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| AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT | 1. CONTRACT ID CODE | PAGE 1 | OF | PAGES 19 |
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| 2. AMENDMENT/MODIFICATION NO. M991 | 3. EFFECTIVE DATE (M/D/Y) See Block 16C | 4. REQUISITION/PURCHASE REQ. NO. N/A | 5. PROJECT NO. (If applicable) |
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| 6. ISSUED BY CODE U.S. Department of Energy Pacific Northwest Site Office Post Office Box 350 Richland, WA 99352 | 7. ADMINISTERED BY (If other than Item 6) CODE |
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| 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP code) Battelle Memorial Institute Pacific Northwest Division Richland, Benton County, WA 99352 DUNS # 032987476 | <input type="checkbox"/> 9A. AMENDMENT OF SOLICITATION NO. <input type="checkbox"/> 9B. DATED (SEE ITEM 11) <input checked="" type="checkbox"/> 10A. MODIFICATION OF CONTRACT/ ORDER NO. DE-AC05-76RL01830 <input type="checkbox"/> 10B. DATED (SEE ITEM 13) December 30, 1964 |
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| CODE | FACILITY CODE | 11. THIS ITEM APPLIES TO AMENDMENTS OF SOLICITATIONS |
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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.

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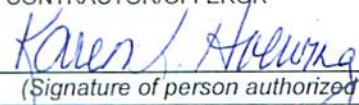

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS SET FORTH IN ITEM 14.

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| CHECK | A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE |
| <input type="checkbox"/> | |
| <input type="checkbox"/> | 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). |
| <input checked="" type="checkbox"/> | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO THE AUTHORITY OF: The mutual agreement of the parties |
| <input type="checkbox"/> | D. OTHER (Specify type of modification and authority) |

E. IMPORTANT: Contractor is not, is required to sign this document and return 2 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including a solicitation/contract subject matter where feasible.) This bilateral contract modification incorporates changes to Part I, Section C – Descriptions/Specifications/Work Statement, Section F – Deliveries or Performance and Section H – Special Contract Requirements, Part II, Section I – Contract Clauses and Part III, Section J, List of Documents, Exhibits and Other Attachments. (See Continuation Pages for the purpose and description of this modification)

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| 15A. NAME AND TITLE OF SIGNER (Type or print) Karen L. Hoewing General Counsel | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Ryan M. Kilbury Contracting Officer |
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|---|------------------------------------|--|------------------------------------|
| 15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign) | 15C. DATE SIGNED 10-8-14 | 16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer) | 16C. DATE SIGNED 10-8-14 |
|---|------------------------------------|--|------------------------------------|

Purpose of Modification:

The Department of Energy (DOE), Office of Science (SC), Pacific Northwest Site Office (PNSO) is modifying the Contract to update Part I, Section C – Description/Specifications/Work Statement, Part I, Section F – Deliveries or Performance, Part I, Section H – Special Contract Requirements, Part II, Section I – Contract Clauses, Part III, Section J, Appendix D- List of Applicable Directives and Part III, Section J, Appendix H - List of Approved Laboratory Land/Facilities (Owned and Leased) to their most current form.

Description of Modification:

1. Part I, Section C - Description/Specifications/Work Statement, Clause C.4.3.2 Facilities last paragraph is revised to read as follows:

The Contractor shall initiate and continually improve facility and waste management practices that implement the “Start Clean – Stay Clean” principles whereby research projects and facility operations are planned to minimize wastes at the end of each project or the life of each facility. Effective January 1, 2015, for all non-federal PNNL facilities, DOE approval must be obtained prior to 1) the use of any dispersible radiological material that may potentially contaminate the structure or systems (e.g., ventilation) of a facility outside an engineered confinement barrier, or 2) any planned activity that may introduce uniquely hazardous chemical residual contamination (e.g. beryllium, crystalline perchlorates, hexavalent chromium) that may potentially contaminate the structure or systems (e.g., ventilation) of a facility outside an engineered confinement barrier. For those non-federal facilities currently scheduled for radiological remediation, the Contractor may, until such time as remediation has been completed, continue to conduct existing radiological work provided it does not introduce any new or different radiological material that may materially increase clean-up liability. **[M991]**

2. Part I, Section F – Deliveries or Performance – Clause F-3, Deliverables, is revised as follows to add deliverables K and L.

| Deliverable | Source Requirement | Description |
|--------------------|---|--|
| K | CO letter 14-PNSO-0132 dated March 5, 2014, subject “Approval of FY 2014 Proprietary Use Rates for the Environmental Molecular Sciences Laboratory (EMSL) User Facility”. | By September 1 of every year, provide to the Contracting Officer for approval the next fiscal year proprietary use rates for the EMSL User Facility. [M991] |
| L | CO Letter 13-PNSO-0248, | As required by DOE HQ's Guidance |

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| | dated July 8, 2013, subject "Capitalizing Software Development Costs" | related to Capitalizing Software Development Costs dated May 21, 2013 & October 1, 2000 related to SFFAS 10 requirements, provide a yearly report of all capitalized software developments costs by August 20th of every year and record all capitalized software in STARS in the third and fourth quarter of every fiscal year. [M991] |
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3. Part I, Section H – Special Contract Requirements Table of Contents is updated to add Clause H-52 Key Positions.
4. Part I, Section H – Special Contract Requirements – Clause H-42, Implementation of Section I Clauses, is revised as follows to add subsection (h).

(h) For purposes of implementation of Contract Clause I-9C, entitled "Reporting Executive Compensation and First-Tier Subcontract Awards", the Parties agree that the Contractor is not required to comply with the sections of the Clause that require reporting into FSRS. However, DOE requests that the Contractor maintain the data in case it is requested. Further, if first-tier subcontractors are unwilling to share executive compensation information with the Contractor, then the Contractor shall advise the first-tier subcontractor that it will be responsible for maintaining the information and will provide the information if requested. [M991]

5. Part I, Section H – Special Contract Requirements – Clause H-47, Employee Compensation: Pay and Benefits is deleted in its entirety and replaced with Part I, Section H – Special Contract requirements – Clause H-47, Employee Compensation: Pay and Benefits to read as follows:

H-47 EMPLOYEE COMPENSATION: PAY AND BENEFITS

(a) Total Compensation System

The Contractor shall develop, implement and maintain formal policies, practices and procedures to be used in the administration of its compensation system including a compensation system consistent with FAR 31.205-6 and DEAR 970.3102-05-6; "Compensation for Personal Services" (Total Compensation System"). DOE-approved standards shall be applied to the Total Compensation System. The Contractor's Total Compensation System shall be fully documented, consistently applied, and acceptable to the Contracting Officer. Periodic appraisals of contractor performance with respect to the Contractors' Total Compensation System will be conducted.

