AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT	1. CONTRACT ID CODE	PAGE 1 OF PAGES 2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE *(M/D/Y)*	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
471	See Block 16C		

6. ISSUED BY CODE

U.S. Department of Energy
Office of River Protection
P. O. Box 450, MS H6-60
Richland, WA 99352

7. ADMINISTERED BY *(If other than Item 6)* CODE

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP code)*

Bechtel National, Inc.
2435 Stevens Center Place
Richland, WA 99354

CODE 396A5 FACILITY CODE 153392068

☐ 9A. AMENDMENT OF SOLICITATION NO.

9B. DATED *(SEE ITEM 11)*

☒ 10A. MODIFICATION OF CONTRACT/ ORDER NO. **DE-AC27-01RV14136**

10B. DATED *(SEE ITEM 13)* **December 11, 2000**

11. THIS ITEM APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning _____copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE DATE AND HOUR SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and amendment and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS SET FORTH IN ITEM 14.

CHECK ONE	
☐	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
☐	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES (*such as changes in paying office, appropriation date, etc.)* SET FORTH IN ITEM 14, PURSUANT TO AUTHORITY OF FAR 43.103(b).
☐	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO THE AUTHORITY OF:
☒	D. OTHER *(Specify type of modification and authority)* Clause B.8 – Award Fee Administration, (c) Fee Negotiations

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

Reference Continuation Page(s)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*	
		Ronald E. Cone, Jr. **Contracting Officer**	
15B. CONTRACTOR/OFFEROR *(Signature of person authorized to sign)*	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY Ronald E Cone *(Signature of Contracting Officer)*	16C. DATE SIGNED DEC 30, 2019

The purpose of this modification is as follows:

Incorporate 2020 Performance Evaluation and Measurement Plan (PEMP), Rev. 0 into Section J, *List of Attachments*, of the contract.

Modification Description:

1. Contract Section J, *List of Attachments,* Attachment R, *Performance Evaluation and Measurement Plan*, for the Evaluation Period 2019 is deleted in its entirety and replaced in full to incorporate the 2020, Rev. 0 *Performance Evaluation and Measurement Plan*. The revised Contract Section J, Attachment R, *Performance Evaluation and Measurement Plan*, for the Evaluation Period of 2020, is attached hereto.

2. All other terms and conditions remain unchanged.

(End of Modification)

Attachment 1: Contract Section J, List of Attachments, Attachment R, *Performance Evaluation and Measurement Plan*, for the Evaluation Period 2020.

PERFORMANCE EVALUATION AND MEASUREMENT PLAN

Incentive B – Award Fee

DESIGN, CONSTRUCTION, AND COMMISSIONING OF THE HANFORD TANK WASTE TREATMENT AND IMMOBILIZATION PLANT

CONTRACT NO. DE-AC27-01RV14136

Evaluation Period 2020
January 1, 2020, to December 31, 2020

Bechtel National, Inc.

Richland, Washington
Rev. 0 – Effective January 1, 2020

Issued By:

Brian T. Vance
Manager
DOE Office of River Protection / Richland Operations Office
Fee-Determining Official

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A. AWARD FEE OBJECTIVES

This Performance Evaluation Measurement Plan (PEMP) contains the following six award fee objectives:

1. Project Performance
2. Environmental, Safety, Health, and Quality Assurance (QA)
3. Direct-Feed Low-Activity Waste (DFLAW) integration
4. DFLAW Engineering and Construction
5. Startup, Commissioning, and Operational Culture
6. High-Level Waste (HLW) Facility.

A.1 EVALUATION PROCESS

The U.S. Department of Energy (DOE), Office of River Protection (ORP) will evaluate and measure performance for each of the six award fee objectives on a quarterly basis. The contractor will provide a summary of the effectiveness of its Contractor Assurance System to ORP to support the quarterly evaluations. DOE will identify Bechtel National, Inc.'s performance strengths and weakness at the end of each of the four quarters, year-to-date for each of the award fee objectives. DOE will assign adjectival ratings only at the end of the fourth quarter. The adjectival ratings for each of the award fee objectives will be based on the entire year's performance (see Table 1).

