



Independent Assessment of Emergency Preparedness Capabilities at the Los Alamos National Laboratory

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Acronyms

CAS	Central Alarm Station
CDC	Consolidated Dispatch Center
CLA	Centerra-Los Alamos
DOE	U.S. Department of Energy
EA	Office of Enterprise Assessments
EM-LA	Environmental Management Los Alamos Field Office
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOSC	Emergency Operations Support Center
EPHA	Emergency Planning Hazards Assessment
EPI	Emergency Public Information
ERAP	Emergency Readiness Assurance Plan
ERO	Emergency Response Organization
FBI	Federal Bureau of Investigation
FMT	Field Monitoring Team
GE	General Emergency
HAZMAT	Hazardous Materials
HDT	Hazardous Devices Team
IC	Incident Commander
IRC	Incident Response Commander
JIC	Joint Information Center
LAC	Los Alamos County
LAFD	Los Alamos Fire Department
LAMC	Los Alamos Medical Center
LANL	Los Alamos National Laboratory
LAPD	Los Alamos Police Department
MC	Media Center
NA-LA	Los Alamos Field Office
NARAC	National Atmospheric Release Advisory Center
NMDHSEM	New Mexico Department of Homeland Security and Emergency Management
NNSA	National Nuclear Security Administration
OE	Operational Emergency
OFI	Opportunity for Improvement
OST	Office of Secure Transportation
RAP	Radiological Assistance Program
REAC/TS	Radiation Emergency Assistance Center/Training Site
SAS	Secondary Alarm Station
TA	Technical Area
Triad	Triad National Security, LLC
UNMH	University of New Mexico Hospital

INDEPENDENT ASSESSMENT OF EMERGENCY PREPAREDNESS CAPABILITIES AT THE LOS ALAMOS NATIONAL LABORATORY

Executive Summary

The U.S. Department of Energy (DOE) Office of Enterprise Assessments (EA) conducted an independent assessment evaluating whether Triad National Security, LLC (Triad), the Los Alamos National Laboratory (LANL) management and operating contractor, and the Los Alamos Field Office (NA-LA) established and validated all aspects of the LANL emergency response capabilities over the five-year period from October 1, 2015, through September 30, 2020, as required by DOE Order 151.1D, *Comprehensive Emergency Management System*. Specifically, the site-level exercise program was assessed to determine whether Triad validated specific emergency response capabilities to ensure that the site can respond effectively and efficiently to all operational emergencies so that appropriate response measures are taken to protect workers, responders, and the public.

Overall, Triad and NA-LA validated numerous emergency response capabilities derived from NA-LA approved emergency planning hazards assessments which generally provides the LANL emergency response organization with significant depth and capacity. EA identified the following strengths:

- Triad and NA-LA routinely interface and coordinate with local, state, and Federal agencies and organizations responsible for offsite emergency response to supplement Triad capabilities.
- Triad maintains an appropriate emergency response organization consisting of the requisite skills and disciplines necessary for adequate mitigation of emergency incidents.
- Triad has validated readiness for all requisite primary LANL emergency response facilities and systems.

EA also identified two findings that warrant a high level of attention from Triad and NA-LA management, as summarized below:

- Triad has not established or maintained an adequate site-level exercise program that validates all of its emergency response capabilities to the hazards identified in Emergency Preparedness Hazards Assessments. (Finding)
- Triad has not self-identified and conveyed an accurate status on the readiness and effectiveness of its response capabilities. (Finding)

In summary, Triad and NA-LA generally maintain emergency preparedness and response capabilities. However, Triad has not validated several of the LANL capabilities and has not correctly identified the status of capabilities in annual emergency readiness assurance plans during the five-year period. Weaknesses identified due to lack of validation of readiness assurance program components impact Triad's ability to ensure an effective and efficient response to all-hazard incidents and events. Until these concerns are addressed, or effective mitigations are put in place, issues may go uncorrected and expose workers, responders, and the public to unnecessary risk. EA will monitor corrective actions implementation, as appropriate, and seek opportunities to evaluate future exercises and performance tests.

INDEPENDENT ASSESSMENT OF EMERGENCY PREPAREDNESS CAPABILITIES AT THE LOS ALAMOS NATIONAL LABORATORY

1.0 INTRODUCTION

The U.S. Department of Energy (DOE) Office of Emergency Management Assessments, within the independent Office of Enterprise Assessments (EA), assessed the establishment and validation of emergency preparedness capabilities at the Los Alamos National Laboratory (LANL). This assessment is part of a targeted review of emergency preparedness for high-hazard facilities within DOE, including the National Nuclear Security Administration (NNSA). This targeted review evaluated the processes for identifying and maintaining emergency response capabilities in a state of readiness to protect the health and safety of workers, responders, and the public for any incident, whether natural or manmade, that requires response action beyond normal operations.

The scope of the assessment was in accordance with the *Plan for the Assessment of Emergency Preparedness Capability at the Los Alamos National Laboratory*, May – August 2021, which used the site-level exercise program to assess whether Triad National Security, LLC (Triad) and Los Alamos Field Office (NA-LA) validated the emergency response capabilities derived from NA-LA approved emergency planning hazards assessments (EPHAs). DOE Order 151.1D, *Comprehensive Emergency Management System*, requires field offices to review and approve all EPHAs. In addition, DOE Order 151.1D identifies the functional emergency response requirements for DOE and NNSA sites. These requirements include developing an integrated and comprehensive emergency management system to ensure that sites can respond effectively and efficiently to all operational emergencies (OEs) so that appropriate response measures are taken to protect workers, responders, and the public. Triad, the LANL management and operating contractor, must determine the necessary site emergency response capabilities based on site-specific attributes, including types and forms of hazardous materials (HAZMAT), demographics, and geography. DOE Order 151.1D requires that DOE facilities prepare for incidents at the upper end of the potential consequence spectrum. Emergency response staff must plan for the protection of personnel, mitigation of potential HAZMAT releases, and establishment of appropriate short-term recovery actions.

Additionally, in accordance with DOE Order 151.1D, Triad emergency planners are required to preplan the means to acquire these capabilities, if necessary, from external sources, including surrounding communities, state authorities, and offsite DOE and national assets. In addition, this assessment verified Triad's validation of emergency response capabilities related to hazards identified in the LANL EPHAs. Some response capabilities deemed necessary for both low-probability and severe incidents would be a financial burden to maintain on site or could be rendered unavailable if such an incident occurred. Accordingly, preparation for such an incident requires establishing agreements with offsite entities that enable integration into the Triad emergency response.

2.0 METHODOLOGY

The DOE independent oversight program is described in and governed by DOE Order 227.1A, *Independent Oversight Program*, which is implemented through a comprehensive set of internal protocols, operating practices, assessment guides, and process guides. This report uses the terms “best practices, deficiencies, findings, and opportunities for improvement (OFIs),” as defined in DOE Order 227.1A.

