EFCOG Guide on best practices for COVID-19 containment measures during mission-critical operations and guidelines for resumption of operations.

These best practices are guided by key principles aimed at establishing a common set of expectations applicable to all sites. The principles serve as the guardrails for practices needed to establish and maintain safe work environments that minimize the risk of contracting and spreading COVID-19 cases. Each site develops practices that implement these five principles:

1) **Resumption of operations will be a phased process**
   - Mission essential and non-mission essential work/projects are defined in accordance with existing government direction
   - Resumption of operations plans identify organization areas, types of personnel and planned sequence
2) **Government COVID-19 guidelines and independent community conditions are used to assess who returns on-site work and what work is performed**.
   - Close communication is maintained with local officials as work proceeds, conditions change
   - Personnel and teams are categorized relative to CDC risk factors
3) **Government COVID-19 guidelines drive personnel protective measures**
   - Required for operations compatible with COVID-19 guidelines
   - Exceptions to COVID-19 guidelines require approved risk mitigations
   - Non-essential non-compatible activities are suspended until safe to operate
4) **Triggers are established for additional protective and compensatory measures**
   - Mission essential, non-compatible activities
   - National asset personnel and personnel/teams with limited, critical skills
5) **Training and fitness for duty checks are established and implemented**
   - Communications and training for all personnel assigned on-site work regarding on-site protocols to minimize employee risks, self-monitoring and self-reporting expectations, and response protocols for onsite symptomatic situations
   - Initial communications, training, self- reporting expectations, and response protocols occur in advance of on-site arrival.

Background:
The emergence and spread of the new respiratory Coronavirus Disease 2019 (COVID-19), which was declared a Public Health Emergency in the United States on January 31, 2020, has catalyzed significant activity by Federal, state, and local governments; the healthcare community; residents across the United States; and people around the world. The rapid pace of infections in various parts of the United States has halted non-essential business activities, driven the need of remote work activities, and potentially impacts progress on mission-critical operations at several NNSA/DOE sites.

In March 2020, NNSA/DOE provided guidance that reiterated the World Health Organization (WHO) had declared the COVID-19 virus a global pandemic and stated that "employees able to perform their jobs remotely shall telework" and those employees that could not perform their work remotely should charge their time while

off site to "Weather and Safety Leave (or Contractor equivalent)" in order "to minimize the impact of COVID-19 on Department of Energy operations". This guidance to stand down operations is currently being implemented at various levels across the NNSA complex.

Section 1. Best practices for COVID-19 containment measures are described in Section 1 that are currently being utilized across some of the NNSA sites – Y-12, Pantex, NNSS (Nevada National Security Site), and LANL.

Section 2. As DOE/NNSA considers the Phased Return to Work/resumption process, it must be able to credibly articulate "what has changed" in the COVID-19 situation that now allows the workforce to return to work in the midst of a Public Health Emergency. While not applicable to all DOE sites, the fact that most states now have official "stay at home" type orders in place specifically and publicly designed to limit the potential for COVID-19 spread contributes to a cautious and in some cases a fearful environment which poses a distraction that can contribute to operational upsets. The best practices in Section 1 can also be applied to the phased return to work/resumption process. Many of the risk mitigation protocols recommended in this white paper are designed, in addition to enhancing worker safety, to facilitate answering the question that workers rightfully will ask – "what has changed since March 20th to make it safe for me to return?" Beyond best practices, compensatory measures may be identified which could require government and/or elevated contractor approvals.

EFCOG has collected and summarized a number of best practices that may be utilized once it is deemed safe to return to full operations. That said, EFCOG is not recommending at what point in time it may be safe to begin full operations or a specific timeline to achieve full operations.

Objectives:
Provide best practices and a phased return to work approach guided by principles that mitigate the risk of performing essential mission functions during COVID-19 pandemic and facilitates an orderly return to full operating posture.

Deliverables:
Identify best practices and detailed compensatory measures that DOE/NNSA can consistently apply across the complex to incorporate COVID-19 prevention/control, detection, containment, and response actions needed to execute the site's mission essential functions and resume full operations as safely and effectively as possible during this unprecedented time.
- Identification of those Compensatory Measures that require Federal (either Field or Headquarters) approval. Establishing an orderly method for full resumption of operations using a phased or graded approach consistent with:
  - The importance and urgency of the work
  - Identification of Mission Essential personnel
  - The application of CDC risk factor guidelines to all personnel
  - The impact of community/site conditions as defined by the CDC
  - Employee return to work procedures

Expectations and Considerations:
- Personnel fitness for duty is established before reporting to the site, during site activities, and following site activities.