Table 1. Award Fee – Incentive Ratings and Definition. (2 pages)

Adjectival Rating	Definition	Percentage of Award Fee Earned
Excellent	Contractor has exceeded almost all of the significant award-fee criteria and has met overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award fee evaluation period.	91% to 100%
Very Good	Contractor has exceeded many of the significant award-fee criteria and has met overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award fee evaluation period.	76% to 90%
Good	Contractor has exceeded some of the significant award-fee criteria and has met overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award fee evaluation period.	51% to 75%
Satisfactory	Contractor has met overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award fee evaluation period.	≤ 50%

Table 1. Award Fee – Incentive Ratings and Definition. (2 pages)

Adjectival Rating	Definition	Percentage of Award Fee Earned
Unsatisfactory	Contractor has failed to meet overall cost, schedule, and technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award-fee plan for the award fee evaluation period.	0%

A.2 AWARD FEE DETERMINATION

Award fee dollars earned are determined by the method presented in Table 2. The adjectival ratings are as determined in Section A.1 above. The Fee Determining Official will determine the percent of fee earned according to the ranges in Table 1 above. The award fee dollars earned will be the product of the award fee available and the percent of award fee earned. The Fee Determining Official may consider any other pertinent factors in making a final fee determination.

Table 2. Award Fee – Fee Earnings Calculation.

Award Fee Objective		Award Fee Available	Adjectival Rating	Percentage of Award Fee Earned	Award Fee Dollars Earned
1	Project Performance	$2M			
2	Environmental, Safety, Health, and Quality Assurance	$2M			
3	Direct-Feed Low-Activity Waste Integration	$272,603			
4	DFLAW Engineering and Construction	$1M			
5	Startup, Commissioning and Plant Management and Operational Culture	$2.2M			
6	High-Level Waste Facility	$400K			

DFLAW = direct-feed low-activity waste.

A.3 AWARD FEE OBJECTIVE 1: PROJECT PERFORMANCE

ORP will evaluate the contractor's cost and schedule performance based upon actual incurred costs compared to the total estimated costs of that work and actual schedule performance as compared to the planned schedule.

The analysis of project performance will give consideration to changed programmatic requirements, changed statutory requirements, and/or changes beyond the contractor's control, which impact cost and/or schedule. ORP will rely on other objective and/or subjective cost and

schedule performance elements, such as critical path and float analysis, to evaluate the contractor's performance, which includes, but is not limited to the following:

- Cost Control – The contractor maintains cost control (i.e., actual costs incurred for work performed are equal to or less than the planned costs for that work) and actively pursues cost containment and reduction through innovative approaches and management of resources. Cost control will be monitored against the Performance Measurement Baseline for the Low-Activity Waste (LAW) Facility, Balance of Facilities, and Analytical Laboratory.
- Schedule Control – The contractor maintains a contract compliant, resource loaded, logic-tied schedule with discrete tasks through contract completion, including credible and accurate critical path network(s) that accurately portray critical work activities toward meeting the contract milestone date for demonstration of DFLAW hot commissioning and implements innovative actions to accelerate the overall project schedule with due consideration to the overall risk profile.
- Communication – The contractor is transparent and communicates clearly and effectively for the reporting of data and metrics. In addition, it is expected that the contractor works proactively with the DOE Hanford Office of Communications to support enhanced communications with all key stakeholders.
- Risk Management – The contractor identifies new threats, opportunities, and risk closures to demonstrate an effective risk program. Risks shall be identified early to maximize risk mitigation and risks shall be tracked, managed, and monitored using the Waste Treatment and Immobilization Plant (WTP) Risk Register Database until mitigated to the maximum extent practical, avoided, or accepted in accordance with formal program requirements. Risk effectiveness shall be reported on for closed threats, open threats, and opportunities realized.
- Available Funding Utilization – The contractor optimizes utilization of funds while planning for an appropriate amount of carryover to cover outstanding year-end commitments and to provide for the first few weeks of continuing operations into the next fiscal year.
- Baseline and Contract Alignment – The contractor shall maintain alignment between the baseline and the contract. The contractor shall submit quality documents as required to support the alignment between the baseline and the contract and to support independent reviews.
- Subcontractor Incurred Cost Audits – The contractor will complete a minimum of 15 subcontractor incurred cost audits to standard (Generally Accepted Auditing Standards).

