



Department of Energy

Washington, DC 20585

February 12, 2015

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Dr. Kimberly Budil
Vice President for Laboratory Management
University of California
Office of the President
1111 Franklin Street
Oakland, California 94607

WEA-2015-01

Dear Dr. Budil:

This letter refers to the Office of Enterprise Assessments' Office of Enforcement investigation into the facts and circumstances associated with a 277-volt electrical shock received by a University of California (UC) subcontractor's apprentice electrician at the Lawrence Berkeley National Laboratory (LBNL) General Purpose Laboratory (GPL) on November 19, 2013. The Office of Enforcement provided UC with an investigation report dated September 8, 2014, and convened an enforcement conference on October 15, 2014, with UC representatives to discuss the report's findings and UC's response. A summary of the conference and list of attendees is enclosed.

The Department of Energy (DOE) considers the electrical shock sustained by the apprentice electrician and the associated violation to be of high safety significance. DOE's evaluation of the circumstances concluded that UC did not provide effective safety oversight to ensure subcontractors properly planned, controlled, and executed work consistent with the LBNL worker safety and health program and associated implementing procedures. UC did not apply rigor and formality to subcontractor management to ensure that requirements were effectively communicated and understood, and that subcontract workers were properly equipped to meet UC's expectations for work performance.

Based on an evaluation of the evidence in this matter, including information presented at the enforcement conference, DOE concludes UC violated requirements prescribed under 10 C.F.R. Part 851, *Worker Safety and Health Program*. Accordingly, DOE hereby issues the enclosed Preliminary Notice of Violation (PNOV), which cites one Severity Level I violation. DOE withheld a contract fee of \$56,910 for fiscal year 2014 pursuant to the Conditional Payment of Fee clause under contract number DE-AC02-05CH11231 between DOE and UC for continuing LBNL program deficiencies in electrical safety program and in



the management and oversight of subcontractors. As a result, and in accordance with 10 C.F.R. § 851.5, subsection (c), DOE proposes no civil penalties for the Part 851 violations cited in this PNOV.

DOE acknowledges UC's initial response to the event and subsequent corrective actions to address the potential violations and prevent their recurrence. DOE concludes that UC's corrective action plan appears to address the identified deficiencies, including the issues identified in a root cause analysis completed in January 2014 by an external team. DOE acknowledges that UC's extent of condition review has identified work planning and control shortcomings in other work activities. DOE finds that UC is moving forward with the development and implementation of its Electrical Safety Improvement Plan; revising subcontract selection, orientation, training, and communication protocols; revising redundancy and streamlining processes to enable subcontract workers to better understand and properly apply work controls; and performing effectiveness reviews of corrective actions.

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 the 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, DOE will determine whether further action is necessary to ensure compliance with DOE worker safety and health requirements. DOE will continue to monitor the completion of corrective actions until this matter is fully resolved.

Sincerely,



Steven C. Simonson

Director
Office of Enforcement
Office of Enterprise Assessments

Enclosures: Preliminary Notice of Violation (WEA-2015-01)
Enforcement Conference Summary and List of Attendees

cc: Paul Golan (Acting), BSO
Bill Wells, LBNL

Preliminary Notice of Violation

University of California
Lawrence Berkeley National Laboratory

WEA-2015-01

A U.S. Department of Energy (DOE) investigation into the facts and circumstances associated with a 277-volt electrical shock received by an apprentice electrician at the Lawrence Berkeley National Laboratory (LBNL) General Purpose Laboratory (GPL) on November 19, 2013, revealed violations of DOE worker safety and health requirements. The apprentice electrician was an employee of Pacific Data Electric, Inc. (PDE), a University of California (UC) subcontractor performing work at the GPL. DOE provided UC with an investigation report dated September 8, 2014, and convened an enforcement conference on October 15, 2014, with UC representatives to discuss the report's findings and UC's response. The investigation identified deficiencies in electrical hazard identification, assessment, prevention, and abatement, and a violation of DOE worker safety and health requirements by UC. A summary of the conference and list of attendees is enclosed.

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*, DOE hereby issues this Preliminary Notice of Violation (PNOV) to UC. The PNOV cites a violation in the area of electrical hazard identification, assessment, prevention, and abatement. DOE has categorized the violation as one Severity Level I violation.

Severity Levels are explained in Part 851, Appendix B, *General Statement of Enforcement Policy*. Section 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.”

