



# **Lessons Learned: Command, Control, and Communication During the COVID-19 Pandemic Response**

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Office of Enterprise Assessments  
U.S. Department of Energy

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Command, Control, and Communication  
During the COVID-19 Pandemic Response**

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## Acronyms

AHEOP	All-Hazards Emergency Operations Plan
AU	Office of Environment, Health, Safety and Security
CEOC	Consolidated Emergency Operations Center
CESER	Office of Cybersecurity, Energy Security, and Emergency Response
COVID-19	Coronavirus Disease 2019
CRDTT	Coronavirus Research and Development Task Team
Department	U.S. Department of Energy
DOE	U.S. Department of Energy
DOECAST	DOE Newscast
EIMC	Emergency and Incident Management Council
MEF	Mission Essential Function
NCR	National Capital Region
NNSA	National Nuclear Security Administration
NVBL	National Virtual Biotechnology Laboratory
PMEF	Primary Mission Essential Function
S-1	Secretary of Energy
S-2	Deputy Secretary of Energy
UCG	Unified Coordination Group

# **Lessons Learned: Command, Control, and Communication During the COVID-19 Pandemic Response**

## **Executive Summary**

### **Scope**

The Secretary of Energy tasked the U.S. Department of Energy (Department or DOE) Office of Enterprise Assessments to identify lessons from the response to the coronavirus disease 2019 (COVID-19) pandemic. In general, the lessons-learned review examined actions to: (1) curtail or cease operations in response to government direction and advisories, and (2) maintain safe and secure operation in support of mission essential functions. This report focuses specifically on the effectiveness of DOE Headquarters command, control, and communication and supporting emergency response structures used during the response. The goal is to identify and preserve lessons learned, such as promising practices and challenges, based on the identified successes and challenges encountered during the response.

### **Significant Lessons Learned for Key Areas of Interest**

#### ***Promising Practices***

With a focus on people and mission, the Department's actions to adapt and respond to the evolving situation were effective. The Coronavirus Research and Development Task Team (CRDTT), whose structure evolved over the first weeks of March, successfully coordinated and directed the response and assigned the necessary tasks to subgroups for action. The framework of the CRDTT supported the agile, task-oriented operations necessary to lead the response and adjust to the changing environment.

Many organizations and individuals worked together cooperatively to support the CRDTT's successes. For example, coordination among task groups representing both program and staff offices was instrumental in working through the technical, legal, and human performance requirements to shift to a full teleworking mode of operation for most Federal employees and contractors whose presence at their work sites was not essential; ensure that Federal and contractor employees were paid; and offer relief from regulatory requirements. Headquarters provided frequent communications regarding status and actions and the CRDTT made significant efforts to provide consistent guidelines and to produce the return-to-workplace documents early. The Department also formed and implemented the National Virtual Biotechnology Laboratory and continued to execute essential functions for the nation's COVID-19 response. Cooperation among the offices and their focus on accomplishing goals allowed the Department to achieve consensus and quickly approve policy changes.

#### ***Challenges***

The Department faced some early challenges in establishing the necessary roles, responsibilities, and authorities for the response. In the early stages, the lack of clear roles and authorities created differences in how the Department managed the response and led to delayed Departmental guidance or inconsistent guidance from line organizations. The Secretary's action to assign the Director of the Office of Science, Dr. Chris Fall, the responsibility for overall direction and control of the response improved this situation, but in the absence of a permanent Deputy Secretary, the Secretary himself had to review and approve some actions, resulting in some delays. Importantly, Dr. Fall did not have the legal authority to provide

direction to the National Nuclear Security Administration (NNSA) Administrator. Aligning the Department and NNSA actions took some time, but DOE leadership adapted to this challenge.

Although the Office of Management has general responsibilities for DOE Headquarters, no single manager is responsible for Headquarters facilities, people, information, and physical assets in the National Capital Region (NCR). The planned command and control structures in the Department's crisis response plans (such as those in the *Emergency Management Enterprise Unified Coordination Structure All-Hazards Emergency Operations Plan*, *Pandemic Response Plan*, and *Continuity Plan*) entail a complex arrangement of response organizations and various advisory entities but do not provide a simple, direct framework for agile decision-making and action. Additionally, the existing crisis response plans do not fully address an enterprise-wide response that requires the Headquarters teams to take actions in the NCR concurrent with providing direction, guidance, and support to multiple field sites. Consequently, the initial Headquarters responses and communications focused on DOE facilities in the NCR rather than the Department as a whole. Without a unified line of direction and communication, line organizations implemented inconsistent policies and guidance that caused some conflicts in the field for sites under multiple line organizations.