Within each of the areas listed above, ORP will evaluate the contractor's assurance system based on the following:

- Methods of monitoring and measuring performance, including metrics, assessments, surveillances, and other operational activities, are effectively used to provide an accurate representation of the current performance of mission objectives and goals, to include

performance of a safety, health, environment, and quality program, relative to defined standards.

- Management system owners and levels of management are aware of applicable requirements and the status of compliance to those requirements.
- Risks to mission and operations are being effectively identified, monitored, communicated, and managed (i.e., accepted, avoided, or mitigated).
- A healthy self-critical approach to ensuring actions taken to manage risks or issues are appropriately effective.
- Timely, open, and continuous communication on mission and operations risks and issues with ORP.
- Lessons learned experiences and good practices are used to inform applicable organizations of adverse work practices or experiences and are incorporated into the overall work process to improve mission and operations performance.

A.4 AWARD FEE OBJECTIVE 2: ENVIRONMENTAL, SAFETY, HEALTH, AND QUALITY ASSURANCE

ORP will assess this award fee objective in the areas of environmental permitting and compliance; nuclear safety; QA; safety, health, and quality programs; and Contractor Assurance System.

Environmental Permitting and Compliance

Evaluations of the contractor's performance will be based on:

- Maintenance of a constructive and effective working relationship with all regulatory agencies to maximize the probability of successful delivery of the DFLAW program.
- Development and implementation of an integrated environmental protection program that applies best commercial practices and assures compliance with environmental requirements.
- Development of required applications for permits; licenses; and other regulatory approvals required for design, construction, and commissioning of WTP. Contractor will integrate with other Hanford contractors to provide data for site wide regulatory monitoring and reporting. Contractor will assess and track environmental performance. Contractor's work shall be accomplished in a manner that achieves high levels of quality, and protects the environment, workers, and the public.
- Evaluations of the contractor's performance in areas that include, but are not limited to quality and timeliness of permit applications and other deliverables required to support project execution, proactive assessment of the environmental protection program, efforts to continuously improve, and regulatory compliance – including the number and seriousness of any findings or concerns.

- Submittal of permitting products with a high degree of quality and which enable schedule efficiencies. Specific deliverables that will be evaluated are:
  - Dangerous waste permit Class 3 modification to ORP for operation of WTP in the DFLAW configuration.
  - Preliminary risk assessment dangerous waste permit agency initiated modification to ORP for WTP in the DFLAW configuration.
  - Final issuance of Effluent Management Facility (EMF) / LAW Facility / Analytical Laboratory radioactive air operating permit by the Washington State Department of Health.
  - Steam plant boiler performance test results to ORP for transmittal to the Washington State Department of Ecology.
  - Standby diesel generator performance test results to ORP for transmittal to the Washington State Department of Ecology.
  - Preoperational ambient air monitoring data to ORP for transmittal to the Washington State Department of Health.
  - Analytical Laboratory construction certification to ORP for transmittal to the Washington State Department of Ecology.

Nuclear Safety

WTP Contract No. DE-AC27-01RV14136, *Design, Construction, and Commissioning of the Hanford Tank Waste Treatment and Immobilization Plant*, Section C, "Statement of Work," Standard 9, "Nuclear Safety (Table C.5-1.1, Deliverable 9.1)," describes contractor requirements to ensure radiological, nuclear, and process safety. This work scope includes implementation of a standards-based safety management program in compliance with the rules provided in 10 CFR 830, "Nuclear Safety Management," on nuclear safety to ensure WTP safety requirements are defined, implemented, and maintained.

Evaluation criteria to measure performance will include ORP's evaluation of the contractor's progress toward and compliance with contract requirements for nuclear safety performance. The contractor's ability to demonstrate performance and progress will be evaluated against interim project schedules for nuclear safety submittals and supporting documentation (e.g., hazards analyses) with consideration of any emerging issues. Compliance will be evaluated against guidance found in DOE-STD-3009-1994, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*, Chg. 3 as well as all other contract requirements and formal clarifying direction from ORP.