In accordance with 10 C.F.R. § 851.5(b) and the Department of Energy Acquisition Regulation 48 C.F.R. § 970.5215-3, Conditional Payment of Fee Clause, under number DE-AC02-05CH11231 between DOE and UC, the Berkeley Site Office administered a contract fee reduction of \$56,910 for fiscal year 2014 for continuing deficiencies in the implementation of the LBNL electrical safety program since 2010 and in the management and oversight of subcontractors at the Laboratory, which included the November 19 electrical shock event. As a result, and pursuant to 10 C.F.R. § 851.5(c), DOE 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 UC may be required to post a copy of this PNOV in accordance with 10 C.F.R. § 851.42(e).

I. VIOLATIONS

A. Hazard Identification, Assessment, Prevention, and Abatement

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. § 851.21, *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: (1) [a]ssess worker exposure to chemical, physical, biological, or safety workplace hazards through appropriate workplace monitoring; [and] (5) [e]valuate operations, procedures, and facilities to identify workplace hazards;...” In accordance with subsection (c) of the same section, “[c]ontractors must perform [these activities] initially to obtain baseline information and as often thereafter as necessary to ensure compliance with the requirements [of 10 C.F.R. Part 851, subpart C].”

Title 10 C.F.R. § 851.22, *Hazard prevention and abatement*, subsection (a), states that “[c]ontractors must establish and implement a hazard prevention and abatement process to ensure that all identified and potential hazards are prevented or abated in a timely manner.” Paragraph (a)(1) of this section requires that “[f]or hazards identified either in the facility design or during the development of procedures, controls must be incorporated in the appropriate facility design or procedure.”

Title 10 C.F.R. § 851.23, *Safety and health standards*, at paragraph (a)(14), requires contractors to comply with the National Fire Protection Association (NFPA) 70E, “Standard for Electrical Safety in the Workplace,” (2004).

NFPA 70E, Section 110.7, *Electrical Safety Program*, at paragraph (G)(1), General, states that “[b]efore starting each job, the employee in charge shall conduct a job briefing with the employees involved. The briefing shall cover such subjects as hazards associated with the job, work procedures involved, special precautions, energy source controls, and personal protective equipment requirements.”

NFPA 70E, Article 120, *Establishing an Electrically Safe Work Condition*, at section 120.1, *Process of Achieving an Electrically Safe Work Condition*, states that “[a]n electrically safe work condition shall be achieved when performed in accordance with the procedures of 120.2 and verified by the following process:

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

- (2) After properly interrupting the load current, open the disconnecting device(s) for each source.
- (3) Wherever possible, visually verify that all blades of the disconnecting devices are fully open or that drawout-type circuit breakers are withdrawn to the fully disconnected position.
- (4) Apply lockout/tagout devices in accordance with a documented and established policy.
- (5) Use an adequately rated voltage detector to test each phase conductor or circuit part to verify 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 the voltage detector is operating satisfactorily.
- (6) Where the possibility of induced voltages or stored electrical energy exists, ground the phase conductors or circuit parts before touching them. Where it could 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.”

Contrary to these requirements, UC failed to implement effective subcontractor oversight that ensured that PDE evaluated hazards and implemented safety controls consistent with the provisions described in LBNL Publication PUB-3851, *Worker Safety and Health Program* (Revision 2.2, dated March 2012); LBNL implementing procedures, and safety and health standards, including PUB-3000, *Environment, Health and Safety Manual*; and NFPA 70E. Specific examples include the following:

1. UC did not ensure that PDE identified and documented in its daily Pre-Task Hazard Analysis the work assigned to the PDE apprentice on the third floor of the GPL on November 19, 2013, and the potential hazards and safety controls associated with the activity.
2. UC did not ensure that PDE complied with the provisions described in NFPA 70E and PUB-3000 that require PDE to:
 - a. Place circuit number 5 in an electrically safe work condition to prevent employees from working on or near the energized circuit after the release of lockout/tagout permit 960 (LP-960) associated with the GPL lobby 300 light fixtures programming and troubleshooting activity.
 - b. Conduct a job briefing with the PDE journeyman and apprentice before commencing work on circuit 5 following the release of LP-960 on November 18, 2013. In addition, UC did not ensure that PDE communicated the work location and information associated with the circuits to be worked on that were affected by the release of LP-960.

Collectively, these noncompliances constitute a Severity Level I violation.

II. REPLY

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

If UC chooses not to contest the violations set forth in this PNOV, the reply should clearly state that UC waives the right to contest any aspect of this PNOV. In such cases, this PNOV will constitute a final order upon the filing of the reply.

If UC 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.

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 the Manager of the Berkeley Site Office.

Pursuant to 10 C.F.R. § 851.42(d), if UC does not submit a written reply within 30 calendar days of receipt of this PNOV, UC relinquishes any right to appeal any matter in this PNOV, and this PNOV, will constitute a final order.

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.


Steven C. Simonson
Director
Office of Enforcement
Office of Enterprise Assessments

Washington, DC
This 12th day of February 2015