



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



June 14, 2016

Mr. James L. Holt
President
National Security Technologies, LLC
P.O. Box 98521, NSF001
Las Vegas, Nevada 89193-8521

NCO-2016-02

Dear Mr. Holt:

The Office of Enterprise Assessments' Office of Enforcement has completed its investigation into the facts and circumstances associated with the losses of contamination control of highly enriched uranium at the Nevada National Security Site's National Criticality Experiments Research Center at the Device Assembly Facility on June 16, 2014, and October 21, 2014. National Security Technologies, LLC (NSTec) documented these events in the Department of Energy's (DOE) Noncompliance Tracking System under report NTS-NSO--NST-NNSS-2015-0001, dated January 22, 2015.

On June 16, 2014, NSTec radiation control technicians (RCTs) discovered radiological contamination outside the previously-identified Godiva critical assembly device (Godiva) contamination area. Subsequent bioassays of potentially affected personnel revealed that 31 tested positive for uranium intakes. The assessed doses ranged from less than 0.001 rem to 0.131 rem committed effective dose (50 year). On August 7, 2014, the National Nuclear Security Administration (NNSA) Nevada Field Office (NFO) paused Godiva operations after receiving notification of the initial positive bioassay results. On October 21, 2014, RCTs detected small amounts of contamination outside the previously-identified contamination area for the Flattop critical assembly device during radiological surveys conducted in response to the Godiva spread of contamination event.

DOE and NNSA consider these events to be safety significant and preventable. NSTec actions taken in response to increasing indications of spread of contamination resulting from Godiva operations were inadequate. However, subsequent actions taken following the August 7, 2014, pause in Godiva operations were prompt and comprehensive.

In accordance with 10 C.F.R. § 820.23, *Consent Order*, DOE and NNSA have elected to resolve any potential noncompliances with requirements enforceable under 10 C.F.R. Part 820, *Procedural Rules for DOE Nuclear Activities*, through execution of a Consent Order. In deciding to enter into this Consent Order, DOE and NNSA placed considerable weight on the cooperative approach taken by



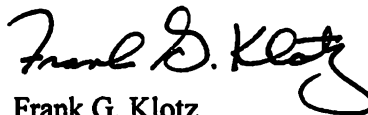
NSTec in working with its tenant contractor in identifying causal factors contributing to the events and implementing an appropriate set of corrective actions to prevent recurrence.

DOE reserves the right to re-open this investigation if DOE later becomes aware that NSTec provided any false or materially inaccurate information. Further, if there is a recurrence of nuclear safety deficiencies similar to those identified in this Consent Order, or a failure to complete all action items prescribed in the Consent Order (or other related actions that NSTec subsequently determines to be necessary) to prevent recurrence of the identified issues, then the Office of Enforcement may pursue additional enforcement activity. The Office of Enforcement, NNSA Headquarters, and NFO will continue to closely monitor NSTec's implementation of DOE nuclear safety requirements until the issues associated with this Consent Order are fully resolved.

Enclosed please find two signed copies of the Consent Order. Please sign both, keep one for your records, and return the other copy to the Office of Enforcement within 1 week from the date of receipt. Please follow all instructions specified in the enclosure. By signing this Consent Order, you agree to comply with all of the terms specified in section IV of the Consent Order and in the manner prescribed therein.

If you have any questions concerning this Consent Order, please contact me at (301) 903-7707, or your staff may contact Mr. Jon Thompson, Director, Office of Nuclear Safety Enforcement, at 301-903-1134.

Sincerely,



Frank G. Klotz
Administrator
National Nuclear Security Administration



Steven C. Simonson
Director
Office of Enforcement
Office of Enterprise Assessments
U.S. Department of Energy

Enclosure: Consent Order (NCO-2016-02)

cc: Steven Lawrence, NA-NV
Brian Barbero, NSTec

In the matter of) Report No. NTS-NSO--NST-NNSS-2015-0001
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National Security)
Technologies, LLC)
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) Consent Order NCO-2016-02

CONSENT ORDER INCORPORATING AGREEMENT BETWEEN THE U.S.
DEPARTMENT OF ENERGY, THE NATIONAL NUCLEAR SECURITY
ADMINISTRATION, AND NATIONAL SECURITY TECHNOLOGIES, LLC

I

National Security Technologies, LLC (NSTec) is responsible for the management and operation of the Department of Energy's (DOE) National Nuclear Security Administration (NNSA), Nevada National Security Site (NNSS). NSTec is the prime contractor under Contract No. DE-AC52-06NA25946 (Contract) entered into with the NNSA Nevada Field Office (NFO).

II

The National Criticality Experiments Research Center (NCERC) is located at NNSS within the Device Assembly Facility (DAF). Operations conducted at NCERC include both subcritical and critical experiments that can measure a wide variety of nuclear properties. NSTec is responsible for managing and operating DAF as the Primary Real Estate Operations Permit (REOP) holder, and Los Alamos National Security, LLC (LANS) is responsible for conducting programmatic work and nuclear operations within NCERC as the Secondary REOP holder.

