



OFFICE OF RIVER PROTECTION

P.O. Box 450, MSIN H6-60
Richland, Washington 99352

JAN 28 2016

16-ECD-0006

Ms. Jane A. Hedges, Program Manager
Nuclear Waste Program
Washington State
Department of Ecology
3100 Port of Benton Blvd.
Richland, Washington 99354

Ms. Hedges:

JANUARY 2016 SEMI-ANNUAL REPORT FOR STATE OF WASHINGTON VS.
U.S. DEPARTMENT OF ENERGY, CASE NO. 08-5085-FVS, FOR WASTE TREATMENT
AND IMMOBILIZATION PLANT CONSTRUCTION AND STARTUP ACTIVITIES AND
TANK RETRIEVAL ACTIVITIES - MAY 1, 2015, THROUGH OCTOBER 31, 2015

This letter transmits the U.S. Department of Energy January 2016 Semi-Annual Report (Attachment) under Section IV-C-1 of the subject referenced Consent Decree, for the period of May 1, 2015, through October 30, 2015. Pursuant to the Consent Decree, this report provides the status and progress made during the reporting period.

If you have any questions, please contact William F. Hamel, Assistant Manager, Waste Treatment and Immobilization Plant Project, (509) 376-6727, or Thomas W. Fletcher, Assistant Manager, Tank Farms Project, (509) 376-3434.

Kevin W. Smith
Manager

ECD:BRT

Attachment

cc: See page 2

Ms. Jane A. Hedges
16-ECD-0006

-2-

JAN 28 2016

cc w/attach:

K. Niles, Oregon Energy
BNI Correspondence
TPA Administrative Record
WRPS Correspondence

cc w/o attach:

R.S. Skeen, CTUIR
S.L. Dahl, Ecology
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C.L. Whalen, Ecology
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R.E. Piippo, MSA
G. Bohnee, NPT
R. Buck, Wanapum
R. Jim, YN
D. Rowland, YN

**Attachment
16-ECD-0006
(26 Pages)**

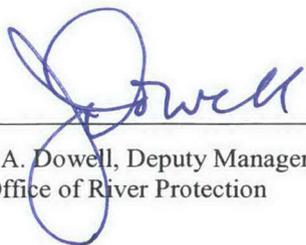
**January 2016 Semi-Annual Report, State of Washington vs.
U.S. Department of Energy, Case No. 08-5085-FVS, for
Waste Treatment and Immobilization Plant Construction and Startup
Activities and Tank Retrieval Activities**

**JANUARY 2016 SEMI-ANNUAL REPORT FOR STATE OF
WASHINGTON VS. U.S. DEPARTMENT OF ENERGY,
CASE NO. 08-5085 FVS, FOR WASTE TREATMENT AND
IMMOBILIZATION PLANT CONSTRUCTION AND STARTUP
ACTIVITIES AND TANK RETRIEVAL ACTIVITIES**

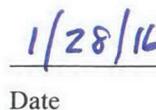
May 1, 2015, through October 31, 2015



**U.S. DEPARTMENT OF ENERGY
OFFICE OF RIVER PROTECTION
2440 Stevens Center Place
Richland, Washington 99352**



J.A. Dowell, Deputy Manager
Office of River Protection



Date

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LIST OF ACRONYMS

BNI	Bechtel National, Inc.
BOF	Balance of Facilities
DFLAW	direct feed low-activity waste
DOE	U.S. Department of Energy
EMF	Effluent Management Facility
FY	fiscal year
HEPA	high-efficiency particulate air
HLW	high-level waste
LAB	Analytical Laboratory
LAW	low-activity waste
LBL	Low-Activity Waste Facility, Balance of Facilities, and Analytical Laboratory
ORP	Office of River Protection
PDSA	preliminary documented safety analysis
PT	pretreatment
RLD	Radioactive Liquid Waste Disposal System
SDD	system design descriptions
TCO	thermal catalytic oxidizer
WTP	Waste Treatment and Immobilization Plant

1.0 INTRODUCTION

The U.S. Department of Energy (DOE) is submitting the following information to satisfy its obligation to provide “a written report documenting WTP construction and startup activities and tank retrieval activities” as required by Section IV-C-1 of the Consent Decree in *State of Washington vs. United States Department of Energy*, Case No. 08-5085-FVS (E.D. Wash.) (October 25, 2010).

The project and facility progress, budget, and cost information in this report is based on the period May 1, 2015, through October 31, 2015.

2.0 WASTE TREATMENT AND IMMOBILIZATION PLANT

2.1 Project Accomplishments and Issues

2.1.1 Waste Treatment and Immobilization Plant Project Overview

The Waste Treatment and Immobilization Plant (WTP) Project currently employs approximately 2,874 full-time equivalent contractor (Bechtel National, Inc. [BNI]) and subcontractor personnel. This includes 627 craft, 419 nonmanual, and 146 subcontractor full-time equivalent personnel working at the WTP construction site (all facilities).

In October 2012, the percent-complete values for Pretreatment (PT) and High-Level Waste (HLW) facilities were frozen at the September 2012 rate. Construction, procurement, and production engineering activities were placed on hold for PT and significantly slowed down for HLW. In August 2014, DOE approved continuation of production engineering activities for HLW. Subsequently, DOE has approved the fiscal year (FY) 2015 and FY 2016 two-year Interim Work Plan. In April 2015, a three-year Interim Work Plan for the PT Facility was implemented emphasizing prioritization of technical issue resolution activities. The WTP Project is focused on resolving PT Facility technical issues and finalizing HLW technical issue resolution and facility design.

The WTP Project continues to focus on completion of the Low-Activity Waste (LAW) Facility, analytical laboratory (LAB), and Balance of Facilities (BOF) (collectively LBL). As of September 2015, LBL facilities were 50 percent complete, design and engineering was 78 percent complete, procurement was 71 percent complete, construction was 79 percent complete, and startup and commissioning was 8 percent complete.