ORP WTP will consider any available information bearing on nuclear safety performance in making this evaluation. Documents to be considered include:

- Draft nuclear safety deliverables submitted for informal review possess a high degree of quality and meet the requirements defined in the implementation plan for Contract Standard 9. Acceptable quality to be determined through use of existing quality engineering metrics for in-process documents.

- Nuclear safety calculations and engineering studies developed to support resolution of technical issues will possess a high degree of quality and will meet the requirements defined in the implementation plan for Contract Section C, Standard 9 for submittal of draft documents for informal review.
- Effectiveness in self-identifying nuclear safety concerns early and responding to concerns raised both internally and by external stakeholders and review teams.
- Progress toward interim project schedules and milestones while completing the conditions of approval documented in the safety evaluation report for 24590-LAW-DSA-NS-18-0001, *Documented Safety Analysis for the Low-Activity Waste Facility* (18-NSD-0009, "Contract No. DE-AC27-01RV14136 – Approval of 24590-LAW-DSA-NS-18-0001, "Documented Safety Analysis for the Low-Activity Waste Facility," and 24590-LAW-TSR-NS-18-0001, "Low-Activity Waste Facility Technical Safety Requirements"").

Quality Assurance

The QA program and quality of performance objective will evaluate the contractor's actions to strengthen the existing QA program, resolve QA issues, support the implementation of the commissioning and operations QA program, and improve the overall quality culture on the WTP Project.

ORP will perform both objective and subjective evaluations of the contractor's efforts to:

- Implementation and effectiveness of the approved QA program for engineering, procurement, and construction activities.
- Progress to implement the approved commissioning and operations QA program and achieve readiness prior to the scheduled startup of DFLAW.
- Effective handling of emerging QA program issues and of program backlog (e.g., condition reports, nonconformance reports, punch list, work documents) for both engineering, procurement, and construction and commissioning and operations QA programs.
- Apply the approved graded approach to achieve efficiencies and quality improvement. Plan, schedule, and perform effective QA surveillances consistent with the contractor's graded approach, including bias-based coverage for higher consequence processes and activities.
- Effective management of plant-installed software QA program to encompass testing, training, orientation, and mentoring of Waste Treatment Completion Company, LLC staff and resolution of all startup/commissioning/plant operations software quality issues including software traceability issues as needed to achieve readiness prior to DFLAW startup.

Safety and Health Programs

ORP will perform both objective and subjective evaluations of the contractor's efforts to:

- Maintain and strengthen an effective nuclear safety quality culture recognized by employees and stakeholders as sustaining a safety conscious work environment where safety, quality, or other concerns can be raised without fear of retaliation.
- How safety performance is being actively monitored and evaluated to systematically improve culture and processes.
- Effective work hazard analysis and controls process has been implemented to reduce injury/illnesses and work place hazards.
- Implementation and effectiveness of the worker safety and health program for engineering, procurement, and construction activities.
- Progress to develop and implement safety management programs as needed to achieve readiness prior to the scheduled DFLAW startup. Safety management programs to be evaluated within this element include emergency preparedness, fire protection, radiation protection, hoisting and rigging, chemical safety management, and worker safety and health.

A.5 AWARD FEE OBJECTIVE 3: DIRECT-FEED LOW-ACTIVITY WASTE INTEGRATION

Performance measurement in this element will include focus on an empowered and leading DFLAW integration team focused on the timely alignment of interfaces, elimination of process gaps, early identification of issues, and mitigating program risks associated with startup and commissioning. ORP will assess this award fee objective in the following areas:

- Implementation and fostering of elements and attributes of the *Hanford Site Operations Direct-Feed Low-Activity Waste Program Charter* (ORP 2019) (e.g., empowered leadership, frequent communication, and expectations of a good contractor and good teammate).
- Effective and consistent coordination of the activities comprising the DFLAW program:
  - DFLAW Program-wide and WTP metrics facilitate consistent measurement and understanding throughout the DFLAW Program team.
  - Key milestones and commitments are clearly understood across the DFLAW Program and consistently communicated.
  - Barrier analysis and removal initiatives are ongoing and strengthen program delivery and confidence.
  - Interface and interface control document elements are managed and implemented with a sense of urgency.