- A graded approach is applied consistent with community/site area conditions.
- Established practices to facilitate performance excellence of required work, including:
  - Human error reduction
- Site plans, procedures, and training will be developed using this guidance.
- Protocols align with CDC Guidelines, 10CFR851, OSHA, and the DOE Continuity of Operations (COOP).
  - Mission-critical operations essential activities will be consistent with those defined in the COOP or specific NNSA/DOE directives and/or guidance documents.
- Alternatives and compensatory measures along with required approval will be considered if current practices introduce risks to virus spread (e.g., hand geometry, turnstiles).
- All travel must be approved by the site lead through 7/1/2020.
- Maximize use of technology to minimize face to face interactions.
- Provide frequent employee messages providing CDC, NNSA/DOE, and site guidance specific to employee preventative and response measures.
- Defined actions triggered by reported COVID-19 case(s) and employee risk categories.
- 100% conformance (unless specifically authorized with other compensatory measures) with the newly established protocols as a minimum level of worker protections while supporting mission-critical operations essential activities.
- Pause work authorities will be emphasized, and operations will not continue if required safety margin cannot be assured (e.g., extensive worker distraction, employee absenteeism).
- Additional protective measures to preserve national asset personnel and limited, critical skill sets will be identified.

Section 1: Best Practices for COVID-19 containment measures during mission-critical operations

- Define mission essential and non-mission essential work/projects in accordance with existing government direction (COOP activities, specific NNSA/DOE guidance).

- Acknowledge COVID-19 in work planning/work control processes:
    - OSHA now acknowledges COVID-19 as a hazard to workers.
    - The COVID-19 hazard has not been previously analyzed.
    - COVID-19 has the potential to affect employees, and their families, and thereby creates potential liabilities that need to be considered.
    - Current guides, standards, orders do not fully address COVID-19 hazards.

- It is critical that the complex use the same definitions as to what constitutes social distancing. Specifically, CDC/OSHA guidelines and definitions will be used unless directed otherwise.

- Social distancing protocols maintained by individuals and physical arrangements as appropriate for:
    - Meetings and training sessions
    - Mobile service equipment
    - Elevators
    - Transportation services, such as buses, vans, etc.
    - Common areas
    - Security Checkpoints/other ingress and egress locations
    - Cafeteria lines for take-out of food

- Controls for social distancing exceptions
    - Time limitations and PPE requirements when unable to maintain less than 6-foot separation in concert with CDC/OSHA recommendations.
        - Consider observation capabilities (direct or remote) for activities where the 6 ft. separation cannot be met.

- Emergency responders
    - First responders will be provided and be required to use PPE and equipment for protection from communicable or infections disease aligned with an exposure control plan that addresses COVID-19 and Occupational Health Center guidelines. (Ref. - Title 29 U.S Code of Federal Regulations (CFR) Part 1910, "Occupational Safety and Health Standards," Subpart 1030, "Bloodborne Pathogens").

- Common/heavy traffic areas
    - Increased custodial staff and frequency of cleaning will be implemented at portal, belt, tray areas, PCMs and restrooms.
    - Hand washing/sanitization stations will be in place in the main entry and exit areas. (consider ALARA principles in placement locations for main and remote entry locations).
    - Consistent with Security and fire safety requirements, select doors may be bypassed to decrease touching of push bars and handles.

- o Conference room and break area furnishing will be adjusted to maintain social distancing requirements.
- o Cafeteria services and areas will be adjusted for grab and go only with social distancing tools in place.
- Security Checkpoints and Practices:
  - o It is envisioned that significant Compensatory Measures will be necessary to maintain an appropriate security posture while also taking CDC recommended actions to minimize the potential for virus spread. Areas under consideration could include:
    - Establishing a "no touch" entry procedure.
    - Physical removal or bypass of entry turnstiles.
    - Suspension of required hand geometry devices.
    - Availability of PPE for security responders if accompanying a cleaning/disinfection crew.
    - Relief from TSRs or environmental requirements due to inaccessibility, limiting personnel, etc.
  - o Further, consideration should be given to procedures that allow for site or other boundary entry while personnel are wearing masks should CDC guidelines recommend such action.

- Area Specific Cleaning:
  - o Identify specific high touch areas that should be frequently cleaned/disinfected (e.g., gloveboxes, PCM monitors, etc.).

- Resource management:
  - o Stagger start and stop times to minimize potential crowding at entry/exit points.
  - o Consider use of multiple shifts if this enables greater personnel distancing.
  - o Mark spacing on floors in areas where queues form.
  - o Conduct selected operations on multiple shifts to minimize issues with maintaining social distancing.
  - o Notify personnel to avoid car-pooling.