In March 2014, DOE submitted a proposal to amend the Consent Decree to the State of Washington, and the State submitted a proposal to amend the Consent Decree to DOE. The parties rejected each other's proposals, invoked dispute resolution and initiated good faith negotiations pursuant to the Consent Decree. After those negotiations proved unsuccessful, DOE and the State both filed motions with the United States District Court, Eastern District of Washington, seeking a modification of the Consent Decree. Those motions are currently pending before the court.

2.1.2 Pretreatment Facility

As of September 2012, the PT Facility was 56 percent complete overall, with engineering design 85 percent complete, procurement 56 percent complete, construction 43 percent complete, and startup and commissioning 3 percent complete. In October 2012, the PT Facility two-year Interim Work Plan was incorporated into the project over-target baseline and the percent-complete values for PT were frozen at the September 2012 rate. Construction, procurement, and production engineering activities remain on hold, resulting in no change to the percent-complete status since September 2012. BNI continues to focus on resolving technical issues, performing hazard analyses, and completing safety evaluations for process systems in accordance with the three-year Interim Work Plan.

Technical review teams were established to address specific technical issues: (1) hydrogen gas release; (2) criticality; (3) hydrogen in piping and vessels; (4) mixing; (5) erosion/corrosion; (6) optimization; (7) black cell analysis; and (8) ventilation. BNI has been working with DOE to develop specific approaches to close each individual issue.

In October 2015, discussions began to incorporate an updated three-year Interim Work Plan with an emphasis to prioritize the remaining FY 2015 technical issue resolution activities through FY 2017. DOE continues to focus on resolving technical issues, performing hazard analyses, and completing safety evaluations for process systems in accordance with the three-year Interim Work Plan.

DOE continues to evaluate available technologies that may support in-service inspections of vessels and piping within black cells. Phase 2 of the Full-Scale Vessel Testing is continuing for the pulse-jet mixer controls study. Technical review teams continue to evaluate open PT Facility technical issues. An evaluation is ongoing relative to a standardized design for high-solids vessels within the PT Facility.

Major activities for the next six months include:

- Complete criticality safety evaluation engineering study for ultrafiltration process system/HLW lag storage and feed blending process/plant wash and disposal system with controls
- Complete hydrogen control strategy gap analysis (engineering study includes gap analysis and post design basis event ventilation and air requirements)
- Receive technical issue closure work packages T1 and T3
- Issue Phase 2 pulse-jet mixer controls study
- Complete sliding bed evaluation report and brief DOE Office of River Protection (ORP)
- Issue standardized High Solids Vessel Design Verification Guide
- Issue updated erosion/corrosion risk assessment.

2.1.3 High-Level Waste Vitrification Facility

In October 2012, the HLW Facility two-year Interim Work Plan was incorporated into the project over-target baseline and the percent completion values for HLW were frozen at the September 2012 rate. As of September 2012, the HLW Facility was 62 percent complete overall, with engineering design 89 percent complete, procurement 81 percent complete, construction 43 percent complete, and startup and commissioning 4 percent complete. Construction, procurement, and production engineering activities have been significantly slowed down, resulting in minimal change to the percent complete status since September 2012.

In August 2014, DOE approved the authorization to proceed with production engineering activities for HLW. BNI developed a transition plan to establish engineering priorities to complete actions necessary to achieve full authorization for engineering, procurement, and construction. In accordance with the transition plan, BNI is focused on production engineering to support construction, hazard analyses, engineering studies to develop paths forward for resolution of technical and design issues, and development of system design descriptions (SDD) in accordance with the Systems Engineering Management Plan. Many SDDs have been issued, along with the Facility Design Description. Further, BNI has implemented an improved process for nuclear and environmental safety analyses, improving analysis efficiency. A full facility hazards analysis (under the improved process) for HLW in support of a full Preliminary Documented Safety Analysis (PDSA) revision has been initiated.

Construction is continuing mostly in civil areas (placement of concrete slabs and walls and installation of structural steel). Construction activities include the placement of walls and slabs at the 37 ft and 58 ft elevations, installation of structural steel at the 58 ft and 72 ft elevations, installation of cable tray supports, ventilation duct supports, and fire protection piping in the annex, and crane rails in the melter cave and canister decontamination cave.

BNI has issued a new high-efficiency particulate air (HEPA) filter test strategy and test plan, incorporating previous year's lessons learned to establish a revised forward. Fabrication of new design of HEPA filters and the full-scale testing has been initiated at Mississippi State University.

Radioactive liquid waste disposal (RLD) system redesign has been completed and a revision to the PDSA is undergoing DOE review for approval. BNI has awarded the contract for fabrication of RLD Vessel 0008 and modification of RLD Vessel 0007.

Major activities for the next six months include:

- Continue placement of walls at the +38 ft and +58 ft elevations and slabs at the +58 ft elevation
- Continuation of HEPA filter testing
- DOE approval of the RLD system PDSA revision to support procurement
- Issue the remaining HLW SDDs
- Complete the full facility hazards analysis for HLW in support of full production authorization by DOE.

2.1.4 Low-Activity Waste Facility

As of the end of this reporting period, the LAW Facility was 53 percent complete overall, with engineering design 77 percent complete, procurement 75 percent complete, construction 77 percent complete, and startup and commissioning 4 percent complete.

During this period, a design/operability review of selected LAW systems continued. In addition, the 30 percent design review of the process design submittal for the thermal catalytic oxidizer (TCO) was completed and the hazards analyses for the melter and melter offgas reagent systems were completed.

Procurement activities for the LAW Facility continue to focus on LAW Secondary Offgas/Vessel Vent Process System components, including the preheaters, caustic scrubber, and TCO. Released the active process safety analyzer and uninterruptable power source material requisitions for award.

