organization's HR staff or to an appropriate person (e.g., his/her supervisor) who alerts the HR staff.
- **Mitigate**: The employee is sent home and asked to self-quarantine. All affected workplace areas and vehicles are cleaned and disinfected.
- **Investigate**: HR staff interviews the employee to identify close contacts in the workplace and to provide guidance on seeking medical attention.
- **Inform**: HR staff informs the employee's close contacts of their exposure and provides guidance on mitigation steps.
- **Track and Follow-Up**: HR staff conducts follow-up interviews with the employee and close workplace contacts to track symptoms and to indicate when/if he/she can return to the workplace.

Any contact tracing effort should be developed in coordination with organized labor (if applicable), HR professionals, and legal counsel, and should be communicated clearly to the workforce and to other stakeholders. In addition, the process should emphasize and value employee confidentiality and adhere to applicable local, state, and federal privacy laws.

Approaches for Contact Tracing

- **Starting the Contact Tracing Process**: Contact tracing should begin after an employee tells HR staff or an appropriate person (e.g., his/her supervisor) that he/she has symptoms of COVID-19, has tested positive for the virus, or has had contact with a person who has a confirmed COVID-19 case. The organization should ensure that the employee is sent home immediately and that affected workplace areas and vehicles are cleaned. Further, the supervisor should alert the organization's HR team to begin identifying and tracing the employee's close contacts.
- **Defining "Close Contacts"**: The CDC defines a close contact as "someone who was within 6 feet of an infected person for at least 15 minutes starting from 48 hours before illness onset until the time the patient is isolated." Contacts can include, but are not limited to, family members, co-workers, customers, vendors, or contractors.
- **Engaging with the Potentially Infected Employee and Exposed Contacts**: An organization's HR staff should interview the employee and then should conduct tracing interviews with his/her close contacts. As part of the interview process, organizations should:
  - Develop a standard set of questions and talking points for interviews with the potentially infected employee to identify close contacts; determine when/where the exposure with the contacts occurred; and provide guidance on seeking medical attention.
  - Conduct interviews with the employee and close contacts by phone. Interviews should be considered confidential and should not include the employee's manager(s) since sensitive medical and personal information will be discussed.
  - Maintain confidentiality by not identifying the individual who reported symptoms. Contacts only should be informed that they may have been exposed to an individual who has COVID-19 or who has been in close contact with someone who has COVID-19. They should not be told the identity of the person. Organizations also may consider using an authorization form for an employee to sign giving his/her approval to release his/her identity voluntarily.
  - Provide clear guidance on steps a contact should take and indicate when he/she can return to the workplace. The CDC recommends that contacts stay home and maintain social distancing (at least 6 feet) until 14 days after their last exposure in case they also become ill or until a negative test result is received for the employee with whom they were in contact. The CDC also recommends that the contacts monitor themselves by checking their temperature twice daily and watching for a cough or shortness of breath.
  - Consider whether to inform close contacts who are not employees or work with local health authorities to provide that information for their contact tracing efforts.
  - Conduct follow-up interviews to determine whether contacts develop symptoms. If so, the organization should suggest they reach out to their medical providers for further health guidance.
- **Tracking and Follow-Up Protocols:** Organizations should consider using an encrypted database system to track information collected during the contact tracing interviews. Tracked information may include: the date of an employee's onset of symptoms and/or positive test result; a list of all close contacts; and the dates/locations of the contacts' exposure. Organizations should consider using employee ID numbers in the database, instead of names, to help ensure confidentiality. The database system can facilitate follow-up interviews with infected employees and their contacts. All close contacts should be informed if an employee who reported symptoms receives a negative test result. Contacts who are also employees may

return to the workplace after verifying that they are still asymptomatic. Access to the database system should be limited to those necessary to conduct the tracking and follow-up protocols.

- **Use of Technology:** The Tiger Team worked with the sector to identify technologies that could facilitate or automate the contact tracing process. One organization indicated that it is using an app-based system to capture data from a variety of IT systems (such as fleet information and badging systems) to reduce the time required in a manual tracing process. The information then is made available to the HR team via a database and dashboard. Meanwhile, the tech industry is developing other tools, such as case management and proximity tracking systems, that primarily are designed for public health organizations. For instance, Apple and Google partnered on a platform that helps public health organizations develop apps that use Bluetooth technology to automate contact tracing. While only public health authorities will have access to this platform, organizations in the sector eventually may be able to use some of the approaches and tactics to assist in their contact tracing efforts.
- **Engagement with State/Local Governments and External Tracing Programs:** Public health authorities established contact tracing programs for tracking exposure within communities. Organizations should consider engaging with those health authorities and state/local governments to establish protocols for being notified about potential employee exposure points outside of work facilities.

The CDC has developed contact tracing guidance for state/local/tribal/territory public health offices that can be found online at:

Contact Tracing Resources for Health Departments - CDC

Planning Considerations for Reentry to Office Spaces

Returning to the office is an important step in an organization's return to pre-pandemic type operations. Because the health and safety of employees is the highest priority, reentry into office spaces will require significant planning and foresight and will include changes, either temporary or permanent, to the ways in which business is conducted going forward. This section provides guidance about mitigation efforts that could be considered as organizations develop and implement reentry plans.

Approaches to Returning Employees to the Office

This section addresses the high-level decisions that organizations need to make and communicate to employees to develop a functional process for return to the office. This includes determining who will return to the office and when; ensuring that those employees are prepared to return to the office; implementing organizational strategies to protect returning employees; and accommodating employees who will continue to work at home.

Decide on a Phasing Approach

- Most Likely Approach: Returning Employees in Stages
  - — Returning to the office in stages can accommodate social distancing requirements.
  - — Returning to the office in stages can accommodate employees' personal needs, like child or elder care.

- — *Example of How to Implement:* Bring employees back into the office starting with 25 percent of the workforce, then 50 percent, then 75 percent, and finally 100 percent.
- — *Example of How to Implement:* Promote the message that employees are **permitted** to return to the office but are **not mandated** to return to the office to encourage a gradual return.

- Possible Approach: Returning Only Those Employees that Need to Operate in the Workplace
  - — Identifying and returning only those employees that need to work in an office setting, while allowing others to continue to work remotely, can help accommodate social distancing requirements and help protect mission-essential workers[6] who must be in certain workspaces.
  - — This approach may not be significantly different than the office arrangements made during the initial response to the pandemic since many employees who could not operate remotely either have continued to work in the office throughout or already have returned.
- Unlikely Approach: Returning All Employees at Once
  - — This approach presents challenges in the office for ensuring social distancing, proper cleaning of facilities, and other safety requirements for the office.
  - — This approach presents challenges for employees with personal circumstances that prohibit them from safely or easily returning to the office.

Develop and Implement Corporate and Site-Specific Return to the Office Space Guidance

- Ensure that corporate guidance can accommodate the site-specific needs and limitations of a wide variety of buildings and facilities and can be implemented effectively in every office.
- Consider developing a strategic corporate plan with separate site-specific implementation plans for each individual office space.

Divide Returning Employees into Separate "Teams" or "Zones"

- Designate teams/zones to reduce the number of interactions among employees.
- Designate teams/zones to provide additional protection for mission-essential workers since they are less likely to encounter others.
- Teams/zones can be structured in several ways depending on the organization's needs:
  - — Divide teams or zones by function to ensure that workers who need to interact with each other can do so.
  - — Structure teams or zones to ensure that a "replacement crew" will be available for particular functions if one team or zone becomes compromised.
  - — Assign employees from each department to "Team A" or "Team B," and alternate work weeks between the teams to reduce the number of people present in each department at one time.

[6] "Mission-essential workers" are defined in the ESCC Mission- Essential Workforce document that is available on the ESCC website at https://www.electricitysubsector.org.

