



Department of Energy
Under Secretary for Nuclear Security
Administrator, National Nuclear Security Administration
Washington, DC 20585



August 6, 2019

VIA OVERNIGHT UPS MAIL CARRIER

Dr. Stephen M. Younger
Laboratories Director, Sandia National Laboratories
National Technology and Engineering Solutions of Sandia, LLC
P.O. Box 5800, MS-0101
Albuquerque, New Mexico 87185-0101

WEA-2019-01

Dear Dr. Younger:

This letter refers to the Department of Energy's (DOE) investigation into the facts and circumstances associated with three electrical safety-related events that occurred between April and June 2018 at Sandia National Laboratories. The DOE Office of Enterprise Assessments' Office of Enforcement provided the results of the investigation to National Technology and Engineering Solutions of Sandia, LLC (NTESS) in an investigation report dated February 4, 2019. An enforcement conference convened on March 20, 2019, with you and members of your staff to discuss the report's findings and NTESS's response. A summary of the enforcement conference and attendance roster are enclosed.

The National Nuclear Security Administration (NNSA) considers the electrical safety-related deficiencies to be of high safety significance. The electrical events exposed weaknesses in NTESS's implementation of the requirements of 10 C.F.R. Part 851, *Worker Safety and Health Program*, resulting in a high voltage electrical arc event at the Coyote Test Field and two electrical shock events at the Thunder Range and Scaled Wind Farm Technology (SWiFT) sites. Each of these events could have resulted in serious injury or death, and they revealed deficiencies in: (1) management responsibilities and hazard identification and assessment, (2) electrical safety, (3) emergency response, (4) training and information, and (5) recordkeeping. The events occurred at remote sites, and NNSA remains concerned with NTESS's implementation of worker safety and health program elements at remote locations.

The event at the Coyote Test Field exposed weaknesses in NTESS's work planning and control program. NTESS did not address the disposal of old utility poles in the initial scope of work for this subcontracted work activity. Several old utility poles were subsequently placed under de-energized utility lines for removal later. However, due to a planning failure, those same utility poles were then removed after the line was re-energized, which resulted in the electrical arc and created the risk of shock or electrocution. The Office of Enforcement has issued Enforcement Letters to two NTESS subcontractors, Applied Construction



Technologies 2, LLC and Marto Electric, LLC, for safety and health concerns related to this work.

The electrical shock event at Thunder Range revealed deficiencies in NTESS's ability to recognize and abate capacitor-related electrical hazards, follow operating procedures and manufacturer instructions, and implement range-specific safety roles and responsibilities. The capacitor contained in the fireset configuration allowed enough current to impart a significant electrical shock to the explosive operator, and it did not contain a bleed down resistor to effectively reduce residual electrical energy in the event of a detonation anomaly. NTESS was unaware of the environmental operating limits of a safety testing device used to evaluate the adequacy of electrical insulation. In addition, the roles of explosive safety and explosive operator personnel were not clearly established during energetic testing, leading to confusion regarding the connection of an explosives detonator.

The electrical shock event at the SWiFT location in Lubbock, Texas, revealed that NTESS did not ensure that a qualified safety professional with knowledge of wind turbine-related hazards, such as hazards related to confined spaces, was consulted during hazard analysis. In addition, NTESS provided a worker with a lockout lock without providing training to the worker on NTESS's electrical safety lockout/tagout (LO/TO) program. NTESS did not identify additional permit-required confined spaces in the SWiFT wind turbine. Lastly, NTESS did not ensure that SWiFT site personnel were aware of the requirements stated in the SWiFT Emergency Action Plan (EAP), nor did NTESS train SWiFT site personnel on how to treat electrical shock victims. Subsequently, NTESS's implementation of the SWiFT EAP for a shocked worker was inadequate, causing delays in the shocked worker receiving attention by medical personnel.

Based on an evaluation of the evidence in this matter, including information presented at the enforcement conference, NNSA concludes that NTESS violated requirements prescribed under 10 C.F.R. Part 851. Accordingly, NNSA hereby issues the enclosed Preliminary Notice of Violation (PNOV), which cites four Severity Level I violations and one Severity Level II violation. NNSA withheld \$740,000 in contract award fee from NTESS for safety and health-related deficiencies, including those associated with the high voltage and electrical shock events cited in this PNOV. Therefore, in accordance with 10 C.F.R. § 851.5(c), NNSA proposes no civil penalties for the Part 851 violations cited in this PNOV.

