



**Department of Energy**  
Washington, DC 20585

July 28, 2005

Mr. T. E. Logan, President  
Bechtel Hanford, Inc.  
3070 George Washington Way  
Richland, WA 99352

Consent Order 2005-01

Subject: Consent Order Incorporating Agreement between U.S. Department of Energy  
and Bechtel Hanford, Inc.

Dear Mr. Logan:

The Department of Energy (DOE) has reviewed Bechtel Hanford, Inc.'s (Bechtel Hanford) investigation and supporting documentation associated with two events occurring at the 618-2 Burial Ground in December 2004. These events resulted in significant personnel uptakes to two individuals. Bechtel Hanford reported these events using the Noncompliance Tracking System (NTS) on January 26, 2005, (NTS-RL-BHI-REMACT-2005-0001, *Hazard Identification and Personnel Exposure at 618-2 Historical Burial Site*). By letter dated May 24, 2005, Bechtel Hanford requested DOE consideration for a Consent Order (in lieu of an Enforcement Action) with respect to the two events.

Your investigation of the events identified significant deficiencies related to work planning, implementation, survey performance, and training. These included the failure to conservatively anticipate and monitor for the presence of separated plutonium in the burial ground, and the failure to appropriately recognize and respond to conditions not described by the safety authorization basis. Your investigation included a series of causal analyses and extent-of-condition reviews to determine the scope of the problem and to identify programmatic corrective actions.

DOE has evaluated the results of your investigation and has concluded that it represents a comprehensive and thorough evaluation of the deficiencies leading to the 618-2 Burial Ground events. Additionally, our analysis of Bechtel Hanford's recent history supports the conclusion that you have had a proactive approach to identifying and resolving nuclear safety issues.

Corrective actions developed in conjunction with your investigation appear to be broad-based and, if implemented effectively, should address the identified deficiencies in a timely manner. Based on our review, we have concluded that further investigation into

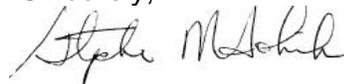
this matter by DOE is unnecessary and unwarranted. The issues involved in this matter, and Bechtel Hanford's response to them, have been reviewed in the context of the Office of Price-Anderson Enforcement's guidance regarding Consent Orders (see Enforcement Guidance Supplements EGS 00-04 and EGS 03-01). We have found that the expectations set forth in those documents are met in this case.

Therefore, in order to encourage such full disclosure and responsiveness in the future, DOE has elected to issue the enclosed Consent Order in accordance with 10 CFR 820.23, in lieu of pursuing other enforcement options (such as a possible Notice of Violation and/or civil penalties). With this Consent Order, Bechtel Hanford has agreed to remit a \$125,000 monetary remedy, payable to the Treasurer of the United States, in accordance with the directions in the enclosed order. Other than submission of this payment, no written response to this letter is required.

In choosing to issue this Consent Order, I have exercised enforcement discretion based upon your aggressive response to these events and the overall effective implementation of your site Price-Anderson Amendments Act (PAAA) Program. However, I am aware of the significant radiological challenges posed by the remediation activities at the 618-2 Burial Ground. In consideration of these challenges, my office will continue to coordinate with the DOE Richland Operations Office (DOE-RL) to monitor progress on this project, and the overall effectiveness of applied controls in anticipating and controlling radiological hazards.

In accordance with the terms and conditions of the enclosed Consent Order, any required changes to completion dates established or content of corrective actions shall receive prior approval by the Manager, DOE-RL. Enclosed are two signed copies of the Consent Order. Please sign both, keep one for your records, and return the other to this office within one week.

Sincerely,



Stephen M. Sohinki

Director

Office of Price-Anderson Enforcement

Enclosure: Consent Order

cc: J. Shaw, EH-1  
R. Shearer, EH-1  
A. Patterson, EH-1  
M. Zacchero, EH-1  
L. Young, EH-1  
T. Weadock, EH-6

L. Bermudez, EH-6  
Docket Clerk, EH-6  
R. Lagdon, EH-31  
R. Loesch, EH-31  
C. Anderson, EM-2  
L. Vaughan, EM-3.2 PAAA Coordinator  
K. Klein, DOE-RL  
S. Hahn, DOE-RL PAAA Coordinator  
R. Hughes, BHI PAAA Coordinator



**Department of Energy**  
Washington, DC 20585

In the matter of ) Report No. NTS-RL-BHI-REMACT-2005-0001  
 )  
Bechtel Hanford, Inc. )  
 )  
 ) Consent Order 2005-01

**CONSENT ORDER INCORPORATING AGREEMENT BETWEEN  
U.S. DEPARTMENT OF ENERGY AND BECHTEL HANFORD, INC.**

I

Bechtel Hanford, Inc. (Bechtel Hanford) is the environmental restoration contractor for the Department of Energy (DOE) at the Hanford site. Bechtel Hanford is responsible for managing site remediation activities, including facility decontamination, decommissioning, and onsite disposition of environmental restoration waste.

II

On December 14, 2004, a safe containing several containers of unknown liquids was discovered at the 618-2 Burial Ground during excavation activities. A crystalline material was observed near the mouth of one of the flasks, raising the possibility that a shock sensitive compound was present. Bechtel Hanford proceeded to summon the Hanford Fire Department to handle the containers and place the site in a safe configuration. However, because of nuclear safety considerations, activities related to the evaluation and removal of containers were suspended. In addition, Bechtel Hanford discontinued all activities to excavate and transport material from the 618-2 Burial Ground as these were determined to be outside the scope of the facility's authorization basis. Radiological surveys and non-destructive analysis of the safe and its contents revealed the presence of plutonium contamination inside the safe and as a separate component in at least one of the containers.