- Assign groups of employees to a color-coded area of the office, such that "green" employees must stay in the "green" area and "yellow" employees must stay in the "yellow" area to reduce the number of unnecessary interactions and shared spaces.

Conduct Pre-Return Training for Employees

- Conduct virtual training for employees prior to their return to the office so that they are aware of strategies and expectations to protect themselves and others while in the office.

Communicate Frequently with Employees Prior to Return

- Survey employees about their willingness and ability to return to the office, listening for any unanticipated concerns that can be mitigated or factors that can help inform decisions about stages and continued work from home.
- Establish a dedicated communication channel (SharePoint, Microsoft Teams, weekly conference calls, etc.) to ensure employees know where to find and how to receive accurate and timely information on plans to return to the office.
  - Ensure that communication channels are bi-directional, so that employees can ask questions and express concerns.
- Communicate experiences that employees may have that differ from usual office activities.
  - Explain in detail any screening or testing requirements and processes, including the use of face coverings, and provide appropriate resources for medical information on testing.
  - Ensure that "stages" and "teams" are communicated clearly and transparently.
  - Explain any new procedures for office entry (e.g., security badging or elevator use).
  - Provide explanations and maps if the office is divided into new "zones."
  - Explain any new procedures for using restrooms, kitchen areas, conference rooms, gyms, cafeterias, common spaces, etc.
- Consider how much advance notice should be given to employees before expecting them to return to the office, taking child and elder care into consideration.
- Communicate a plan for full/partial closure of the office in the event of a second wave of the virus.

Implement Additional Protections for Mission-Essential Workers

- Maintain heightened restrictions on access to any areas of the office where there are mission-essential workers.
- If possible, establish a dedicated "zone" for mission-essential workers, including separate restrooms, kitchen areas, and conference rooms.

Consider Extending Work at Home for Some Employees

- Positive experiences with working remotely during the pandemic have led some organizations to see remote work as a viable option, leading to the development of more flexible corporate work-at-home policies that may remain in effect.

- Evaluate whether the benefits of continued remote work for some or all employees that can operate remotely could outweigh the benefits of returning to the office in the near-term, based on your organization's experiences working remotely.
- Extended pandemic-related remote work may be a permanent or open-ended change, may be determined on a case-by-case basis for each employee, or may have a designated end point such as:
  - Specific timeframe.
  - Target reduction in number of cases in a region.
  - Opening of local schools/daycare/elder care facilities.
  - Opening of other businesses.
  - Development and availability of a vaccine.

  Additional criteria that may inform remote work decisions can be found in the "Internal and External Criteria/Triggers for Stages" section of this Resource Guide.
- Develop long-term remote work policies to accommodate employees who have special circumstances that make it more challenging or unsafe for them to return to the office, which may include:
  - Older employees or employees who live with older relatives.
  - Employees who have underlying health conditions or who live with someone who has underlying health conditions.
  - Employees who rely on public transit or carpool.
  - Employees with child or elder care responsibilities.
- Ensure that work-at-home policies accommodate state or local protections for vulnerable communities, which might prohibit employees from returning to the office.
  - *Example*: New York enacted Matilda's Law, which provides additional protections for workers over 70, those with compromised immune systems, and those with underlying conditions.

Change or Stagger Office Hours

- Stagger start and end times to reduce the number of employees in the office at any one time and reduce the risk of overcrowding in elevators, stairwells, and other common spaces.
- In areas where employees use public transit, consider changing the office's opening and closing times to allow employees to avoid commuting during the most crowded times.

Health Screening and Testing Practices

This section outlines planning considerations for implementing practices related to health screening and testing in the office, including working onsite with healthcare professionals and using healthcare information to make informed choices about office activities.

Conduct Employee Health Screenings

- Identify and clearly communicate to employees when, how often, where, and by whom health screenings will be conducted.

- Health screenings can include quantitative assessments, like temperature checks, as well as qualitative assessments, like asking employees whether they have felt ill, had a sore throat, are experiencing shortness of breath or other symptoms, or believe they have been exposed.
- For health screenings conducted at home:
  - If possible, provide thermometers to employees and ask them to take their own temperature at home prior to arriving at their work location.
  - Establish and clearly communicate a process to self-report fevers or other symptoms, which could include a dedicated phone number, website, or email address.
- For health screenings conducted onsite:
  - Conduct screenings as employees arrive at the office in the morning to ensure potentially sick employees do not enter the rest of the office.
  - Establish a "waiting room" outside of the screening area that follows social distancing guidelines for employees who are waiting to be screened, to ensure that only one employee is in the "screening room" at a time.
  - Consider site-specific and schedule-specific solutions to alleviate bottlenecking and overcrowding of waiting rooms.
- For all health screenings, develop a standard protocol that follows CDC guidelines and state/local regulations to address employees who have or report having a fever or other symptoms or those who indicate that they may have been exposed.
- Develop a process for storing and managing any health information, taking relevant privacy and other legal issues into consideration.

Develop Diagnostic Testing Requirements for Access to the Office

- Requirements should consider the availability of diagnostic testing (including antibody tests or swab tests uses to detect the coronavirus) in a specific region and the potential use cases for different types of tests as they relate to office access.
- Determine who will be required to undergo diagnostic testing before entering the office:
  - No one
  - Mission-essential workers only
  - All employees or all employees returning to the office
  - Consultants and contingent workers in the office
  - Visitors
- Determine if testing is required for entry into all parts of the office or only required to enter a specific access-restricted zone in the office.

Develop and Communicate a Protocol for Employees Who Experience Symptoms of COVID-19 in the Office

- How does an employee report that he/she is beginning to experience symptoms of COVID-19 while at the office?
- If an employee begins to experience symptoms of COVID-19, should he/she leave immediately?

- If an employee reports flu-like symptoms, will he/she be tested for COVID-19, if possible?
- Will employees with flu-like or COVID-19 symptoms be required to quarantine for 14 days?
- Will other employees who may have been in contact with a sick employee be notified or asked to take any additional precautions?
- How will employees be cleared to return to the office after recovery?

Monitor the Regional Infection Rate

- Regional infection rates may provide a useful indication of how likely employees are to be symptomatic or asymptomatic carriers of the virus.
- Establish a threshold for regional infection rates to inform the decision to begin returning employees to the office or to move to the next stage of returning employees to the office, and for full or partial reclosure of the office in the event of a second wave or unexpected spike.

Consider Employee Mental Health Concerns

- Mental health concerns about returning to the office may stem from many different experiences, including anxiety about the potential to get sick upon return, stress from additional family and caretaking responsibilities, stress from economic impacts, grief, or discomfort during an extended period of isolation, among other things.
- If an Employee Assistance Program or other resources are available to employees, communicate to employees about the relevant services that are provided.

Office Cleaning and Upgrades to Meet COVID-19 Requirements

This section highlights the physical changes that could be made to an office space to reduce the risk of infection and to enable employees to work safely and comfortably.

Clean Offices, Cubicles, and Common Areas Regularly

- Determine when and how often all areas in the office should be cleaned, taking into consideration any high-traffic areas and frequently touched surfaces.
- Supplement daily cleaning routines with weekly or occasional deep-cleaning methods, like electrostatic fogging, as necessary.
- Consider shifting office hours so that extended periods of time are available for regular deep cleaning.
- Provide appropriate cleaning supplies in restrooms, kitchens, and other common areas:
  - Anti-bacterial soap should be provided in all restrooms and kitchens.
  - Hand sanitizer should be provided in offices/cubicles, conference rooms, elevator lobbies, reception areas, kitchens, and other common areas.
  - Surface wipes should be provided for offices/cubicles, conference rooms, kitchens, and any other areas with shared or frequently touched surfaces.
- Consider asking employees to wipe down common area surfaces before and after use to ensure that they are clean for themselves and the next user.