- Fitness for Duty Checks:
  - o Prior to a site assignment, supervisors will contact employees to ask and assess:
    - If the employee is physically fit and able to return to work.
    - If the employee has been knowingly exposed to any individuals that may have contracted the COVID-19 virus.
      - If the employee reports a known exposure, the employee must be symptom free for at least 14 days before site access.
    - If the employee is under a self-isolation for any reason.
    - If there are any reasons the employee feels they are not cleared for work.
  - o Prior to each shift, it is the responsibility of each employee to self-evaluate to ensure their fitness for duty.

Section 2: Proposed guidelines for resumption of operations

Our collective execution of a Phased Return to Work process must appropriately consider the risks to our workforce, our national asset facilities, mission impacts, and the potential liability to the Department and the Corporate Parents of our M&O contractors prior to being implemented.

Risks scenarios for consideration include (among others) the following for return to work/resumption:
- An individual is diagnosed with COVID-19 following their return to work: This scenario presents several challenges for us.
  - o The individual will have potentially exposed other mission essential personnel who then need to follow CDC guidelines, including self-isolation when appropriate.
    - Requiring workers to self-isolate in a broad enough grouping to limit further spread will have a degradation on mission execution.
  - o The individual will have potentially contaminated their workspace – some workspaces in the complex can only be cleaned under strict controls and at great expense.
    - Given that significant activities categorized as mission essential take place in these types of facilities, it is therefore possible that delay to mission essential work could result from a COVID-19 diagnosis within those facilities.
  - o The individual could claim that they only contracted the virus because they were required to come to work before it was safe to do so (thereby creating liability for corporate parents of M&O contractors).
    - In general, it is important to consider how legal costs – to include potential settlement costs – would be treated for employees required to come back to work under the Phased Return process.
    - Corporate parents are reasonably concerned that compliance with the NNSA/DOE requirement to return to work against the back drop of "stay at home" type orders, CDC additional requirements, Presidential briefings stating that the peak of the emergency has yet to come, could create liability that could later be determined to be unallowable under the contracts.
      - While DOE has asserted that this liability will remain with DOE as the M&Os and other contractors are following government direction, this assertion would best be memorialized through documentation.

Based on several NNSA/DOE missions designated as Essential Critical Infrastructure under Department of Homeland Security's Essential Critical Infrastructure definitions, situations exist that warrant selective resumption of operation as directed by memo dated 3/24/20. Detailed guidance is needed to facilitate the resumption of select operations effectively and efficiently.

This document provides suggestions that could be used to form interim guidance for use until formal guidance could be issued.

Prerequisites for resumption of operations:
- Obtain an independent community/site area assessment of COVID-19 cases and associated distribution of cases.
  - o Peak, post peak or in the tails of the case curve.
    - Assessment results drive the extent and nature of the return to work.
  - o This assessment will encompass the areas from which the sites draw personnel, not just the community it is located in.

- Communicate with local officials on significant change in site posture/population.
- Categorize and select Personnel/Teams.
  - Mission Essential; Mission Non-Essential; National Asset
  - Self-identification of health risk base on CDC guidance
    - High, medium, and low risk health factors
    - These definitions would be provided to all personnel, along with an explanation as to how other factors impact the risk category (community spread area, etc.)
    - Self-identification will be documents and provided to the medical organization.
- Provide selected personnel with information on COVID-19 protocols in advance of reporting to site with information, e.g., videos demonstrating disinfection/cleaning techniques.
- Selected personnel self-certify through site medical organization personnel processes they have been symptom free and not knowingly in contact with infected personnel for at least 14 days.
  - Communications regarding the express need for integrity by all employees in this process must be broadly communicated.

Workforce and Mission Categorization:
- Establish condition triggers for categorization changes coordinated with CDC guidelines.
  - Low risk in area of community spread to medium risk
  - Medium risk in area of community spread to high risk
  - High risk in area of community spread – no site access

- **Personnel return to work in a phased approach targeted to balance the importance of the work performed by that individual (or team), the urgency of that work, and the CDC Risk Conditions of the impacted personnel:**

	High Risk Conditions	Medium Risk Conditions	Low Risk Conditions
Mission Essential	Phase 3	Phase 2	Phase 1
Non-Mission Essential	Phase 5	Phase 3	Phase 1
National Asset Skill/Capability	Phase 5	Phase 4	Phase 3

This phased approach is tailored to gradually increase the work performed across the site while protecting personnel considered to be higher risk under CDC guidelines. In some cases union bargaining agreements may pose limitations on the sequence of returning members of the workforce to their respective sites. Bargaining agreement limitations should be assessed and addressed to minimize risk to personnel. The phased approach also allows for the sites to balance the desire to return to work against the necessary time required to implement sufficient Compensatory Measures to enhance workforce protection capability. We have created a category of "National Asset Skill/Capability" to represent those small number of personnel or teams that possess skills or mission capabilities that are singularly unique and therefore have special value to the national security enterprise.