NTESS's evaluations of the three electrical safety-related events were very comprehensive. NTESS performed causal analyses and extent-of-condition reviews for each of the events and developed corrective action plans to address electrical safety-related deficiencies revealed by each event. While NTESS appears to have the necessary procedures in place to assess and control electrical safety-related hazards, NNSA expects NTESS to rigorously implement those

procedures when performing work at remote sites that could expose NTESS workers and subcontractors to hazardous electrical energy at remote locations.

Pursuant to 10 C.F.R. § 851.42, *Preliminary Notice of Violation*, you are obligated to submit a written reply within 30 calendar days of receipt of the enclosed PNOV and to follow the instructions specified in the PNOV when preparing your response. If you fail to submit a reply within 30 calendar days, then in accordance with 10 C.F.R. § 851.42(d), you relinquish any right to appeal any matter in the PNOV, and the PNOV will constitute a final order.

After reviewing your reply to the PNOV, including any proposed additional corrective actions entered into DOE's Noncompliance Tracking System, NNSA will determine whether any further activity is necessary to ensure compliance with DOE worker safety and health requirements. NNSA will continue to monitor the completion of corrective actions until this matter is fully resolved.

Sincerely,



Lisa E. Gordon-Hagerty

Enclosure: Preliminary Notice of Violation (WEA-2019-01)
Enforcement Conference Summary
Enforcement Conference Attendance Roster

cc: Jeffrey Harrell, NA-SN
Kevin Dressman, EA-10
Randy Castillo, NTESS

Preliminary Notice of Violation

National Technology and Engineering Solutions of Sandia, LLC
Sandia National Laboratories

WEA-2019-01

A U.S. Department of Energy (DOE) investigation into the facts and circumstances associated with three electrical safety-related events that occurred between April and June 2018 at Sandia National Laboratories (SNL) revealed multiple violations of DOE worker safety and health requirements by National Technology and Engineering Solutions of Sandia, LLC (NTESS). DOE provided NTESS with an investigation report dated February 4, 2019, and convened an enforcement conference on March 20, 2019, with NTESS representatives to discuss the report's findings and NTESS's response. A summary of the enforcement conference and attendance roster are enclosed. Brief summaries of the three events are as follows:

Coyote Test Field event: On April 11, 2018, subcontractors to NTESS were completing work activities to replace utility poles at Coyote Test Field. A subcontractor employee was supervising the work while two other subcontractor employees were positioning a digger derrick truck and pole trailer near an energized 46 kilovolt overhead power line to retrieve four old utility poles that were lying on the ground. During the attempt to load the poles onto the trailer, the boom of the digger derrick truck entered the minimum approach distance range of the power line, creating an electrical arc that severed the power line between two power poles. The power line fell to the ground, initiating a fire that burned 10 to 20 acres. While no one was injured, this event could have resulted in electrocution or significant injury.

Thunder Range event: On June 12, 2018, while an energetic test was being conducted at the site, a detonator failed to fire, requiring an NTESS explosive operator (EO) to diagnose the issue. In the course of diagnosing the failure, the EO removed the coaxial firing cable from the fireset and received an electrical shock. Emergency response and medical personnel responded, and the EO was evaluated and transported to the hospital in a non-emergency fashion. The EO was released from the hospital later that day.

Scaled Wind Farm Technology (SWiFT) event: On June 11, 2018, an NTESS employee climbed approximately 100 feet up a wind turbine tower at SWiFT and entered the a1 wind turbine nacelle to replace a non-functional component on the hydraulic system. While performing the work, the worker's screwdriver made contact with an energized terminal, causing an electrical shock to the worker's left thumb and index finger. A supervisor transported the worker to the hospital for medical evaluation. The worker was released from the hospital the same day.

Pursuant to Section 234C of the Atomic Energy Act of 1954, as amended, and DOE regulations set forth at 10 C.F.R. Part 851 (Part 851), *Worker Safety and Health Program*, the National

Nuclear Security Administration (NNSA) hereby issues this Preliminary Notice of Violation (PNOV) to NTESS. The violations cited in this PNOV include deficiencies in: (1) management responsibilities and hazard identification and assessment, (2) electrical safety, (3) emergency response, (4) training and information, and (5) recordkeeping. NNSA has grouped and categorized these deficiencies as four Severity Level I violations and one Severity Level II violation.

