



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



December 19, 2022

Mr. Garrett Harencak  
President  
Mission Support and Test Services, LLC  
P.O. Box 98521  
Las Vegas, Nevada 89193-8521

WCO-2022-02

Dear Mr. Harencak:

The Office of Enterprise Assessments' Office of Enforcement has completed its investigation into the facts and circumstances associated with an uninterruptible power supply (UPS) battery bank failure event that occurred on March 1, 2021, at the Nevada National Security Site. Mission Support and Test Services, LLC (MSTS) documented this event in the Department of Energy's Noncompliance Tracking System under report NTS-NA-NFO-MSTS-NLV-2021-0010194, dated April 12, 2021. The Office of Enforcement issued an Investigation Report to MSTS on June 8, 2022.

The event occurred when multiple employees, over a five-and-a-half-hour period, entered a room housing a UPS battery bank that was undergoing thermal runaway, leading to employee exposures to toxic gases and potentially an oxygen-deficient atmosphere. This also allowed for the migration of toxic gases into surrounding workspaces, exposing additional employees. The event revealed deficiencies in MSTS's implementation of procedures for hazard identification, assessment, and communication. The Office of Enforcement concluded that MSTS's investigation into the event was of sufficient scope and depth, and the associated causal analysis and corrective actions appear appropriate to address the root and contributing causes and should prevent recurrence.

In accordance with 10 C.F.R. § 851.41, *Settlement*, the Office of Enforcement and the Department of Energy's National Nuclear Security Administration (DOE/NNSA) have agreed to resolve any potential noncompliances with requirements enforceable under 10 C.F.R. Part 851, *Worker Safety and Health Program*, through execution of a Consent Order. In deciding to enter into this Consent Order, DOE/NNSA and the Office of Enforcement placed considerable weight on MSTS's post-event response, which included a comprehensive extent of conditions review and effective corrective actions.

DOE/NNSA and the Office of Enforcement reserve the right to re-open this investigation if DOE later becomes aware that MSTS provided any false or materially inaccurate information. Further, if there is a recurrence of worker safety and health deficiencies similar to those identified in this Consent Order, or a failure to comply with the terms and conditions prescribed

in the Consent Order (or other related actions that MSTs subsequently determines to be necessary) to prevent recurrence of the identified issues, then DOE/NNSA and the Office of Enforcement may pursue additional enforcement activity. The Office of Enforcement; DOE/NNSA's Office of Environment, Safety, and Health; and Nevada Field Office will continue to closely monitor MSTs's implementation of worker safety and health requirements until the issues associated with this Consent Order are fully resolved.

Enclosed please find the Consent Order for your signature. Within 1 week from the date of receipt, sign and return to the Consent Order to the Office of Enforcement. Please follow all instructions specified in the enclosure and keep a copy for your records. By signing this Consent Order, you agree to comply with all of the terms, including payment of the monetary remedy, 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 the Office of Enforcement at (301) 903-4033, or your staff may contact Ms. Shannon Holman, Acting Director, Office of Worker Safety and Health Enforcement, at (301) 903-0100.

Sincerely,



Jill Hruby  
Under Secretary for Nuclear Security  
Administrator, NNSA



Anthony C. Pierpoint  
Director  
Office of Enforcement  
Office of Enterprise Assessments

Enclosure: Consent Order (WCO-2022-02)

cc: David Bowman, NA-NV  
Charles Thom, Mission Support and Test Services, LLC

**Enclosure**

In the matter of ) Report No.  
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 )  
 Mission Support and Test )  
 Services, LLC )  
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 ) Consent Order WCO-2022-02

CONSENT ORDER INCORPORATING AGREEMENT AMONG THE U.S. DEPARTMENT  
OF ENERGY, THE NATIONAL NUCLEAR SECURITY ADMINISTRATION, AND  
MISSION SUPPORT AND TEST SERVICES, LLC

## I

Mission Support and Test Services, LLC (MSTS) is responsible for the management and operation of the U.S. Department of Energy's National Nuclear Security Administration (DOE/NNSA) Nevada National Security Site (NNSS). MSTS is the prime contractor under Contract No. DE-NA0003624 (Contract), entered into with the DOE/NNSA Nevada Field Office (NFO).