## Recommendations

To enhance continuous improvement and sustainability, two recommendations address planning and execution in response to a similar future event:

- DOE should revise all its crisis response plans to provide an agile framework with streamlined authorities and clear lines of direction and communication. Crisis response plans should:
  - Provide the Secretary with latitude to designate a director or “person in charge” with the necessary authority and support.
  - Allow the response organization to quickly tailor plans to support rapid, effective response to an evolving crisis.
  - Account for the lines of authority governing the NNSA and provide for unified command and/or dual DOE/NNSA appointments, if appropriate.
  - Make clear use of the normal line-management chain of command and lines of direction and communication.
  - Address lines of communication with appropriate detail to eliminate ambiguities and facilitate consistent Department-wide communications.
  - Account for at least three general types of responses: those that affect field operations only, those that affect Headquarters operations only, and those that affect both.
  - Assign one of the Headquarters offices, such as the Office of Management, with overall responsibility and authority to direct and coordinate the Headquarters facilities' response and to develop the plans and procedures to establish an appropriate crisis management organization.
- DOE should place the functions that serve Department-wide roles, such as the Consolidated Emergency Operations Center, the Continuity Programs Office, and enterprise-wide response planning, as direct reports to the Deputy Secretary. This close alignment with senior leaders and decision-makers will position the organizations to more effectively implement enterprise-wide responsibilities, strengthen both crisis planning and response, and improve the Department's ability to respond to all-hazards events that necessitate an enterprise-level response affecting multiple line organizations. The Emergency Operations Policy Office could be relocated with the other policy-making offices to the Office of Environment, Health, Safety and Security. To support this recommendation, the Department should consider directing an analysis to evaluate other federated command structures/frameworks and benchmarking models that effectively synchronize the various control systems required to govern an enterprise in a time of crisis.

# **Lessons Learned: Command, Control, and Communication During the COVID-19 Pandemic Response**

## **1.0 INTRODUCTION**

The Secretary of Energy tasked the U.S. Department of Energy (Department or DOE) Office of Enterprise Assessments to identify lessons from the response to the coronavirus disease 2019 (COVID-19). This report is a subset of a more extensive lessons-learned effort and focuses explicitly on identifying the senior Headquarters managers' perspective on command, control, and communication lessons learned from the COVID-19 crisis management response. The purpose of the overall effort is to collect and analyze COVID-19 experiences and organize them to provide management throughout the Department with a basis for enhancing planning and response to future events.

## **2.0 BACKGROUND**

### **2.1 Command, Control, and Communication Structure**

The Department's principal officers are the Secretary of Energy (S-1), the Deputy Secretary of Energy (S-2), and three Under Secretaries: the Under Secretary of Energy, the Under Secretary for Nuclear Security and Administrator for the National Nuclear Security Administration (NNSA), and the Under Secretary for Science. The Deputy Secretary serves as the Chief Operating Officer, oversees operations, and provides policy direction to the Under Secretaries. Most staff and support offices report administratively to the Deputy Secretary. During normal operations, coordination flows from the applicable Under Secretary's/Administrator's Office to field elements. Deputy Administrators, Directors, and Assistant Secretaries are subordinate to the Under Secretaries and oversee individual program areas. The Department contracts out over 90% of its budget and has an extensive set of field offices that are responsible for overseeing contractor performance, as well as field offices affiliated with the energy resources business line. Appendix A depicts the Department's organizational structure, with shading to identify the offices with responsibility for hazardous emergency management programs or essential functions.

The Deputy Secretary position was vacant from December 4, 2019, to August 4, 2020. During that period, the Under Secretary of Energy, Mr. Mark Menezes, who was delegated most duties of the Deputy Secretary, had authority over the Department's operations, except for those operations under the authority of NNSA. Congress confirmed him as the Deputy Secretary on August 4.

### **2.2 Emergency Management Structure**

NNSA's Office of Emergency Operations leads the Department's planning for response to all-hazards events and continuity operations. It has specific plans to support an all-hazards response, including the *Department of Energy Emergency Management Enterprise Concept of Operations for Unified Coordination Structure* (October 2018) and the *Department of Energy Emergency Management Enterprise Unified Coordination Structure All-Hazards Emergency Operations Plan* (April 2019), and for continuity actions, the *Department of Energy Continuity Plan* (February 2020). In addition, the Office of the Associate Under Secretary for Environment, Health, Safety and Security (AU) is responsible for the Department's *Pandemic Response Plan* (March 2020). In the event of an emergency declaration requiring coordination among the various Departmental entities (including field elements), the *All-Hazards Emergency Operations Plan* (AHEOP) cited above establishes coordination and staff groups to support the response.