Construction accomplishments for the LAW Facility melters included completion of the load test of the temporary melter assembly crane and flipping of melter gas barrier lid number 1. Other construction accomplishments in the reporting period include:

- Completion of all TCO housing unit welding
- Completed heater inlet and outlet duct transition insulation on the TCO
- Completed the LAW primary offgas process system wet electrostatic precipitator elevation +03 repairs
- Completed the annex control/server room electrical tray installation
- Completed heating, ventilation, and air-conditioning grills – diffusers and cable tray installations in the control/server room
- Started direct expansion pipe and support installation on elevation +48 ft.

Major activities expected during the next six months include:

- Complete subcontractor work scope in the annex
- Continue hydrostatic testing of piping and installation of conduit and cable on multiple levels
- Receive the caustic scrubber
- Assemble and install wet electrostatic precipitator internals
- Receive the TCO and ammonia skid.

2.1.5 Balance of Facilities

As of the end of this reporting period, the BOF was 55 percent complete overall, with engineering design 80 percent complete, procurement 71 percent complete, construction 80 percent complete, and startup and commissioning 14 percent complete.

BNI continues to focus on completion of facility construction and system turnover to the startup organization. While individual BOF facilities are not subject to a formal operational readiness review, each facility will be evaluated to verify the adequacy of design and readiness for operation. The first stage of this validation will occur as part of the turnover from construction to the startup organization for preliminary component testing. Following the preliminary component testing, each system will be maintained in a standby condition. The LAW control room will provide communications and controls for the second stage of BOF startup and commissioning. Upon completion of the LAW control room, BOF will begin sequential energization and wetted systems testing in preparation to support LAW cold commissioning.

During this period, design activities were focused on preliminary design development for the Effluent Management Facility (EMF) in support of direct feed low-activity waste (DFLAW). Additional efforts were focused on defining the required BOF system isolations for DFLAW, preparing procurements, and initiating the PDSA process for EMF. Construction efforts were focused on initiation of BOF system isolations and the turnover of major systems within the Nonradioactive Liquid Waste Disposal Facility, WTP switchgear, and BOF switchgear buildings to the startup organization for component level testing.

Major activities for the next six months include:

- Continue the design effort for the EMF
- Initiate excavation activities for the EMF
- Complete preparations for site energization via the permanent power source
- Initiate component level testing for the Nonradioactive Liquid Waste Disposal system.

2.1.6 Analytical Laboratory

As of the end of this reporting period, the LAB was 60 percent complete overall, with engineering design 82 percent complete, procurement 86 percent complete, construction 96 percent complete, and startup and commissioning 10 percent complete.

During this period engineering efforts were focused on LAB system reviews to evaluate potential modifications or isolations in support of directly feeding LAW and closure of nonconformance reports and construction deficiency reports. Construction activities within the LAB were minimal and focused on minor modifications to support startup testing. The remaining construction workscope will be completed in parallel with system modifications and construction activities required to support the direct feeding of LAW. Analytical methods development activities began and current efforts are focused on procedure development.

Major activities for the next six months include:

- Initiate component level testing of select LAB systems
- Continue LAB system walkdowns in support of DFLAW modifications
- Continue analytical methods development.

2.2 Milestone Compliance and Impact Evaluation

Milestone	Title	Due Date	Status
D-00A-19	Complete Elevation 98' Concrete Floor Slab in Pretreatment Facility	12/31/2014	Past Due
D-00A-07	Low Activity Waste Facility Construction Substantially Complete	12/31/2014	Past Due

On November 21, 2011, DOE notified the State of Washington and State of Oregon that the DOE may be unable to meet Consent Decree milestone D-00A-19 due to technical issues with the Pretreatment facility design. Progress toward technical issue resolution will continue to be reported on a monthly basis as part of the Consent Decree Monthly Report.

On June 6, 2013, DOE notified the State of Washington and State of Oregon that the DOE may be unable to meet Consent Decree milestone D-00A-07. Progress toward facility completion will continue to be reported on a monthly basis as part of the Consent Decree Monthly Report.

2.3 Schedule Mitigation

Mitigation activities and progress toward milestone completion will continue to be reported on a monthly basis as part of the Consent Decree monthly report.

2.4 Budget/Cost Status

Total funding available for the WTP Project during the current FY 2015, is \$971 million, which includes \$667 million of new budget authority and \$304 million of FY 2014 carryover funds. To date, the WTP Project has received \$9.865 billion of funding. For FY 2015, the WTP Project spent \$701 million through end of September. At the end of September 2015, the total amount spent on the WTP Project was \$9.595 billion.

3.0 SINGLE-SHELL TANK WASTE RETRIEVALS

3.1 Accomplishments and Issues

Retrieval of Tank C-102 was completed during FY 2015 with the Washington State Department of Ecology accepting the practicability evaluation on October 2, 2015. The calculated final volume for C-102 is 2,100 ft³ with 301,000 gallons of waste retrieved. DOE started a retrieval method at C-105 using vacuum retrieval and high pressure water. After a failed educator hose on the Mobile Arm Retrieval System-Vacuum, a systems engineering evaluation was initiated to assist with evaluating possible Mobile Arm Retrieval System-Vacuum repair options and/or other potential retrieval system options. For Tank C-111, retrieval operations resumed in early October until a hydraulic fluid leak near the hydraulic power unit was discovered. DOE is currently evaluating repair options.

Washington River Protection Solutions LLC chartered Savannah River National Laboratory in April 2014 to establish and oversee a panel of external experts to examine chemical vapors management and related worker protection measures at the Hanford tank farms. Known as the Tank Vapor Assessment Team, this group released its report in late 2014 (SRNL-RP-2014-00791, *Hanford Tank Vapor Assessment Report*, October 30, 2014; http://srnl.doe.gov/documents/Hanford_TVAT_Report_2014-10-30-FINAL.pdf). Improvements

to worker safety from tank vapor emissions that are measured below Occupational Safety and Health Administration standards and *Clean Air Act* standards, continues.