- Determine if any changes need to be made to routines for collecting trash or recycling.
- Clean shared refrigerators, microwaves, and coffee machines before employees return to the office and regularly after employees return.

Enable Social Distancing at Workstations

- Adjust cubicle spacing and spacing of desks in shared or open offices to provide 6 feet of space around each workstation.
- Use every other cubicle or workstation in a checker-board pattern to increase space between employees.
- Discontinue use of cubicles or workstations in high-traffic hallways or on busy corners.
- Install Plexi-glass or other physical barriers in areas where social distancing is not possible or effective, like at a reception desk.

Enable Social Distancing in Common Areas

- Examine each floor to ensure that employees can move throughout the office and conduct necessary business (printing, etc.) while maintaining social distancing requirements.
- Post signage in common areas with the maximum number of people who safely can be accommodated at once.
- Designate certain common areas (kitchens, restrooms, elevators, printers, etc.) for specific employees to use, if possible.
- Post signage in common areas explaining any requirements or recommendations for wearing masks or other protective equipment.
- Post signage near tight or enclosed shared spaces, like supply closets and coffee pantries, informing employees to wait outside the space until the person in front of them has finished.
- Designate narrow hallways or doorways as one-way only.
- Designate elevators for one floor or one organization, if possible.
- Designate stairwells to travel in only one direction, if possible.
- Designate points of entry into the building and points of exit out of the building.
- Reduce the number of parking spots in use in a garage or parking lot, using only every other parking spot in a checker-board pattern, to increase the space between vehicles and allow for safer movement. Alternatively, secure additional parking spaces at nearby locations to allow for social distancing in all garages/lots.
- If your office is in a building with other tenants, coordinate with the building management staff to communicate physical safety practices and expectations.

Restock Office Supplies and Equipment

- Employees may have taken home computers and computer accessories, monitors, small printers, desk chairs, and other office equipment and supplies that will need to be returned, replaced, or replenished.

- Ensure that all offices, cubicles, and conference rooms have the equipment and supplies they need to resume business.
- Sanitize all supplies that are returned from an employee's home, especially if they may be used by others.

HVAC System Upgrades May Reduce the Likelihood of Transmission in the Office

- Examples of upgrades include UV treatment systems and anti-microbial filters.

New Ways of Working and Office Etiquette

This section explores changes to office culture and interpersonal interactions that will aid in the transition to the "new normal."

Promote Standards for Personal Hygiene

- Promote thorough hand washing, use of hand sanitizer, and use of surface wipes or other disinfectants in personal offices/cubicles.
- Consider requiring or recommending the use of face coverings in the office.
  - If face coverings are required or recommended in all or some areas of the office, provide guidance on how to use them safely and effectively.
  - Face coverings may be required by law in some states and localities.
- Provide resources for hygiene practices outside of the office, including at home and during commutes, to reduce the risk of infection in the office.

Promote and Enable Safe Face-to-Face Meetings

- Continue to encourage virtual or partially virtual meetings when possible to reduce the number of unnecessary face-to-face encounters, even when meeting participants are in the office.
- Reduce the number of chairs in each conference room or meeting space to allow for 6 feet of space between each person.
- Provide surface wipes and hand sanitizer in all conference rooms and meeting spaces.
- Eliminate the need to use frequently touched surfaces when possible:
  - Leave doors open to reduce door handle use.
  - Encourage personal cell phone use instead of shared telephone use when appropriate.
- Discourage handshaking and similar gestures during all meetings.
- During a face-to-face meeting, be aware of potential overcrowding in areas other than the designated conference room, including restrooms, lobbies, elevators, and stairwells.

Reduce Crowding in Kitchens and Break Rooms

- Stagger designated lunch hours to reduce unnecessary interactions between employees in common areas.

- Ask employees to eat lunch at their own desks rather than in common areas to reduce crowding.
- Be cautious of overcrowding around shared appliances.
- Post clear instructions to employees and to delivery drivers for receiving and handling deliveries of food, supplies, and other packages.

Update Business Travel Policies

- Develop plans for resuming essential and non-essential business travel that consider the following:
  - Stages for essential vs. non-essential travel.
  - Mode of transportation (i.e., air travel, train, personal car).
  - Regions where the employee is travelling to/from.
  - Anticipated interpersonal interaction (i.e., large conferences vs. one-on-one or small group meetings).
  - Availability of virtual attendance options.
  - Protection of mission-essential workers and coverage of essential functions in the event of infection.
- Determine whether to allow limited business critical travel, with approval; consider requiring employees to self-quarantine, per CDC guidance, after they return from personal travel.
- Communicate plans to employees with enough advance notice for them to make appropriate arrangements.
  - Consider making decisions on a monthly or bi-weekly basis to determine whether to resume some or all non-essential business travel.
- Communicate plans to internal and external travel coordinators.
- Consider the probable business travel plans of other organizations when planning to host an onsite meeting.
- Provide additional guidance to employees for essential overnight travel.
  - Promote high standards for cleaning and hygiene while staying at hotels.
  - Consider the use of personal RVs or other sleeper vehicles as an alternative to hotels when appropriate.
- Update policies related to the use of fleet vehicles onsite and offsite.
  - Limit the number of people permitted in a vehicle at one time.
  - Ensure that shared fleet vehicles are disinfected after each use.
- Expand the use of personal vehicles while traveling on business.
  - Consider using company signage on personal vehicles to identify employees.

Establish Policies for Non-Employees Who Need to Enter the Office

- Develop a plan for catered and delivery foods to be delivered, handled, and served safely.

- Develop a protocol for hosting non-employee workers who may need to be onsite for an extended period, like building and facilities maintenance or construction crews.
    - Consider applying the pandemic guidelines for hosting mutual assistance crews onsite to other non-employee workers who need to be hosted onsite.

Promote and Enable Safe Interactions in Public and Customer-Facing Offices

- Ensure that public and customer-facing spaces, like customer service centers and public lobbies, meet all state and local requirements and recommendations for safe interactions, which may include:
    - Enhancing daily and supplemental cleaning practices.
    - Providing hand sanitizer and surface wipes for customer and employee use.
    - Installing physical barriers, like Plexi-glass dividers, between employees and customers where appropriate.
    - Requiring or encouraging the use of face coverings for customers and customer-facing employees.
    - Limiting the number of customers permitted in a space at one time to maintain social distancing, including offices, lobbies, elevators, and waiting areas.
    - Using floor markers to indicate safe distances between customers, particularly in-service lines and waiting areas.
    - Removing additional seating in waiting areas to ensure that customers can maintain social distancing while waiting.
- Expand and encourage the use of online and telephone customer service options when possible.

Planning Considerations for Field and Construction Work

The energy sector has not stopped working during the response to the COVID-19 pandemic. However, to keep field personnel safe, organizations may have paused some projects that did not focus on the safe operations, reliability, or the resiliency of the energy grid during the height of the pandemic in certain geographical areas. Projects that could not be completed without appropriate social distancing, PPE, or required planned outages to customers also may have been paused. This section provides guidance for organizations to consider for restarting field work and maintaining a safe work environment for workers and customers.

Planning Considerations for Restarting or Expanding Field Work

Recognizing circumstances vary across different service territories and different communities, organizations may consider the following when restarting or expanding field work:

- Focus on safety and health of employees and customers and provide appropriate PPE.
- Request health and safety plans from contractors to ensure adherence to the organization's COVID-19-related health and safety protocols.