As identified in the assessment plan, certain aspects from EA Criteria and Review Approach Document 33-09, *DOE O 151.1D Emergency Management Program*, provided a focused set of assessment objectives, criteria, and approaches. In addition, this assessment evaluated site-specific emergency planning and documented performance demonstrations over the past five-year period and was not intended to represent a full programmatic evaluation of the site's emergency management program. Due to DOE Coronavirus Disease 2019 protocols, this assessment was conducted remotely with no onsite observations.

This assessment evaluated whether Triad had established, and then validated over a five-year period, LANL emergency response capabilities using scripted, scenario-driven, operations-based OE exercises designed to assess, evaluate, and improve performance in prevention, protection, mitigation, response, and recovery capabilities in a risk-free environment consistent with DOE order requirements. Operations-based exercises test and validate policies, plans, procedures, training, equipment, and interagency agreements. DOE operations-based exercises include functional exercises, full-scale exercises, and full-participation exercises. In addition, Triad may credit an actual emergency response for an operations-based exercise by providing a documented critique and an actual emergency after-action report, which must be completed and provided to NA-LA with a formal request to receive exercise credit for the actual emergency response.

EA examined key documents, including exercise after-action reports, exercise packages, plans, procedures, manuals, and analyses. EA also conducted interviews with key personnel responsible for developing and executing the emergency management program. The members of the assessment team, the Quality Review Board, and management responsible for this assessment are listed in Appendix A.

3.0 RESULTS

The extent of emergency planning and preparedness required for the site directly corresponds to the types and scope of hazards present and the potential consequences of accidents or incidents, which identify the hazards and targets unique to specific facilities. NA-LA has approved 20 active LANL EPHAs that provide the technical basis for emergency planning and preparedness. Triad used EPHA results to adequately identify and define appropriate personnel, resources, facilities, and systems-related capabilities in EMD-PLAN-100, *LANL All-Hazards Emergency Management Plan*, and LA-CP-18-20382, *Los Alamos Baseline Needs Assessment for Fire Protection and Emergency Response*. In addition, Triad provided the emergency management technical basis for the legacy cleanup contractor at LANL, Newport News Nuclear BWXT-Los Alamos, in accordance with SAWA #M&O-001, *Service Agreement/Work Authorization for Emergency Management Services from Triad*. Importantly, the LANL emergency response organization (ERO) is a site-level composite force consisting of an integrated line and staff organization structure that responds to all emergency incidents within the LANL boundary. In addition, the roles of local, state, and Federal agencies and organizations responsible for supplementing onsite response capabilities are adequately documented in formal assistance agreements with individual response organizations and agencies, including the Los Alamos County (LAC) emergency response agreement.

Triad conducted numerous operations-based exercises during the five-year period, from October 1, 2015, through September 30, 2020, using scenarios from the spectrum of potential OEs identified in the EPHAs. In addition, Triad adequately postulated incidents at the LANL EPHA facilities, and scenarios included the substances and material present at the site to test the integrated emergency response capabilities to an OE. Additionally, Triad completed a wildland fire exercise as a severe event initiator and conducted a full-participation exercise (terrorist attack and mass casualty) that included participation by local, state, and Federal organizations. Further, Triad conducted exercises with postulated incidents involving an

active assailant, which were low in relative consequence and did not affect offsite areas or the public, but still required an integrated ERO response. Furthermore, in fiscal year 2019, Triad formally evaluated its response to two actual incidents. This assessment credited the incidents because Triad categorized them as an OE, implemented the LANL emergency plan, and adequately documented the critique and responses in an after-action report. Finally, Triad has provided NA-LA summaries of Triad's exercise program status in the annual emergency readiness assurance plan (ERAP), which contains the annual exercise schedule, discussion of the past year's activities, and review of programmatic strengths and weaknesses.

Sections 3.1 through 3.4 discuss response capabilities specific to ERO cadres and teams, offsite response interfaces, response facilities and systems, and readiness assurance, respectively. LANL has 13 unique ERO cadres and teams, 15 offsite response interfaces, and 12 dedicated or alternate response facilities and systems.

3.1 Emergency Response Organization Cadres and Teams

The objective of this portion of the assessment was to verify that Triad and NA-LA have established and validated the LANL ERO structure and its emergency response capabilities, as required by DOE Order 151.1D. In accordance with the order, an ERO must consist of personnel with capabilities and resources based on the all-hazards planning basis. The site is required to designate and train a primary and at least one alternate for each ERO position, excluding first responders in the field, to be available to implement the emergency management plan for initial and ongoing emergency response. A site must also establish an effective first responder capability to mitigate all emergencies, including emergency medical, fire, HAZMAT, and applicable rescue emergencies as derived through the baseline needs assessment, hazard survey, and threat and hazard identification risk assessment. Staff positions within the ERO are filled by personnel from Triad; Newport News Nuclear BWXT-Los Alamos; Centerra-Los Alamos (CLA), the LANL protective force contractor; NA-LA; the Environmental Management Los Alamos Field Office (EM-LA); and LAC. Finally, Triad is required to validate each capability over a five-year period.

Los Alamos Fire Department

NA-LA has established and maintains adequate fire department capabilities, based on site, from LAC. LAC delivers fire department services for LANL through the *DOE/NNSA and LAFD Cooperative Agreement*, which provides the following critical response capabilities:

- Advanced nuclear facility capable, industrial fire suppression
- Wildland fire suppression
- Rescue services, including vehicle and machinery rescue, confined space rescue, trench rescue, structural collapse rescue, technical rope rescue, and aircraft rescue firefighting
- Emergency and non-emergency medical response, including advanced life support capabilities
- HAZMAT response to chemical, biological, and radiological incidents
- Consolidated dispatch center (CDC) services.

In accordance with the cooperative agreement, the Los Alamos Fire Department (LAFD) has adequately maintained an overall minimum shift staff of 37 firefighters, with an initial LANL response force of 12 firefighters, including two paramedics, on LANL property or housed in fire stations 1, 3, or 5 during typical LANL work hours. In addition, LAFD has committed to participating in at least 10 facility exercises with an initial engine and emergency medical company and the annual full-scale exercise each

fiscal year. LAFD also participates in quarterly Emergency Operations Center (EOC) functional exercises, with trained and qualified representatives for the emergency directorate, operations section, and public information section.

Triad validated its fire department capabilities during the five-year period. The fire department responded to 36 postulated HAZMAT, emergency medical services (EMS), or fire incident exercises and two actual incidents. Triad validated EMS capability in parallel with the HAZMAT, fire, or active assailant response capabilities, which in some instances, included patient transport to a participating offsite medical center. Additionally, Triad validated the LAC CDC capability in 28 exercises during the five-year period.