Severity Levels are explained in Part 851, Appendix B, *General Statement of Enforcement Policy*. Subparagraph VI(b)(1) states that “[a] Severity Level I violation is a serious violation. A serious violation shall be deemed to exist in a place of employment if there is a potential that death or serious physical harm could result from a condition which exists, or from one or more practices, means, methods, operations, or processes which have been adopted or are in use, in such place of employment.”

Subparagraph VI(b)(2) states that “[a] Severity Level II violation is an other-than-serious violation. An other-than-serious violation occurs where the most serious injury or illness that would potentially result from a hazardous condition cannot reasonably be predicted to cause death or serious physical harm to employees but does have a direct relationship to their safety and health.”

In accordance with 10 C.F.R. § 851.5(b) and DOE Acquisition Regulation 48 C.F.R. § 970.5215-3, incorporated by referenced into the NNSA-NTESS contract (Contract No. DE-NA0003525) at Section I, Clause I-21, *Conditional Payment of Fee, Profit and Other Incentives - Facility Management Contracts*, NNSA withheld \$740,000 in contract award fee from NTESS for safety and health-related deficiencies including those associated with the high voltage and electrical shock events cited in this PNOV. Therefore, in accordance with 10 C.F.R. § 851.5(c), NNSA proposes no civil penalty for the violations cited in this PNOV.

As required by 10 C.F.R. § 851.42(b) and consistent with Part 851, Appendix B, the violations are listed below. If this PNOV becomes a final order, then NTESS may be required to post a copy of this PNOV in accordance with 10 C.F.R. § 851.42(e).

I. VIOLATIONS

A. Management Responsibilities and Hazard Identification and Assessment

Title 10 C.F.R. § 851.10, *General requirements*, Subsection (a), states that “[w]ith respect to a covered workplace for which a contractor is responsible, the contractor must: ... (2) [e]nsure that work is performed in accordance with: (i) [a]ll applicable requirements of [10 C.F.R. Part 851]; and (ii) [w]ith the worker safety and health program for that workplace.”

Title 10 C.F.R. § 851.20, *Management Responsibilities*, Subsection (a), states that “[c]ontractors are responsible for the safety and health of their workforce and must ensure that contractor management at a covered workplace: ... (3) [a]ssign worker safety and health program responsibilities, evaluate personnel performance, and hold personnel accountable for worker safety and health performance.”

Title 10 C.F.R. § 851.21, *Hazard identification and assessment*, Subsection (a), states that “[c]ontractors must establish procedures to identify existing and potential workplace hazards and assess the risk of associated workers injury and illness. Procedures must include methods to... (4) [a]nalyze designs of new facilities and modifications to existing facilities and equipment for potential workplace hazards; (5) [e]valuate operations, procedures, and facilities to identify workplace hazards; (6) [p]erform routine job activity-level hazard analyses; (7) [r]eview site safety and health experience information; and (8) [c]onsider interaction between workplace hazards and other hazards...” Additionally, Subsection (c) provides that “[c]ontractors must perform these activities initially to obtain baseline information and as often as necessary thereafter to ensure compliance with the program requirements in” subpart C of 10 C.F.R. Part 851.

Title 10 C.F.R. § 851.23, *Safety and health standards*, Subsection (a), states that “[c]ontractors must comply with the following safety and health standards that are applicable to the hazards at their covered workplace... (3) Title 29 [C.F.R.] Part 1910, ‘Occupational Safety and Health Standards’...”

Title 29 C.F.R. § 1910.146, *Permit-required confined spaces*, Subsection (c), *General Requirements*, paragraph (c)(1), states that “[t]he employer shall evaluate the workplace to determine whether any spaces are permit-required confined spaces.”

NTESS document PG470246, *Sandia National Laboratories 10 CFR 851 Worker Safety and Health Program*, May 24, 2017, revision 9, requires NTESS to “establish a worker protection program that will reduce or prevent the potential for injuries, illnesses, and accidental losses by providing workers with a safe and healthful workplace.” This program includes references to lower tier documents that implement the NTESS worker safety and health program and address managing subcontractor safety at SNL.

NTESS document ESH100.1.GP.1, *Manage Safety for Contracted Activities*, October 13, 2009, “requires that all proposed contracted work for construction or construction-like activities go to the Construction Safety Standing Committee prior to the contract being placed (regardless of cost). This ensures compliance with 10 CFR 851 flowdown of requirements.” Furthermore, it states that the manager will “[e]nsure there is a need for the contracted work and accept the responsibility for that work, including a CSSP [Contract-Specific Safety Plan] that addresses hazards and mitigations, or assure contract entities follow all applicable full-set requirements.”