- Create a phased or tiered approach to restarting paused field work based on the status of the COVID-19 outbreak in the region or local geographic area that follows the most up-to-date government and health official guidance. The transition and timing to get back to more normal operations also may depend on any material/equipment supply chain issues and availability of required PPE. (See "Internal and External Criteria/Triggers for Stages" section above.)
- Keep field personnel isolated by having them not enter office spaces within operations or service centers.
- Continue to keep personnel to one person per vehicle.
- Ensure that no more than two people are in a job trailer at a time if one is used onsite.
- If personnel leave work vehicles at an operations/service center or warehouse, have warehouse personnel load materials onto work vehicles overnight to keep field personnel from entering the warehouse and to maintain social distancing.
- If personnel report directly to a field location from home, schedule any material to be delivered or stagger pickup times.
- If materials can be secured appropriately, consider storing materials at field locations using locked CONEX boxes or shipping containers.
- When field personnel have work that requires overnight travel requiring accommodations, any requirements such as cleaning expectations should be communicated with the lodging facility ahead of time. While there may not be any method to enforce adherence to cleaning requirements, this may add a level of comfort for personnel who are required to travel.
    - Enforce single occupancy only in hotel/motel rooms, cottages, efficiency units, etc.
    - Provide traveling employees with "go-bags" that have cleaning supplies and instructions.
    - Seek accommodations where employees can cook their own meals to avoid going out to restaurants, take outs, etc.
    - Allow employees to use personal recreational vehicles instead of other lodging accommodations if they have access to them.

Working in Potentially Contaminated Areas

To support the workforce, organizations should consider the following practices to identify a potentially contaminated home and to mitigate exposure to field personnel:

- Conduct daily safety briefings prior to field workers going on service calls and develop an internal website with Frequently Asked Questions that are updated with the most current PPE guidance and other mitigation requirements.
- Develop a process workflow for customer calls for service. The service consultant should ask questions related to COVID-19 precautions. Consider the work ticket saying: COVID-19 related questions asked: YES. Any indicators of COVID-19: YES/NO.
- Develop a process workflow for field workers to verify what has been reported on a work order with questions and talking points to use at the customer's door to identify potential COVID-19 concerns. The workflow will give employees the flexibility to gauge the situation and to social distance voluntarily when service may require entering a home/building. If a customer reports that he/she has symptoms, the workflow document should include direction for the employee to

call a supervisor to decide if the work is needed for safety, reliability, or resiliency reasons or not. If the work must be carried out, the employee may follow the workflow document using upgraded PPE. (See example of COVID-19 Workflow & Biohazard Assessment.)

- Questions/directions to consider for a workflow document include:
  - Employees ask three pre-entry questions to attempt to determine the status of COVID-19 at the location:
    - Has anyone in the residence, location, or establishment self-quarantined or self-monitored for COVID-19 within the past 14 days?
    - Has anyone in the residence, location, or establishment had a possible exposure to COVID-19 within the past 14 days?
    - Has anyone in the residence, location, or establishment tested positive for and had a confirmed case of COVID-19 within the past 14 days?
    - Is anyone in the residence, location, or establishment sick with a respiratory illness, cough, fever, congestion, or experiencing shortness of breath?
  - Employees who enter a customer location with an active case of COVID-19 should consider the following protective measures:
    - Don the appropriate PPE to protect themselves from any possible contact with the virus.
    - Ask that the sick person go to another room.
    - Practice social distancing (at least 6 feet) from healthy people in the location.
    - Avoid touching surfaces whenever possible.
    - Avoid touching your face, nose, mouth, or eyes.
- Allow field personnel to call a "safety stop" when they are reluctant to enter a dwelling. A field worker should call his/her supervisor and discuss essential vs. non-essential work and proper precautions to take.
- Refer to CDC and OSHA guidance on the use and handling of PPE. OSHA issued specific guidance on COVID-19, which can be found online at:

  Enforcement Memos - OSHA

- Ensure employees are aware of the COVID-19 symptoms and provide a mechanism (e.g., confidential hotline) for personnel to contact an organization's internal/external medical provider.

Exposure Mitigation Considerations in the Field Work Environment

- Regardless of whether a work zone or job site is in a COVID-19-restricted area or containment zone, organizations should consider social distancing steps to minimize exposure in the work environment. Jobs should be planned to:
  - Minimize the need for personnel to work within 6 feet of one another and to avoid person-to-person contact and the sharing of tools and equipment.
  - Use appropriate PPE (i.e., Flame Resistant or surgical masks) when employees must work within 6 feet of each other for extended periods of time.
  - Split critical employees into teams or groups with different shifts and/or different field locations to limit exposure if any employees become infected.

- Minimize interaction between employees and different work groups/pods.
- Increase the frequency and level of cleaning and disinfection of any temporary field offices, job trailers, shared vehicles, tools, and equipment.

- For field workers who are required to travel and to stay overnight, consider:
  - Offering alternate lodging, such as mobile homes and RVs equipped with washer/dryers, showers, and kitchens.
  - Dividing workers into small teams or pods and keeping those teams separated with assigned vehicles and different base camp/staging area locations. Consider rental options to keep the number of workers in a single vehicle low.
  - Instituting triple wellness checks with mandatory temperature readings and/or viral testing at arrival, at mid-shift, and when going off-duty, with a health survey.

- If an employee tests positive for COVID-19, consider:
  - Tracing the individual's steps to determine who that individual worked with in close proximity, as defined by the CDC:

    How COVID-19 Spreads - CDC
  - Notifying other employees who came in contact with the individual.
  - Cleaning and disinfecting the area where the individual works and consider options for notifying, monitoring, and potentially quarantining workers who had been in close contact as each situation dictates using CDC guidance:

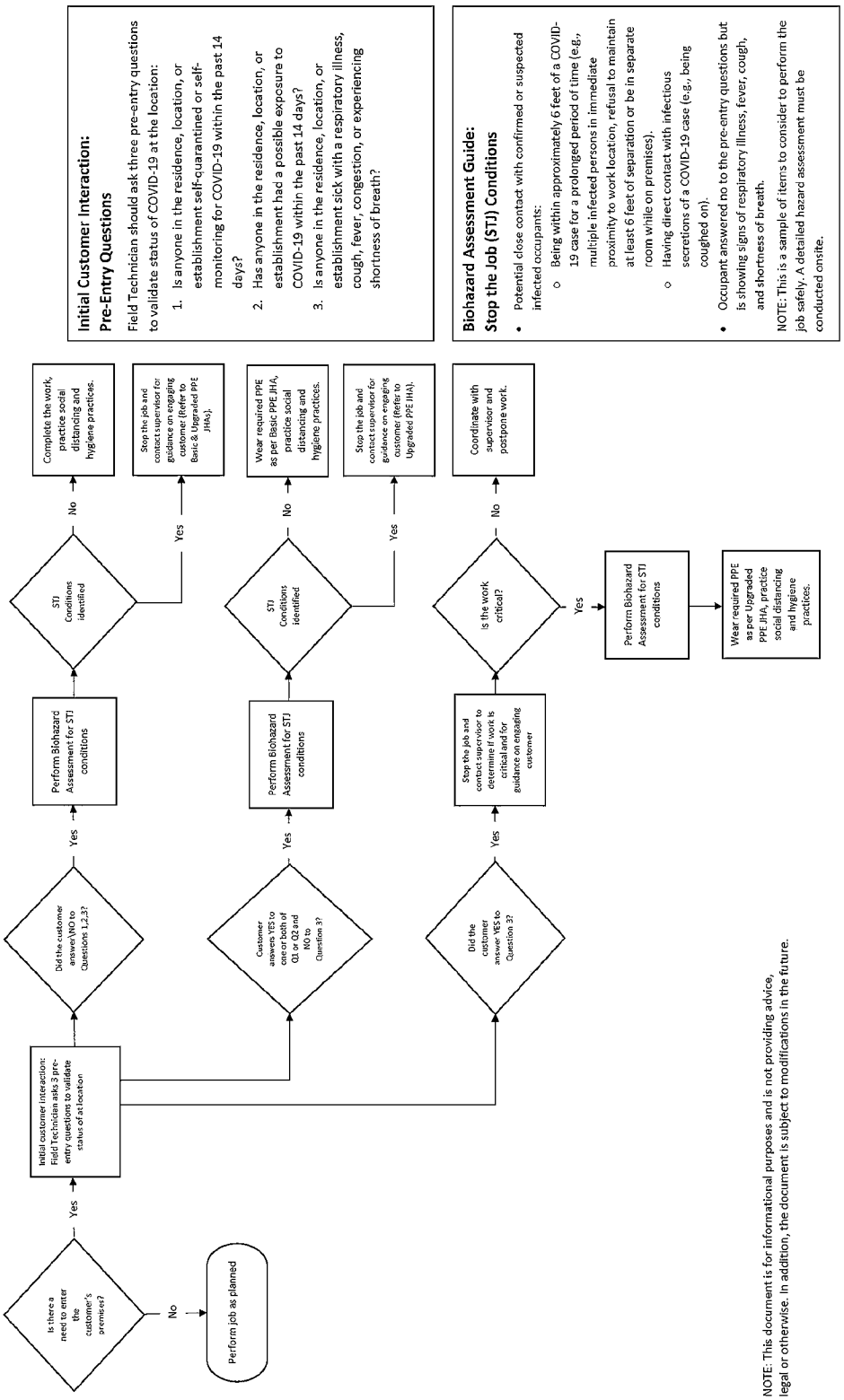
    Cleaning and Disinfecting Your Facility - CDC