(1) The description of the Contractor Employee Compensation Program should include the following components;

- a. Philosophy and strategy for all pay delivery programs.
- b. System for establishing a job worth hierarchy.
- c. Method for relating internal job worth hierarchy to external market.
- d. System that links individual and/or group performance to compensation decisions.
- e. Method for planning and monitoring the expenditure of funds.
- f. Method for ensuring compliance with applicable laws and regulations.
- g. System for communicating the programs to employees.
- h. System for internal controls and self-assessment.
- i. System to ensure that reimbursement of compensation, including stipends, for employees who are on joint appointments with a parent or other organization shall be on a pro-rated basis.

(b) Reports and Information

The Contractor shall provide the Contracting Officer with the following reports and information with respect to pay and benefits provided under this Contract:

- (1) An Annual Contractor Salary-Wage Increase Expenditure Report to include, at a minimum, breakouts for merit, promotion, variable pay, special adjustments, and structure movements for each pay structure showing actual against approved amounts.
- (2) A list of the top five most highly compensated executives as defined in FAR 31.205-6(p)(2)(ii) and their total cash compensation at the time of Contract award, and at the time of any subsequent change to their total cash compensation.
- (3) The Compensation and Benefits report no later than March 1 of each year.

(c) Pay and Benefit Programs

The Contractor shall maintain pay and benefit programs for its Employees; provided, however, that employees scheduled to work fewer than 20 hours per week receive only those benefits required by law. Employees are eligible for benefits, subject to the terms, conditions, and limitations of each benefit program.

(1) Cash Compensation

- (A) The Contractor shall submit the following to the Contracting Officer for a determination of cost allowability for reimbursement under the Contract:
- (i) Any proposed major compensation program design changes prior to implementation.
 - (ii) An Annual Compensation Increase Plan (CIP). The Compensation Increase Plan (CIP) for a Contractor that has received Contracting Officer approval for having an Employee Compensation Program with the components identified under (a)(1) above should include the following components and data:
 - (1) Market analysis summary, including a comparison of average pay to market average pay.
 - (2) Merit Fund requests for each Employee Group (i.e., S&E, Administrative, Technical, Exempt/Non-Exempt)
 - (3) Aging factors used for escalating survey data (4) Projection of escalation in the market (5) Information to support proposed structure adjustments, if any.
 - (6) Analysis to support special adjustments or promotions that exceed the 1% Promotion/Adjustment fund.
 - (7) Discussion of recruitment/retention issues (e.g., turnover and hiring) relevant to the proposed increase amounts.
 - (8) A discussion of the impact of budget and business constraints on the CIP amount.
 - (9) Information to support a request for variable pay beyond that authorized under Section III of Appendix A.

(10)

(a) Reimbursed salary levels are used to establish the annual CIP fund.

(b) The proposed plan totals shall be expressed as a percentage of the payroll for the end of the previous plan year.

(c) All pay actions granted under the compensation increase plan are fully charged when they occur regardless of time of year in which the action transpires and whether the employee terminates before year end.

(d) Specific Employee or Payroll groups (e.g., exempt, nonexempt) for which CIP amounts are intended shall be defined by mutual agreement between the contractor and the Contracting Officer.

(e) The Contracting Officer may adjust the CIP amount after approval based on major changes in factors that significantly affect the plan amount (for example, in the event of a major reduction in force or significant ramp-up).

(f) The Contractor may make minor shifts of merit funds between employment categories (e.g., Scientist/Engineer, Admin, Exempt, Non-Exempt) after approval of the CIP in order to meet the compensation requirements of its organization, subject to the following guidelines:

- Minor shift is defined as up to 10% of the approved merit funds from one employment category to another (e.g, 10% of Admin merit funds shifted to Technician employment category)
- Total merit increase expenditures will be limited to the total merit fund approved.
- Contractors will notify the Contracting Officer that funds have been shifted.

(iii) Individual compensation actions for the top contractor official (e.g., laboratory director or equivalent) and key personnel not included in the CIP. For those key personnel included in the CIP, DOE will approve salaries upon the

initial contract award and when key personnel are replaced during the life of the contract. DOE will have access to all individual salary reimbursements, this access is provided for transparency; DOE will not approve individual salary actions (except as previously indicated).

- (B) The Contracting Officer's approval of individual compensation actions will be required only for the top contractor official (e.g., laboratory director/plant manager or equivalent) and key personnel as indicated in (c)(1)(A)(iii) above. The base salary reimbursement level for the top contractor official establishes the maximum allowable salary reimbursement under the contract. Unusual circumstances may require a deviation for an individual on a case-by-case basis. Any such deviations must be approved by the Contracting Officer.

- (C) Severance Pay is not payable to an employee under this Contract if the employee:
 - (i) Voluntarily separates, resigns or retires from employment ((unless associated with a workforce restructuring action in accordance with Appendix A, Section V, Reductions in Contractor Employment)
 - (ii) Is offered employment with a successor/replacement contractor,
 - (iii) Is offered employment with a parent or affiliated company, or
 - (iv) Is discharged for cause.

- (D) Service Credit for purposes of determining severance pay does not include any period of prior service for which severance pay has been previously paid through a DOE cost-reimbursement contract.

(d) Pension and Other Benefit Programs

- (1) No presumption of allowability will exist when the Contractor implements a new benefit plan or makes changes to existing benefit plans until the Contracting Officer makes a determination of cost allowability for reimbursement for new or changed benefit plans.

- (2) Cost reimbursement for Employee pension and other benefit programs sponsored by the Contractor will be based on the Contracting Officer's

approval of Contractor actions pursuant to an approved "Employee Benefits Value Study" and an "Employee Benefits Cost Survey Comparison" as described below.