NTESS document *SNL/NM Construction Standard Specification*, October 12, 2016, Section 01065, *Environment Safety and Health for Construction Contracts*, Part 1.6, *Contract-Specific Safety Plan*, states that “[t]he CSSP shall state the nature of the work, potential hazards anticipated, and how these hazards will be mitigated or how workers, including [s]ubcontractors...in the vicinity of the construction activities, will be protected from hazards for each separately definable construction activity (e.g., excavation, foundations, structural steel, electrical, and roofing).”

NTESS document OP-6647-001, *Standard Explosive Operating Procedure for Thunder Range*, April 20, 2018, Issue B, Section 4.3, *Job Classifications for Site 9965, Thunder Range Operations*, Subsection 4.3.1, *Department Manager*, states that “[t]he Department Manager is responsible for meeting all of the requirements of this OP [operating procedure] for the operations being managed.” Requirements for the department manager include, but are not limited to, the following:

- OPs are established and implemented for working on or near equipment exposed to live electrical components.
- Approved, maintained, and tested equipment, tools, and protective clothing suitable for the work are provided.
- All electrical equipment is operated and maintained in accordance with the manufacturer’s instructions.

NTESS document, ESH100.2.IH.9, *Enter Confined Spaces Safely*, January 31, 2018, states that the NTESS space owners are required to do the following:

- “Contact the division ES&H [environment, safety, and health] team industrial hygienist to determine if an area is a confined space, and if so,
 - Determine whether it is a non-permit confined space or permit-required confined space, and
 - Determine entry conditions for permit- required confined spaces, which include entries under C5 - Alternate Procedures, or C7 - Reclassification.”

Contrary to the above requirements, NTESS failed to effectively implement its hazard identification and control process to ensure that hazards were adequately addressed during work activities at Coyote Test Field, Thunder Range, and SWiFT. Specific examples include the following:

Coyote Test Field event: NTESS did not ensure that a procedure was in place to safely store or dispose of old utility poles, prior to the initiation of work activities. NTESS did not include disposal of old utility poles in the original scope of work for pole replacement. Consequently, old utility poles were subsequently placed under de-energized utility lines for removal later. This planning failure led to those same utility poles being removed after the line was re-energized, increasing the risk of electrical shock or electrocution.

Thunder Range event: NTESS did not clearly define and ensure fulfillment of roles and responsibilities during the energetic test operation, leading to inadequate communication between workers and creating a work environment that allowed workers to assume that the detonator was connected prior to testing. In addition, NTESS procedures for safing the assembly and establishing a minimum wait period did not account for the fireset configuration, specifically the cable length and lack of a bleed resistor on the load ring side.

SWiFT event: NTESS did not adequately evaluate electrical and confined space hazards at the site. NTESS did not have procedures for lockout/tagout (LO/TO) and energized work appropriate for the work being performed in the wind turbine, and did not identify and

inventory all permit-required confined spaces associated with the wind turbine. Prior to the event, NTESS identified only the nose cone as a permit-required confined space, overlooking the fact that the nacelle and tower portions of the wind turbine are also permit-required confined spaces.

Collectively, these noncompliances constitute a Severity Level I violation.

B. Electrical Safety

Title 10 C.F.R. § 851.23, *Safety and health standards*, Subsection(a), states that “[c]ontractors must comply with the following safety and health standards that are applicable to the hazards at their covered workplace ... (3) Title 29 [C.F.R.] Part 1910, ‘*Occupational Safety and Health Standards*’ ... (14) NFPA [National Fire Protection Association] 70E, ‘*Standard for Electrical Safety in the Workplace*,’ (2004).”

NTESS document PG470246, *Sandia National Laboratories 10 CFR 851 Worker Safety and Health Program*, May 24, 2017, revision 9, *Attachment 3 – Title 10 CFR 851.23 Safety and Health Standards and Title 10 CFR 851.27 Reference Sources, Applicable to Sandia National Laboratories Activities and Additional Necessary Standards*, requires compliance with NFPA 70E.

NFPA 70E, Article 350, *Safety-Related Work Requirements: Research and Development Laboratories*, Section 350.5, *Listing Requirements*, states that “[t]he equipment or systems used in the R&D [research and development] area or in the laboratory shall be listed or field evaluated prior to use.”