3.2 Milestone Compliance and Impact Evaluation

Milestone	Title	Due Date	Status
D-00B-01	Complete Retrieval of Tank Wastes from 10 Remaining SSTs in WMA-C	September 30, 2014	Past Due

SST = single-shell tank.

WMA-C = Waste Management Area C.

DOE has notified the State of Washington and State of Oregon that a serious risk has arisen that DOE may be unable to meet this Consent Decree milestone. This milestone is now termed past due and retrieval is ongoing with Tanks C-105 and C-111. Progress toward facility completion continues to be reported on a monthly basis as part of the Consent Decree monthly report.

3.3 Schedule Mitigation

Schedule mitigation for milestone D-00B-01 was created for 241-C-111, and a system engineering evaluation was prepared for Tank 241-C-105.

3.4 Budget/Cost Status

The total budget at completion for single-shell tank retrieval activities in FY 2015 is \$87 million. For the period May 1, 2015, through October 31, 2015, single-shell tank retrieval activities cost-to-date is \$48.7 million.

4.0 WRITTEN DIRECTIVES

The following written directives were issued to BNI for Consent Decree-related work at the WTP during the reporting period:

- ORP letter from G.F. Champlain and W.F. Hamel to M. McCullough, BNI, "Direction to Revise Planning and Requirements to Support Resolution of Technical Issues with the Pretreatment Facility," 15-WTP-0050 Reissue, dated January 28, 2016.
- ORP letter from R.L. Dawson and W.F. Hamel to M. McCullough, BNI, "Response to Submittal of Bechtel National, Inc. Plan and Detailed Schedule for the Development of Baseline Change Proposals for Contract Line Item Number 1 and Contract Line Item Number 2.1," 15-WTP-108, dated July 27, 2015.
- ORP letter from W.F. Hamel to J.M. St. Julian, BNI, "Concurrence to Revise Resolution Dates for Pretreatment Facility Condition Report," 15-WTP-0093, dated July 27, 2015.
- ORP letter from R.L. Dawson and W.F. Hamel to M. McCullough, BNI, "Pretreatment Facility Suspended Purchase Orders," 15-WTP-0039, dated August 20, 2015.

- ORP letter from R.L. Dawson and W.F. Hamel to J.M. St. Julian, BNI, "Direction to Evaluate Recommendations from the Bechtel National, Inc. Chartered Independent Expert Review Team on Design and Fabrication of Vessels RLD-VSL-00007 and RLD-VSL-00008," 15-WTP-0099, dated September 2, 2015.
- ORP letter from G.F. Champlain and W.F. Hamel to M. McCullough, BNI, "Direction to Revise Planning and Requirements to Support Resolution of Technical Issues with the Pretreatment Facility," 15-WTP-0117, dated September 2, 2015.
- ORP letter from G.F. Champlain and W.F. Hamel to J.M. St. Julian, BNI, "Direction to Provide an Integrated Baseline Change Proposal for CLIN 1 and CLIN 2 within 60-Days," 15-WTP-0163, dated October 22, 2015.

Copies of the subject letters and memorandum are attached. The following directives were issued to BNI for work required by the Consent Decree at the WTP during the May 1, 2015, to October 31, 2015, reporting period and do not reflect work that has been directed after October 31, 2015, up to the date of transmittal of this report.

No written directives were issued to Washington River Protection Solutions LLC for Consent Decree-related work at the tank farms during the reporting period.



OFFICE OF RIVER PROTECTION

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Richland, Washington 99352

JAN 28 2016

15-WTP-0050
REISSUE: 01/28/16

Mrs. Margaret McCullough, Project Director
Bechtel National, Inc.
2435 Stevens Center Place
Richland, Washington 99354

Mrs. McCullough:

CONTRACT NO. DE-AC27-01RV14136 – DIRECTION TO REVISE PLANNING AND REQUIREMENTS TO SUPPORT RESOLUTION OF TECHNICAL ISSUES WITH THE PRETREATMENT FACILITY

- References:
1. ORP letter from W.F. Hamel to M.G. McCullough, BNI, "Direction to Initiate Planning to Support the Authorization to Proceed with Pretreatment Facility Engineering, Procurement and Construction Activities," 14-WTP-0069, dated May 6, 2014.
 2. ORP letter from R.L. Dawson and W.F. Hamel to M.G. McCullough, BNI, "Direction to Update the Pretreatment and High-Level Waste Facilities Two Year Work Plan through Fiscal Year 2016," 14-WTP-0015, dated March 4, 2014.

The purpose of this letter is to provide Bechtel National, Inc. (BNI) with revised direction for completion of work to support the U.S. Department of Energy (DOE), Office of River Protection (ORP) in resolving the technical issues for the Waste Treatment and Immobilization Plant (WTP) Pretreatment Facility (PTF). This direction supersedes the direction provided in References 1 and 2.

This letter identifies work scope priorities for fiscal years 2015 through 2017. The allocation of available funding for the PTF will be prioritized as follows:

- 1) PTF Preservation: Conduct required maintenance to mitigate potential safety hazards and long term environmental impacts on the PTF structure and equipment components.

- 2) Support proposed consent decree milestones activities associated with PTF.
- 3) Complete the technical issue resolution work scope and end points for the following (See Attachment 1 for further detail):
 - a) Nuclear safety basis portions of Technical Issue T1, T2, and T3.
 - b) Standard High Solids Vessel Testing at the Mid-Columbia Engineering and Energy Solutions Engineering Laboratory facilities to support Technical Issue T4 and T7 testing and analysis to confirm the vessel design for required mixing performance.
 - c) Conceptual design study to evaluate standard high solids vessel design concepts for PTF Planning Areas 2, 3 and 4 and evaluate potential contract changes to simplify the PTF flowsheet and design (T6). This work will include resolution of the applicable scope from Technical Issue T8.
 - d) Full Scale testing of pulse jet mixing controls testing and test data analysis (T4)
- 4) Issue system design descriptions (SDDs) for ultrafiltration process (UFP), feed receipt, lag storage and feed blending process (HLP), plant wash and disposal (PWD) system, and Ventilation systems as Revision A documents for inclusion in the Pretreatment conceptual design study (T6).
- 5) Additional work priorities are to be considered as additional funding becomes available. These are identified in Attachment 2.