Communicating Policy/Process Changes for Field Work

- Consider how changes to policies and processes for field workers are communicated to improve adherence.
  - Communicate changes with local, state, or federal government decision makers either directly or through the applicable statewide organization.
  - Use an Incident Command Structure and Incident Management Team to flow communications down to field workers.
  - Use a variety of communications methods that may include but are not limited to:
    - Phone conversations.
    - Organization-issued mobile devices, including tablets, computers, or other electronic devices.
    - Organization-approved communication applications such as Slack, Microsoft Teams, etc.
  - Hold virtual in-person daily and monthly safety briefings/meetings.
    - Consider holding meetings with senior managers 1-3 times per week to ensure a unified message, given rapidly shifting conditions.
  - Use SharePoint or similar tools for Frequently Asked Questions that everyone can access via computers or mobile devices.

Additional Resources

Example of COVID-19 Workflow & Biohazard Assessment



NOTE: This document is for informational purposes and is not providing advice, legal or otherwise. In addition, the document is subject to modifications in the future.

Planning Considerations for Technology

This section builds off the energy sector's strong cybersecurity foundation and practices to meet the unique technology challenges presented by resuming in-person operations following the COVID-19 pandemic. Organizations should consider these perspectives in conjunction with existing practices when employees are returning to in-person field or office settings and are adapting to a "new normal" in the workplace due to COVID-19. It includes two parts:

- General technology guidance for a workforce that is returning to an in-person setting following extended remote work or a mission-essential work only situation.
- Guidance for information technology (IT) management and staff as the workforce adopts a new posture of working, whether remote or in person, following a prolonged period of remote work or a mission-essential work only situation.

A future version of this section will include guidance for the operational technology (OT) environment as new connectivity options are considered in the face of sequestration, remote work, or limited staffing due to COVID-19.

Planning Considerations for a "New Normal"

As organizations plan for the return to some in-person work at field or office sites, they need to consider that some of the workforce may not return to in-person settings for several months or, if they do, it will be at a much-reduced regularity. This may be the new normal.

Prior to the COVID-19 pandemic, IT and cybersecurity staff protected what was on internal networks and systems via limited access. With more employees working remotely on a more regular basis, vigilance in protecting the network is an even greater priority. This will extend through the breadth of technology usage, including endpoint, DLP, cloud, and VPN. Focusing on how endpoint security is controlled and from where, as well as how, will be essential in maintaining the security of networks. A good analogy for this shift in posture could be the advent of Cloud adoption that many organizations experienced over recent years.

Recognizing circumstances vary across different networks, investor-owned electric and/or natural gas companies, public power utilities, independent power producers, and electric cooperatives may weigh the following technology considerations as they adapt to a new normal:

- Organizations should update service catalogs of mission-essential vs. non-essential activities specific to some of the workforce returning to in-person field or office settings, while supporting a larger remote population than previously, to inform prioritization of work orders/requests.
- Organizations should identify which employees and contractors will return to their field sites and offices to perform their duties and what their technology and application/access needs will be.
- Organizations also should consider whether these employees and contractors will return to an in-person setting on a full-time basis or will retain some ability to work remotely.
- Organizations should identify which employees and contractors will not return to field sites or office settings, but will continue to work remotely permanently, and what their technology and application/access needs will be.
    - For organizations considering a "bring your own device" policy, use additional tools like a zero trust VPN or telecommuter gateway that can monitor MAC addresses.

- Management and enterprise security staff should update existing technology policies to ensure they address the changing workplace and that policies align with new remote work considerations. Technology should be considered in all HR, finance, and legal policies.
- Organizations should involve their IT, finance, HR, legal, and union officials in the development of any reentry plan to develop the appropriate gating/phases, scheduling, and training for the workforce.
  - The recent Office of Personnel Management (OPM) federal guidance suggested that, following assessment and planning activities, workplace return followed three broad gated phases: (1) lift mandatory telework, (2) lift maximum telework, (3) implement optimized operations and new work arrangements, while ensuring the health and safety of the workforce in each gated phase.[7]
  - IT should comment on any "Gating Period" or "Transition Framework" to ensure appropriate testing of equipment for vulnerabilities, which is (covered in the next section).
- Organizations should consider the implications of a greater proportion of its workforce working remotely following COVID-19 and should decide how policies and procedures could be adapted when they do not have as much equipment onsite. Preventing data loss and implementing protections may be more difficult.
- Security staff and the workforce should have heightened awareness regarding emerging cyber threats, including malicious attacks on conferencing and remote access infrastructure intended to disrupt operations, as well as disinformation and spear phishing campaigns attempting to harvest credentials and other information. Building employee awareness of available capabilities and individual technology fluency will become a key driver of success for remote work.
- In light of increased remote work, security staffs should consider whether to share information more broadly regarding threats and other malicious activities with the E-ISAC, the Downstream Natural Gas ISAC, the Multi-State ISAC, and law enforcement so it can be communicated broadly with other sector participants and government partners to maintain situational awareness.

Supporting the Workforce Operating in a Mixed In-Person and Remote Situation

Investor-owned electric and/or natural gas companies, public power utilities, independent power producers, and electric cooperatives should consider the following practices to support networks and systems that combine in-person work with remote work.

Return to In-Person Work Considerations

For those who return to their field or office setting, IT staff should review system status and architecture prior to arrival of the workforce. Considerations include:

- End-user or enterprise-level hygiene and best practices are now more critical than ever. While some of the technical procedures may have changed temporarily or permanently, disciplined execution of the basic "blocking and tackling" tactics and techniques of cybersecurity will continue to be the major determinant in security outcomes.