Title 29 C.F.R. § 1910.269, *Electric power generation, transmission, and distribution*. Subsection (d), *Hazardous energy control (lockout/tagout) procedures*, subparagraph (2)(i), states that “[t]he employer shall establish a program consisting of energy control procedures, employee training, and periodic inspections to ensure that, before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, startup, or release of stored energy could occur and cause injury, the machine or equipment is isolated from the energy source and rendered inoperative.”

Title 29 C.F.R. § 1910.269, *Electric power generation, transmission, and distribution*, paragraph (d)(4), *Energy isolation*, states that “[l]ockout and tagout device application and removal may only be performed by the authorized employees who are performing the servicing or maintenance.”

Title 29 C.F.R. § 1910.333, *Selection and use of work practices*, Subsection(b)(2), *Lockout and tagging*, states that “[w]hile any employee is exposed to contact with parts of fixed electric equipment or circuits which have been deenergized, the circuits energizing the parts shall be locked out or tagged or both in accordance with the requirements of this paragraph.”

NTESS document ESH100.2.IS.2, *Control Hazardous Energy (Lockout/Tagout)*, November 22, 2017, states that “[m]embers of the workforce, including managers, are required to follow the requirements of MN471020, *Lockout/Tagout Program Manual*, when performing service or maintenance activities on machines and equipment in which the unexpected energization or startup of the equipment, or release of stored energy, would cause injury to an individual.”

NTESS document OP-6647-001, Section 4.3, *Job Classifications for Site 9965, Thunder Range Operations*, Subsection 4.3.1, states that the Department Manager is responsible for ensuring that “[a]ll electrical equipment is operated and maintained in accordance with the manufacturer’s instructions” and that “[n]ew and/or different equipment will be evaluated for hazards. Guidance and direction should be sought from outside subject matter experts.”

NTESS document GN470108, *ES&H General Requirements*, October 2, 2017, Table 7, states requirements for the site manager that include the following:

- “Communicate ES&H policy and expectations to all members of the workforce at the site.”
- “Accept, approve, and communicate site-specific ES&H requirements and guidance at the site.”
- “Communicate health and safety requirements located in PG470246, 10 Part 851 Worker Safety and Health Program (WSHP), and the ES&H corporate procedures for all onsite SNL work activities (i.e., work activities performed on Sandia-controlled premises) and for offsite work (i.e., work activities performed on non-Sandia-controlled premises).”

NTESS document MN471004, *Electrical Safety Manual*, Chapter 7, *Unlisted Equipment Approval Program*, August 24, 2017, states that “[t]his chapter applies to all electrically powered equipment in use at SNL (regardless of ownership), which:

- contains or is capable of developing more than 50 VAC [volts alternating current] or 100 VDC [volts direct current], or determined to fall under the low hazard category per the Energized Work Decision Tool
- contains more than 10 J [Joules] of stored energy.”

NTESS document MN471004, Chapter 4, *Establishing an Electrically Safe Work Condition*, states that “[e]lectrical equipment is considered to be energized until all the following steps are complete. When releasing stored energy and when performing zero-energy verification, observe the requirements for personal protective equipment (PPE) specified in the Energized Work Decision Tool and Chapter 6 of this manual.

“A qualified worker shall verify that all live circuits and parts and other sources of energy (electrical or mechanical) have been disconnected, released, or restrained as follows:

- Determine all possible sources of electrical supply to the specific equipment. Check applicable up-to-date drawings, diagrams, and identification tags.

- After properly interrupting the load circuit, open the disconnecting devices for each source.
- When possible, visually verify that all blades of the disconnecting devices are fully open or that draw-out type breakers are withdrawn to the fully disconnected position.
- Apply LO/TO devices in accordance with ESH100.2.IS.2, *Control Hazardous Energy (Lockout/Tagout)*.
- When possible, attempt to start the equipment.
- Use an adequately rated voltage detector to test each phase conductor or circuit part within the boundaries of the work areas to verify that they are de-energized. Test each phase conductor or circuit part both phase-to-phase and phase to ground. Before and after each test, determine that the voltage detector is operating satisfactorily.
- If the possibility of induced voltage or stored electric energy exists, ground the phase conductors or circuit parts before touching them. If it can be reasonably anticipated that the conductors or circuit parts being de-energized could contact other exposed energized conductors or circuit parts, apply ground connecting devices rated for the available fault duty.”