- Develop and communicate a resumption to operations plan that includes:
  - Identify organization areas, types of personnel and planned sequence.
    - Medical
    - Security and Emergency Services
    - Facility custodial

- Utilities and Facilities Operations Management
- Supply Chain
- Mission Essential Production
- Mission Essential Projects
- Necessary on-site business functions
  - Minimum and maximum area staffing levels per activities in specific facilities.
  - Established actions and practices to maintain personnel safety.
  - Emergency responder precautions.
  - Hygiene support
    - Supplemental portable wash stations
    - Sanitizer dispensers
    - Cleaning and sanitation routines
    - Dispensing and control of masks
  - Personal conditions/expectation before traveling to a site
  - Management oversight expectations
  - Actions upon report of COVID-19 infection to include quarantine procedures for newly returned workers.
- Identify & ensure inventory levels of materials, staging locations, etc., for PPE, cleaning supplies, etc.
- Evaluate all existing work plans for compatibility with COVID-19 protocols as well as an assessment of error precursors that may be unique to the specific activities being reviewed. If changes to procedures are necessary and the activity can be considered High Consequence, perform a risk assessment and identify mitigations.
  - These assessments would be linked to the phased return schedule for personnel to be as efficient as possible.
  - It is not prudent to have personnel return regardless of their planned phase, until work procedures have been assessed for compatibility with COVID-19 safety protocols. It is recognized in some cases, management directives may require initiating a return to site work prior to the completion of all COVID-19 compatibility assessments.
- Identify work activities that are incompatible with COVID-19 safety protocols and either modify through Compensatory Measures or suspend those work activities until safe to operate.
- Define expected status/conditions for each job/activity. **Create and use a Checklist.**
- Identify and prepare signage, visual controls, locations, etc., to support and reinforce COVID-19 Safety Protocols. Identify need and locations for observation of work.
  - All returning workers should be required to watch an appropriate CDC training video on how the virus spreads and what individuals can do to limit risk.
- Develop and deliver training materials. **Demonstrate competencies.**

Phased-in workforce deployment for mission-critical operations:

- During the Phased Return to Work process, all employees capable of teleworking will continue to do so until they return to the site. Those not capable of performing their duties via telework and not yet scheduled to return to work under the Phased Return process will continue to charge to Weather and Safety Leave or equivalent as directed by the HCA memo dated March 20, 2020 and local contracting officer approved charging practices.
- In accordance with the Phased Return process, establish the functional/organization staffing sequence.
  - Medical

- Security and Emergency Services
- Facility custodial
- Utilities and Facilities Operations Management
- Supply Chain
- Mission Essential Production
- Mission Essential Projects
- Necessary on-site business functions

- Establish site access priorities consistent with workforce categorization under the Phased Return process consistent with changes in activities and production levels. Site leader authorization required to change phases.
  - Phase 1 (primary source of staffing)
    - Low-risk mission essential
    - Low-risk non-mission essential
  - Phase 2
    - Medium-risk mission essential
  - Phase 3 – Requires additional mitigations
    - Low-risk national assets/capabilities
    - Medium risk non-mission essential
    - High-risk mission essential
  - Phase 4 – Requires additional mitigations
    - Medium-risk national asset
  - Phase 5 – Requires additional mitigations
    - High-risk non-mission essential
    - High-risk national asset

  Additional Mitigations – Physical separation and no access to areas with previous suspected or confirmed infections.

    - Approval based on no other alternative to perform mission essential work on schedule.

  - Upon site access
    - Fitness for Duty will largely be reliant on personnel having the responsibility to self-screen and report their own fitness as it is not considered practical to medically screen all personnel upon site entry. However, there are some actions that could be implemented to give further assurance of fitness, such as selective screening using medically approved protocols, equipment, and triggers for additional actions. Specific examples include:
      - Temperatures taken randomly taken at various entry and egress points and/or thermal imaging cameras used to screen groups if demonstrated to be of sufficient sensitivity to be useful.
        - Staff/resources trained personnel to conduct the screening.
        - Establish sample size based on population size entering the site.
        - Incorporate established fitness for duty checks within other site activities, e.g., vehicle searches.