BNI is directed to:

1. Develop an integrated three year plan that describes the strategy for resolving the technical issues for the PTF. The plan should describe resolution of the prioritized PTF technical issues by September 2017, and be provided to ORP for formal review and approval no later than July 30, 2015. The plan shall include: 1) a resource loaded schedule, 2) work activity descriptions, and 3) key milestones as defined by the pretreatment endpoints identified in Attachment 1.

The plan for supporting PTF technical issue resolution should be consistent with ORP's funding guidance. In support of meeting those goals, consolidate the aerosol impact evaluation activities from the T8 work plan into the T6 work plan and suspend remaining activities on the T8 work plan until natural phenomena hazard evaluations and high-efficiency particulate air (HEPA) filter qualification testing and selection by High-Level Waste project is completed and funding is made available.

2. The integrated PTF plan is to be supported by the eight technical issue resolution work plans that define: the strategy for resolution of the technical issue (s) in consideration of the technical issue resolution endpoints identified in Attachment 1; decisions required to be made; work products to be produced including their descriptions. The relationship of

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the technical issue work products to other technical issue resolution decisions, and work products should be identified. It is requested that updated work plans be approved by the WTP Design Authority and be provided to the DOE-WTP Senior Technical Authority for review by July 30, 2015.

The technical issue resolution work plans must also meet the following additional requirements:

- a) Complete appropriate actions identified in the approved Corrective Action Plans for the DOE Priority Level 1 Findings as applicable to the PTF.
 - b) Close actions identified in the WTP Cut Sheets/Technical Issue Risks applicable to the PTF technical issues.
 - c) Reconcile open Condition Reports and actions with changes and decisions implemented as part of technical issue closure. Modify Corrective Action Plans as necessary. Evaluate the residual risk associated with the remaining Condition Reports, associated open actions, and Action Tracking System that have significant design, operational or safety related impacts.
3. BNI is to investigate funding opportunities during work completion that reduces schedule duration and/or cost associated with Technical Issue resolution. These opportunities may include alternative strategies for completing the work, organizational improvements and/or work process improvements while meeting the same objectives for technical quality, defensibility and safety. Progress on opportunity initiatives are to be presented at the normal monthly PTF Area Reviews. Funds that become available through these initiatives shall be used to support additional activities, as shown in Attachment 2 that could not be initially funded within the current funding guidelines.

All technical and project reporting information associated with Pretreatment technical issue resolution is to be controlled and marked as pre-decisional, deliberative process material. This includes:

- Technical Issue Work Plans,
- Technical Reports, Engineering Calculations, Engineering studies and internal project memorandums,
- Monthly Performance reporting information (e.g., Pretreatment Areas Review information), and
- Informal progress reports and technical presentations (e.g. weekly progress reports, monthly technical progress reports).

Mrs. Margaret McCullough
15-WTP-0050

-4-

JAN 28 2016

Official Use Only (OUO) information must continue to be handled appropriately per the Contract. Documents marked OUO must continue to be treated in compliance with DOE O 471.3, Admin Chng1, *Identifying and Protecting Official Use Only Information*.

If you have any questions please contact William F. Hamel, Assistant Manager/Federal Project Director, Waste Treatment and Immobilization Plant at (509) 376-6727 or you may contact Langdon K., Holton, WTP Senior Technical Authority at (509) 373-9202.



George F. Champlain
Contracting Officer



William F. Hamel
Assistant Manager, Federal Project Director
Waste Treatment and Immobilization Plant

WTP:LKH

Attachments (2)

cc:

BNI Correspondence

Reissue 1: Letter was revised based on direction from DOE General Counsel to ensure documentation generated is controlled from public release and include markings on the document to restrict their release.

Reissue 2: Letter revised on direction from Office of Chief Counsel to remove the official use only designation.



OFFICE OF RIVER PROTECTION

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Richland, Washington 99352

JUL 27 2015

15-WTP-0108

Mrs. Margaret McCullough, Project Director
Bechtel National, Inc.
2435 Stevens Center Place
Richland, Washington 99354

Mrs. McCullough:

CONTRACT NO. DE-AC27-01RV14136 – RESPONSE TO SUBMITTAL OF BECHTEL NATIONAL, INC. PLAN AND DETAILED SCHEDULE FOR THE DEVELOPMENT OF BASELINE CHANGE PROPOSALS FOR CONTRACT LINE ITEM NUMBER 1 AND CONTRACT LINE ITEM NUMBER 2.1

Reference: BNI letter from M.G. McCullough to R.L. Dawson, ORP, "Submittal of BNI Plan and Detailed Schedule for the Development of Baseline Change Proposals for Contract Line Item Number 1.0 and Contract Line Item Number 2.1," CCN: 272439, dated May 12, 2015.

The purpose of this letter is to respond to the Bechtel National, Inc. (BNI) letter providing BNI's plan and schedule for contract modification proposals and Baseline Change Proposals (BCP) for completing Contract Line Item Number (CLIN) 1 and CLIN 2.1, as requested by the U. S. Department of Energy, Office of River Protection (ORP), in the Reference.

ORP generally concurs with BNI's proposed approach for Task 1 – Task 4 as outlined in the Reference. However, given the importance of rebaselining to the Waste Treatment and Immobilization Plant Project, ORP directs BNI to evaluate whether it can submit the Task 4 Quantity Development Packages, Schedule, and BCP deliverables sooner than the proposed October 30, 2015, and January 31, 2016, dates. Please provide a response that includes options for accelerating QDP's delivery to ORP within two weeks of receipt of this letter.