The Office of Emergency Operations also coordinates the various Departmental entities (including field elements) responsible for executing the Department's continuity policy. It supports the National Continuity Policy, which identifies three Primary Mission Essential Functions (PMEFs) for the Department. PMEF 1, Assure Nuclear Materials Safety, is established to maintain the safety, security, and reliability of nuclear materials in the DOE enterprise, both at fixed sites and in transit. The lead responsible officer is the NNSA Deputy Administrator for Defense Programs. PMEF 2, Respond to Nuclear Incidents, provides operational support and decision-making in responding to a nuclear incident, both domestically and internationally, and is a function of the NNSA Office of Counter-Terrorism and Counter-Proliferation. Finally, PMEF 3, Manage Energy Infrastructure, requires continuous monitoring and management of the National Energy Infrastructure (including the Strategic Petroleum Reserve and the Northeast Home Heating Oil Reserve) and response to energy infrastructure disruptions to ensure the rapid recovery of energy supplies. The DOE offices that contribute to the PMEF 3 mission are the Office of Electricity; the Office of Cybersecurity, Energy Security, and Emergency Response (CESER); the Office of Fossil Energy; and the Energy Information Administration. CESER stood up an incident command system in early March with representatives from each office to ensure the continuity of the mission.

### **2.3 Initial COVID Actions**

The People's Republic of China communicated that it identified a new coronavirus in late December 2019, and in early January 2020 confirmed the first case of the novel coronavirus. On January 31, the Department of Health and Human Services declared the virus a public health emergency, and the first DOE newscast (DOECAST) to notify employees was on February 3. On February 11, the novel coronavirus was named coronavirus-19 (COVID-19), and on February 26, the President announced that the Vice President would lead the COVID-19 national response. On March 5, Secretary of Energy Dan Brouillette appointed Dr. Chris Fall, Director of the Office of Science, as DOE's crisis response manager and charged him with overall direction and control of the DOE crisis response and coordination of DOE scientific support to the national-level response. On March 12, DOE briefed the entire workforce on the status of COVID-19 work flexibilities and provided website resources. On March 13, the President declared COVID-19 a national emergency, and on March 16, the White House announced protective measures to slow the spread of the virus.

In line with national-level direction, the Secretary determined that the situation warranted a crisis response rather than activation of the emergency response or continuity plans. As the crisis response manager, Dr. Fall developed and staffed the Coronavirus Research and Development Task Team (CRDTT) as an "action" team, using task groups of leaders from DOE program and staff offices. These teams focused on the technical, legal, and personnel actions necessary to protect DOE workers, both Federal and contractor, and support the DOE mission.

Although the emergency management structure was not officially activated, the CRDTT leveraged many emergency response and continuity functions and plans. These include the Emergency and Incident Management Council (EIMC), the supporting Biological Event Monitoring Team, PMEF and Mission Essential Function (MEF) lead organizations, and the communication structures operated by the NNSA Office of Emergency Operations.

At the time of this report, COVID-19 continues to impact the global community. The nation and the Department continue to operate following COVID-19 response plans tailored to their missions and locations.

### 3.0 SCOPE AND METHODOLOGY

This element of the lessons-learned review focused on executive management (command, control, and communications) of the DOE Headquarters response to the pandemic. The overall lessons-learned review addressed how DOE program, staff, and field offices responded to the pandemic and included actions to: (1) curtail or cease operations in response to government direction and advisories, and (2) maintain safe and secure operation in support of essential mission functions. Among the efforts taken, a significant action was the transition to teleworking as a means to execute many Departmental functions. The overall report's goals are to identify and preserve lessons learned, including best practices and efficiencies, based on the identified successes and challenges encountered during the response.

This report focuses on the effectiveness of DOE command, control, and communication and supporting emergency response structures used for the response. The review team analyzed plans, read daily reports and task lists used during the response, and conducted interviews. The inquiry examined the senior DOE Headquarters management leading the Department's response, the command structure that was employed, and the roles and responsibilities.

### 4.0 RESULTS

#### 4.1 Promising Practices

The Department maintained a positive focus on people and mission, and the actions required to adapt and respond to the evolving situation were effective. The CRDTT coordinated and directed the response, organizing subgroups and assigning the necessary tasks to guide the response. The structure and framework of the CRDTT, which evolved over the first weeks of March, provided an agile operating framework for leading the response and adjusting to the changing environment, and it has been effective in responding to the crisis.

Many organizations and individuals supported the CRDTT's successes. For example, task groups representing both program and staff offices were instrumental in working through the technical, legal, and human performance requirements to shift to a full teleworking mode of operation. Headquarters provided frequent communications regarding status and actions, and the CRDTT made significant efforts to provide consistent guidelines and to produce the return-to-workplace documents early. Cooperation among the program and staff offices and their focus on accomplishing goals allowed the Department to achieve consensus for quickly approved policy changes. Similarly, NNSA's Office of Emergency Operations and CESER provided support, such as gathering, collating, and disseminating status data.