- Effective management of technical interfaces between the projects so that the integrated DFLAW Program is completed and operated successfully:
  - Open issues or issues resulting from decisions or analyses are tracked to completion.
  - Open issues are acted upon with deliberate haste.
- The DFLAW portfolio of projects operate as required without gaps or conflicts at the interfaces:
  - Identify and address technical and operational gaps and issues that will impact DFLAW operations.
  - Technical risks are identified, ranked, and mitigation strategies recommended or deployed in a timely manner.
  - Address and work to resolve operating risks and uncertainties associated with interfacing facilities to verify WTP technical inputs, outputs, and assumptions for process operations.
- Integration team products are fully developed and action oriented with specific necessary actions and vetted recommendations:
  - Decision documents are supported by clear and sound basis and fully vetted prior to transmittal to DOE.
  - Actions and decisions are transparent and documented, tracked, and closed with a sense of urgency.
- A questioning attitude is consistently displayed with regard to past assumptions, decisions, and performance such that the integration team challenges and overcomes barriers to accomplishment of the DFLAW Program.

A.6 AWARD FEE OBJECTIVE 4: DIRECT-FEED LOW-ACTIVITY WASTE ENGINEERING AND CONSTRUCTION

ORP will assess this award fee objective in the areas of engineering and construction performance based upon the following:

- Open action management – Enhance line management efforts in the disposition of open actions to drive certainty in the delivery of DFLAW facilities. Demonstrate enhanced tracking, prioritization, management, and work-off of open actions, including but not limited to nonconformance reports, action tracking system items, design completion actions, requirements verification steps, and punch lists. Proactively define, capture, and manage open actions to closure and implement metrics to measure the effectiveness of action closure and resolution.
- Configuration management – Adequate implementation and management of configuration management requirements to ensure that initial design and changes to design are properly developed, evaluated, reviewed, approved, implemented, verified, and incorporated into facility documentation and the approved configuration. Bechtel

National, Inc. will ensure that the physical configuration of the facility and associated software is kept in alignment with design throughout all phases of the project.

- Design and engineering output – Issue adequate design and engineering products reflecting acceptable quality and technical analysis; manage margin; control unverified assumptions; and adequately flow down requirements to calculations, drawings, specifications, datasheets, and procurement documents. Acceptable quality to be demonstrated through use of metrics for engineering products.

- Plant engineering – Adequate implementation of the plant engineering program elements to ensure compliance with engineering requirements and attributes flowed down from Contract No. DE-AC27-01RV14136 and DOE directives (e.g., DOE O 420.1C, *Facility Safety*). Plant engineering personnel fully implement program procedures and guides in support of the continued operational readiness of WTP structures, systems, and components; facilities; and areas, including nuclear facilities, safety related structures, systems, and components, defense-in-depth structures, systems, and components, supporting infrastructure, and non-safety facilities. In addition, ORP will be evaluating performance for continuous improvement in these areas, which includes, but is not limited to:

  - Contractor self-reports events and their causes and implements effective corrective actions prior to recurrence of significant or consequential events.

  - Responsiveness to and management of performance and assessment areas needing attention as identified by contractor self-assessments, ORP assessments, and minimal ORP rejection of corrective action plans.

  - Deliver effective solutions within contractual, procedural, and/or DOE order-specified timing to emerging WTP field and resident engineering issues as and when the need arises. Provide efficient and effective field and resident engineering support to WTP construction and turnover to startup. Monitor and continue to reduce design errors resulting in engineering or field rework. Key areas will include mechanical, civil, and electrical inspections.

  - Facility status and event notifications are provided to the facility representatives in accordance with contractual, procedural, and/or DOE orders in an accurate manner. Major work in progress and in planning are communicated.

  - Contractor processes for safe operations are implemented and effectively applied in operational, maintenance, and construction activities incorporating practices resulting in an effective hierarchy of controls being implemented to mitigate WTP hazards.

  - Corrective actions are within contractual, procedural, and/or DOE orders specified timing, prioritized by importance and appropriately targeted to correct negative performance and prevent the development of significant issues. In the case of significant conditions adverse to quality, effective compensatory measures are implemented, causes of the condition are determined within contractual, procedural, and/or DOE orders specified timing, and corrective actions are taken to preclude recurrence.