If you have any questions, please contact Ronnie L. Dawson at (509) 372-0098, or your staff may contact William F. Hamel, Assistant Manager/Federal Project Director, Waste Treatment and Immobilization Plant Project, at (509) 376-6727.

A handwritten signature in black ink that reads "Ronnie L. Dawson".

Ronnie L. Dawson
Contracting Officer

A handwritten signature in black ink that reads "William F. Hamel".

William F. Hamel
Assistant Manager, Federal Project Director
Waste Treatment and Immobilization Plant

WTP:RLC

cc: BNI Correspondence



OFFICE OF RIVER PROTECTION

P.O. Box 450, MSIN H6-60
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JUL 27 2015

15-WTP-0093

Mr. J.M. St. Julian
Project Manager
Bechtel National, Inc.
2435 Stevens Center Place
Richland, Washington 99354

Mr. St. Julian:

CONTRACT NO. DE-AC27-01RV14136 – CONCURRENCE TO REVISE RESOLUTION DATES FOR PRETREATMENT FACILITY CONDITION REPORT

Reference: BNI letter from J.M. St. Julian to W.F. Hamel, ORP, "Revised Resolution date for Pretreatment Facility Condition Report," CCN: 272823, dated June 4, 2015.

The U.S. Department of Energy, Office of River Protection, Waste Treatment and Immobilization Plant has reviewed the information provided in the above Reference. We concur with the proposal of closing the existing condition report (CR) and opening two actions (one for the High-Level Waste Facility and one for the Pretreatment Facility). We also concur with the CR for Pretreatment to be completed two years after the authorization to proceed is provided.

The action taken herein is considered to be within the scope of work of the existing contract and does not authorize the Contractor to incur any additional costs (either direct or indirect) or delay delivery to the Government. If the Contractor considers that carrying out this action will increase contract/project costs or delay of delivery, the Contractor shall promptly notify the Contracting Officer orally, confirming and explaining the notification in writing within ten (10) calendar days, and otherwise comply with the requirements of the Contract clause entitled 52.243-7, -- "Notification of Changes." Following submission of the written notice of impacts, the Contractor shall await further direction from the Contracting Officer.

If you have any questions, please contact me, or you may contact Dan Knight, Project Controls Officer for the Pretreatment Facility, (509) 373-4143.

for 
William F. Hamel
Assistant Manager, Federal Project Director
Waste Treatment and Immobilization Plant

WTP:GBO

cc:
BNI Correspondence



OFFICE OF RIVER PROTECTION

P. O. Box 450, MSIN H6-60
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AUG 20 2015

15-WTP-0039

Mrs. Margaret McCullough, Project Director
Bechtel National, Inc.
2435 Stevens Center Place
Richland, Washington 99354

Mrs. McCullough:

**CONTRACT NO. DE-AC27-01RV14136 – PRETREATMENT FACILITY SUSPENDED
PURCHASE ORDERS**

- References:
1. BNI letter from J.M. St. Julian to W.F. Hamel, ORP, "Pretreatment Facility Suspended Purchase Orders," CCN: 270724, dated January 9, 2015.
 2. ORP letter from R.L. Dawson to F.M. Russo, BNI, "Modification of Direction for the Re-baseline/Re-plan of the Waste Treatment and Immobilization Plant (WTP) Project and Request for Baseline Change Proposal(s) and Associated Contract Change Proposal(s)," 12-WTP-0263, dated August 16, 2012.

The U.S. Department of Energy, Office of River Protection (ORP), Waste Treatment and Immobilization Plant (WTP) has reviewed the information and supporting documentation provided in Reference 1. Please note that ORP does not agree with the following statement in Reference 1 above: "Since 2012, fifty-six active purchase orders (PO) for equipment and material have been placed on suspension due to funding limitations." For clarification, engineering, procurement, and construction activities were placed on hold due to technical risks associated with the Pretreatment facility design as identified in Reference 2.

ORP understands the recommendations made by Bechtel National, Inc. (BNI) as an effort to effectively manage project cost. ORP has the following comments on these recommendations:

1. The recommendation to cancel purchase orders QL-POA-MVA0-00010, QL-POC-MVA0-00001, and QL-POD-MVA0-00001 for pulse-jet mixed vessels appears reasonable. Please submit actual termination and close-out costs as these procurements are closed.
2. The reference lists 22 purchase orders BNI recommended for continued suspension; however, no justification was provided for keeping these purchase orders in suspension. Suspending these purchase orders and reissuing new procurement actions in the distant future may avoid cost; however, this is by no means certain—especially in those cases where the scope or the vendor might change. The decision rule of suspending purchase orders whose

annual "hotel" costs exceed the cost of new procurements may not be the only consideration. Please review each of these purchase orders to develop additional justification for finishing, suspending, or terminating each one.

3. Purchase Orders QL-POA-MEVV-00001 and -00002 for evaporator systems represent a large investment and require a broader analysis and justification for cancellation compared to that provided in Reference 1. Please revise and expand this justification and identify the design changes that form the basis for any recommendation(s). In addition, the CNP evaporator (QL-POA-MEVV-00002) and the Vessel Vent Caustic Scrubber (QL-POA-MKAS-00002) are being evaluated as part of the formal engineering study for pretreatment processing flowsheet alternatives that is underway. The results of this study will determine whether the components will remain part of the design and will support a recommendation on the path forward on these purchase orders.
4. The recommendation to finish four purchase orders that are essentially complete (95% or more) appears reasonable: QL-POB-MVA0-00013, QL-POB-MVA0-00019, QL-POA-MJW0-00004, and CM-POA-MJKG-00005.
5. The recommendation to terminate five purchase orders for which the vendor is out of business or has shut down appears reasonable. This applies to: QL-POA-MEPS-00003, CD-POA-MPE0-00001, QL-POA-PH02-00003, QL-POA-PH02-00004, and QL-POA-PH02-00008.
6. The recommendation to terminate QL-POB-AVA0-00015 that is no longer in the design appears reasonable.
7. Several purchase orders have little or no costs to date. The BNI recommended actions below appear reasonable.