As a result, the Department was able to:

- **Pay both Federal and contractor employees during the crisis and maintain the talent critical to the Department meeting its missions.**

The Office of Acquisition Management and NNSA's Office of Acquisition and Project Management were key in developing the Department's ability to continue to pay contractor employees who could no longer perform work as stipulated in contracts. Efforts included preparing a legislative proposal allowing DOE to address this issue, which became a model for Section 3610 of the Coronavirus Aid, Relief, and Economic Security (CARES) Act.



- **Transition to a maximum telework posture.**

On March 17, 2020, the Secretary directed Departmental leaders to transition to maximum telework flexibilities for employees whose presence at their work sites was not essential across the DOE enterprise, including DOE Headquarters, national laboratories, and field sites. The various Department leadership teams focused on streamlining procedures so that supervisors could modify existing telework plans and authorize new telework plans solely with the exchange of emails. In parallel, the Chief Information Officer and staff quickly established the hardware and software necessary to support a greatly expanded use of the Department's computer systems to support employees' work from home, and resolved the issues related to significant increases in web-based meetings. These actions have enabled the Department to remain open and operational.

- **Offer relief from regulatory requirements.**

On April 22, 2020, the Secretary issued a 180-day Safety and Security Regulatory Relief memorandum, granting relief (retroactive to March 13) from some safety and security regulations. The relief extended training and qualification time frames and periods of surveys and inspections, and allowed both Federal and contractor organizations to develop paths to execute these requirements under non-standard operations (e.g., under social distancing and use of additional personal protective equipment). The respective Offices of Primary Interest are researching whether relief extensions are needed and possible while the nation continues to address the COVID-19 crisis.

- **Form and implement the National Virtual Biotechnology Laboratory.**

Under the leadership of Dr. Fall and the CRDTT, DOE led the formation of the National Virtual Biotechnology Laboratory (NVBL), which brought together all 17 national laboratories. The NVBL conducted projects in diagnostics and genomics, predictive modeling and decision support, and vaccines and countermeasures that were significant contributors to the nation's response to COVID-19. Additional examples include developing innovations in testing capabilities, identifying new targets for medical therapeutics, providing epidemiological and logistical support, and addressing supply chain bottlenecks by harnessing extensive additional manufacturing capabilities.

- **Maintain and execute its essential functions.**

The crisis response demonstrated that the roles, responsibilities, and lines of authority for execution of the PMEFs and MEFs are well understood, although there was an initial delay in prioritizing support for PMEFs and MEFs. The normal operational chain of command and control from the applicable Under Secretary's/Administrator's Office to field elements effectively supported continued execution of DOE's mission. Appropriate actions, such as establishing a group to manage personal protective equipment within the Department (NNSA Office of Safety, Infrastructure and Operations – NA-50) and external actions by PMEF 3's incident command system team to support the electrical grid, including keeping DOE's Power Marketing Administrations operational, ensured that the PMEFs and MEFs were continuously maintained during the crisis.

- **Provide COVID information and a forum for addressing questions and concerns.**

Senior Departmental leaders began the COVID information campaign in early February 2020. The first actions included DOECASTs communicating the Departmental status and COVID-19 response actions, and broad safety guidance from such authorities as the Office of Personnel Management and the Centers for Disease Control and Prevention. Other actions included the March 12 DOECAST in

which Dr. Fall informed all staff of the establishment of the COVID-19 Hub website and hotline, testing of expanded telework capabilities, exploring Federal and contractor telework flexibilities, and other detailed safety information resources and plans.

Since its establishment, the DOE COVID-19 Hub website has provided detailed information and guidance regarding the current status of the Department's response. It contains senior leadership videos and podcasts, frequently asked questions and answers, links to all COVID-19 DOECAST communications regarding the response, and the NVBL responses. The website also provides enterprise-wide information on the Department's *Return to the Workplace Framework*, along with useful information resources for the home, school, and workplace.

Since mid-March, the Office of Management has led a team of volunteers from across DOE, staffing a COVID-19 response team that included a hotline for COVID-19 questions and answers ranging from health and safety issues to time and leave, workplace flexibilities, cleaning, community resources, reopening, and more. The hotline also serves as a vehicle for reporting potential or confirmed COVID-19 cases involving Federal supervisors, Federal employees, and onsite support service contractor employees across the entire DOE enterprise. The hotline staff have been vital assets in supporting management's decision-making and ability to provide information on exposures, cases, and related metrics.

Promising practices, such as those discussed above, should be captured in the Department's after-action reports and incorporated in subsequent updates of the Department and line organization crisis response plans.