Los Alamos Police Department

NA-LA has established and maintains adequate law enforcement capabilities from LAC. The Los Alamos Police Department (LAPD) provides these capabilities and has law enforcement jurisdiction at LANL, which includes initial response to law enforcement incidents (e.g., active threat, vehicle accident) including those with potential criminal elements. In addition, the LAPD bomb squad responds on site for reports of hazardous devices, unattended or suspicious packages, and potential improvised explosive devices. Furthermore, the LAPD assists with roadblocks or traffic control when needed for access roads to and from the site. Triad validated onsite LAPD capabilities in two exercises and one actual incident during the five-year period.

Protective Force

CLA provides site and facility access control and protection of site assets, including special response team personnel supported by canine services provided by a separate Triad contract. Agreements are in place with Federal and state jurisdictions to provide additional personnel, equipment, and capabilities, if needed. Triad validated CLA capabilities in accordance with the site emergency plan during the five-year period, including support for incident response, in nine exercises and two actual incidents during the five-year period.

Incident Command Resources

LAC and CLA have adequately implemented command and control for an onsite incident scene, consistent with the National Incident Management System Incident Command System. The initial assignment of the role of incident commander (IC) depends on the nature of the incident. For security incidents, the senior protective force shift commander becomes IC. For law enforcement incidents (e.g., active threat, vehicle accident), including those with potential criminal elements, the LAPD becomes IC. For medical, fire, and HAZMAT incidents, the LAFD becomes IC. As incidents warrant, command and control of the incident scene may transition to a unified command with the on-duty incident response commander (IRC). However, the IC retains overall responsibility for the emergency response effort. Triad validated the IC capability 36 times during the five-year period. CLA served in the IC capacity once, the LAPD served in the IC capacity once, and the LAFD served in the IC capacity 34 times.

Hazardous Materials Team

In addition to LAFD HAZMAT response capabilities, Triad has adequately established and maintains a separate primary response team for onsite HAZMAT releases. The onsite LANL HAZMAT response team meets the criteria for a Federal Emergency Management Agency Type 1 HAZMAT response team, staffed with subject matter experts in health physics, industrial hygiene, and chemical, biological, radiological, nuclear, reactive, energetic, and unstable materials. Triad has certified all HAZMAT team members as HAZMAT technicians or specialists. Triad has adequately staffed the HAZMAT team with

15 personnel who fill 11 first responder functional positions. Triad validated its LANL HAZMAT capability in eight exercises during the five-year period.

Hazardous Devices Team

Triad has adequately established and maintains a hazardous devices team (HDT), qualified as first responders through training and certification at two levels:

- Full entry level – Department of Defense certified explosives ordnance disposal technicians; Federal Bureau of Investigation (FBI) certified hazardous devices school graduates; and Triad qualified high explosives handlers in accordance with the Triad qualification standard, *ADW-QS-0001U*, in addition to HAZMAT technician certification.
- Limited entry level – Triad qualified high explosives handlers in accordance with qualification standard, *ADW-QS-0001U*, in addition to HAZMAT technician certification.

The HDT responds to hazardous incidents involving reactive, energetic, explosive, and potentially unstable materials. Triad has adequately staffed the HDT with two personnel who fill the first responder position.

Triad has not validated the HDT capability during the five-year period. In addition, Triad did not provide any documentation to establish a date for the last time the HDT capability was validated during an OE. Triad provided some rationale as to why the HDT capability has not been validated for more than five-years; however, the information did not demonstrate adequate validation of the required capabilities. There are 55 General Emergencies (GEs) based on EPHA scenarios that would potentially involve the HDT. (See Finding **F-Triad-1** and **OFI-Triad-1**)

Emergency Operations Support Center Team

Triad has adequately established and maintains an emergency operations support center (EOSC) team to receive reports of potential emergency conditions from the field. Triad continuously staffs the EOSC to provide monitoring, emergency, and dispatch functions in accordance with EMD-PLAN-156, *Emergency Operations Support Center Program Plan*. In addition, the EOSC is the primary point-of-contact for potential or actual emergencies at LANL, serving as the incident coordination center, and works directly with the LAC CDC that provides local emergency response services and dispatch of LAC response personnel including fire, medical response, and law enforcement. Furthermore, the EOSC works directly with the central alarm station (CAS) and secondary alarm station (SAS), which provide dispatch and control services for the LANL protective force. If there is an actual or potential emergency, the EOSC operator notifies the on-duty IRC and applicable response organizations. Triad has adequately staffed the EOSC team with 10 personnel who fill two functional positions. Triad validated its EOSC capability in 15 exercises and the CAS/SAS interface in three exercises during the five-year period and two actual incidents.

Incident Response Commander

Triad has adequately established and maintains an IRC continuously on site that assesses all reported incidents, performs the initial categorization and classification of the incident, determines onsite protective actions and protective action recommendations for offsite, and ensures notifications are made by the EOSC. The on-duty IRC may report to the incident scene and integrate into unified command, depending on the situation and type of emergency. Triad has adequately staffed the IRC with seven

personnel who fill the functional position. Triad validated its IRC capability in 36 exercises during the five-year period and two actual incidents.

Emergency Operations Center Staff

Triad and NA-LA have adequately established and maintain an EOC staff organization that provides emergency management coordination, consequence assessment, field response operations coordination, notification and reporting, recovery planning, field monitoring operations, external coordination and offsite liaison capabilities, and emergency public information (EPI). Triad guides and supports emergency response efforts and resources used inside the LANL boundary through EOC operations. Triad has adequately staffed the EOC cadre with 99 personnel who fill 19 functional positions. Triad validated its EOC cadre capability in nine exercises during the five-year period.

NA-LA and EM-LA Emergency Oversight

NA-LA and EM-LA emergency oversight is included as part of the ERO and provides the final authority to commit DOE/NSA resources, as approved by the EOC Senior Federal Official (SFO). The SFO provides guidance, approves releases of EPI and official situation reports, and concurs on event termination. In addition, the SFO approves the declaration of continuity of operations events, if applicable, and approves requests for offsite support not covered by pre-existing agreements. NA-LA and EM-LA have adequately staffed the SFO positions with six personnel who fill two functional positions. NA-LA and EM-LA validated their collective emergency oversight capabilities in one exercise, and NA-LA validated emergency oversight capabilities in six additional exercises during the five-year period.