CM-POB-JV09-00001	Instrument Valves	Terminate and repurchase
QL-POB-MVA0-00012	Pressure Vessels	Terminate
QL-POA-PH02-00011	Racks	Terminate
QL-POA-PH02-00012	Racks	Terminate
QL-POA-EAA0-00002	Lighting, etc.	Terminate and repurchase
CD-POA-JF16-00001	Flowmeter	Terminate and repurchase
QL-POA-JV09-00003	Valves	Terminate and repurchase
CM-POA-JA38-00003	Cesium Monitors	Terminate and repurchase
QL-POB-MVA0-00014	Pressure Vessels	Terminate and repurchase
CM-POA-JT08-00001	Thermowell	Terminate and repurchase

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Mrs. Margaret McCullough
15-WTP-0039

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8. The recommendation to terminate and repurchase the following three purchase orders that are subject to obsolescence—especially electronics—appears reasonable. These are: CM-POA-EC00-00001, CM-POA-EV00-00001, and QL-POA-EV00-00001.
9. The below actions for suspension, finish, or termination for the following purchase orders appear reasonable:

QL-POA-FH00-00001	Grapples	Finish
QL-POA-PF00-00061	Rigid Process Jumpers and Frames	Terminate and repurchase
QL-POA-MWD0-00001	Ion Exchange Columns	Terminate and repurchase
QL-POA-JF14-00001	Thermal Flowmeter/Switch	Terminate and repurchase
CD-POA-JP02-00001	Pressure Transmitters	Terminate and repurchase

If you have any questions, please contact me, or you may contact Langdon Holton, Senior Technical Authority, (509) 373-9202.



Ronnie Dawson
Contracting Officer



William F. Hamel
Assistant Manager, Federal Project Director
Waste Treatment and Immobilization Plant

WTP:LKH

cc: BNI Correspondence



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15-WTP-0099

SEP - 2 2015

Mr. J.M. St. Julian
Project Manager
Bechtel National, Inc.
2435 Stevens Center Place
Richland, Washington 99354

Mr. St. Julian:

CONTRACT NO. DE-AC27-01RV14136 – DIRECTION TO EVALUATE
RECOMMENDATIONS FROM THE BECHTEL NATIONAL, INC. CHARTERED
INDEPENDENT EXPERT REVIEW TEAM ON DESIGN AND FABRICATION OF
VESSELS RLD-VSL-00007 AND RLD-VSL-00008

Reference: BNI Memorandum from J. Julyk to I. Milgate, ORP, Report "Independent Expert Review Team Assessment of the Hanford Waste Treatment and Immobilization Plant Design Analyses of Select Black Cell Vessels with Pulse Jet Mixing," CCN: 278573, dated May 15, 2015.

The Bechtel National, Inc. (BNI) chartered Independent Expert Review Team (IERT) on Pressure Vessel Analysis provided recommendations for Black Cell/Hard to Reach Area, Pulse Jet Mixed Vessels currently on-site, as well as those where fabrication is not complete/started (Reference). The report addresses eliminating overly conservative aspects of the analysis, in addition to recommendations to improve the analysis. The above Reference also indicates that the evaluation of the recommendations will occur as part of the Technical Issues Resolution and the Standard High Solids Vessel Design developed under the T-7 Vessel Structural Analysis Team.

However, BNI does not currently plan to evaluate the recommendations for the ongoing High-Level Waste black cell vessels RLD-VSL-00007 & RLD-VSL-00008 design and fabrication, since this requires analysis beyond the current code of record. DOE does not find the BNI rationale adequate, since BNI plans to perform evaluation of these recommendations for new PT black cell vessels, while excluding the new HLW black cell vessels. Since these vessels are in black cells, and the internal components are subjected to a very high number of cycles, additional evaluations must be completed to minimize the risk of future rework.

Since BNI's current position is not consistent with the approach for the rest of the black cell vessels, BNI is directed to evaluate the IERT recommendations in the RLD-VSL-00007 & RLD-VSL-00008 design. The U.S Department of Energy, Office of River Protection (ORP), Waste Treatment and Immobilization Plant (WTP) is primarily concerned with the recommendations associated with fatigue. It is recognized however that a holistic view of the recommendations is required. BNI needs to evaluate the primary recommendations as they pertain to the RLD-VSL-00007 & RLD-VSL-00008 design, and modify the design of the vessels, as necessary.

Mr. J.M. St. Julian
15-WTP-0099

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SEP - 2 2015

ORP approves the use of the Structural Stress Method outlined in the 2013 edition of American Society of Mechanical Engineers Section VIII Division 2 for use as determined necessary to address the recommendations on fatigue in the IERT to minimize the risk to the completion of WTP mission.

BNI shall follow their internal processes for releasing fabrication. However, fabrication of the components that may potentially be impacted by the above evaluations may not be released for fabrication until the evaluations are complete and design is modified, if needed.

If you have any questions, please contact me, or you may contact Paul Hirschman, Director, WTP Engineering Division, (509) 376-2477.