[7] Memorandum for Heads of Executive Departments and Agencies - OPM

- Given that employees took a large amount of IT equipment home to support their remote operations, organizations will have to consider how to return this equipment carefully to the field/office as the workforce returns to in-person operations. Each piece of this equipment should go through some type of testing or verification to ensure that necessary controls were observed during remote work and that appropriate patches and software upgrades were applied. A "cyber lab" may have to be set up to test equipment before it is allowed on the network.
- Organizations should survey all the changes and additions made to the IT environment in response to COVID-19, continuing to execute good change management. They should decide which changes are no longer necessary and which will become part of doing business going forward. Particular attention should be paid to device inventories, accounts, and application permissions. (This list is indicative not exhaustive and highlights some of the most common issues to address for newly remote workers.)
    - — While a full inventory of equipment is a labor-intensive effort, the need to do so depends on the changes that were initiated to support remote work.
    - — IT staff also should look not only at the physical MAC address of devices, but also at permission/provisioning. Automated systems can be set up to help this process.
    - — Patching is important for servers as well as clients and endpoints. If employees did not have the ability to patch devices given lack of access to VPN during remote work, organizations may consider setting up a downstream public server outside the firewall to push out updates to ensure patches are up to date before any return to work or the network.
    - — Organizations should develop a policy for what should be done if an employee or contractor downloaded organizational or proprietary data (surveys, one-line diagrams, etc.) to a private machine. Determine the steps to clean the data and return it to the corporate network.
    - — As more of the workforce returns to an in-person setting with equipment that was used outside the internal network, organizations should consider implementing bandwidth conservation filters on edge devices, especially if they are unable to verify or test returning equipment fully. Keep outgoing filters stringent and possibly add additional filters during the transition period.
    - — If organizations are concerned about bandwidth issues when there are both in-person workers and a greater remote workforce, they should consider web-based RDP to help split load and set up web-based RDP sessions to facilitate use and security.
- For organizations that used "hoteling," "kiosking," or other shared workplace layouts prior to the pandemic, develop stringent cleaning procedures to "protect station transfer." Similarly, organizations also could adopt time-based transition standards based on CDC and state guidance for cleaning surfaces and could disallow use of stations for a certain time.
    - — Organizations may continue assigning specific keyboards and mice, as may have been done for sequestered control operators, for more staff.
    - — If possible, a leading practice used in Asia is to provide personal silicon or plastic keyboard and mouse covers for shared equipment.
    - — At a minimum, organizations should discourage equipment sharing unless there are thorough cleaning procedures and the workforce feels comfortable.

  - Organizations should involve the workforce and union leadership in the development of these policies and procedures to ensure buy-in and comfort with new cybersecurity measures.
  - Kiosks used for visitor "sign-in" and badges also should have cleaning procedures.

- Evaluate IT access to organizational data centers, especially if data centers are co-located with control rooms or other sequestered areas. If those areas are isolated or require COVID-19 testing, IT staff may be unable to access the data centers without triggering cleaning and other health and safety requirements.
  - As organizations plan for future post-pandemic operating configurations, they should consider procedures to ensure that IT staff who may be designated as mission-essential can access these data centers in isolated areas that will prevent infection of mission essential control room operators. Similarly, organizations should consider if data centers should be in an isolated area that might undergo sequestration in a future pandemic scenario.

Upgrade Your Long-Term Remote Work Posture

- Though most organizations are planning for return to in-person operations, for planning purposes, they should consider a future return to full remote work should an additional COVID-19 wave occur.
  - Organizations should identify the true need the workforce has for in-person equipment and whether staff would be able to work on a laptop versus a desktop full time. Issuing laptops could provide the maximum flexibility (and security) for a workforce that transitions seamlessly between remote and in-person work. The downside to this approach is cost and management of mobile resources.
  - For organizations that decide not to issue laptops, either issuing additional home hardware or desktops or the ability to establish a VPN or other privileged remote access capabilities into a specific desktop inside the internal network may be options.
  - Organizations already may have developed products for third-party vendors that provide privileged remote access. It may be appropriate to extend these to the broader workforce who do not have organization-issued laptops. Assuming the appropriate controls are in place (strong passwords, multi-factor authentication, principles of least privilege, and monitoring), this could be an option for resource-constrained entities.
  - For remote access approaches, organizations should set up each user individually and set up profiles in the PRA appliance that the individual employee or contractor only can access their own PC. IT staff could record those remote sessions into an employee PC to ensure there is no anomalous behavior.

- For the workforce that will continue remote work, organizations should consider "at-home" mitigation efforts to take pressure off home routers that likely are overloaded with additional use by a range of additional uses.
  - To alleviate this pressure, several organizations issued staff 25 ft. ethernet cables to plug into a router to take pressure off the wireless network.
  - Ensure automatic locking on "home" machines to ensure no inappropriate access of the corporate network by family members.

- Call centers are another important element of operations. For call center operators who may continue to work remotely, consider engaging local telecom companies to understand potential capacity issues that may impact call center operations.
  - Understanding the call center posture may enable organizations to send appropriate call center equipment home or to provide the workforce with mobile equipment to ensure continuity of service.
  - To facilitate remote work during the COVID-19 pandemic, some organizations utilized diverse telecommunications carriers. This may be a worthwhile long-term strategy to increase communications resilience.
- From a remote work perspective, the workforce should continue to take steps to mitigate cybersecurity risks while working from home, such as following existing organizational policies and those identified in the SANS Working from Home Factsheet.[8]
  - Organizations should continue existing cybersecurity practices and should continue to provide employees and contractors with updates and training about cyber threats via credential harvesting. Attackers will reference the pandemic in social engineering campaigns as they try to gain legitimate credentials to access the network. Some common indicators are:
    - Someone creating a tremendous sense of urgency, often through fear, intimidation, a crisis, or an important deadline.
    - Pressure to bypass or ignore security policies or procedures or an offer too good to be true.
    - A message from a friend or co-worker in which the signature, tone of voice, or wording does not sound like them.
- Organizations should ensure that remote workers secure their home or remote site, especially their wireless (often called Wi-Fi) network that enables devices to connect to the Internet. Most home wireless networks are controlled by the Internet router or a separate, dedicated wireless access point. Both work in the same way: by broadcasting wireless signals to connected home devices. Securing the remote wireless network is a key part of protecting not only the employee's site or home, but the entire organization.

  Key steps include:
  - Ensure the default administrator password is changed: The administrator account is what allows you to configure the settings for your wireless network. An attacker easily can discover the default password that the manufacturer has provided.
  - Ensure only trusted individuals of the workforce can use this network. Do this by enabling strong security so that only people you trust can connect to the home wireless network. Strong security will require a password for anyone to connect to your wireless network and will encrypt their activity once they are connected.
  - Require remote workers to follow organizational cybersecurity guidelines and policies.
- When a site asks users to create a password, create a strong password: the more characters it has, the stronger it is. Using a passphrase is one of the simplest ways to ensure that you have a strong password. A passphrase is nothing more than a password made up of multiple words, such as "bee honey bourbon." Using a unique passphrase means using a different one for each

[8] Top 5 Steps to Securely Work From Home - SANS

device or online account. This way if one passphrase is compromised, all your other accounts and devices are still safe.

- Ensure computers, devices, programs, and apps are running the latest version of software. By ensuring that computers and mobile devices install these updates promptly, it is much harder for someone to hack them. To stay current, simply enable automatic updating whenever possible. This rule applies to almost any technology connected to a network, including work devices as well as Internet-connected TV's, baby monitors, security cameras, home routers, gaming consoles, or even cars.
- Ensure children and guests are not using work devices. Children, guests, or other family members accidentally erase or modify information, or, perhaps even worse, accidentally infect the device. Please ensure that only authorized personnel continue to use work devices and computers.

The Microsoft Guidance on Remote Work Considerations also provides several helpful considerations.[9]

[9] Work Remotely, Stay Secure—Guidance for CISOs - Microsoft

Internal and External Communications

Section Summary

This section provides guidance that investor-owned electric and/or natural gas companies, public power utilities, electric cooperatives, and independent power producers can consider in the development of internal and external communications during a pandemic.

While external communications and stakeholder engagement remain important, internal communications are critical in the lead-up and throughout a health emergency. To that end, it is imperative that organizations regularly update and maintain current contact information for employees, customers, and other key stakeholders.

It is important to identify a team member who will lead both internal and external communication efforts and ensure that he/she has easy access to information and decision makers. Communications executives should provide input on the organization's response to the crisis given the potential impact decisions may have on public perception and the long-term reputation of the organization.