- (3) Unless otherwise stated, or as directed by the Contracting Officer, the Contractor shall submit the studies required in paragraphs (A) and (B) below. The studies shall be used by the Contractor in calculating the cost of benefits under existing benefit plans. In addition, the Contractor shall submit updated studies to the Contracting Officer for approval prior to the adoption of any change to a benefit plan.
 - (A) An Employee Benefits Value Study (Ben-Val), every two years for each benefit tier (e.g., group of employees receiving a benefit package based on date of hire), which is an actuarial study of the relative value (RV) of the benefits programs offered by the Contractor measured against the RV of benefit programs offered by comparator companies approved by the Contracting Officer. To the extent that the value studies do not address post-retirement benefits other than pensions, the Contractor shall provide a separate cost and plan design data comparison for the post-retirement benefits other than pensions using external benchmarks derived from nationally recognized and Contracting Officer approved survey sources.
 - (B) An Employee Benefits Cost Study Comparison, annually for each benefit tier that analyzes the Contractor's employee benefits cost for Employees on a per capita basis per full time equivalent employee and as a percent of payroll and compares it with the cost reported by the US Department of Labor's Bureau of Labor Statistics or other Contracting Officer approved broad based national survey.
- (4) When the net benefit value exceeds the comparator group by more than five percent, the Contractor shall submit a corrective action plan to the Contracting Officer for approval, unless waived in writing by the Contracting Officer.
- (5) When the average total benefit per capita cost or total benefit cost as a percent of payroll exceeds the comparator group by more than five percent, the Contractor shall submit an analysis of the specific plan costs that are above the per capita cost range or total benefit cost as a percent of payroll and a corrective action plan to achieve conformance with a Contracting Officer directed per capita cost range or total benefit cost as a percent of payroll, unless waived in writing by the Contracting Officer.

- (6) Within two years of Contracting Officer approval of the Contractor's corrective action plan, the Contractor shall align employee benefit programs with the benefit value and per capita cost range as approved by the Contracting Officer.
- (7) The Contractor may not terminate any benefit plan during the term of the Contract without the prior approval of the Contracting Officer in writing.
- (8) Cost reimbursement for post-retirement benefits (PRBs) is contingent on meeting PNNL service eligibility requirements for PRBs, with not less than 5 years under a DOE cost reimbursement contract(s). Annually, the Contractor will provide the Contracting Officer with a report identifying Laboratory retirees eligible for post-retirement benefits. The report will provide a service history for each retiree, specifying years at the Laboratory, under other DOE cost reimbursement contracts, and applicable corporate service. Unless required by Federal or State law, advance funding of PRBs is not allowable.
- (9) Each contractor sponsoring a pension and/or postretirement benefit plan will participate in the annual plan management process which includes written responses to a questionnaire regarding plan management, providing forecasted estimates of future reimbursements in connection with the plan and participating in a conference call to discuss the contractor submission (see (f)(7) below for Pension Management Plan requirements).
- (10) Each contractor will respond to quarterly data calls issued through Ibenefits, or its successor system.
- (11) The Contractor previously established an account in a voluntary employees beneficiary association (VEBA) to accrue funds to pay its portion of the retiree medical liability attributable to non-1830 contract commitments. As of the effective date of this contract, and concurrent with the cessation of non-1830 work, the VEBA assets exceed the Contractor's corresponding non-1830 liability for retiree medical. In addition, non-1830 pension assets satisfy the non-1830 liability. The Contractor will not seek reimbursement for the value of the excess VEBA assets but will apply such excess to future retiree medical claims in recognition that the Contractor has no further non-1830 liability under the pension plan or the retiree medical plan prior to the effective date of this contract. The Contractor will not seek

reimbursement from DOE for retiree medical claims paid from the VEBA until the assets of the VEBA have been exhausted. . The Contractor will provide an annual report to the Contracting Officer on the benefits paid from the VEBA in the fiscal year as well as the balance of VEBA assets remaining at the end of the fiscal year.

(e) Establishment and Maintenance of Pension Plans for which DOE Reimburses Costs

- (1) Employees working for the Contractor shall only accrue credit for service under this Contract and the prior Use Permit Agreement (1831 agreement) after the date of original Contract award. For vesting and participation purposes, service under other members of the controlled group will be included as required by law.
- (2) Except for Commingled Plans in existence as of the effective date of the contract, any pension plan maintained by the Contractor for which DOE reimburses costs, shall be maintained as a separate pension plan distinct from any other pension plan that provides credit for service not performed under a DOE cost-reimbursement contract. When deemed appropriate by the Contracting Officer, Commingled Plans shall be converted to separate plans at the time of new contract award or the extension of a contract.

(f) Basic Requirements

The Contractor shall adhere to the requirements set forth below in the establishment and administration of pension plans that are reimbursed by DOE pursuant to cost reimbursement contracts for management and operation of DOE facilities and pursuant to other cost reimbursement contracts as applicable. Pension Plans include Defined Benefit and Defined Contribution plans.

- (1) The Contractor shall become a sponsor of the existing pension and other benefit plans (or comparable successor plans), including other post-retirement benefit (PRB) plans, as applicable, with responsibility for management and administration of the plans. The Contractor shall be responsible for maintaining the qualified status of those plans consistent with the requirements of ERISA and the Internal Revenue Code (IRC).
- (2) Except for changes required by applicable law or regulation or changes that do not require discretion or judgment, DOE approval is required

prior to implementing any change to a pension plan covering prime cost reimbursement contracts for management and operation of DOE facilities and other contracts when designated. Changes shall be in accordance with and pursuant to the terms and conditions of the contract.