In September 2013, following a formal startup process and authorization, NCERC operators began bare burst operations at the Godiva critical assembly device (Godiva). During April and May 2014, there was an increased campaign of Godiva burst operations, some of which were in the upper energy range of Godiva's normal operating range.

On June 16, 2014, NSTec radiation control technicians (RCTs) conducted a survey that led to the discovery of radiological contamination outside the previously-identified Godiva contamination area. NSTec reported the survey results to LANS on June 26, 2014. LANS then directed the RCTs to conduct further surveys to investigate the source of the contamination.

On July 17, 2014, Lawrence Livermore National Laboratory (LLNL) notified NSTec and LANS management that one of its experimenters, working in the vicinity of Godiva, had received a positive result on a routine bioassay. This notification led NSTec management to initiate bioassays for the three RCTs assigned to support NCERC operations. These results were also positive. Based on the positive bioassay results, LANS initiated special bioassays for additional personnel who worked in the vicinity of Godiva. Over the course of the special bioassays,

97 personnel who could have been affected by the spread of radiological contamination resulting from Godiva operations were tested. Of these, 31 tested positive for uranium intakes. The assessed doses ranged from less than 0.001 rem to 0.131 rem committed effective dose (50 year).

On August 7, 2014, NFO senior management paused Godiva operations after receiving notification of the positive bioassay results from the LLNL experimenter and the NSTec RCTs.

On October 21, 2014, RCTs detected small amounts of contamination outside the previously-identified contamination area for the Flattop critical assembly device (Flattop) during radiological surveys conducted in response to the Godiva spread of contamination event. On October 29, 2014, LANS management paused Flattop programmatic operations. Although no formal causal analysis was performed for this event, the identified issues and causes would likely have been bounded by those from the Godiva event, and the corrective actions taken were largely common for both events.

The facility ventilation system was insufficient to control the hazards associated with airborne contamination resulting from Godiva operations. Airflow in the vicinity of Godiva was essentially static, and no task ventilation was provided. Further, routine surveys were not conducted as often as necessary to identify the buildup and spread of radioactive material. NSTec radiation control management was not effective in providing sufficient direction and oversight of the activities taking place at NCERC to ensure the protection of NSTec personnel and the DAF.

The LANS causal analysis for the spread of radiological contamination at Godiva identified 12 issues and 26 contributing causes. Some of the identified issues were: workplace monitoring insufficient to adequately identify the airborne hazard; worker radiological monitoring insufficient to avoid personnel intakes; ineffective communication among organizational entities performing work in DAF; hazard identification inadequate for NCERC operations at DAF; hazard controls insufficiently defined and implemented during all project phases for the DAF NCERC buildings; and line management event response that was slow and continued to be less than adequate until senior management engagement.

NSTec conducted an apparent cause analysis to supplement the LANS causal analysis, concentrating on NSTec personnel actions that may have further contributed to and/or prevented the spread of contamination at Godiva. The apparent causes included less-than-adequate NSTec performance in NCERC RCT performance, written communication and resource management, supervisory methods, and change management.

NSTec voluntarily reported potential noncompliances associated with this event into the DOE Noncompliance Tracking System (NTS) in report NTS-NSO--NST-NNSS-2015-0001, *Programmatic Concerns With Management System Integration and Contamination Control at the Device Assembly Facility*.

On June 9, 2015, pursuant to 10 C.F.R. § 820.21(a), and based on the NTS report and discussions with NFO and NNSA Headquarters, the Office of Enforcement initiated an investigation into the Godiva spread of contamination event. The Office of Enforcement's investigation identified several potential noncompliances with DOE nuclear safety and occupational radiation protection

requirements. Specific deficiencies were evident in the areas of management programs and monitoring of individuals and areas.

In a July 13, 2015, letter to the Office of Enforcement, NSTec requested a Consent Order because of the following actions NSTec had taken: (a) collaborating with LANS in reporting into the NTS; (b) collaborating with LANS in conducting the causal analysis; (c) collaborating with LANS in identifying corrective actions; (d) effectively implementing improvements in radiological control practices at NCERC; (e) demonstrating improvements in the NCERC radiological protection program; (f) continuing on schedule to complete work on Federal readiness assessment pre-start findings and other corrective actions; (g) receiving NFO's authorization to resume Comet operations; (h) conducting the NSTec supplemental causal analysis; and (i) developing organization-specific corrective actions not captured in the LANS corrective action plan (CAP).

III

Pursuant to 10 C.F.R. § 820.23, at any time during enforcement proceedings, DOE may resolve any or all outstanding issues with a Consent Order if the settlement is consistent with the objectives of the Atomic Energy Act of 1954, as amended, and DOE nuclear safety requirements enforceable under 10 C.F.R. Part 820, *Procedural Rules for DOE Nuclear Activities*.