NTESS document MN471020, *Lockout/Tagout Program Manual*, November 30, 2017, Section 3.0, *Roles and Responsibilities*, paragraph 3.1, *Management*, states that management (or a designated representative) shall:

- “Ensure that procedures are written that implement LOTO requirements, as appropriate...”
- “Ensure that Members of the Workforce follow established energy control procedures”
- “Ensure that Members of the Workforce receive proper LOTO training before being assigned to perform service or maintenance tasks”
- “Ensure that each authorized worker involved in servicing and maintenance activities that require LOTO applies their own lock(s) to each energy control device...”

Contrary to the above requirements, NTESS failed to recognize and abate safety-related electrical hazards or to follow appropriate operating procedures and manufacturer instructions. Specific examples include the following:

Thunder Range event. NTESS did not properly evaluate the fireset, which was originally designed in 2002 and later modified, before use. NTESS also failed to follow its own procedures for inspecting firesets, including inspection by a qualified equipment inspector using NTESS’s custom inspection module. NTESS did not document the potential hazards and mitigating measures related to the fireset in the Thunder Range primary hazard screening. NTESS was not aware that the fireset posed a unique electrical hazard requiring confirmation that the capacitor in the fireset no longer contained stored energy. Prior to the event, NTESS did not evaluate whether the Haefely Hipotronics DC High Potential tester, part number CS11-1244, a safety testing device used to verify electrical insulation, could be used outside the environmental operating limits established by the manufacturer.

SWiFT event: NTESS did not ensure that the authorized worker applied the worker's own personal LO/TO device and maintained exclusive control of it when performing service and maintenance activities in the wind turbine. NTESS did not ensure that the power box in the SWiFT nacelle was de-energized and placed into an electrically safe working condition prior to replacing a non-functional component. In addition, zero energy verification was not performed on all potentially energized contact points next to the power box, and energy control procedures requiring the use of a lockout device were not followed to ensure an electrically safe working condition.

Collectively, these noncompliances constitute a Severity Level I violation.

C. Emergency Response

Title 10 C.F.R. Part 851, Appendix A.2, *Fire Protection*, states that “[c]ontractors must implement a comprehensive fire safety and emergency response program to protect workers commensurate with the nature of the work that is performed. This includes appropriate facility and site wide fire protection, fire alarm notification and egress features, and access to a fully staffed, trained, and equipped emergency response organization that is capable of responding in a timely and effective manner to site emergencies.”

Title 29 C.F.R. § 1910.151, *Medical services and first aid*, Subsection (a), states that “[t]he employer shall ensure the ready availability of medical personnel for advice and consultation on matters of plant health.” Subsection (b) states that “[i]n the absence of an infirmary, clinic, or hospital in near proximity to the workplace which is used for treatment of all injured employees, a person or persons shall be adequately trained to render first aid.”

NTESS document *SWiFT Emergency Action Plan*, April 19, 2018, Issue 2, requires that personnel “[c]onsider every electrical shock to be an emergency.” It further states that “[e]very victim of a shock on Sandia-controlled premises must be evaluated at the University Medical Center Emergency Room, 602 Indiana Ave.” and that “[t]he SWiFT Site Supervisor is the primary contact person for evaluating emergencies and assisting personnel in identifying possible emergency situations and actions to prevent or mitigate emergencies.”

Contrary to the above requirements, NTESS failed to ensure proper and timely medical attention for the shocked worker at SWiFT. The shocked worker informed the site supervisor via two-way radio that he received an electrical shock. Transportation to the emergency room was delayed several minutes while the Emergency Action Plan was reviewed to determine emergency procedures for electrical shocks. Further delays occurred when the shocked worker was transported to two urgent care centers before being taken to the University Medical Center Emergency Room.

This noncompliance constitutes a Severity Level I violation.

D. Training and Information

Title 10 C.F.R. § 851.25, *Training and information*, Subsection (a), states that “[c]ontractors must develop and implement a worker safety and health training and information program to ensure that all workers exposed, or potentially exposed, to hazards are provided with training and information on that hazard in order to perform their duties in a safe and healthful manner.” Subsection (c) states that “[c]ontractors must provide training and information to workers who have worker safety and health program responsibilities that is necessary for them to carry out those responsibilities.”

Title 29 C.F.R. § 1910.147(c)(7), *Training and communication*, subparagraph (i), states that “[t]he employer shall provide training to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees.”