At least sixty (60) days prior to the adoption of any changes to a pension plan, the Contractor shall submit the information required below, as applicable, to the Contracting Officer for approval and a determination as to whether the costs are deemed allowable pursuant to FAR 31.205-6, as supplemented by DEAR 970.3102-05-6. For proposed changes to pension plans and pension plan funding, the Contractor shall provide the following to the Contracting Officer:

- (A) a copy of the current plan document (as conformed to show all prior plan amendments), with the proposed new amendment indicated in redline/strikeout;
 - (B) an analysis of the impact of any proposed changes on costs and if applicable, actuarial accrued liabilities;
 - (C) any projected withdrawal liability;
 - (D) except in circumstances where the Contracting Officer indicates that it is unnecessary, a legal explanation of the proposed changes from the counsel used by the plan for purposes of compliance with all legal requirements applicable to private sector defined benefit pension plans;
 - (E) the Summary Plan Description.
- (3) Each contractor pension plan shall be subjected to a limited-scope audit annually that satisfies the requirements of 29 USC section 1023, except that every third year the contractor must conduct a full-scope audit satisfying 29 USC section 1023. Alternatively, the contractor may conduct a full-scope audit satisfying 29 USC section 1023 annually. In all cases, the Contractor must submit the audit results to the Contracting Officer. In years in which a limited scope audit is conducted, the contractor must provide the contracting officer with a copy of the qualified trustee or custodian's certification regarding the investment information that provides the basis for the plan sponsor to satisfy reporting requirements under 29 USC section 1024.
- (4) For existing Commingled Plans, the Contractor shall maintain and provide annual Separate Accounting of DOE liabilities and assets as for a Separate Plan.

- (5) For existing Commingled Plans, the Contractor shall be liable for any shortfall in the plan assets caused by funding or events unrelated to DOE contracts.
- (6) The Contractor shall comply with the requirements of ERISA if applicable to the pension plan and any other applicable laws.
- (7) The Pension Management Plan shall include the following:
 - (A) A Pension Management Plan (PMP) discussing the Contractor's plans for management and administration of all pension plans consistent with the terms of this contract. The PMP shall be updated and submitted to the Contracting Officer in draft annually no later than 45 days after the last day of the Plan year along with its draft actuarial valuation.
 - (B) The annual revision of the PMP shall include:
 - (i) The Contractor's best projection of the contributions which it will be legally obligated to make to the pension plan(s), beginning with the required contributions for the coming fiscal year, based on the latest actuarial valuation, and continuing for the following four years.
 - (ii) If the actuarial valuation submitted pursuant to the annual PMP update indicates that the sponsor of the pension plan must impose pension plan benefit restrictions, the Contractor shall provide the type, number of employees impacted, and amount of funding required to avoid legally required benefit restrictions.
 - (iii) A detailed discussion of how the Contractor intends to manage the pension plan(s) to maximize the contribution predictability (i.e. forecasting accuracy) and contain current and future costs, to include rationale for selection of all plan assumptions that determine the required contributions and which impact the level and predictability of required contributions. The Contractor is required to annually establish a long term (e.g. five year) plan that outlines the projected retirement plan costs, and any planned action steps to be taken to better manage predictability.
 - (iv) An assessment to evaluate the effectiveness of the Contractor's pension plan(s) investment management/results.

(g) **Reimbursement of Contractors for Contributions to Defined Benefit Pension Plans**

- (1) Contractors that sponsor single employer or multiple employer defined benefit pension plans will be reimbursed for the annual required minimum contributions under the Employee Retirement Income Security Act (ERISA), as amended by the Pension Protection Act (PPA) of 2006. Reimbursement above the annual minimum required contribution will require prior approval of the Contracting Officer. Reimbursement amounts will take into consideration all pre-funding balances and funding standard carryover balances.
- (2) Contractors that sponsor multi-employer DB pension plans will be reimbursed for pension contributions in the amounts necessary to ensure that the plans are funded to meet the annual minimum requirement under ERISA, as amended by the PPA. However, reimbursement for pension contributions above the annual minimum contribution required under ERISA, as amended by the PPA, will require prior approval of the Contracting Officer and will be considered on a case by case basis. Reimbursement amounts will take into consideration all pre-funding balances and funding standard carryover balances.

(h) **Reporting Requirements for Designated Contracts**

The following reports shall be submitted to DOE as soon as possible after the last day of the plan year by the contractor responsible for each designated pension plan funded by DOE but no later than the dates specified below:

- (1) Actuarial Valuation Reports. The annual actuarial valuation report for each DOE-reimbursed pension plan and when a pension plan is commingled, the contractor shall submit separate reports for DOE's portion and the plan total by the due date for filing IRS Form 5500.
- (2) Forms 5500. Copies of IRS Forms 5500 with Schedules for each DOE-funded pension plan, no later than that submitted to the IRS.
- (3) Forms 5300. Copies of all forms in the 5300 series submitted to the IRS that document the establishment, amendment, termination, spin-off, or merger of a plan submitted to the IRS.

(i) Terminating Operations

When operations at a designated DOE facility are terminated and no further work is to occur under the prime contract with no successor contractor, the following apply:

- (1) No further benefits for service shall accrue.
- (2) The Contractor shall provide a determination statement in its settlement proposal, defining and identifying all liabilities and assets attributable to the DOE contract.
- (3) The Contractor shall base its pension liabilities attributable to DOE contract work on the market value of annuities or lump sum payments or dispose of such liabilities through a competitive purchase of annuities or lump sum payouts.
- (4) Assets shall be determined using the "market value" as of date of termination of operations.
- (5) Assets should be adjusted for accrual accounting.
- (6) DOE and the Contractor(s) shall establish an effective date for spinoff or plan termination. On the same day as the contractor notifies the IRS of the spinoff or plan termination, all plan assets assigned to a spun-off or terminating plan shall be placed in a low-risk liability matching portfolio until the successor trustee, or an insurance company, is able to assume stewardship of those assets.

(k) Terminating Plans

- (1) DOE contractors shall not terminate any pension plan (Commingled or site specific) without requesting Departmental approval at least 60 days prior to the scheduled date of plan termination.
- (2) To the extent possible, the contractor shall satisfy plan liabilities to plan participants by the purchase of annuities through competitive bidding on the open annuity market or lump sum payouts. The contractor shall apply the assumptions and procedures of the Pension Benefit Guaranty Corporation.
- (3) Funds to be paid or transferred to any party as a result of settlements relating to pension plan termination or reassignment shall reflect earnings and expenses from the effective date of termination or reassignment until the date of payment or transfer.

- (4) On or before the same day as the contractor notifies the IRS of the spinoff or plan termination, all plan assets assigned to a spun-off or terminating plan shall be placed in a low-risk liability matching portfolio until the successor trustee, or an insurance company, is able to assume stewardship of those assets.
- (6) DOE liability to a Commingled pension plan shall not exceed that portion which corresponds to DOE contract service. The DOE shall have no other liability to the plan, to the plan sponsor, or to the plan participants.
- (7) After all liabilities of the plan are satisfied, including any excise taxes, the contractor shall return to DOE an amount equaling the asset reversion from the plan termination and any earnings which accrue on that amount because of a delay in the payment to DOE. Such amount and such earnings shall be subject to DOE audit. To effect the purposes of this paragraph, DOE and the contractor may stipulate to a schedule of payments.