## **4.2 Challenges**

### **4.2.1 Authority Not Fully Consistent with Responsibility**

The Secretary assigned Dr. Fall as the Departmental coordinator with responsibility for overall direction and control of the response. However, Dr. Fall did not have clear decision-making authorities for the Department and, importantly, did not have the legal authority to provide direction to NNSA. Because there was no permanent Deputy Secretary at that time, it was necessary for the Secretary to review and approve some actions, resulting in a few delays in direction and guidance to the enterprise.

In the early stages of the response, the lack of clear roles and authorities led to delays in providing guidance to the field offices and created differences in managing the response across the Department. For example, delays in receiving Headquarters guidance complicated the crisis response at sites that were potentially subject to state and local decisions in the early stages. Additionally, some of the direction from line management varied somewhat from Departmental direction, so some sites with multiple program offices received and provided different guidance to their contractors and their employees. This variability was further complicated because field locations do not always have a lead responsible office or an established coordinating body.

Nevertheless, Departmental managers effectively leveraged their professional relationships to overcome the challenges and integrate Headquarters and field operations on behalf of the Department. Although the timeliness and guidance were slightly different, the NNSA Principal Deputy Administrator aligned NNSA actions with the rest of DOE to work with the leadership within the Offices of the Under Secretary of Science (including the Offices of Science, Environmental Management and Legacy Management) and Under Secretary of Energy (including, for example, AU and the Offices of Fossil Energy, Nuclear Energy, and Electricity) to respond to the crisis.

#### **4.2.2 No Single Manager Responsible for Headquarters Facilities**

DOE has operations in over 30 different states and the District of Columbia and manages a broad portfolio of programs, including nuclear weapons production, environmental cleanup, scientific research, and electric distribution system reliability. Most of the operational locations outside the National Capital Region (NCR) have field office managers who have the responsibility and authority to authorize operations at their respective locations. These managers oversee site operations and balance the unique risks associated with their respective missions, contractors, and interfaces with other government agencies, other DOE counterpart organizations, and state and local authorities.

Although the Office of Management has general responsibilities for Headquarters facilities, no single manager is responsible for managing Headquarters facilities, contributing to some delays early in the crisis response, such as organizing the transition to full telework status. Each element head and the senior Departmental officer shares in the responsibility to protect DOE Headquarters facilities, people, information, and physical assets. For example, the Office of Management is responsible for the Germantown facility, and AU is responsible for the facility's security program. In addition, the Chief Information Officer manages unclassified operations for the organizations that participate in the DOE Common Operating Environment computer support program, guest networks, and telecommunications infrastructure at Headquarters, while the NNSA, the Office of Science, the Office of Intelligence and Counterintelligence, and the Energy Information Administration operate their unclassified computer systems through the DOE network.

#### **4.2.3 Response Framework and Communication**

Although potentially useful plans for responding to the crisis are in place, none of the current plans apply fully to the COVID-19 response. For example, the *Pandemic Response Plan* has useful guidance and direction for mitigating actions, communications, and personal protective equipment, but because the response actions are primarily based on an assessment of employee absences (for example, level 1 at approximately 10% absenteeism and level 2 at 20-25%), some decision-makers did not consider the plan to be applicable to the COVID-19 situation. The *Continuity Plan* contains the most detailed information about management of PMEFs and MEFs during a disruption in government operations, but its emphasis on relocation is problematic and the crisis response did not represent a specific problem for continuity of government. Finally, implementation of the AHEOP makes additional response resources available, but also introduces several coordinating groups without clearly establishing a senior decision-making director for the response. Overall, the command and control structures in the Department's crisis response plans entail a complex arrangement of response organizations and various advisory entities, while lacking a simple, direct framework for agile decision-making and action.

A further complication in the response framework is that the existing crisis response plans do not fully address an enterprise-wide response that requires the Headquarters teams to take actions in the NCR concurrent with providing direction, guidance, and support to multiple field sites. Consequently, the initial Headquarters responses and communications focused on DOE facilities in the NCR rather than the Department as a whole.

Without a unified line of direction and communication, line organizations may implement policies and guidance that are not fully consistent, potentially causing conflicts in the field during crises that affect the enterprise as a whole. For example, the perception and early feedback from the NNSA, the Office of Science, and other DOE field elements is that communications and guidance from Headquarters were challenging, as was the short-fused nature of some data calls and other tasking. The trends indicate that these challenges resulted mostly from the changing course of the pandemic and the associated impact of initial communication delays, as well as from differing guidance from DOE Headquarters and state and

city governments and, in some cases, differing contractual requirements for the management and operating contractors. However, the challenge to communicate consistent enterprise-wide guidance is compounded by differences in line organization communications to field elements and site contractors. For example, sites with multiple field elements and contractors reporting to different line organizations received different requirements for personal protective equipment for their respective workforces. Determining what guidance to follow has complicated employee communications and planning for work resumption.

## 5.0 RECOMMENDATIONS

To enhance continuous improvement and sustainability, two recommendations are provided to support planning and execution in response to a similar future event.