- Ensure effective interfacing and interactions between construction, engineering, startup and commissioning, and plant management organizations to provide safe and efficient transition to operations.

A.7 AWARD FEE OBJECTIVE 5: STARTUP, COMMISSIONING AND PLANT MANAGEMENT, AND OPERATIONAL CULTURE

ORP will assess this award fee objective in the areas of startup, commissioning and plant management, and readiness based on the following criteria.

Startup:

- Turnover of systems from construction to startup will be completed with effective management of impacts from equipment aging or other adverse conditions impacting startup work performance.
- Successful performance of component and initial system testing, to include review and approval of component test result packages for scoped systems consistent with the August 2019 baseline schedule.
- System software functional testing:
  - Software changes initiated during startup were either tested or were included on a punch list and retested successfully before handover of the system.
  - Confirm and report by March 31, 2020, software changes that have previously occurred were tested successfully or were included on a punch list.
  - Develop a metric by March 31, 2020, identifying software open items.

Completion of the following specific activities and all predecessors for:

- LAW:
  - LAW receipt handling system – LRH-L-01 perform system Testing; March 2020 (5HLC108260BR)
  - LAW uninterruptible power electrical system – UPE-L-03 perform system testing – Q batteries; May 2020 (5HLC108600BR)
  - LAW programmable protection system – PPJ-L-01 system available for use May 2020 (5HLCPPJ100)
  - LAW plant cooling water system – startup plant cooling water master perform system testing; October 2020 (5HLC11PCW550R)
  - LAW primary offgas process system Melter 2 – LOP-L-02 perform component testing (energized); October 2020 (5HLC106880AR)
  - LAW ventilation systems – CxV integrated HVAC balance; September 2020 (5HLC40059AR)

- LAW melter process systems – LMP-L-01 system available for use; December 2020 (5HLC2LMP100)
- LAW container pour handling system – LPH-L-01 perform system testing; December 2020 (5HLC108240BR)

- EMF:
  - EMF C1 ventilation system – C1V-E-01 component testing complete milestone; March 2020 (5HB7EC1V1150)
  - EMF low voltage electrical – LVE-E-01 component and system testing complete; March 2020 (5HB7ELVE1210)
  - EMF domestic water system – DOW-E-09 startup accept turnover milestone; April 2020 (5HB7EDOW9110)
  - EMF low pressure steam system – LPS-E-01 component testing complete milestone; September 2020 (5HB7ELPS1170)
  - EMF sodium nitrite reagent system – SNR-E-01 flush test and restore complete milestone; July 2020 (5HB7ESNR0120)
  - EMF uninterruptible power electrical system – UPE-E-03 system available for use milestone; September 2020 (5HB7EUPE3150)
  - EMF DFLAW EMF vessel vent process system – DVP-E-01 perform component testing (energized); October 2020 (5HB7EDVP1140)
  - EMF instrument service air system – ISA-E-01 master component and system testing complete milestone; October 2020 (A5HB7EISA0170)
  - EMF DFLAW EMF process system – DEP-E-01 component testing complete milestone; December 2020 (5HB7EDEP1160).

Commissioning and Plant Management:

- Issue all remaining operations procedures (standard operating manuals, inside office memoranda, abnormal response procedures, abnormal operating procedures, and emergency operating procedures) for DFLAW operations excluding EMF.
- Transmit for DOE approval the training implementation matrix (April 2020).
- Transmit for DOE approval the nuclear maintenance management plan (March 2020).
- Establish DFLAW operating island (December 2020).
- Corrective maintenance backlog less than 15 weeks on average over the PEMP period.
- Continue to mature commissioning plan to ensure readiness at 12 months prior to start of cold commissioning by resolution of commissioning plan open issues and proactive management of new emerging issues and content.