(l) Special Programs

Contractors must advise DOE and receive prior approval for each early-out program, window benefit, disability program, plan-loan feature, employee contribution refund, asset reversion, or incidental benefit.

(m) Definitions

- (1) Commingled Plans. Cover employees from the contractor's private operations and its DOE contract work. As of 10/01/2012, the PNNL plan does not qualify as a Commingled Plan.
- (2) Current Liability. The sum of all plan liabilities to employees and their beneficiaries. Current liability includes only benefits accrued to the date of valuation. This liability is commonly expressed as a present value.
- (3) Defined Benefit Pension Plan. Provides a specific benefit at retirement that is determined pursuant to the formula in the pension plan document.
- (4) Defined Contribution Pension Plan. Provides benefits to each participant based on the amount held in the participant's account. Funds in the account may be comprised of employer contributions, employee contributions, investment returns on behalf of that plan participant and/or other amounts credited to the participant's account.

- (5) Designated Contract. For purposes of this clause, a contract (other than a prime cost reimbursement contract for management and operation of a DOE facility) for which the Head of the Departmental Contracting Activity determines that advance pension understandings are necessary or where there is a continuing Departmental obligation to the pension plan.
- (6) Pension Fund. The portfolio of investments and cash provided by employer and employee contributions and investment returns. A pension fund exists to defray pension plan benefit outlays and (at the option of the plan sponsor) the administrative expenses of the plan.
- (7) Separate Accounting. Account records established and maintained within a commingled plan for assets and liabilities attributable to DOE contract service. NOTE: The assets so represented are not for the exclusive benefit of any one group of plan participants.
- (8) Separate Plan. Must satisfy IRC Sec. 414(l) definition of a single plan, designate assets for the exclusive benefit of employees under DOE contract, exist under a separate plan document (having its own DOL plan number) that is distinct from corporate plan documents and identify the contractor as the plan sponsor.
- (9) Spun-off Plan. A new plan which satisfies IRC Reg. 1.414 (l)-1 requirements for a single plan and which is created by separating assets and liabilities from a larger original plan. The funding level of each individual participant's benefits shall be no less than before the event, when calculated on a "plan termination basis."

[M991]

(End of clause)

6. Part I, Section H – Special Contract Requirements – Clause H-48, Group Pension Plans is deleted in its entirety and replaced with Part I, Section H – Special Contract requirements – Clause H-48, Group Pension Plans to read as follows:

H-48 GROUP PENSION PLANS

Staff members of the Contractor's Pacific Northwest National Laboratories (PNNL) assigned to or performing work under the Contract may participate in the Contractor's Group Pension Plans (the Plans) applicable to PNNL in accordance with the terms of the Plans. The Group Pension Plans are trusteed plans described in items (a) and (b) below and with respect to the Plans, the Contractor and DOE agree as follows:

- (a) "Pension Plan of Pacific Northwest Laboratories, Battelle Memorial Institute," [PNNL Plan] (applicable to non-bargaining unit employees) effective July 1, 1987, and as the foregoing PNNL Plan may be amended from time to time by the Contractor's Board of Trustees; and as determined to be reimbursable by the DOE Contracting Officer.
- (b) "Hanford Contractors Multi Employer Defined Benefit Pension Plan for HAMTC Represented Employees," [HAMTC Plan] (applicable to bargaining unit employees) effective April 1, 1987; and, as the foregoing HAMTC Plan may be amended from time to time by the Plan Administrator in cooperation with the Administrative Committee; as determined to be reimbursable by the DOE Contracting Officer.
- (c) To the extent practicable all non-settlor administrative costs shall be charged to the pension plan rather than to the operating budget to the maximum extent permitted by Department of Labor regulations.
- (d) Payments and Transfers of Assets_
 - (1) If transfers of Plan assets are made to a successor plan in the form of investment holdings, such holdings shall include cash, equity securities, and fixed income securities. Such assets shall be allocated on a pro rata basis, with the prorating for fixed income assets based on rating and sector classification.
 - (2) Battelle will transfer Plan assets at a rate at least sufficient to meet the cash flow requirements of transferred staff members who go into benefit status after the effective date of Contract termination.
- (e) With respect to the Multi-Employer Pension Plan for HAMTC Represented Employees (paragraph (b) above), the Contractor and DOE agree that effective April 1, 1987, pursuant to a collective bargaining agreement, the Contractor became a participating employer in the Hanford Contractor Multi-Employer Pension Plan for HAMTC Represented Employees. All assets and liabilities of the "Employees Retirement Plan of Battelle Memorial Institute" were transferred to and merged with the said Multi-Employer Plan.
- (f) The HAMTC Plan fund, not the Contractor, shall be liable for costs incurred in the course of administration (actuary fees, reports, and similar expenses); provided, however, that costs for employee communications, sign up and termination, payroll, and similar expenses are allowable as normal operating expenses to the extent applicable to work under the Contract.
- (g) Upon expiration or termination of the Contract, all liability of the Contractor with respect to the HAMTC Plan shall cease. The Contractor shall have no claim to any HAMTC Plan assets in excess of HAMTC Plan liabilities, nor

shall the Contractor be required to fund any excess of HAMTC Plan liabilities over HAMTC Plan assets. DOE agrees that all costs, including cost of defense, from any withdrawal liability arising under federal law by reason of the Contractor's withdrawal from the Multi-Employer Plan shall be an allowable cost under the Contract subject to the provisions of paragraph (j) of the clause entitled "Payments and Advances".

[M991]
(End of Clause)

7. Part I, Section H – Special Contract Requirements is updated to add Clause H-52 Key Positions to read as follows:

H-52 Key Positions

- (a) The key positions listed below are considered essential to the performance of the laboratory mission, operations and/or contractor assurance processes under this Contract and require advance notification of any replacement(s) to the Contracting Officer:

Associate Laboratory Directors;
Chief Financial Officer;
Chief Information Officer;
Director, Facilities and Operations Division;
Director, Environment, Health, Safety, & Security Division;
Chief Audit Executive;
General Counsel

- (b) Clause I-68, Key Personnel, may invoke additional requirements if any of the above positions are collateral duties of Key Personnel.