Emergency Public Information Staff

Triad and NA-LA have adequately established and maintain an EPI staff that includes media center (MC) and joint information center (JIC) staffing to disseminate information to the public during an emergency. The EPI staff provides the resources for NA-LA, EM-LA, contractors, and other stakeholders to coordinate the timely exchange of information among internal representatives and other external organizations involved in a response. In addition, the EPI staff advises and counsels the EOC emergency director; drafts, secures approval for, and distributes incident messaging; responds to media and public inquiries; monitors and disseminates information through social media; and coordinates media interviews and briefings. Triad, NA-LA, EM-LA, Newport News Nuclear BWXT-Los Alamos, and LAC have adequately staffed the EPI capability with 40 personnel who fill 12 functional positions. Triad validated its EPI capability in nine exercises during the five-year period.

Occupational Medicine Team

Triad has adequately established an occupational medicine team to staff the primary LANL medical facility, the Occupational Medicine Clinic, which is equipped to handle personnel with non-life-threatening injuries, illnesses, or exposures, with or without contamination. Triad transfers individuals with conditions that require treatment beyond the scope of occupational medicine to a facility with the appropriate level of care. During normal work hours, the Triad medical director, physicians, advanced practice clinicians, and other personnel are available to assess the condition of patients, provide necessary urgent or emergency care, arrange for patient transfer to appropriate facilities as needed, and determine appropriate supplemental treatment. During off-hours, on-call occupational medicine staff or the LAFD IC determines whether EMS personnel should transfer an individual to the Los Alamos Medical Center (LAMC) or other medical facility for treatment. Triad has adequately staffed the occupational medicine

team with 24 personnel. Triad validated its occupational medicine team capability in one exercise during the five-year period.

Field Monitoring Team

Triad has adequately established and maintains an onsite field monitoring team (FMT) that provides HAZMAT monitoring, using members of the HAZMAT team and technical specialists, which include health physicists, industrial hygienists, and equipment specialists. Triad dispatches the FMT to perform monitoring to determine safe evacuation routes and conduct monitoring at the furthest distance from the source of where measurable HAZMAT readings are probable, which includes radiological and chemical monitoring within the boundaries of LANL property. In addition, the FMT maintains close coordination with the EOC consequence assessment team to assess the immediate consequences of a HAZMAT release. Triad has adequately staffed the FMT with 11 personnel, in addition to six HAZMAT team members who are also designated as FMT team members. Triad validated its FMT capability in six exercises during the five-year period.

Emergency Response Organization Cadres and Teams Conclusions

Triad and NA-LA have adequately established, maintained, and validated the emergency response capabilities of 12 of the 13 LANL ERO cadres and teams, as required by DOE Order 151.1D. In addition, Triad derived from its EPHAs an appropriate ERO that consists of those requisite skills and disciplines for adequate mitigation of emergency incidents. However, Triad has not validated the HDT capability for a declared emergency response to an OE.

3.2 Offsite Response Interface Capabilities

The objective of this portion of the assessment was to verify that Triad and NA-LA have established and validated coordination and response capabilities with the local, state, and Federal organizations responsible for emergency response or that may be used to supplement response capabilities based on hazards identified in the all-hazards planning basis, as required by DOE Order 151.1D.

DOE Headquarters Watch Office

Triad and NA-LA have adequately established and maintain an interface capability with the DOE Headquarters notification point, collocated with the Headquarters EOC. Upon receiving an event notification, the watch office duty officer routinely notifies the appropriate personnel responsible for activating a DOE or NNSA emergency management team. Triad and NA-LA validated the DOE Headquarters watch office interface capability in six exercises and two incidents during the five-year period.

DOE Headquarters EOC

Triad and NA-LA have adequately established and maintain interface capabilities with the DOE Headquarters EOC, located in the Forrestal Building in Washington, D.C. A backup EOC is located in Germantown, Maryland. Both facilities can communicate with LANL via telephone, the emergency communications network, facsimile, and classified/unclassified video teleconferencing. The performance criteria used by NA-LA, Triad, and Headquarters to assess the adequacy of the interface consists of sending initial and follow-on notifications and maintaining a telephone liaison. Triad and NA-LA validated the Headquarters EOC interface capability in one exercise during the five-year period.

National Atmospheric Release Advisory Center

Triad and NA-LA have adequately established and maintain interface capabilities with the NNSA Atmospheric Release Advisory Capability for assessment of HAZMAT released into the atmosphere. DOE Order 151.1D requires that facilities maintain the capability to use the National Atmospheric Release Advisory Center (NARAC) as part of near real-time consequence assessment activities. Lawrence Livermore National Laboratory operates the Atmospheric Release Advisory Capability at the NARAC. NARAC's mission is to provide timely and accurate real-time assessment advisories to emergency managers for rapid decision-making during an emergency response involving a nuclear, radiological, or chemical release. Triad validated the NARAC interface capability in one exercise during the five-year period.

Radiological Assistance Program

Triad and NA-LA have adequately established and maintain interface capabilities with the NNSA Radiological Assistance Program (RAP), which provides a first response resource in assessing an emergency incident and advising decision-makers on further steps to evaluate and minimize the hazards of a radiological incident. RAP provides resources (e.g., trained personnel and equipment) to monitor radiological hazards. NNSA implements RAP regionally, coordinating between the emergency response elements of the state, local, and Federal agencies. The 16-person LANL RAP team is one of four teams in DOE Region 4 supporting Arizona, New Mexico, Texas, Oklahoma, and Kansas. DOE Order 151.1D requires that facilities with GEs involving radiological material releases ensure adequate planning for offsite radiological monitoring support to local and state governments. Triad and the State of New Mexico do not have offsite field monitoring teams and rely on the integration with other potential monitoring teams, which may include State of New Mexico agencies, the New Mexico National Guard 64th Civil Support Team, the DOE Region 4 RAP, EPA Region VI, or other Federal agencies. Triad and NA-LA have established an agreement for RAP to provide the primary offsite response capability for a LANL radiological incident.

During the five-year period, Triad has not validated this capability that provides offsite radiological monitoring support to local and state governments during a LANL radiological GE. Triad has identified over 250 EPHA based radiological scenarios that would result in a GE declaration that could require RAP to monitor for offsite consequences. Triad provided some rationale as to why the offsite field monitoring capability was not validated for more than five-years; however, the information provided did not include a response to a significant offsite radiological emergency originating from a LANL facility. The last time Triad used RAP to monitor a potential release of radiological material from the site, which impacted offsite areas, was during an actual incident response in August 2012. (See **Finding F-Triad-1** and **OFI-Triad-1**)