On December 16, 2005, two Radiological Control Technicians (RCT) collected smear samples at the 618-2 soil staging/stockpile area in an attempt to locate the source of a laborer's elevated lapel air sampler reading on December 13. Personal lapel samples analyzed the following day confirmed that both RCTs received significant exposure to airborne plutonium during the survey activity on December 16. No alpha monitoring had been conducted, as field personnel did not anticipate encountering plutonium in a separated form. Instead, beta-gamma monitoring was being performed with the assumption that any plutonium would be mixed with fission products. In response to the elevated lapel air sampler results, Bechtel Hanford suspended all work associated with the 618-2 burial ground and its stockpiled, excavated waste.

Bioassays were initiated for the exposed RCTs. Further isotopic analysis of lapel air samples confirmed that the RCTs were exposed to plutonium-239 and americium-241 airborne radioactivity.

Bechtel Hanford immediately initiated an investigation into the 618-2 Burial Ground events. The investigation included numerous causal analyses to identify corrective actions aimed at programmatic improvement to prevent the recurrence of these events.

The Bechtel Hanford investigation identified deficiencies associated with work planning and implementation that contributed to the plutonium uptakes. More specifically, work planning for the remediation activities and subsequent radiological monitoring did not anticipate the presence of separated plutonium as an isotope of concern. Personnel performing work planning were not adequately trained in the potential hazards associated with the site. Finally, during the unearthing of the combination safe, Bechtel Hanford failed to recognize conditions (free liquids) outside those addressed in the authorization basis.

### III

Bechtel Hanford voluntarily reported this matter to DOE via the Noncompliance Tracking System (NTS-RL-BHI-REMACT-2005-0001) on January 26, 2005. DOE evaluated the investigation performed by Bechtel Hanford, and has concluded that the findings and conclusions with respect to the incident are comprehensive. Relevant facts have been fully and accurately disclosed, including the identification of potential violations of nuclear safety requirements. DOE's evaluation of Bechtel Hanford's aggressive investigation of this occurrence, coupled with Bechtel Hanford's history of prompt and proactive identification and resolution of nuclear safety issues, leads DOE to conclude that a full independent investigation by DOE into these matters is unnecessary and unwarranted.

### IV

DOE and Bechtel Hanford have reached agreement on this matter under which both have agreed to issuance of this Consent Order in lieu of a potentially protracted and otherwise unnecessary additional investigation by DOE and possible enforcement proceedings, including the potential issuance of Notices of Violation with the imposition of civil penalties. DOE and Bechtel Hanford agree that in recognition of the response by Bechtel Hanford in this matter, the payment to be provided by Bechtel Hanford has been significantly reduced from what could have been proposed through the formal enforcement process.

## V

DOE acknowledges that Bechtel Hanford's execution of, and payment in accordance with, this Consent Order does not constitute or imply admission by Bechtel Hanford of potential regulatory violations. DOE and Bechtel Hanford agree that the sum paid by Bechtel Hanford to resolve this matter shall not be considered a reimbursable cost.

## VI

This Consent Order is issued pursuant to DOE's authority in Section 234A of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2282a), and 10 CFR Part 820.23. Bechtel Hanford agrees to pay to the Treasurer of the United States (Account Number 891099), mailed to the Director, Office of Price-Anderson Enforcement, U.S. Department of Energy, an amount of \$125,000 reflecting an agreed amount in lieu of any subsequent investigation, Notice of Violation and Imposition of Civil Penalty.

## VII

DOE agrees that it will not pursue an enforcement action or civil penalty for any potential violations pertaining to the referenced matters. DOE may subsequently consider enforcement action if it later becomes known that any of the facts or information provided regarding the described events were false or inaccurate in any material way.

This Consent Order does not preclude DOE from investigation or pursuing enforcement action against Bechtel Hanford for (1) cases other than described in the above referenced NTS report, or (2) a failure to complete the corrective actions as outlined in the above NTS report.

## VIII

ACCORDINGLY, it is hereby Ordered as follows:

1. Bechtel Hanford agrees to pay \$125,000 to the Treasurer of the United States (Account Number 891099) within 15 days of the issuance of this Order. It shall be sent by overnight carrier to the Director, Office of Price-Anderson Enforcement, at the following address:

Director, Office of Price-Anderson Enforcement  
Attention: Office of the Docketing Clerk  
EH-6, 270 Corporate Square Building  
U.S. Department of Energy  
19901 Germantown Road  
Germantown, MD 20874-1290

2. Upon completion and verification of all corrective actions to the satisfaction of DOE, the payment made to DOE under this Consent Order shall completely resolve and serve as a full and final settlement of any and all enforcement actions taken under 10 CFR 820 arising from the referenced NTS report.
3. This Consent Order shall become a Final Order upon receipt of said amount referenced in Item 1, above.
4. Bechtel Hanford waives any and all rights to appeal or otherwise seek judicial review of this Consent Order. However, DOE and Bechtel Hanford retain the right to judicially enforce the provisions hereof by all legal means.

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

FOR U.S. Department of Energy



---

Stephen M. Sohinki  
Director  
Office of Price-Anderson Enforcement

FOR Bechtel Hanford, Inc.



---

T. E. Logan  
President  
Bechtel Hanford, Inc.