[M991]

8. Part II, Section I - Contract Clauses - Table of Contents is updated to add Contract Clause, I-8A FAR 52.203-17 - Contractor Employee Whistleblower Rights and Requirement To Inform Employees of Whistleblower Rights (Apr 2014), Contract Clause, I-9C FAR 52.204-10 - Reporting Executive Compensation and First-Tier Subcontract Awards (Jul 2013) and to replace Contract Clause, I-10 FAR 52.208-8 - Required Sources for Helium and Helium Usage Data (Apr 2002) with Contract Clause, I-10 FAR 52.208-8 - Required Sources for Helium and Helium Usage Data (Apr 2014).
9. Part II, Section I – Contract Clauses is updated to add Contract Clause, I-8A FAR 52.203-17 - Contractor Employee Whistleblower Rights and Requirement To Inform Employees of Whistleblower Rights (Apr 2014). **[M991]**

10. Part II, Section I – Contract Clauses is updated to add Contract Clause, I-9C FAR 52.204-10 - Reporting Executive Compensation and First-Tier Subcontract Awards (Jul 2013). **[M991]**

11. Part II, Section I – Contract Clauses is updated to replace Contract Clause, I-10 FAR 52.208-8 - Required Sources for Helium and Helium Usage Data (Apr 2002) with Contract Clause, I-10 FAR 52.208-8 - Required Sources for Helium and Helium Usage Data (Apr 2014). **[M991]**

12. Part II, Section I – Contract Clauses is updated to revise clause I-68 DEAR 952.215-70 Key Personnel (Dec 2000) subclause (b) as follows:

I-68 DEAR 952.215-70 Key Personnel (Dec 2000)

(b) The list of personnel may, with the consent of the contracting Parties, be amended from time to time during the course of the Contract to add or delete personnel.

- (1) Michael Kluse, Laboratory Director;
 - (2) Steven F. Ashby, Deputy Director for S&T; and
 - (3) Michael H. Schlender, Deputy Director for Operations and Chief Operations Officer.
- [M991]**

13. Part III, Section J – Appendix D - List of Applicable DOE Directives & External Requirements, is revised as follows:

Replace:

| | |
|-------------|---|
| CRD O 150.1 | Continuity of Programs |
| CRD O 483.1 | DOE Cooperative Research and Development Agreements |

Replace with:

| | |
|--------------|---|
| CRD O 150.1A | Continuity of Programs |
| CRD O 483.1A | DOE Cooperative Research and Development Agreements |

[M991]

14. Part III, Section J – Appendix H – List of Approved Land/Facilities is revised to remove the Microproducts Breakthrough Institute, Sigma IV Office Building, Marine Sciences Laboratory 5A, 5B and 5C (included within Marine Sciences Laboratory 5), and Plant Growth Facilities 1-5 from the Contract. **[M991]**

15. This modification results in no further changes to the Contract.

(End of Contract Modification)

Part I – The Schedule

Section F

Deliveries or Performance

Table of Contents

| | | |
|--------------|---|----------|
| F – 1 | Period of Performance | 1 |
| F – 2 | 52.242-15 Stop-Work Order (Aug. 1989) Alternate I (Apr 1984) | 1 |
| F – 3 | Deliverables | 2 |

F – 1 Period of Performance

This Contract shall be effective as specified in Block No. 3 – Effective Date, of the Standard Form 30, for this modification, except as otherwise provided, and shall continue up to and including September 30, 2017, unless sooner terminated according to its terms and conditions, or extended in accordance with the appropriate FAR and DEAR provisions. **[M881]**

(End of Clause)

F – 2 52.242-15 Stop-Work Order (Aug. 1989) Alternate I (Apr 1984)

- (a) The Contracting Officer may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part, of the work called for by this Contract for a period of 90 days after the order is delivered to the Contractor, and for any further period to which the Parties may agree. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within a period of 90 days after a stop-work is delivered to the Contractor, or within any extension of that period to which the Parties shall have agreed, the Contracting Officer shall either:
- (1) Cancel the stop-work order; or
 - (2) Terminate the work covered by the order as provided in *the Termination clause of this Contract*.
- (b) If a stop-work order issued under this clause is canceled or the period of the order or any extension thereof expires, the Contractor shall resume work. The Contracting Officer shall make *an equitable adjustment in the delivery schedule, the estimated cost, the fee, or a combination thereof, and in any other terms of the Contract that may be affected*, and the Contract shall be modified, in writing, accordingly, if:
- (1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this Contract; and
 - (2) The Contractor asserts its right to the adjustment within 30 days after the end of the period of work stoppage; provided that, if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon the claim submitted at any time before final payment under this Contract.

- (3) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.
- (4) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(End of Clause)

F – 3 Deliverables

The Contractor will provide to the Contracting Officer the routine deliverables identified in the following table. These deliverables are in addition to those required elsewhere in this Contract.

| Deliverable | Source Requirement | Description |
|--------------------|---|---|
| Reserved [M881] | | |
| B | CO Letter 02-FMD-0060, dated October 23, 2002, subject "Reconciliation of Activities Charged to Suspense Debits and Budget and Reporting YN01". | Provide by the 10th of every month a reconciliation of activities charged to suspense accounts. |
| C | CO Letter 09-PNSO-0219 dated March 20, 2009, subject "Review of Related Party Transactions at PNNL". | By April 15 of every year, provide a report disclosing all corporate allocations and the nature of the allocations. |
| D | CO Letter 10-PNSO-0186 dated February 17, 2010, subject "Oregon State University - Use of DOE Owned Equipment". | Provide report within 30 days of the end of each fiscal year of changes in DOE equipment usage at the Microproducts Breakthrough Institute (MBI) located at Oregon State University. |
| E | DOE HQ | As required by DOE HQ, provide input into the DOE Workforce Information System (WFIS): 1) Annual workforce restructuring report, and 2) quarterly EEO reports. |
| F | CO letter 06-PD-187 dated May 10, 2006, subject "Field Office Integrated Contactor Trial Balance Reconciliation Certification". | By the 15th calendar day of each month, provide a trial balance monthly recertification. Additionally, provide a biannual reconciliation and certification at the full Accounting Flex Field level for specific Standard General Ledger accounts. |