The guidance in this document was collected from organizations across the industry. The intent is to serve as a general information resource and not to set any industry standards. This document is evergreen and will be updated regularly to reflect additional or revised guidance as it is received.

Internal Communications

Maintaining frequent and transparent communications with employees and contractors is imperative throughout a pandemic. Among the considerations for organizations:

- Identify existing and new communications channels that can be used to reach employees and contractors who are working in an office environment, working at critical facilities, working from home, or working in the field. Updates may need to be packaged and pushed out to different groups of employees based on their access to communications throughout the workday. Providing specific communications and guidance to managers and supervisors, in advance of wider employee and contractor communications, can help supervisory staff better manage their teams.

- Distribute an email that was sent to office workers to crews in the field using a push-notification tool, or incorporate the key messages into safety and planning meetings that take place prior to crews heading out to work in the field, where their access to communications may be limited for safety reasons. The timing of messaging should account for shift workers.
- Use a variety of internal communications channels, including:
  - Email
  - Company intranet with a special section dedicated to the pandemic
  - Employee information website (non-firewalled) for unobstructed access by field employees
  - Push-notification tools (e.g., EverBridge, MailChimp, CivicPlus, Onsolve, Jetty, etc.)
  - Monitors and displays
  - Video conferencing tools (e.g., Teams, GoToMeetings, WebEx, Zoom, etc.)
  - Conference calls
  - In-person briefings that are done in accordance with all applicable safety and health guidelines
  - Print materials (e.g., direct letters to employees, posters, etc.)
  - Videos
  - Pre-recorded phone messages
- Identify the types of situational updates that may be provided to employees. Consideration should be given to whether any of these updates should be extended to contractors and/or members of the public who are physically onsite at the organization's facilities. Organizations should consider using an online intranet repository or reference site that maintains updated information.
- Identify who will provide updates to employees and in what circumstances. For example:
  - HR or HR official
  - CEO/president/chairman
  - Other executives
  - Health and safety staff
  - Facilities management staff
  - Team leads or other direct managers
  - Organized labor/union business leaders
  - Federal, state, or local authorities
- Identify the frequency with which each type of update will be provided to employees. For example:
  - Daily general updates
  - Weekly updates from chief executives or organizational leadership
  - As-needed updates

- — Changing circumstances
- — Fatalities resulting from the health emergency

- Provide employees with a means to ask questions before or during updates. Pulse surveys are an effective tool to help assess whether employees feel they are receiving enough (or too few/too many) communications.
- Create templates and messages as starting points before a pandemic, given that pandemics have the potential to move much faster than anticipated. Organizations should strive to be fast, transparent, and consistent with messaging. If decisions are still up for discussion, it is important to let employees know what is being considered, that deliberations are ongoing, and when a decision may be expected.

Examples of materials organizations should consider developing in advance include:

- — Templates and key messages for each business continuity phase being activated.
  - Best practices for good hygiene
  - Travel guidelines
  - Social distancing and restricted access guidelines
  - Enhanced health screenings and other health guidelines
  - Self-quarantining and return-to-work guidelines
  - Moving to a remote work-posture for those who can work from home and identifying roles/employees who will remain onsite or in the field for mission-essential work
  - Returning from a remote work posture and facility reentry
  - IT and security considerations
- — Templates for providing updates on employees and/or contractors impacted by the health emergency.
  - For transparency, organizations should consider developing a template to use and should determine a frequency for announcing when employees or contractors are impacted (i.e., testing positive).
  - For suspected and confirmed cases, contact tracing guidelines may require organizations to send targeted notifications to other employees who may have been exposed.
  - These communications require close coordination with HR and legal to ensure all laws—particularly as they relate to privacy—are followed.
  - Templates for announcing fatalities related to the health emergency. This may change depending on the frequency of fatalities. A single initial announcement may come directly from a chief executive or other senior executive and may be very personalized about the employee. If the pandemic causes a high number of fatalities, organizations may consider the impact to employees of receiving a deluge of fatality announcements and may instead announce and memorialize multiple employees at once to limit the frequency.

- Identify additional experts and resources that employees can access to answer their questions.
  - — Many healthcare providers will develop materials specific to the health crisis that can be shared with employees. Some health plans also may establish options for virtual visits

with doctors. It is important to keep employees updated as these resources become available.

- Federal, state, and local health officials will be a tremendous resource for up-to-date news and analysis during an ongoing health emergency. Employees should be made aware of these resources, and website links should be included in employee communications (email, intranet, etc.).

- Provide specific information related to the facility reentry process, which likely will be a concern for employees who have been working remotely, including:
  - Updates on new processes and procedures being put into place
  - Updates on business continuity plans and any potential impacts to how and where employees should expect to work during a health emergency
  - Updates on facility reentry planning
  - Updates on the status and any impacts of the health emergency on employees
  - Updates aimed at the physical and mental health and well-being of employees, including employee assistance programs
  - Updates and reminders for health and safety best practices
  - Updates on availability of personal protective equipment (PPE) and sanitization supplies
  - Updates on cyber hygiene and other IT and security considerations
  - Updates and words of encouragement directly from chief executives and other business group leaders
  - Updates on existing community risks and recommendations from local health authorities
  - Safety reminders and best practices

External Communications

Maintaining frequent and transparent communications with customers/consumers, media, community leaders and policy makers, and other stakeholders also is important throughout a pandemic. Organizations should consider the following based on the audience:

- Customers/Consumers
  - Prepare to communicate about the steps the organization is taking to ensure continuity of operations and energy delivery.
  - Prepare to communicate about mission-essential work that will continue during the crisis and the health and safety steps being taken by employees in the field to keep both them and customers safe.
  - Assess which materials (e.g., mailings, emails, etc.) already are scheduled and consider whether to postpone any planned communications that are not critical or related to the health emergency.
  - Assess all active and planned advertisement buys to see whether it may make sense to pause, postpone, or refocus the content of ads.

- — Prepare to communicate any restrictions or closures for in-person customer service or payment offices.
- — Prepare to communicate about programs that may be suspended temporarily (i.e., home energy audits, smart meter replacements, in-person meter reading, etc.).
- — Prepare to communicate about payment support programs available to customers.
- — Assess all communications for timeliness. Do not send updates that are obsolete by the time they are sent.

- Media/Reporters
  - — Organizations should develop a template or strategy for how (or if) statistics and updates on employees being impacted by the health emergency will be provided. If this information is being provided to employees, it likely will reach reporters.
  - — Organizations should engage with media and explain to reporters what steps are being taken to ensure the continuity of operations to help keep electricity on and natural gas flowing. Communicate steps being taken to provide any extraordinary support to local communities.
  - — Organizations should communicate how they and the industry are working to keep employees and communities safe and healthy and to limit the potential spread of disease.
  - — Reporters likely will be interested in any extraordinary steps being taken as part of the business continuity plan (i.e., sequestering employees, stopping non-essential work, etc.).
  - — If stay-at-home orders have been issued, it may be important to engage with reporters to explain how mission-essential employees are exempt and that essential work will continue.

- Federal/State/Local Government Partners
  - — These key stakeholders may need to be educated on an ongoing basis about steps organizations are taking to keep employees safe and to provide continuity of operations.
  - — Public officials may be facing pressure to act, so it is critical that communications teams coordinate closely with government and regulatory affairs teams to help these government stakeholders understand the steps the organization is taking to protect the health of employees and to help keep the lights on and the natural gas flowing.
  - — During a national crisis, organizations should anticipate a government response that is federally supported, state managed, and locally executed. At each level, there will be stakeholders to help support asks and needs for regulatory relief, financial considerations, access to materials (e.g., PPE and testing), supply chain challenges, and essential worker designations that enable mission-essential employees to move despite any potential stay-at-home orders, among other issues.
  - — Employees should be reminded that communications to government employees or contractors may be a matter of public record and subject to FOIA requests.