## II

On March 1, 2021, an uninterruptible power supply (UPS) battery bank in building A-01, room 4731 began undergoing a thermal runaway event. At varying times during the day, multiple MSTs maintenance employees entered the room, resulting in employee exposures to minimal amounts of toxic gases (i.e., hydrogen and hydrogen sulfide) and potentially an oxygen-deficient atmosphere. The UPS system consisted of 80 12-volt valve-regulated lead acid (VRLA) float service batteries in two purpose-built cabinets (40 batteries per cabinet connected in series). Approximately five and a half hours elapsed between the initial discovery that the UPS system was operating at elevated temperatures and the subsequent placement of the system into “bypass” mode. This delay in response to the emergency conditions allowed for the migration of the toxic gases into surrounding workspaces exposing additional employees. MSTs did not appropriately identify or assess the hazards related to VRLA batteries. MSTs reported noncompliances revealed by this event into the DOE Noncompliance Tracking System (NTS), identified as NTS-NA-NFO-MSTS-NLV-2021-0010194 on April 12, 2021.

On July 12, 2021, the DOE Office of Enterprise Assessments, Office of Enforcement notified MSTs of its decision to investigate the facts and circumstances associated with this event and potential deficiencies in the implementation of 10 C.F.R. Part 851, *Worker Safety and Health*

*Program*, requirements. The Office of Enforcement conducted an onsite investigation from August 24 through 26, 2021.

In a letter dated August 9, 2021, to the Office of Enforcement, MSTs requested a Consent Order to settle the matter under investigation. The settlement request outlined the corrective measures MSTs implemented across the organization including:

- A rapid knowledge-sharing report was sent to employees to highlight the potential hazards associated with UPS batteries.
- Facility managers and maintenance personnel were trained on the hazards associated with VRLA batteries.
- Gas sensors were installed in battery/UPS rooms as recommended by code.
- All UPS rooms were identified, and responsibilities were assigned for maintenance, replacement, and removal of UPS batteries that were no longer needed.

MSTs's root cause analysis (RCA), which also included an extent-of-condition review, was thorough and identified a root cause of the event, four contributing causes, and two contributing conditions. MSTs's corrective action plan was comprehensive and identified 210 corrective actions to prevent recurrence of this event and addressed the conditions found in the extent-of-condition review. The Office of Enforcement and DOE/NNSA concluded that MSTs's corrective actions appear to appropriately address the root and contributing causes and the extent of conditions identified in the RCA report. If effectively implemented, the corrective actions should adequately address the conditions that led to the event and should prevent recurrence.

MSTs has completed the corrective actions identified in the MSTs corrective action plan for the event. However, MSTs developed additional corrective actions to further address conditions found during the extent-of-condition review as well as recommendations from an independent assessment. MSTs is tracking these additional corrective actions in their internal issues management system, and they are identified in Section IV (items 1.a., 1.b., 1.c., 1.d., 1.e).

### III

Pursuant to 10 C.F.R. § 851.41, *Settlement*, at any time during enforcement proceedings, DOE may resolve any or all outstanding issues with a Consent Order if the settlement is consistent with 10 C.F.R. Part 851, *Worker Safety and Health Program*.

To resolve potential noncompliances of worker safety and health requirements and in consideration of MSTs's investigation, causal analysis, and associated corrective actions taken since the submission of the NTS report identified above, that DOE and DOE/NNSA found to be comprehensive and appropriate, DOE and DOE/NNSA have elected to enter into settlement. DOE, DOE/NNSA and MSTs 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, DOE/NNSA and MSTs (hereinafter the "Parties"), the following terms represent agreement by the authorized representatives of the Parties to resolve by settlement the potential noncompliances at the NNSS, in lieu of an enforcement action that DOE/NNSA may issue pursuant to 10 C.F.R. § 851.42, *Preliminary notice of violation*.