To resolve potential noncompliances with DOE nuclear safety requirements and in consideration of NSTec's investigation, causal analyses, and associated corrective actions since the submission of the NTS report referenced above, which DOE and NNSA found to be comprehensive and appropriate, DOE and NNSA have elected to enter into settlement. DOE, NNSA, and NSTec have reached agreement to resolve this matter through execution of this Consent Order.

IV

Accordingly, the terms of this Consent Order are as follows:

In consideration of the mutual agreements set forth in this section, the sufficiency and adequacy of which are acknowledged by DOE, NNSA, and NSTec (hereinafter the "Parties"), the following terms represent agreement by the authorized representatives of the Parties to resolve by settlement the potential noncompliances at NNSS, in lieu of an enforcement action that NNSA may issue pursuant to 10 C.F.R. § 820.24.

1. NSTec shall fully complete and implement all corrective actions previously committed to in its CAP and entered into NTS. NSTec shall ensure that its planned CAP commitments address the following areas of emphasis:
 - a. NSTec shall arrange for an independent party (outside of NSTec) to conduct its planned effectiveness review of the corrective actions taken to address these issues, and will provide the results to the Office of Enforcement, NFO, and NNSA Headquarters within 6 months of the Effective Date of this Consent Order as defined in item 4 below.
 - b. NSTec shall establish clear lines of authority to ensure that NSTec RCTs assigned to NCERC are fully aware of their management chain of command, including their roles

and responsibilities, and to what extent they are to receive direction from LANS personnel.

- c. NSTec shall ensure sufficient management oversight of radiological work conducted at DAF, particularly the activities performed by NSTec RCTs.

The delivery and acceptance of the effectiveness review results (referenced in item 1a above) by the aforementioned parties satisfies the completion of the actions included in item 1.

2. In lieu of the issuance of an enforcement action with the proposed imposition of a civil penalty pursuant to 10 C.F.R. § 820.24, DOE and NNSA have entered into this Consent Order with NSTec. In addition, in consideration of the \$87,000 contract fee reduction that NNSA has imposed for the circumstance leading to the spread of radiological contamination at NCERC, DOE and NNSA have decided to exercise enforcement discretion in suspending the monetary remedy that would otherwise be imposed under this Consent Order.
3. NSTec agrees to return a signed copy of this Consent Order, within 1 week from the date of receipt, 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
4. The Effective Date of this Consent Order shall be the date on which NSTec signs this Consent Order.
5. This Consent Order shall constitute a full and final settlement of the potential noncompliances identified in the referenced NTS report, subject to NSTec's completion of all actions set forth in item 1 above to the satisfaction of the Office of Enforcement and NNSA.
6. No costs, as defined in the Federal Acquisition Regulation, 48 C.F.R. § 31.205-47, incurred by, for, or on behalf of NSTec relating to coordination and cooperation with DOE concerning the investigation of matters covered by this Consent Order shall be considered allowable costs under the Contract. However, costs incurred by, for, or on behalf of NSTec relating to the development and implementation of corrective actions, including costs associated with the effectiveness review required under item 1 above, may be charged to the Contract if otherwise pursuant to the terms and conditions of the Contract.
7. This Consent Order does not preclude DOE from re-opening the investigation nor preclude NNSA from issuing an enforcement action under 10 C.F.R. § 820.24 with respect to a potential noncompliance if: (a) after the Effective Date (as defined in item 4 above), DOE or NNSA becomes aware of any false or materially inaccurate facts or information provided by NSTec; (b) there is a recurrence of nuclear safety deficiencies similar to those identified


above; or (c) NSTec fails to complete all actions identified in item 1 above in a timely and effective manner to prevent recurrence of the identified issues.

8. Any modification to this Consent Order requires the written consent of all Parties.
9. NSTec waives any and all rights to appeal or otherwise seek judicial or administrative review of the terms of this Consent Order. DOE and NNSA retains the right to judicially enforce the provisions of this Consent Order by all available legal means.
10. This Consent Order is issued pursuant to DOE's authority under Section 234A of the Atomic Energy Act of 1954, as amended (42 U.S.C. § 2282a), and the implementing provisions of 10 C.F.R. Part 820 governing enforcement of DOE nuclear safety requirements.
11. Pursuant to 10 C.F.R. § 820.23(d), this Consent Order shall become a Final Order 30 calendar days after the signed copy, referenced in item 3 above, is filed by the Office of Enforcement's Office of the Docketing Clerk unless the Secretary of Energy files a rejection of the Consent Order or a modified Consent Order.

On behalf of my respective organization, I hereby agree to and accept the terms of the foregoing Consent Order.


FOR National Nuclear Security
Administration

FOR National Security Technologies, LLC

 Date 6/10/16
Frank G. Klotz
Administrator
National Nuclear Security Administration

 Date 6/21/16
Mr. James L. Holt
President
National Security Technologies, LLC

FOR U.S. Department of Energy

 Date 6/14/2016
Steven C. Simonson
Director
Office of Enforcement
Office of Enterprise Assessments
U.S. Department of Energy