- Sustain implementation of the reasonably achievable control technology program to prepare the project for execution of the commissioning phase through issuance of technically sound and high quality test documentation.
- Issue loss of power test, test instruction by April 13, 2020 (5HLC3JA6621).
- Issue cold commissioning immobilized LAW product qualification commissioning test index by January 31, 2020.
- Issue preliminary version of Deliverable 5.19, "Transition Plan," to establish clear expectations and agreement on content and transition approach that are required for ORP review and approval of Deliverable 5.19, 12 months prior to the start of hot commissioning. By January 15, 2020 (5HFC3J2A645).
- Award stack sampling subcontract for the environmental performance demonstration test by February 20, 2020 (5HLC3J2B2055).
- Utilization of readiness plans, procedures, and processes in order to ascertain readiness of the Analytical Laboratory by April 30, 2020 (5HTC3JA00410).
- Implementation of documented safety analysis programmatic requirements into safety management programs and development of objective evidence of incorporation at the facility/activity level by February 28, 2020.
- Develop Integrated Safety Management System Phase 2 verification plan including dashboard metrics by January 2020.
- Complete LAW Facility readiness plan lines of inquiry by May 2020.
- Complete development of three operational readiness checklists for Melter 1, Melter 2, and the LAW offgas process system by September 2020.

Operational Culture:

- Occurrence Reporting – Facility status and event notifications are provided to DOE in accordance with contractual, procedural, and/or DOE orders in an accurate manner. Major work in progress and in planning are communicated to DOE. Contractor self-reports events and their causes and implements effective corrective actions prior to recurrence of significant or consequential events.
- Conduct of Operations – Contractor ensures effective interfacing and interactions between construction, startup and commissioning, and plant management organizations to provide safe and reliable operations. Implementation of the contractor's Conduct of Operations Council for calendar year (CY) 2020 to ensure continuous improvement that produces effective results for facility operations. Contractor's processes for safe operations are implemented and effectively applied in operational, maintenance, and construction activities incorporating practices resulting in an effective hierarchy of controls being implemented to mitigate WTP hazards. Progress on establishing a conduct of operations matrix for DOE approval 3 months prior to WTP loss of power testing with frequent review with ORP and Waste Treatment Completion Company, LLC's Conduct of Operations Council.

- Operational Training – Quality contractor training as evidenced through knowledgeable operators and managers within the control room, at the simulator and throughout WTP. Formality of operations demonstrated in contractor's programs including on-the-job training, tests, and test results.
- Operational Oversight – Contractor provides a complete and supportable self-assessment of handed-over system/equipment operations. Plant management ensures safe configuration and/or corrective actions in response to identified abnormal conditions, deficiencies, or both. Contractor ensures effective interfacing and interactions between construction, engineering, and plant management. Contractor reviews minor events or problems in contractor's organization, management, personnel abilities, or practices with attention to detail in identifying, tracking, trending, collective significance evaluation, and correcting these minor problems ensuring significant improvements in contractor's performance.

A.8 AWARD FEE OBJECTIVE 6: HIGH-LEVEL WASTE FACILITY

ORP will assess this award fee objective in the following areas:

1. Completion of 60 percent design reviews for five systems on the HLW Facility:

Sixty percent design reviews will be completed for the following HLW Facility systems, in accordance with 24590-WTP-3DP-G04T-00925, *System Design Review,* to ensure that the preliminary system design meets the requirements – by third quarter in CY 2020:

- Ammonia reagent system
- HLW melter process system
- HLW melter offgas treatment process system
- Pulse jet ventilation system
- Process vessel vent exhaust system.

2. Perform HLW Preliminary Documented Safety Analysis (PDSA) updates:

To maintain alignment with HLW Facility design and the nuclear safety basis, perform the following PDSA updates:

- DOE approval of PDSA update of the updated hazard analysis for HLW melter feed process system and planned design and operational safety improvements completed in CY 2019, including hydrogen mitigation strategy engineering study, C5 ventilation availability and operability analyses, revised nuclear safety consequence calculations, updated HEPA filter design – by third quarter of CY 2020.
- Submittal of PDSA update to DOE of updated hazard analysis for radioactive liquid waste disposal, canister handling, and natural phenomena / facility hazards – by fourth quarter CY 2020.

3. **Complete development of acquisition packages and award the following plant equipment items to support future 90 percent design reviews:**

- HFP agitator – by second quarter CY 2020
- Radioactive liquid waste disposal vessel RLD-VSL-0002 and radioactive liquid waste disposal bulges – by third quarter CY 2020.