Radiation Emergency Assistance Center/Training Site

Triad and NA-LA have adequately established and maintain interface capabilities with the NNSA Radiation Emergency Assistance Center/Training Site (REAC/TS). DOE Order 151.1D requires that facilities conduct planning for medical treatment associated with incidents identified in the all-hazards planning basis. REAC/TS provides 24/7 emergency response and subject matter expertise for advice and consultation on medical management of radiation incidents for NNSA. Oak Ridge Institute for Science and Education operates REAC/TS, located in Oak Ridge, Tennessee, which provides a multipurpose facility for handling victims of radiation emergencies along with other types of physical injuries. Triad has not validated the REAC/TS capability during the five-year period. Triad has identified 10 EPHA scenarios for unplanned nuclear criticalities that would potentially require integration with REAC/TS during an integrated response. Furthermore, REAC/TS could be a necessary resource in many of the 250

radiological GEs based on EPA scenarios that could involve inhalation of radiological material by workers, responders, or the public. Triad did not produce any documentation to establish the last time the site validated the REAC/TS interface capability. (See **Finding F-Triad-1** and **OFI-Triad-1**)

Federal Bureau of Investigation

Triad and NA-LA have adequately established and maintain interface capabilities with the FBI to respond to any incident at LANL involving terrorists or weapons of mass destruction. Triad and NA-LA have integrated FBI technical specialists into the LANL ERO structure and concept of operation. An initial FBI response to LANL includes personnel from the FBI Albuquerque Field Office. The FBI may deploy special agents to support response activities, investigations, and intelligence sharing at the EOC and incident command post, in accordance with the memorandum of understanding among NA-LA, the FBI, and LAC for incident response resolution. The FBI may assume IC responsibilities during security or law enforcement emergencies or integrate into the existing unified command structure. Triad validated the FBI interface capability in two exercises during the five-year period.

LANL Local Integrated Response Plan between DOE/NNSA, FBI, and State of New Mexico

NA-LA has adequately established and maintains interface capabilities with the FBI and State of New Mexico for security support and law enforcement for the protection of special nuclear material and other national security assets, people, equipment, and property. A written agreement outlines the Federal, state, local, and tribal response to unauthorized personnel attempting to gain access to, achieving access to, or theft of special nuclear material, nuclear weapons, and nuclear components. In addition, the local integrated response plan addresses command and control, notification information, and response planning for regional assets. The agreement also provides a regional framework related to offsite pursuit and recovery, which enabled the cancellation of seven individual agreements with surrounding local law enforcement agencies.

Triad has not validated the local integrated response plan interface capabilities during the five-year period. Since NA-LA established the initial agreement in January 2013 and renewed the agreement in 2018, after expiration, Triad has only conducted a tabletop exercise in December 2015 with the primary objective to establish a baseline for the capability. Triad did not provide any documentation to establish the last time it validated the capability and has not scheduled a future validation. Consequently, Triad has not demonstrated effective integration among the offsite organizations associated with pursuit and recovery, based on the *LANL Local Integrated Response Plan*. (See **Finding F-Triad-1** and **OFI-Triad-1**)

Office of Secure Transportation, Host Site

Triad and NA-LA have adequately established and maintain interface capabilities with the Office of Secure Transportation (OST), in accordance with DOE Order 151.1D. As a host site, Triad and NA-LA coordinate, communicate, and integrate applicable aspects of emergency planning, preparedness, and readiness with OST into a documented process to manage and control an OST event scene inside the LANL boundary. Triad and NA-LA include OST hazards in the site emergency management program, which includes a concept of operations as an annex to the site emergency plan. However, Triad has not completed all planning for OST host site incidents, including the development of emergency action levels. In addition, DOE Order 151.1D requires DOE OST host sites to conduct an exercise no less than once every five years to assess and validate emergency response training related to the host site's ability to respond effectively to an OST emergency at the host site.

Triad has not validated the OST host site interface capability during the five-year period. Triad cancelled a scheduled tabletop exercise with OST for April 2020 due to the Coronavirus Disease 2019 pandemic.

Additionally, Triad did not provide any documentation to establish the last time it validated the interface capability and has not scheduled a future validation. (See **Finding F-Triad-1**, **OFI-Triad-1**, and **OFI-Triad-2**)

Los Alamos Medical Center

NA-LA has adequately established and maintains interface capabilities with LAMC for the transport, acceptance, and treatment of radiologically, chemically, or biologically contaminated or potentially contaminated, injured patients from LANL. LAMC is the closest major hospital in the LANL area and is the primary hospital that treats persons injured in a LANL incident. For radiological incidents, Triad provides radiological control technicians and REAC/TS trained medical personnel to be present at the hospital to assist as needed. Triad will provide an industrial hygienist to be present at the hospital to assist as needed for chemical or biological incidents. Triad validated the LAMC interface capability in four exercises during the five-year period.

CHRISTUS St. Vincent Regional Medical Center

NA-LA has adequately established and maintains interface capabilities with CHRISTUS St. Vincent Regional Medical Center, located in Santa Fe, New Mexico, for the transport, acceptance, and treatment of radiologically, chemically, or biologically contaminated or potentially contaminated, injured patients from LANL. For radiological incidents, Triad will provide radiological control technicians to be present at the hospital to assist as needed. Triad will provide an industrial hygienist to be present at the hospital to assist as needed for chemical or biological incidents.

Triad has not validated the CHRISTUS St. Vincent Regional Medical Center interface capability during the five-year period. NA-LA established the initial mutual aid agreement in February 2008. Triad has not scheduled a future validation for this capability and was not able to produce any documentation for the last time the site validated the capability. Consequently, Triad has not demonstrated an effective interface capability with the CHRISTUS St. Vincent Regional Medical Center to ensure the health and safety of workers and responders. (See **Finding F-Triad-1** and **OFI-Triad-1**)

Presbyterian Healthcare Services Española Hospital

NA-LA has adequately established and maintains interface capabilities with Presbyterian Healthcare Services Española Hospital, located in Española, New Mexico, for the transport, acceptance, and treatment of radiologically, chemically, or biologically contaminated or potentially contaminated, injured patients from LANL. Presbyterian Healthcare Services Española Hospital is the closest medical facility outside of the site emergency planning zone. For radiological incidents, Triad will provide radiological control technicians to be present at the hospital to assist as needed. Triad will provide an industrial hygienist to be present at the hospital to assist as needed for chemical or biological incidents.

Triad has not validated the Presbyterian Healthcare Services Española Hospital interface capability during the five-year period. NA-LA established the initial mutual aid agreement in March 2008. However, Triad has not scheduled a future validation for this capability and was not able to produce any documentation for the last time the site validated the capability. Consequently, Triad has not demonstrated an effective interface capability with the Presbyterian Healthcare Services Española Hospital to ensure the health and safety of worker and responders. (See **Finding F-Triad-1** and **OFI-Triad-1**)

University of New Mexico Hospital

NA-LA has adequately established and maintains interface capabilities with the University of New Mexico Hospital (UNMH) for the transport, acceptance, and treatment of radiologically or chemically contaminated or potentially contaminated, injured patients from LANL. UNMH, located in Albuquerque, New Mexico, is the closest Level 1 trauma center to LANL and is accessible by ground and air ambulance. For radiological incidents, Triad requests support of personnel from Region 4 RAP, located in Albuquerque, at the hospital to assist as needed.