- **DOE should revise its crisis response plans to provide an agile framework with streamlined authorities and clear lines of direction and communication.**

Revised crisis response plans should provide an agile framework, streamlined authorities, and clear lines of direction and communication. They should give the Secretary the latitude to designate a crisis manager or “person in charge” and should outline the steps needed to provide that person with the authority and support necessary to succeed. The plans should be constructed to allow the response organization to quickly tailor plans to support rapid, effective response to an evolving crisis. Finally, crisis plans should account for the lines of authority governing the NNSA and provide for unified command and/or dual DOE/NNSA appointments, if appropriate.

Crisis planning should make clear use of the normal line-management chain of command and lines of direction and communication wherever and whenever feasible; these should be clear not only in the discussion of roles and responsibilities, but also in the implementation. Likewise, responsibilities for communications, both up and down the chain of command, should be clearly addressed with appropriate detail to eliminate ambiguities and facilitate consistent Department-wide communications. For example, an EIMC (see Appendices B and C) made up of S-1/S-2 as chair and a core body consisting of the three Under Secretaries and the Director, Office of Emergency Operations (as the main support provider) would be more flexible and streamlined than the current EIMC, which currently includes 11 members. A core team of five or six decision makers would be given the flexibility to include appropriate support functions in their meetings, as necessary to support the specific crisis (as was done for the current crisis response). Decisions taken by the EIMC would be executed by the line organizations with support from the program and staff offices, thereby helping ensure uniform direction and guidance. Further, the Unified Coordination Group (UCG) would be reconfigured to include the principals (or their deputies) from the offices with line responsibilities for sites with the potential for hazardous material emergencies and/or PMEFs/MEFs (see Appendix A). The revised plans would include the flexibility to activate only the UCG members with responsibilities related to the specific crisis, as assigned by the EIMC. The Consolidated Emergency Operations Center (CEOC), command, and general staffs would supply the supporting manpower (e.g., communicating with the field). In a crisis, the program and staff offices would consist of members from the Secretary’s functional support offices, as well as the parallel NNSA staff/program office. These planning and staff offices would be organized by functional capabilities (e.g., human capital, legal, logistics/procurement, intelligence, and public affairs) so that the functions pertaining to the crisis could be easily activated. The Office of Emergency Management would provide the support necessary to schedule and conduct meetings, document and track assigned actions, and perform similar needed actions. This type of organization could be flexible and responsive and could be expanded or contracted as appropriate to the response. Being assigned to the Office of the Secretary, the Office of Emergency Operations would sit in prime position to take the lead in planning for crises and

then smoothly transition into the crisis organization, which would then take advantage of the normal line organizations for execution.

As noted, crisis plans should clearly use the normal line-management chain of command and lines of direction whenever feasible (as in Appendix C). Likewise, responsibilities for communications, both up and down the chain of command, should be clearly addressed with appropriate detail to eliminate ambiguities and facilitate consistent Department-wide communications. Finally, the plans should account for at least three general types of responses: those that affect field operations only, those that affect Headquarters operations only, and those that affect both.

In revising the response framework, one of the Headquarters offices, such as the Office of Management, should be assigned overall responsibility and authority to direct and coordinate the Headquarters facilities' response and to develop the plans and procedures to establish an appropriate crisis management organization. This step would align Headquarters with the rest of the Department and enable management to include Headquarters facilities, as applicable, in Department-level decisions implemented by the respective field locations.

- **DOE should place the functions that serve Department-wide roles, such as the Consolidated Emergency Operations Center, the Continuity Programs Office, and enterprise-wide response planning, as direct reports to the Deputy Secretary.**

As illustrated in Appendix A, all-hazards events can simultaneously affect multiple line organizations. Several program offices have responsibility for sites and facilities with the potential for emergencies that could necessitate an enterprise-level response. Likewise, program and staff offices with responsibility for PMEFs and MEFs are distributed across the enterprise. With the broad base of organizations potentially involved in response to a crisis, a reporting structure that places the CEOC and the Continuity Programs Office, which serve Department-wide roles, as direct reports to the Deputy Secretary would strengthen both crisis planning and response. Also, this structure could improve communications with other offices, such as the Intelligence Operations Center. As Departmental assets, these offices would benefit from the enhanced authority and the direct communication lines with senior managers that would result. Overall, such a structure would align the emergency management functions with the senior leaders and decision-makers more closely and position the Department to implement its enterprise-wide responsibilities more effectively. To support this recommendation, the Department should consider directing an analysis to evaluate other federated command structures/frameworks and benchmarking models that effectively synchronize the various control systems required to govern an enterprise in a time of crisis.