1. MSTs shall complete the following corrective actions by October 31, 2023:
  - a. Develop and implement a UPS system lifecycle management program procedure (MSTs internal tracking system issue #35078).
  - b. Perform verification of compliance with requirements in the MSTs prime contract, for battery rooms (MSTs internal tracking system action #29553).
  - c. Complete specified industrial hygiene evaluation actions for building 25-3101, room 116 battery room, to address regulatory and manufacturer requirements, and potential hazards associated with batteries and abnormal batteries off-gassing events (MSTs internal tracking system action #30112).
  - d. Complete MSTs specified actions for modular battery backup systems supporting communications facilities to ensure batteries are being managed, maintained, replaced, or removed as required by MSTs processes (MSTs internal tracking system action #31461).
  - e. Complete MSTs specified actions for network equipment rooms, to ensure batteries are being managed, maintained, replaced, or removed as required by MSTs processes (MSTs internal tracking system #31462).
  - f. Conduct an effectiveness review for item 1.a. above, within 6 months of completion of program implementation. Provide the Office of Enforcement, Associate Administrator for Environment, Safety, and Health (NA-ESH), and NFO with a copy of the results of the effectiveness review within 30 calendar days of completion.
  - g. Provide quarterly written updates to the Office of Enforcement, NA-ESH, and NFO on the status of corrective actions or associated milestones for items 1.a., 1.b., 1.c., 1.d., 1.e., and 1.f., above until said actions are completed.
  - h. Notify the Office of Enforcement, NA-ESH, and NFO upon completion of all actions specified in items 1.a., 1.b., 1.c., 1.d., 1.e., and 1.f., above, within 30 calendar days of completion.
2. MSTs shall pay the amount of \$79,500 reflecting an agreed-upon monetary remedy in lieu of the issuance of an enforcement action with the proposed imposition of a civil penalty pursuant to 10 C.F.R. § 851.42.

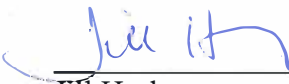



3. MSTS agrees to return a signed copy of this Consent Order, within one week from the date of receipt, via email, to the Director, Office of Enforcement at [enforcementdocketclerk@hq.doe.gov](mailto:enforcementdocketclerk@hq.doe.gov).
4. The effective date of this Consent Order shall be the date upon which MSTS signs this Consent Order.
5. MSTS shall remit the monetary remedy of \$79,500 by check, draft, or money order payable to the Treasurer of the United States (Account Number 891099) within 30 calendar days after the effective date of this Consent Order. To remit the monetary remedy by mail or by electronic funds transfer (EFT), please have your accounting department contact the Office of Enforcement's Docket Clerk at (301) 903-7707 for mailing or EFT wiring instructions. This Consent Order will constitute a final order upon the filing of the reply.
6. This Consent Order shall constitute a full and final settlement of the potential noncompliances identified in the referenced NTS report, subject to MSTS's completion of all actions set forth in items 1.a., 1.b., 1.c., 1.d., 1.e., and 1.f., above, to the satisfaction of DOE/NNSA and the Office of Enforcement, and MSTS's payment of the monetary remedy in accordance with item 2 above.
7. Neither the monetary remedy nor any costs, as defined in the Federal Acquisition Regulation, 48 C.F.R. § 31.205-47, incurred by, for, or on behalf of MSTS 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 MSTS relating to the development and implementation of corrective actions (including costs associated with the effectiveness review required under item 1.f. above), may be considered allowable costs under the Contract.
8. This Consent Order does not preclude DOE from re-opening the investigation nor preclude DOE/NNSA from issuing an enforcement action under 10 C.F.R. § 851.42 with respect to a potential noncompliance if: (a) after the effective date (as defined in item 4 above), DOE/NNSA becomes aware of any false or materially inaccurate facts or information provided by MSTS; (b) there is a recurrence of worker safety and health deficiencies similar to those identified above; or (c) MSTS fails to complete all actions identified in item 1 above in a timely and effective manner to prevent recurrence.
9. Any modification to this Consent Order requires the written consent of all Parties.
10. MSTS waives any and all rights to appeal or otherwise seek judicial or administrative review of the terms of this Consent Order. DOE/NNSA retains the right to judicially enforce the provisions of this Consent Order by all available legal means.
11. This Consent Order is issued pursuant to DOE's authority under Section 234C of the Atomic Energy Act of 1954, as amended (42 U.S.C. § 2282c), and the implementing provisions of 10 C.F.R. Part 851 governing enforcement of worker safety and health requirements at DOE/NNSA sites.
12. This Consent Order shall become a Final Order after the signed copy, referenced in item 3 above, is filed by the Office of Enforcement's Office of the Docketing Clerk.

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

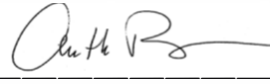
FOR National Nuclear Security  
Administration

FOR Mission Support and Test Services, LLC

 Date 12/16/22  
Jill Hruby  
Under Secretary for Nuclear Security  
Administrator, NNSA

 Date 12/19/22  
Garrett Harencak  
President  
Mission Support and Test Services, LLC

FOR Office of Enforcement

 Date 12/19/2022  
Anthony C. Pierpoint  
Director  
Office of Enforcement  
Office of Enterprise Assessments