Triad has not validated the UNMH interface capability during the five-year period. NA-LA established the initial mutual aid agreement in May 2008. Triad has not scheduled a future validation for this capability and was not able to produce any documentation for the last time the site validated the capability. Consequently, Triad has not demonstrated an effective interface capability with the UNMH to ensure the health and safety of workers and responders. (See **Finding F-Triad-1** and **OFI-Triad-1**)

Federal and State Agencies for Wildland Fire Management and Response

NA-LA has adequately established and maintains interface capabilities with the U.S. Forest Service, National Park Service, and the State of New Mexico for wildland fire management and response. Triad has integrated these capabilities into the comprehensive, all-hazards approach for emergency management. In addition, NA-LA and Triad have developed specific wildland fire response roles and capabilities that provide LANL-specific subject matter expertise, information, and resources. The *New Mexico Master Cooperative Wildland Fire Management Response Agreement* provides LANL with numerous offsite mutual aid capabilities based on preplanned preparedness activities, including maintaining offsite interfaces because wildland fire responses typically involve multiple agencies and jurisdictions. Triad validated the wildland fire interface capability in one exercise and supported this validation by formally evaluating its response to one actual incident during the five-year period.

New Mexico Department of Homeland Security and Emergency Management

NA-LA has adequately established and maintains interface capabilities with the New Mexico Department of Homeland Security and Emergency Management (NMDHSEM), which has authority for statewide emergency preparedness, response, recovery, and mitigation of emergencies. A memorandum of understanding with the State of New Mexico (general agreement), provides support from the Department of Public Safety and New Mexico Army National Guard when requested by the IC or EOC emergency director. In addition, initial notifications and the interface with the state are coordinated by the EOSC, on-duty IRC, or the LANL EOC through the NMDHSEM state duty officer. The LANL EOC coordinates with the NMDHSEM for county, state, Federal, or non-governmental agency mutual aid requests, including response and recovery capabilities. Triad validated NMDHSEM interface capability in one exercise during the five-year period.

Los Alamos County Office of Emergency Management

NA-LA has adequately established and maintains interface capabilities with the LAC Office of Emergency Management, which is responsible for the county all-hazards emergency operations plan; providing a means of alerting the community during an incident; and educating the public on emergency preparedness. During an emergency response at LANL, representatives from the LAC Office of Emergency Management communicate with and may report to the LANL EOC as technical specialists. Additionally, the LAPD, LAFD, and LAC public information may provide representatives to the EOC, as needed. Triad validated the LAC Office of Emergency Management interface capability in three exercises during the five-year period.

Offsite Response Interface Capabilities Conclusions

Triad and NA-LA have adequately established and maintain response capabilities with the local, state, and Federal organizations responsible for emergency response or that may be used to supplement response capabilities based on hazards identified in the all-hazards planning basis. Interrelationships with local, state, and Federal organizations are appropriately prearranged and documented in formal plans, agreements, understandings, or other prearrangements for mutual assistance detailing emergency measures provided by non-LANL entities. However, Triad has not validated 7 of the 15 offsite response interface capabilities during the five-year period. Namely, Triad has not validated interface capabilities with RAP, REAC/TS, offsite organizations associated with pursuit and recovery, OST, and three of the four regional hospitals. Further, Triad did not provide any validation documentation for six of these seven capabilities since their inception. Consequently, during some low probability, severe incidents, response planning and offsite interface capabilities may be inadequate to ensure the protection of workers, responders, and the public.

3.3 Response Facilities and Systems

The objective of this portion of the assessment was to verify that Triad has established and validated the LANL emergency facilities and systems commensurate with the associated hazards and threats identified in the all-hazards planning basis. In addition, sites such as LANL must establish and maintain backup capabilities for an EOC, alternate EOC, and JIC, as well as supporting equipment, as required by DOE Order 151.1D. Furthermore, other important emergency response facilities and systems identified by Triad and NA-LA were assessed.

Emergency Operations Center

Triad has adequately established and maintains its primary EOC at Technical Area (TA)-69 Building 33. Accessible on a 24-hour basis, the EOC is the primary facility for coordinating emergency response and mitigation activities with offsite state, local, and Federal agencies and organizations. In addition, the EOC interfaces with the JIC to implement EPI protocols and procedures. The primary EOC includes the Emergency Technical Support Center with equipment and systems used by the consequence assessment team to perform consequence assessment for incidents with potential or actual HAZMAT involvement, including onsite/local and offsite meteorological data. The EOC contains systems and equipment needed to support EOC activities, including an information management system for collection and dissemination of incident information; non-secure and secure communication equipment, including multiple primary and backup communications capabilities; and mapping capabilities. Triad validated the EOC capability in nine exercises and two actual incidents during the five-year period.

Alternate Emergency Operations Center

Triad has adequately established and maintains an alternate EOC capability and primary response locations, which are capable of supporting EOC functions. DOE Order 151.1D requires the alternate EOC must be located outside the emergency planning zone or located so both it and the primary are not impacted by the same incident. Currently, the alternate LANL EOC is a mobile capability that is deployed as needed to provide flexibility in selecting a safe and suitable location for the EOC. Potential locations that have been pre-identified as suitable for use as an alternate EOC include Pajarito School, Canyon School, and TA-49. This capability replaced the dedicated secondary EOC that was located at TA-49 Building 113, which was approximately 10 miles, normally upwind, from the main LANL area.

Triad has not validated the alternate EOC capability during the five-year period, and the last time Triad validated its alternate EOC capability was on June 18, 2015, at the Canyon School Complex.

Consequently, Triad has not maintained validation for the alternate EOC capability that ensures the coordination of information and resources to support incident management activities and helps protect the health and safety of workers, responders, and the public. (See **Finding F-Triad-1** and **OFI-Triad-1**)

Emergency Operations Support Center

Triad has adequately established and maintains an EOSC for surveillance and control of abnormal site conditions and potential emergency incidents, which includes initial incident assessment, mitigation, and other defined actions. The EOSC is located in TA-69 Building 33 and staffed continuously to serve as the primary location from which day-to-day site operations are coordinated. When an emergency occurs, the EOSC activates EOC members, as appropriate, to manage response and recovery activities. The EOSC contains Digital Alarm Communications System equipment for monitoring onsite fire alarms and camera feeds, meteorological information and weather predictive modeling, the mass notification system, and the international travel tracking system. Triad validated the EOSC capability in 15 exercises and two actual incidents during the five-year period.

Alternate Emergency Operations Support Center

Triad has adequately established and maintains an alternate EOSC in a dedicated area of the protective force headquarters in TA-64 Building 0001. When called upon, Triad staffs the alternate EOSC and it serves as the secondary location from which day-to-day site operations are coordinated. Capabilities at the alternate location include access to the Digital Alarm Communications System, communicating with field responders via radio, including CDC/LAFD, and sending mass notifications to the LANL workforce.