It would also be helpful to relocate the Emergency Operations Policy Office to AU with the other policy-making offices. In addition, some functions within the Emergency Management Programs Office support development and maintenance of the Headquarters emergency plans; the current functions of this office that directly implement and support NNSA's emergency management program should continue within NNSA's support structure.

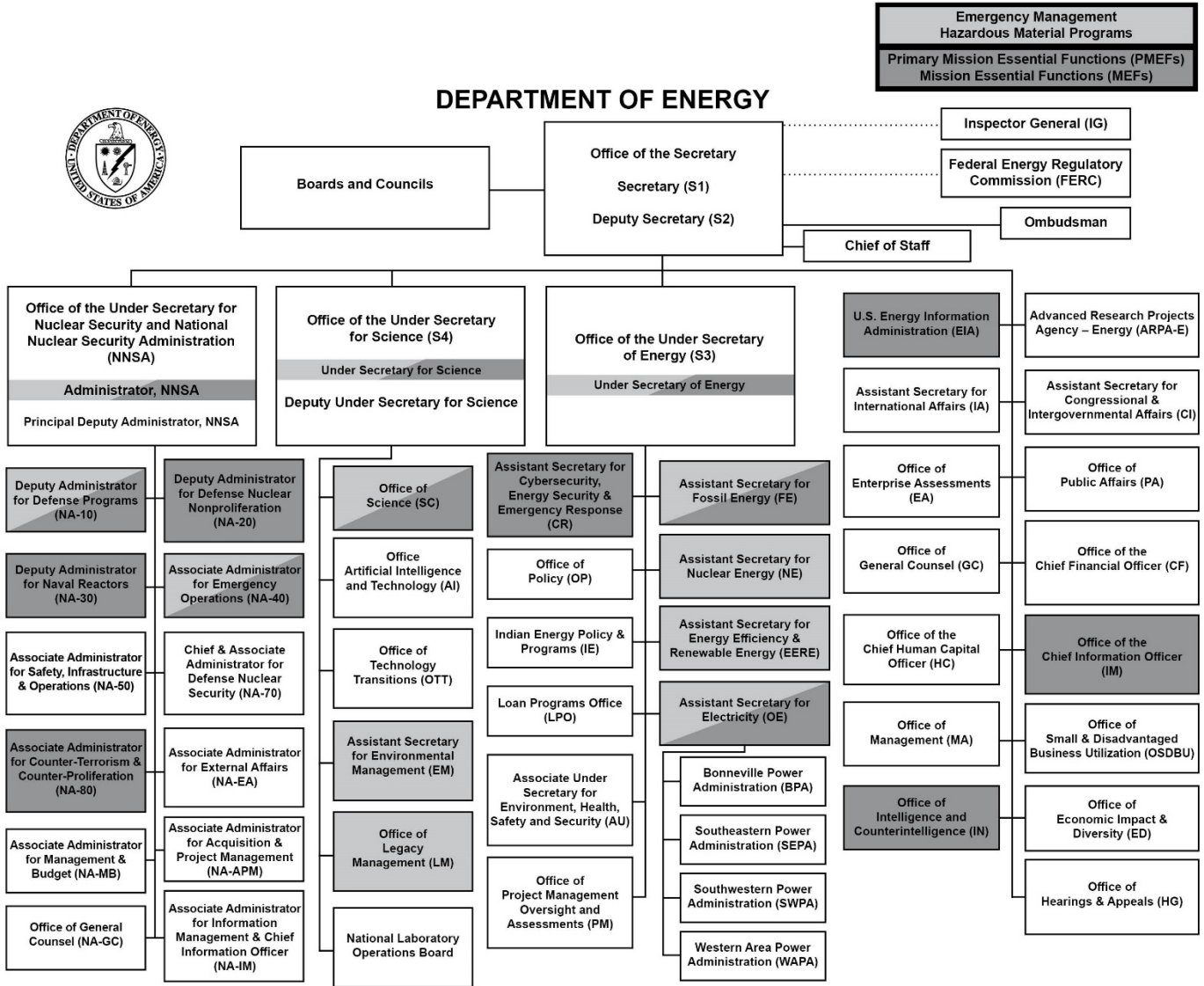
## **6.0 SUMMARY**

The lessons-learned review highlighted many necessary actions taken by DOE leaders in response to the COVID-19 pandemic that could be points of reference for adjusting Departmental operations, in both normal and crisis modes, when normal operations resume. This report delineates some of the challenges in command, control, and communication during the response and provides recommendations to strengthen these processes as the Department continues to manage the response and return to normal operations. DOE has a complex, challenging architecture due to the variety of missions, legislative mandates, duplicative systems serving NNSA and DOE, number of contractor organizations, and the goal