| | | |
|---|---|---|
| G | DOE letter dated Feb. 10, 1987 from MJ Plahuta to PNNL Director, subject "Cost of Work Performed under the Related Services Article of Contract 1830". | Within six months after end of each fiscal year provide a notification report with supporting documentation of Other Federal Agencies funds used to replenish General Research Equipment (GRE). |
| H | CO letter 08-PNSO-0601 dated Sept. 29, 2008, subject "Letter of Credit". | Quarterly review of payments cleared financing arrangement with the financial institution, to be provided within 30 days of end of each quarter, plus semi-annual analysis that demonstrates the adequacy of funds on deposit for the previous six-month period consistent with DOE Accounting Handbook, section 6-11. |
| I | CO letter 09-PNSO-0158 dated Jan. 16, 2009, subject "Washington State University Use of DOE Owned Equipment. | Consistent with DOE Order 522.1 required analysis of pricing data, provide annual report detailing DOE equipment in BSEL, WSU usage of equipment in the service center and equipment that meets the criteria for a service center, and an analysis showing WSU non-collaborative usage no later than 30 days after the end of each fiscal year. |
| J | COR letter 99-STO-032 dated March 2, 1999, from Roger Christensen, subject "Use of Dispersible Radioactive Material at the Environmental Molecular Sciences Laboratory (EMSL)." | Provide PNSO a quarterly summary of all projects whose activities apply to Washington State Department of Health (WDOH) "Exemption for radioactive materials Notice of Construction for materials where there is no potential for airborne dispersion" pursuant to letter from Allen Conklin, WDOH Manager, to James Rasmussen, DOE-RL Director, dated November 23, 1998. |
| K | CO letter 14-PNSO-0132 dated March 5, 2014, subject "Approval of FY 2014 Proprietary Use Rates for the Environmental Molecular Sciences Laboratory (EMSL) User Facility". | By September 1 of every year, provide to the Contracting Officer for approval the next fiscal year proprietary use rates for the EMSL User Facility. [M991] |
| L | CO Letter 13-PNSO-0248, dated July 8, 2013, subject "Capitalizing Software Development Costs | As required by DOE HQ's Guidance related to Capitalizing Software Development Costs dated May 21, 2013 & October 1, 2000 related to SFFAS 10 requirements, provide a yearly report of all capitalized software developments costs by August 20th of every year and record all capitalized software in STARS in the third and fourth quarter of every fiscal year. [M991] |

**PART III – List of Documents,
Exhibits and Other Attachments**

Section J

Appendix D

List of Applicable DOE Directives & External Requirements

**SECTION J
APPENDIX D
LIST OF APPLICABLE DOE DIRECTIVES & EXTERNAL REQUIREMENTS**

| DOE DIRECTIVES | |
|-----------------------------|---|
| DIRECTIVE NO. | DIRECTIVE TITLE |
| CRD O 130.1 | BUDGET FORMULATION |
| CRD M 140.1-1B | INTERFACE WITH THE DEFENSE NUCLEAR FACILITIES SAFETY BOARD |
| CRD O 142.2A, Admin Chg. 1 | VOLUNTARY OFFER SAFEGUARDS AGREEMENT AND ADDITIONAL PROTOCOL WITH THE INTERNATIONAL ATOMIC ENERGY AGENCY |
| CRD O 142.3A | UNCLASSIFIED FOREIGN VISITS AND ASSIGNMENTS PROGRAM |
| CRD O 150.1A | CONTINUITY OF PROGRAMS |
| CRD O 151.1C | COMPREHENSIVE EMERGENCY MANAGEMENT SYSTEM |
| CRD O 200.1A | INFORMATION TECHNOLOGY MANAGEMENT |
| CRD M 200.1-1 | CHAPTER 9 PUBLIC KEY CRYPTOGRAPHY AND KEY MANAGEMENT |
| CRD O 205.1B, Chg. 2 | DEPARTMENT OF ENERGY CYBER SECURITY PROGRAM |
| CRD M 205.1-3, Admin Chg. 1 | TELECOMMUNICATIONS SECURITY MANUAL |
| CRD O 206.1 | DEPARTMENT OF ENERGY PRIVACY PROGRAM |
| CRD O 206.2 | PERSONAL IDENTITY VERIFICATION |
| CRD O 210.2A | DOE CORPORATE OPERATING EXPERIENCE PROGRAM |
| CRD O 221.1A | REPORTING FRAUD, WASTE, AND ABUSE TO THE OFFICE OF INSPECTOR GENERAL |
| CRD O 221.2A | COOPERATION WITH THE OFFICE OF INSPECTOR GENERAL |
| CRD O 225.1B | ACCIDENT INVESTIGATIONS |
| CRD O 227.1 | INDEPENDENT OVERSIGHT PROGRAM |
| CRD O 231.1B, Admin Chg. 1 | ENVIRONMENT, SAFETY AND HEALTH REPORTING |
| CRD O 232.2 | OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION |
| CRD O 241.1B | SCIENTIFIC AND TECHNICAL INFORMATION MANAGEMENT |
| CRD O 243.1B, Admin Chg. 1 | RECORDS MANAGEMENT PROGRAM |
| CRD O 252.1A, Admin Chg. 1 | TECHNICAL STANDARDS PROGRAM |
| CRD O 313.1 | MANAGEMENT AND FUNDING OF THE DEPARTMENT'S OVERSEAS PRESENCE |
| CRD O 350.1, Chg. 4 | CONTRACTOR HUMAN RESOURCE MANAGEMENT PROGRAMS (Chapters II and VII are applicable) |
| CRD O 350.2B | USE OF MANAGEMENT AND OPERATING OR OTHER FACILITY MANAGEMENT CONTRACTOR EMPLOYEES FOR SERVICES TO DOE IN THE WASHINGTON, D.C., AREA |
| CRD O 410.2 | MANAGEMENT OF NUCLEAR MATERIALS |
| CRD O 413.1B | INTERNAL CONTROL PROGRAM |
| CRD O 413.2B, Chg. 1 | LABORATORY DIRECTED RESEARCH AND DEVELOPMENT |
| CRD O 413.3B | PROGRAM AND PROJECT MANAGEMENT FOR THE ACQUISITION OF CAPITAL ASSETS |
| CRD O 414.1D, Admin | QUALITY ASSURANCE |