Triad has not validated the alternate EOSC capability during the five-year period. In addition, Triad did not schedule an alternate EOSC validation exercise during the five-year period and did not provide any documentation to establish the last time it validated the capability. Furthermore, Triad self-identified a finding in March 2019 following an evaluated actual incident that the “EOSC did not have a functioning alternate location to perform mission-critical functions during a loss of power to the primary EOSC, as required by DOE O 151.1D.” Consequently, Triad has not demonstrated an effective and efficient alternate EOSC capability to ensure the health and safety of worker, responders, and the public. (See **Finding F-Triad-1** and **OFI-Triad-1**)

Central Alarm Station/Secondary Alarm Station

CLA has established and maintains a CAS/SAS that provides command and control of security-related incidents that might require a protective force response. Triad has interconnected the CAS/SAS with the EOC, which provides connectivity with responding DOE or local law enforcement agency representatives. Triad validated CAS/SAS connectivity with the EOSC capability in three exercises during the five-year period.

Media Center and Joint Information Center

NA-LA and Triad have adequately established and maintain an MC and JIC to disseminate information to the public. The LANL MC is a non-dedicated facility located in the LANL Community Partnerships/Public Affairs Office at 1619 Central Avenue in downtown Los Alamos. The MC serves as the initial rapid communication center where Triad EPI staff can distribute approved information to EPI audiences, monitor media coverage and social media, receive and respond to telephone inquiries, and conduct rumor control operations. The MC has the equipment necessary to conduct EPI functions as well as adequate parking space.

The JIC is a non-dedicated facility located in the Bradbury Science Museum at 1350 Central Avenue in downtown Los Alamos. The JIC provides workspace and equipment for EPI staff assigned to coordinate the communication of public information, and workspace for outside agency representatives and media use. The JIC contains equipment and systems to support JIC activities, including public inquiry, media inquiry, media monitoring, media support services, and management and administrative activities. The JIC also serves as a briefing center for news media and the preferred location for press conferences. Triad validated JIC interface capabilities in five exercises and MC interface capabilities in eight exercises during the five-year period.

Alternate Joint Information Center

Triad has adequately established and maintains an alternate JIC located 18 miles northeast of Los Alamos in Española. NA-LA and Triad have appropriately identified the alternate JIC location outside of the emergency planning zone, as required by DOE Order 151.1D.

Triad has not validated the alternate JIC capability during the five-year period. In addition, Triad did not schedule a validation exercise during the five-year period or provide any documentation to establish the last time it validated the capability. Consequently, Triad has not validated an effective alternate JIC capability that ensures a working location, where multiple jurisdictions gather, process, and disseminate public information during an emergency, as required by DOE Order 151.1D. (See **Finding F-Triad-1** and **OFI-Triad-1**)

Medical and Personnel Decontamination Facility

Triad has adequately established and maintains a medical facility located onsite at TA-03 Building 1411. This dedicated facility, staffed by occupational medicine personnel, responds to non-life-threatening injuries and occupational-related injuries, illnesses, and exposures. The facility also has a decontamination room with appropriate equipment and monitors, including a holding tank to capture water drainage from chemical and radiological decontamination efforts. Triad validated medical facility capability in one exercise during the five-year period.

TA-49 Interagency Fire Center

DOE has adequately established and maintains, in a joint effort between the National Park Service and the U.S. Forest Service, an Interagency Fire Center at TA-49, which serves as a joint coordination and response center that enhances resource sharing, collaboration, and decision making for wildland fire events that impact the National Park Service Bandelier District, the U.S. Forest Service Santa Fe District, and LANL. Triad also stations LANL wildland fire vehicles and equipment at the TA-49 Interagency Fire Center. Triad validated the Interagency Fire Center capability in one exercise during the five-year period.

Emergency Information System

Triad has adequately established and maintains WebEOC as the primary information management system that provides orderly collection and dissemination of information during an emergency. WebEOC is a web-based emergency management system that provides access to real-time emergency incident information shared simultaneously among the ERO during the response and recovery phases of an emergency to ensure a common operating picture. Triad provides WebEOC access in the EOSC and EOC and to some ERO members remotely to share incident information. Triad validated the WebEOC capability in nine exercises and two actual incidents during the five-year period.

Paging System

Triad has adequately established and maintains a paging system for activating ERO members. Its paging system can notify individual ERO members or groups. The alphanumeric pager network is also available for deaf employees to receive emergency notifications. Triad validated paging system capability in nine exercises and two actual incidents during the five-year period.

Mass Notification System

Triad has adequately established and maintains a mass notification system to notify LANL personnel of an incident. Triad uses the system as the primary method to notify potentially affected onsite workers or offsite employees to implement protective measures, such as shelter-in-place, evacuation from the site, an early work release or a delayed start, or cancellation of work. This system contacts personnel in predefined groups and provides them with specific information and instructions (e.g., take protective actions, report to the EOC). Importantly, Triad uses the system to provide immediate notification and protective actions to affected employees no later than 10 minutes after the identification of the protective actions in accordance with plans and procedures. Triad validated mass notification capability in 11 exercises and two actual incidents during the five-year period.

Response Facilities and Systems Conclusions

Triad has adequately established, maintains, and validated capabilities for all primary emergency response facilities and key emergency management systems. Triad has not validated the capabilities of its alternate facilities for the EOC, EOSC, and JIC during the five-year period. Significantly, Triad did not provide any documentation that supports validation of the alternate EOSC and alternate JIC since placing the facilities into service. Consequently, Triad has not validated the readiness of these alternate facilities, when called upon, for the coordination of information and resources to support incident management activities and help protect the health and safety of workers, responders, and the public.

3.4 Readiness Assurance

The objective of this portion of the assessment was to verify that Triad and NA-LA have implemented readiness assurance program requirements relative to validation of response capabilities, in accordance with DOE Order 151.1D. Specifically, the readiness assurance program for a DOE HAZMAT program must establish and maintain a site-level exercise program that validates its emergency response capability to the hazards identified in EPHAs, including demonstration of ERO capability and integration with local, state, and Federal agencies. In addition, DOE contractors must prepare an annual ERAP that identifies what emergency management programmatic and performance goals were accomplished, as well as the goals for the next fiscal year. Further, Triad must discuss concerns relevant to the emergency readiness assurance program; specifically, issues that are unique to the site that need to be brought to the attention of senior management. Triad must then submit the ERAP to the Field Element Manager for approval.