NTESS document ESH100.2.IS.2, *Control Hazardous Energy (Lockout/Tagout)*, states that members of the workforce, including managers, are required to “[f]ollow [training] requirements detailed in MN471020, *Lockout/Tagout Program Manual*, when performing service or maintenance activities on machines and equipment in which the unexpected energization or startup of the equipment, or release of stored energy, would cause injury to an individual.”

NTESS document MN471020, Section 3.0, *Roles and Responsibilities*, paragraph 3.1, *Management*, states that “[m]anagers shall ensure that members of the workforce receive proper LO/TO training before being assigned to perform service or maintenance tasks.”

Contrary to the above requirements, NTESS management provided the shocked worker with a lockout device for use in the SWiFT windmill nacelle without ensuring the worker was trained on the requirements of the NTESS LO/TO program. Although providing the lockout device was intended for safety purposes, NTESS did not properly train SWiFT site management on the requirements related to lockout locks, revealing a deficiency in NTESS’s understanding of how to properly implement the LO/TO program.

This noncompliance constitutes a Severity Level I violation.

E. Recordkeeping

Title 10 C.F.R. § 851.23, *Safety and health standards*, Subsection (a) states that “[c]ontractors must comply with the following safety and health standards that are applicable to the hazards of their covered workplace:...(2) 29 [C.F.R.] Parts 1904.4 through 1904.11, *Recording and Reporting Occupational Injuries and Illnesses*.”

Title 10 C.F.R. § 851.26, *Recordkeeping and reporting*, Subsection (a)(2) requires contractors to “[e]nsure that the work-related injuries and illnesses of its workers and subcontractor workers are recorded and reported accurately and consistent with DOE Manual 231.1-1A, *Environment, Safety and Health Reporting Manual*, September 9, 2004” The

Contractor Requirements Document (CRD) for this Manual provides at paragraph 3.b.(2) that contractors are required to record and report all work-related contractor employee fatalities, injuries and illnesses on the form DOE F 5484.3, Individual Accident/Incident Report, in lieu of the OSHA Form No. 301, Injury and Illness Incident Report and reports must be submitted to the Computerized Accident/Incident Reporting System (CAIRS). The CRD also requires at paragraph 3.d. that contractors “[e]nsure that new reports (DOE F 5484.3) are submitted at least bi-monthly for receipt on or before the 15th of the month or the last working day of the month.”

Contrary to the above requirements, NTESS failed to report the June 12, 2018, Thunder Range electrical shock injury into the DOE CAIRS database until September 24, 2018 – 73 working days after the injury occurred.

This noncompliance constitutes a Severity Level II violation.

II. REPLY

Pursuant to 10 C.F.R. § 851.42(b)(4), NTESS is hereby obligated to submit a written reply within 30 calendar days of receipt of this PNOV. The reply should be clearly marked as a “Reply to the Preliminary Notice of Violation.”

If NTESS chooses not to contest the violations set forth in this PNOV, then the reply should clearly state that NTESS waives the right to contest any aspect of this PNOV. In such case, this PNOV will constitute a final order 30 calendar days after the receipt of this PNOV.

If NTESS disagrees with any aspect of this PNOV, then as applicable and in accordance with 10 C.F.R. § 851.42(c)(1), the reply must: (1) state any facts, explanations, and arguments that support a denial of an alleged violation; and (2) discuss the relevant authorities that support the position asserted, including rulings, regulations, interpretations, and previous decisions issued by DOE. In addition, 10 C.F.R. § 851.42(c)(2) requires that the reply include copies of all relevant documents.

If NTESS fails to submit a written reply within 30 calendar days of receipt of this PNOV, then pursuant to 10 C.F.R. § 851.42(d), NTESS relinquishes any right to appeal any matter in this PNOV, and this PNOV will constitute a final order.


Please send the appropriate reply by overnight carrier to the following address:

Director, Office of Enforcement
Attention: Office of the Docketing Clerk, EA-10
U.S. Department of Energy
19901 Germantown Road
Germantown, MD 20874-1290

A copy of the reply should also be sent to my office and to the Manager of the Sandia Field Office.

III. CORRECTIVE ACTIONS

Corrective actions that have been or will be taken to avoid further violations should be delineated with target and completion dates in DOE's Noncompliance Tracking System.


Lisa E. Gordon-Hagerty
Under Secretary for Nuclear Security
Administrator, NNSA

Washington D.C.
This 6th day of August 2019