- State and Local Health Officials
  - — During a health emergency, the local impact of the emergency will inform localized decision making. Therefore, it is critical for organizations to stay connected with, and to

receive regular updates from, state and local health officials to account for local circumstances when making decisions.

- Organizations should consider designating one company representative to be the point of contact with local health officials. In a health emergency, these officials may be the gatekeepers for testing, PPE, and other critical supplies.

- Community/Charitable Organizations
  - During a local health emergency, many local nonprofit organizations likely will see a spike in demand for services from impacted individuals and households. Organizations should consider ways to work with these organizations to identify what local needs are not being met. Depending on the circumstances, there may be a need for financial or food donations to local food banks and community kitchens; donations to groups that manage programs that offer financial assistance grants to help people pay their bills; donations to shelters that may see an influx of people seeking help or that may need to stand up temporary shelters to accommodate social distancing guidelines; or donations of surplus supplies and materials that may be in high demand.
  - If schools are closed, organizations may consider developing fun educational materials aimed at school children. Both customers and employees may appreciate this.
  - Organizations should consider allowing their idle resources (e.g., parking lots, equipment, etc.) to be used to help the community; communicators should include legal in any discussions.

- Vendors/Suppliers
  - Vendors and suppliers should be kept updated about any potential changes in operations to ensure that they can continue to provide the products and services that will be needed to maintain continuity of operations. While this likely will be the responsibility of the procurement or legal departments, communicators may be asked to help with messaging and outreach.
    - Additional needs may arise, and potential supply chain disruptions should be expected.
    - A vendor or supplier temporarily may close due to a health emergency, so it is important for organizations to maintain communications with their internal teams to be prepared to answer any questions related to a supply chain disruption for critical materials or services.

- Investors and the Financial Sector
  - Financial institutions and analysts will be watching closely for any impacts that the health emergency has on the electric power industry and on individual organizations, so it is important to coordinate closely with financial relations teams to ensure unity of message. It is important for organizations to convey that they are continuously assessing risks and developing reasonable strategies to address potential impacts.
  - Some events, such as annual shareholder or member meetings, may need to become video conference calls or virtual meetings instead of in-person meetings due to social distancing and travel restrictions. It is important to coordinate with legal counsel on organizational bylaws/requirements, etc.

The following guidance is specific to social media and web-based communications:

- Social Media—Organizations should consider using a dedicated social media hashtag (#) in all pandemic-related posts and using their social media channels to:
  - Reassure customers and community members that business continuity plans have been activated to help keep the lights on and the natural gas flowing.
  - Encourage customers and community members to adhere to social distancing guidelines.
  - Educate customers about available payment assistance programs.
  - Educate customers and community members about essential work and about keeping a safe distance from mission-essential crews working in the field. Incorporate photos demonstrating new guidelines and protection (i.e., workers in masks).
  - Thank and show mission-essential workers in the field and at critical facilities (avoid having sensitive information and equipment in the background), as well as other employees and their remote work setups (consider any privacy concerns or permissions that may be needed).
  - Highlight community engagement activities.

  All previously planned social media content should be assessed for appropriateness during the pandemic.
- Website—Organizations should consider the following:
  - Anyone going to an organization's website during a health emergency should be able to find information quickly about any steps the organization is taking to protect the health of its employees and to provide continuity of operations.
  - A message could be added to the homepage and a dedicated page created that provides information and resources for residential customers.
  - For small business customers, as well as larger customers from the commercial and industrial sectors, organizations could develop resources and make customer support staff available to help these customers navigate and apply for financial relief in the event that government programs are established to help businesses impacted by the health emergency.

Industry Communications

- In a health emergency, the ESCC's public affairs team will develop key messages that cover the industry's coordination efforts and response activities that are underway.
- Industry trade associations will cascade the ESCC messaging to their membership and government partners and will facilitate message development and coordination among their members.
- Industry trade associations will coordinate with member organizations to educate government stakeholders and the national organizations representing state and local government leaders.
- Industry trade associations also will coordinate with national organized labor groups.

Storms & Other Events During a Pandemic

Given that a health emergency could extend for many months, it is possible—and in some parts of the country even likely—that weather- and natural disaster-related or other types of outages could occur during the same time period.

- Organizations may consider developing a staffing plan that identifies who cycles off normal and pandemic work to focus on storm- or other natural disaster-related communications. Organizations also may consider identifying and training additional staff who can support customer engagement on social media, especially if outages are anticipated while a stay-at-home order is in effect.
- During non-health emergencies, such as severe storms, investor-owned electric companies, public power utilities, electric cooperatives, and independent power producers and suppliers often can speed power restoration by bringing in additional skilled workers from other organizations and contractors from outside the area affected by the emergency. This practice is known as mutual assistance or mutual aid, and it is a hallmark of the electric power industry. However, during a pandemic, mutual assistance either may not be available or may be severely limited. Organizations may need to adjust messaging to reflect that restoration times may be delayed as a result.
- The electric power industry also considers the availability of equipment and materials for restoration during its planning process. The electric power industry depends on many types of businesses to supply equipment and materials used in maintaining and restoring its infrastructure. A pandemic could affect all types of businesses, including the manufacturing and transportation industries, and restoration times may be impacted.
- The Resource Guide features comprehensive mutual assistance considerations for the COVID-19 pandemic. See the "Mutual Assistance Considerations" section.

Additional Considerations

- Develop and execute messaging consistently, including notifications for all levels of government, during conference calls, media outreach, and engagements with other stakeholders.
- Take advantage of existing business continuity structures or operational processes to track, summarize, and report operational activities.
- Build an organizational structure and process to track, summarize, and report operational activities.
- Identify a single media spokesperson and points of contact for stakeholder groups.
- Monitor news reporting and social media. Immediately address inaccuracies or rumors that could create panic or heightened public anxiety over the availability of electricity and natural gas services.
- Adjust external distribution lists for messaging and stakeholder contacts as needed.

- Develop a logistical plan for safely moving the videographers, photographers, and writers who will be capturing content. Ensure that those who will be traveling during stay-at-home orders have necessary letters of transit on company letterhead. Determine whether social distancing and/or PPE are needed for these content gathering teams and/or the subjects they are interviewing and filming.
- Hold daily communications leadership calls to share information, coordinate communications to ensure appropriate alignment, surface ideas for input, and address time-sensitive hot topics.
- Maintain a library of "off-the-shelf" messaging that has been pre-approved by company leadership (including legal and human resources).
- Distribute updated messages and summaries of key media or stakeholder interactions with company leadership.
- Identify subject matter experts as needed as the situation evolves; review media training, etc., as needed.
- Anticipate the need for additional IT or communications platforms to help reach employees and other stakeholders.
- Anticipate the need for backup staffing, use of contractors, or mutual assistance resources for communications.
- Network with peers to share ideas and resources.

Industry Contacts

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Attachment J(CONF)

Page 1 through 9
Energy Supply Operations - Seasonal Readiness - Winter Preparation Policy, Version 4.1, Effective Date September 13, 2021

REDACTED CONFIDENTIAL MATERIAL

Attachment K(CONF)

Page 1 through 5
Xcel Energy Commercial Operations: Generation Plant Reliability - Fuel Oil Testing, EFS Policy 2.803, Version 3.2, Approval Date June 1, 2020

REDACTED CONFIDENTIAL MATERIAL

Attachment L(CONF)

Page 1 through 8
Energy Supply Operations - Seasonal Readiness - Summer Preparation, ESO 6.610, Version 1.0, Approval Date May 22, 2021

REDACTED CONFIDENTIAL MATERIAL

Attachment M(CONF)

Page 1 through 14
Energy Supply Policy System - System Operating Code Response Procedure, XES Policy 6.400P01, Version 8.0, Approval Date May 18, 2021

REDACTED CONFIDENTIAL MATERIAL