Triad has adequately established and maintains a formal readiness assurance program as documented in the *LANL All-Hazards Emergency Management Plan*, and EMD-PLAN-154, *Readiness Assurance Program Plan*. The Triad readiness assurance program appropriately includes evaluations (assessments, exercises, and performance indicators), improvements, and an ERAP, in accordance with DOE Order 151.1D. Triad has accurately identified in its plans that operations-based exercises are an essential part of readiness assurance and appropriately used the exercises to test and validate the adequacy and effectiveness of most LANL plans, procedures, facility support systems, and key capabilities that include ERO, offsite response interfaces, and emergency facilities and systems. In addition, and as previously

mentioned, credit for an exercise may be based on a documented actual emergency response if a critique and after-action report are completed.

Additionally, Triad has established EMD-PLAN-125, *LANL Five-Year Exercise Schedule*, which identifies the exercises planned over the next five years and the program elements that will be tested and validated during that five-year period. Triad used an appropriate method for determining the number of exercises conducted each year with the goal of conducting an exercise each quarter. Furthermore, Triad intended to adjust the schedule, based upon the previous year's exercise-related activities, to ensure that all capabilities were tested and validated over a five-year period. Triad conducted the required number of operations-based full-scale exercises during the five-year period, from October 1, 2015, through September 30, 2020, using scenarios from the spectrum of potential operational emergencies identified in the EPHAs. The number of exercises conducted is indicative of a mostly compliant emergency exercise program. However, Triad has not effectively used its large number of exercises conducted to test and validate all key capabilities.

Further, Triad has not self-identified that it has not tested and validated all key response capabilities, including several important elements associated with the ERO, offsite response interfaces, and emergency facilities and systems. Significantly, Triad has not captured in its annual ERAPs that it has not validated seven of the 15 offsite interface capabilities, six of those having no validations since inception. Further, Triad has not conveyed in the annual ERAP that 11 of the 40 total LANL capabilities have not been validated during the five-year period. (See **Finding F-Triad-2** and **OFI-Triad-3**)

4.0 BEST PRACTICES

There were no best practices identified as part of this assessment.

5.0 FINDINGS

Findings are deficiencies that warrant a high level of attention from management. If left uncorrected, findings could adversely affect the DOE mission, the environment, the safety or health of workers and the public, or national security. DOE line management and/or contractor organizations must develop and implement corrective action plans for findings. Cognizant DOE managers must use site- and program-specific issues management processes and systems developed in accordance with DOE Order 226.1 to manage the corrective actions and track them to completion.

Triad National Security, LLC

Finding F-Triad-1: Triad has not established or maintained an adequate site-level exercise program that validates its emergency response capabilities to the hazards identified in EPHAs. (DOE Order 151.1D, Attachment 4, Paragraph 15)

- Triad did not validate the HDT emergency response capability during the five-year period. (DOE Order 151.1D, Attachment 4, Paragraph 15)
- Triad did not validate the RAP response interface capability, which provides the primary offsite radiological field monitoring for LAC, the State of New Mexico, and DOE, during the five-year period. (DOE Order 151.1D, Attachment 4, Paragraphs 7, 10, and 15)

- Triad did not validate the REAC/TS interface capability during the five-year period. (DOE Order 151.1D, Attachment 4, Paragraphs 15)
- Triad did not validate the integration of OST emergency response capabilities for an event scene inside the LANL boundary and did not validate the local integrated response plan interface capabilities during the five-year period. (DOE Order 151.1D, Attachment 4, Paragraph 15)
- Triad did not validate the response capabilities of three of the four regional hospitals (CHRISTUS St. Vincent Regional Medical Center, Presbyterian Healthcare Services Española Hospital, and UNMH) for transporting, accepting, and treating contaminated or irradiated injured personnel during the five-year period. (DOE Order 151.1D, Attachment 3, Paragraph 6; Attachment 4, Paragraph 15)
- Triad did not validate the capabilities of three key backup facilities (alternate EOC, alternate EOSC, and alternate JIC) during the five-year period. (DOE Order 151.1D, Attachment 4, Paragraphs 11 and 15)

Finding F-Triad-2: Triad has not self-identified and conveyed an accurate status on the readiness and effectiveness of its response capabilities. (DOE Order 151.1D, Attachment 3, Paragraph 14)

6.0 DEFICIENCIES

There were no deficiencies identified as part of this assessment.

7.0 OPPORTUNITIES FOR IMPROVEMENT

EA identified three OFIs to assist cognizant managers in improving programs and operations. While OFIs may identify potential solutions to findings and deficiencies identified in assessment reports, they may also address other conditions observed during the assessment process. These OFIs are offered only as recommendations for line management consideration; they do not require formal resolution by management through a corrective action process and are not intended to be prescriptive or mandatory. Rather, they are suggestions that may assist site management in implementing best practices or provide potential solutions to issues identified during the assessment.

Triad National Security, LLC

OFI-Triad-1: Consider ensuring that all aspects of LANL emergency response capabilities are validated over a five-year period by maintaining a rolling five-year matrix to monitor capability validation.

OFI-Triad-2: Consider ensuring that an effective interface is established and validated as an OST host site by:

- Obtaining the latest revision of the OST *Concept of Operations between NNSA Host Sites and the Office of Secure Transportation* and, if necessary, updating Triad plans and procedures to be consistent with the OST concept of operations
- Training the Triad ERO, as necessary, on the revised procedures
- Conducting an OST-focused exercise once every five years to validate Triad host site capability.

OFI-Triad-3: Consider improving the readiness assurance program by:

- Analyzing the Triad readiness assurance program to determine why Triad was not effective in identifying weaknesses related to validating emergency response capabilities
- Conducting an extent-of-condition review to identify whether the Triad readiness assurance program for other emergency management areas have similar weaknesses
- Revising the Triad readiness assurance program to incorporate the necessary elements to prevent recurrence.

Appendix A Supplemental Information

Dates of Assessment

Remote Assessment: May 3, 2021, to June 18, 2021

Office of Enterprise Assessments (EA) Management

John E. Dupuy, Director, Office of Enterprise Assessments
William F. West, Deputy Director, Office of Enterprise Assessments
Kevin G. Kilp, Director, Office of Environment, Safety and Health Assessments
David A. Young, Deputy Director, Office of Environment, Safety and Health Assessments
Kevin M. Witt, Director, Office of Nuclear Safety and Environmental Assessments
Charles C. Kreager, Director, Office of Worker Safety and Health Assessments
Jack E. Winston, Director, Office of Emergency Management Assessments
Joseph J. Waring, Director, Office of Nuclear Engineering & Safety Basis Assessments

Quality Review Board

William F. West – QRB Chair
James W. Lund
Christopher E. McFearin
Michael A. Kilpatrick – Advisor to the QRB

EA Assessors

Anthony D. Parsons – Lead
John D. Bolling
Brad J. Edler
William J. Scheib