- o Define personnel (separation from area/site) and area (barrier and sanitization) actions in event of fitness for duty concerns.
  - ▪ Establish guidelines and hot-line number for personnel to contact a medical screener.
  - ▪ Establish clear protocols for an abnormal test result that would allow for protection of personal privacy and not create an opportunity for additional spread in the area or in transit to the medical facility.
- Workplace preparations and training
  - o Preparation
    - ▪ Develop on site and remote training materials and information.
    - ▪ Conduct a formal COVID-19 Hazard Analysis.
    - ▪ Prepare and post signage.
  - o COVID19 precaution training
    - ▪ Pre-deployment/staffing
      - • Remote training and acknowledgement of CDC COVID-19 precautions and workplace changes.
        - o Use a training acknowledgement form that describes the protocols, risks, and potential ramifications for coming to work if showing any of the symptoms of COVID-19. Documentation assures their awareness, and commitment to execute the appropriate actions to inform and go/stay home.
  - o Pre-job/task briefings
    - ▪ Review of changes to work protocols, relevant error precursors (see attached), scope of work, and condition assessment.
    - ▪ Review applicable Human Performance Improvement principles, practices, and tools (see HPI attachment).
    - ▪ Review expected actions for illness/symptoms

- Response to confirmed/suspected COVID-19
  - o Establish a communication and response process consistent with site resources and organization structure (see response process example).
    - ▪ Personal medical needs
    - ▪ Area response and recovery
  - o Conservatively isolate potential cases to minimize outbreak.
  - o Conduct table-top exercise to confirm response capabilities and actions.
  - o Identify appropriate community notifications.
  - o Employee return to work procedure (see CNS flowchart example).

Potential COVID-19 risk mitigation items requiring approval to deviate from existing requirements:
- Removal of turnstiles to eliminate high contact points.
- Reduction in vehicle inspections to reduce risk to security personnel.
- Eliminate/by-pass hand geometry checks.
- Process to deal with personnel afraid to return to work.
- Individual(s) contracts COVID-19 after returning to work.
- Individual(s)' family member contracts COVID-19 after returning to work.
- Degradation of equipment and facilities due to lack of preventative maintenance and non-use.
- Unavailability of Personal Protective Equipment (PPE), materials, equipment, etc. to support operations.

- Supply chain interruptions and enhanced delivery protocols (e.g., intentional inspection delays, sanitation protocols for materials).

Actions required for approval to deviate from existing requirements:
- Site established processes and procedures will be used to document and obtain appropriate approvals for deviations/exceptions from any contractually specified requirement.

COVID-19 Return to Work Protocol Plan – HPI Attachment

Human Error Precursors – Key Error Likely Conditions to Consider
With the changes to our working environment given the COVID-19 situation, we need to provide additional attention to these three error precursors, Distraction, Stress, and Fatigue. The reality for all of us today is that we are very likely highly distracted with concerns about our family, friends, jobs, etc. These distractions, concerns, fears and uncertainties are also going to increase our levels of stress, that each of us experience. In addition, the onslaught of new information, protocols, changes in working conditions are going to increase our levels of fatigue, both physical and emotional.

DISTRACTION:
A distraction could be anything that takes your mind off the task that is being done. Distractions can be mental or physical in nature. They can occur where the work is being performed or they can occur in the psyche of the person performing the work. Regardless of their nature, numerous distractions may occur during the course of one's work. It is important to recognize when our attention is being diverted and take steps to assure that our work continues correctly.
MITIGATING THE RISK
- Increase attention by pausing and practicing STAR: Stop – Think – Act – Review.
- Once returning to your work, go back through all the steps to ensure where you left off.
- Use a detailed checklist.

STRESS:
Stress is the subconscious response to the demands placed on a person. Everyone handles stress differently and particular situations can bring about different degrees of difficulty for different people.
MITIGATING THE RISK
- Take time off or a short break if you are feeling stressed.
- Discuss with a co-worker or supervisor and ask them to monitor your work.
- Healthy eating, exercise and a sufficient amount of rest can reduce stress levels.

FATIGUE:
Fatigue can be mental or physical in nature. Emotional fatigue also exists and affects mental and physical performance. A person is said to be fatigued when a reduction or impairment in any of the following occurs: cognitive ability, decision-making, reaction time, coordination, speed, strength and balance. Fatigue reduces alertness and often reduces a person's ability to focus and hold attention on the task being performed.
MITIGATING THE RISK
- Be aware of the symptoms and look for them in yourself and others.
- Cancel/delay complex tasks if you know you are exhausted.
- Healthy eating, exercise and sufficient amount of rest can prevent fatigue.