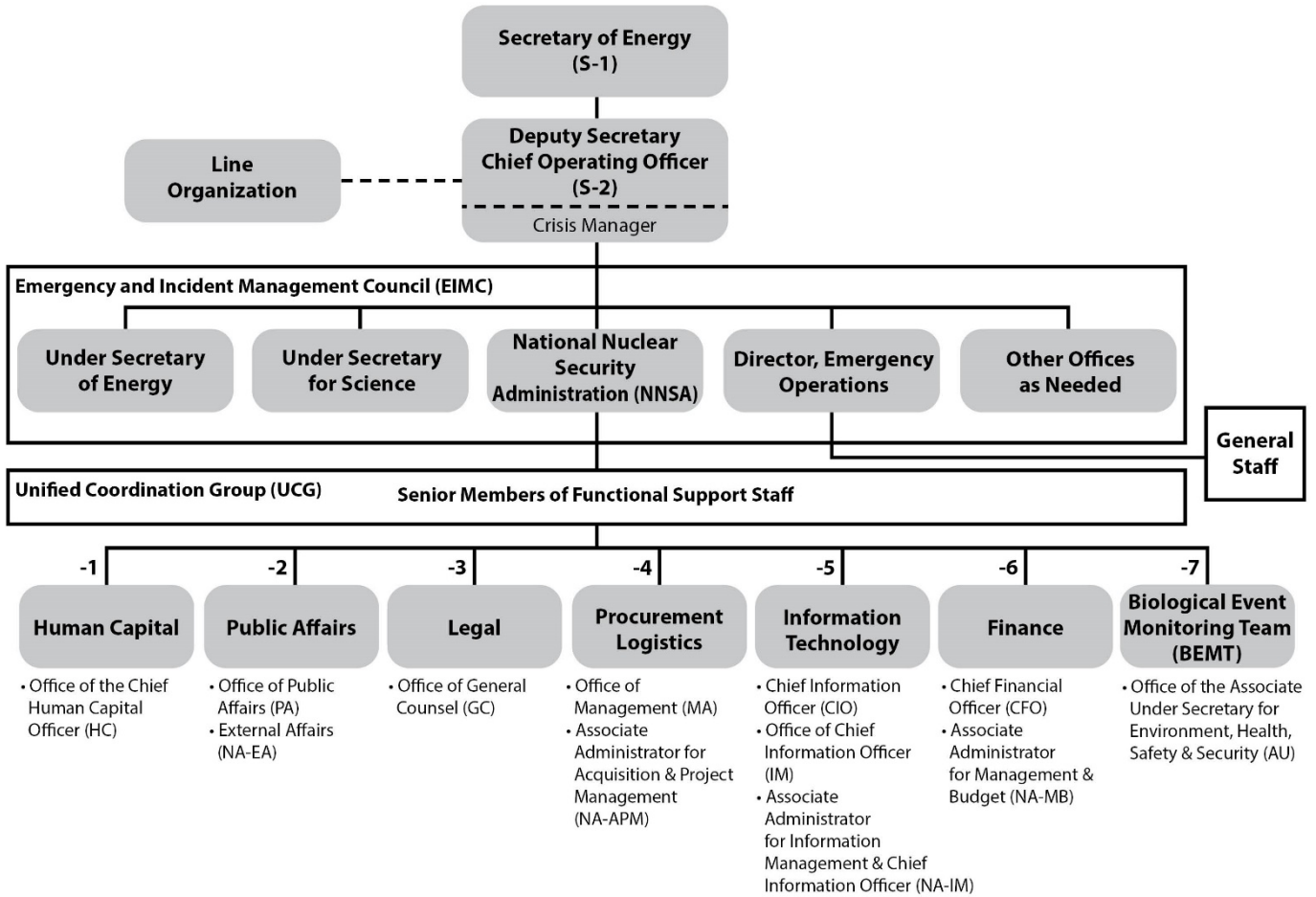
of achieving consensus from stakeholders in policymaking. The COVID-19 global pandemic further exacerbated these complexities, but Departmental leaders and employees demonstrated their understanding of the seriousness of the threat posed by COVID-19, and they continue to respond accordingly.

DOE has been the subject of internal and external studies on methods for increasing its efficiency and effectiveness; none resulted in bringing the Department together with a single-minded focus on its workers and mission like COVID-19. DOE leaders took unprecedented actions to care for both Federal and contractor employees, while continuing to execute the Department's national responsibilities and missions. Leaders continue to focus on how best to support the entire Department, both within the NCR and beyond. The entire workforce is demonstrating flexibility in developing innovative solutions to overcome obstacles, such as making maximum use of telework. The long-term challenge is to maintain the level of focus and unity demonstrated during the response and to continue to work cooperatively to overcome institutional obstacles and develop innovative solutions to ongoing challenges.

# Appendix A Annotated DOE Organization Chart



## Appendix B Crisis Response Organization





## Appendix C Line Organization (Crisis Response)