B. PERFORMANCE EVALUATION AND MEASUREMENT PLAN GENERAL INFORMATION

B.1 CONTRACT INCENTIVE FEE STRUCTURE

Contract No. DE-AC27-01RV14136 utilizes multiple, performance-based incentive fee components to drive contractor performance excellence in completing the design, construction, and commissioning of the WTP contract.

The award fee provides a performance incentive for the contractor and gives the Government a tool to identify and reward superior performance.

B.2 PROCESS

The total available award fee for the 2020 evaluation period is $7,872,603.

In accordance with FAR 16.401(e)(3)(v), "Incentive Contracts," "General," the contractor is prohibited from earning any award fee when the contractor's overall cost, schedule, and technical performance is below "Satisfactory."

B.3 PROVISIONAL FEE

Provisional fee requirements in Contract No. DE-AC27-01RV14136 Section B, Clause B.8(g), "Provisional Payment of Fee," apply to this PEMP.

B.4 CONTRACTOR SELF-ASSESSMENT

Contract No. DE-AC27-01RV14136 Section B, Clause B.8(f) states:

> Following each evaluation period, the Contractor may submit a self-assessment, provided such assessment is submitted within ten (10) calendar days after the end of the period. This self-assessment shall address both the strengths and weaknesses of the Contractor's performance during the evaluation period. Where deficiencies in performance are noted, the Contractor shall describe the actions planned or taken to correct such deficiencies and avoid their recurrence. The Contracting Officer will review the Contractor's self-assessment, if submitted, as part of its independent evaluation of the Contractor's management during the period.

B.5 METHOD FOR CHANGING THE PERFORMANCE EVALUATION AND MEASUREMENT PLAN DURING THE EVALUATION PERIOD

Proposed changes to the current period PEMP may be initiated by either ORP or the contractor. Proposed changes shall be in writing. Both ORP and the contractor must agree to any changes. Once agreement is reached, the Fee Determining Official and contractor representative will sign the revised PEMP. The revision number (e.g., Rev. 1) will be noted on the PEMP. Subsequently, the revised PEMP will be incorporated into the contract by reference via contract modification.

ABBREVIATIONS AND ACRONYMS

CY	calendar year
DFLAW	direct-feed low-activity waste
DOE	U.S. Department of Energy
EMF	Effluent Management Facility
HLW	high-level waste
LAW	low-activity waste
ORP	U.S. Department of Energy, Office of River Protection
PDSA	preliminary documented safety analysis
PEMP	performance evaluation measurement plan
QA	quality assurance
WTP	Waste Treatment and Immobilization Plant

REFERENCES

10 CFR 830, "Nuclear Safety Management," *Code of Federal Regulations*, as amended.

18-NSD-0009, 2018, "Contract No. DE-AC27-01RV14136 – Approval of 24590-LAW-DSA-NS-18-0001, "Documented Safety Analysis for the Low-Activity Waste Facility," and 24590-LAW-TSR-NS-18-0001, "Low-Activity Waste Facility Technical Safety Requirements,"" (external letter to B. Reilly, Bechtel National, Inc.), from R.L. Dawson and B.J. Harp, U.S. Department of Energy, Office of River Protection, Richland, Washington, May 17.

24590-LAW-DSA-NS-18-0001, *Documented Safety Analysis for the Low-Activity Waste Facility*, Bechtel National, Inc., Richland, Washington,

24590-WTP-3DP-G04T-00925, *System Design Review*, Bechtel National, Inc., Richland, Washington.

Contract No. DE-AC27-01RV14136, *Design, Construction, and Commissioning of the Hanford Tank Waste Treatment and Immobilization Plant*, U.S. Department of Energy, Washington, D.C., as amended.

DOE O 420.1C, 2018, *Facility Safety*, Chg. 2, U.S. Department of Energy, Washington, D.C., July 26.

DOE-STD-3009-1994, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*, Chg. 3

ORP 2019, *Hanford Site Operations Direct-Feed Low-Activity Waste Program Charter*, U.S. Department of Energy, Office of River Protection, Richland, Washington, July.