Ronnie L. Dawson
Contracting Officer



William F. Hamel
Assistant Manager, Federal Project Director
Waste Treatment and Immobilization Plant

WTP:KDT

cc:

B. Davis, BNI
M. Johnson, BNI
J. Julyk, BNI
I. Milgate, BNI
B. Zieroth, BNI
BNI Correspondence



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SEP - 2 2015

15-WTP-0117

Mrs. Margaret McCullough, Project Director
Bechtel National, Inc.
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Richland, Washington 99354

Mrs. McCullough:

CONTRACT NO. DE-AC27-01RV14136 – DIRECTION TO REVISE PLANNING AND REQUIREMENTS TO SUPPORT RESOLUTION OF TECHNICAL ISSUES WITH THE PRETREATMENT FACILITY

Reference: ORP letter from W.F. Hamel and G.F. Champlain to M.G. McCullough, BNI, "Direction to Revise Planning and Requirements to Support Resolutions of Technical Issues with the Pretreatment Facility," 15-WTP-0050, dated June 8, 2015. (Reissued on May 21, 2015)

The purpose of this letter is to clarify the U.S. Department of Energy (DOE), Office of River Protection's (ORP's) guidance for resolving the technical issues for the Waste Treatment and Immobilization Plant Pretreatment Facility (PTF). This clarification is specifically to address the direction for the marking of technical and reporting information associated with the PTF provided in the referenced correspondence.

Based on discussions with DOE technical staff; it has been determined necessary to provide clarification and boundary scoping to Bechtel National, Inc. (BNI) on how to proceed with the following actions. The following documents generated by the PTF Technical Teams after the date of this direction will be marked Official Use Only (OUO) when they contain PTF schedule information:

- Technical Issue Work Plans and Technical Reports containing PTF schedule information
- Technical Team Engineering Calculations, Engineering Studies, and Internal Project Memorandums containing PTF schedule information
- Informal Technical Team Progress Reports (e.g. design completion team, technical completion team, weekly reports etc.) containing PTF schedule information
- Technical Presentations, Technical Issue Progress & Performance Sheets containing PTF schedule information
- Technical Exchange Meeting Minutes containing PTF schedule information

Mrs. Margaret McCullough
15-WTP-0117

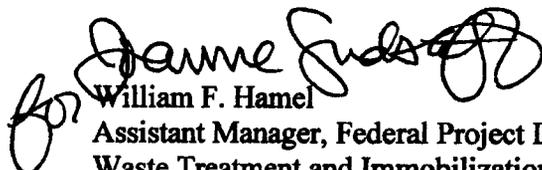
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Additionally, ORP will notify BNI on a case-by-case basis of any specific documents created before the date of this direction that ORP determines should be marked OOU. Documents shall be marked following the requirements in contract clause H.50, Official Use Only Information. Reports that are generated from BNI automated systems (e.g. Monthly Cost Performance Reports, Condition Reports, Trends, Variance Analysis, Risk Sheets, Nonconformance Report, Schedule Data, etc.) which would require specific reprogramming at the local and corporate level(s) to incorporate special markings, can continue to be generated without OOU markings. Additionally, standard reports with widespread distribution (e.g. Area Review slides) can continue to be generated without OOU markings if PTF schedule end dates are not included (schedule performance not publishing end dates may be included).

If you have any questions please contact William F. Hamel, Assistant Manager/Federal Project Director, Waste Treatment and Immobilization Plant, at (509) 376-6727.


George F. Champlain
Contracting Officer


for William F. Hamel
Assistant Manager, Federal Project Director
Waste Treatment and Immobilization Plant

WTP:WFH

cc: BNI Correspondence



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OCT 22 2015

15-WTP-0163

Mr. J.M. St. Julian
Project Manager
Bechtel National, Inc.
2435 Stevens Center Place
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Mr. St. Julian:

**CONTRACT NO. DE-AC27-01RV14136 – DIRECTION TO PROVIDE AN INTEGRATED
BASELINE CHANGE PROPOSAL FOR CLIN 1 AND CLIN 2 WITHIN 60-DAYS**

Reference: BNI letter from L.W. Baker to R.L. Dawson, ORP, "BNI Proposal for Accelerating Deliverables Outlined in the BNI Plan and Detailed Schedule for the Development of Baseline Change Proposals for LBL Completion (CLIN 1) and DFLAW Design (CLIN 2.1)," CCN: 276202, dated September 1, 2015.

Bechtel National, Inc. (BNI) is directed to provide an accelerated Baseline Change Proposal (BCP) for the Contract Line Item Number (CLIN) 1 – Low-Activity Waste (LAW) Facility, Balance of Facilities, and Analytical Laboratory (LBL) and CLIN 2 – Direct feed of LAW (DFLAW) modifications (Reference), as adjusted by agreements reached between the U.S. Department of Energy, Office of River Protection (ORP) and BNI the week of October 12, 2015 (see Attachment). ORP directs BNI to deliver the BCP no later than December 18, 2015.

The 60-day submittal of the BCP shall be based on the following key assumptions:

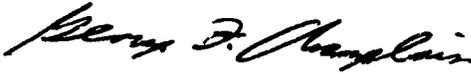
- The BCP shall include to-go work scope from October 2014 through the completion of LBL and DFLAW through cold commissioning and successful completion of an Operational Readiness Review. The BCP shall also include items from the contract modification proposal errata sheet.
- A CLIN 1 / 2 integrated resource loaded schedule shall be provided, along with the required documentation necessary to successfully complete project management oversight and assessments (PMOA), Independent Cost Estimate/Review, and External Independent Review (EIR).
- Project Services shall be included consistent with the BNI September 2014 CLIN 1 proposal.
- A risk register of currently identified contractor-owned and the Department of Energy-owned risks shall be provided, and a Schedule Risk Analysis shall be provided no later than January 17, 2016.
- ORP also concurs with BNI's proposal to implement the BCP and reinstate the certified Earned Value Management System Performance Measurement Baseline for measuring and controlling performance for CLIN 1 and CLIN 2 work.
- The BCP shall incorporate the results of the Key Scope Issues as documented in the Attachment.

Mr. J. M. St. Julian
15-WTP-0163

-2-

OCT 22 2015

If you have any questions, please contact William F. Hamel, Assistant Manager, Federal Project Director, Waste Treatment and Immobilization Plant, (509) 376-6727.



George F. Champlain
Contracting Officer



William F. Hamel
Assistant Manager, Federal Project Director
Waste Treatment and Immobilization Plant

WTP:RLC

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Attachment