| DOE DIRECTIVES | |
|--------------------------------|---|
| DIRECTIVE NO. | DIRECTIVE TITLE |
| Chg. 1 | |
| CRD O 420.1C *** | FACILITY SAFETY |
| CRD O 420.2C | SAFETY OF ACCELERATOR FACILITIES |
| CRD O 422.1, Admin Chg. 1 | CONDUCT OF OPERATIONS |
| CRD O 425.1D, Admin Chg. 1 | VERIFICATION OF READINESS TO STARTUP OR RESTART NUCLEAR FACILITIES |
| CRD O 426.2, Admin Chg. 1 | PERSONNEL SELECTION, TRAINING, QUALIFICATION, AND CERTIFICATION REQUIREMENTS FOR DOE NUCLEAR FACILITIES |
| CRD O 430.1B, Chg. 2 | REAL PROPERTY AND ASSET MANAGEMENT |
| CRD O 433.1B, Admin Chg. 1 | MAINTENANCE MANAGEMENT PROGRAM FOR DOE NUCLEAR FACILITIES |
| CRD O 435.1, Chg. 1* | RADIOACTIVE WASTE MANAGEMENT |
| DOE M 435.1-1, Admin Chg. 2 | RADIOACTIVE WASTE MANAGEMENT MANUAL |
| CRD O 440.2C, Chg. 1 | AVIATION MANAGEMENT AND SAFETY |
| CRD M 441.1-1 | NUCLEAR MATERIAL PACKAGING MANUAL |
| CRD O 442.2 | DIFFERING PROFESSIONAL OPINIONS FOR TECHNICAL ISSUES INVOLVING ENVIRONMENT, SAFETY AND HEALTH |
| CRD O 443.1B | PROTECTION OF HUMAN SUBJECTS |
| CRD O 452.8 | CONTROL OF NUCLEAR WEAPON DATA |
| CRD O 456.1, Admin Chg. 1 | THE SAFE HANDLING OF UNBOUND ENGINEERED NANOPARTICLES |
| CRD O 458.1, Chg. 3** | RADIATION PROTECTION OF THE PUBLIC AND THE ENVIRONMENT |
| CRD O 460.1C | PACKAGING AND TRANSPORTATION SAFETY |
| CRD M 460.2-1A | RADIOACTIVE MATERIAL TRANSPORTATION PRACTICES MANUAL |
| CRD O 460.2A | DEPARTMENTAL MATERIALS TRANSPORTATION AND PACKAGING MANAGEMENT |
| CRD O 461.1B | PACKAGING AND TRANSFER FOR OFFSITE SHIPMENT OF MATERIALS OF NATIONAL SECURITY INTEREST |
| DOE O 470.3B | GRADED SECURITY PROTECTION (GPS) POLICY |
| CRD O 470.4B, Admin Chg. 1 | SAFEGUARDS AND SECURITY PROGRAM |
| CRD O 471.1B | IDENTIFICATION AND PROTECTION OF UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION |
| CRD O 471.3, Chg. 1 | IDENTIFYING AND PROTECTING OFFICIAL USE ONLY INFORMATION |
| CRD M 471.3-1, Chg. 1 | MANUAL FOR IDENTIFYING AND PROTECTING OFFICIAL USE ONLY INFORMATION |
| CRD O 471.5 | SPECIAL ACCESS PROGRAMS |
| CRD O 471.6, Admin Chg. 1 | INFORMATION SECURITY |
| CRD O 472.2 | PERSONNEL SECURITY |
| CRD O 473.3 | PROTECTION PROGRAM OPERATIONS |
| CRD O 474.2, Admin Chg.2 | NUCLEAR MATERIAL CONTROL AND ACCOUNTABILITY |
| CRD O 475.1 | COUNTERINTELLIGENCE PROGRAM |
| CRD O 475.2A | IDENTIFYING CLASSIFIED INFORMATION |

| DOE DIRECTIVES | |
|----------------------------|---|
| DIRECTIVE NO. | DIRECTIVE TITLE |
| CRD O 483.1A | DOE COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS |
| CRD O 484.1, Chg. 1 | REIMBURSABLE WORK FOR THE DEPARTMENT OF HOMELAND SECURITY |
| CRD O 522.1 | PRICING OF DEPARTMENTAL MATERIALS AND SERVICES |
| CRD O 534.1B | ACCOUNTING |
| CRD O 551.1D | OFFICIAL FOREIGN TRAVEL |
| CRD O 580.1A, Admin Chg. 1 | DEPARTMENT OF ENERGY PERSONAL PROPERTY MANAGEMENT PROGRAM |
| DOE O 5639.8A | SECURITY OF FOREIGN INTELLIGENCE INFORMATION AND SENSITIVE COMPARTMENTED INFORMATION FACILITIES |
| DOE-0223 | RL EMERGENCY IMPLEMENTING PROCEDURES – APPLICABLE TO PNNL-MANAGED FACILITIES AND ACTIVITIES ON THE HANFORD SITE |
| DOE/RL-94-02, Rev. 5 | HANFORD EMERGENCY MANAGEMENT PLAN– APPLICABLE TO PNNL-MANAGED FACILITIES AND ACTIVITIES ON THE HANFORD SITE |
| DOE/RL-2001-36 | HANFORD SITE TRANSPORTATION SAFETY DOCUMENT, REV.1-B |

- * The Contractor shall submit a plan to implement CRD O 435.1, Chg 1 “Radioactive Waste Management” no-later-than 30 calendar days after the effective date of the modification to extend the contract. The Contractor shall continue to comply with DOE O 5820.2A “Radioactive Waste Management” until implementation of CRD 435.1, Chg 1.
- ** The Contractor’s responsibility to implement CRD O 458.1, Chg. 3 “Radiation Protection of the Public and the Environment” is limited to paragraphs 2.d., 2.g., and 2.k.
- ***The Contractor shall submit a plan to implement CRD O 420.1C, “Facility Safety” within 60 calendar days after the effective date of the modification to include the subject revised order.

**PART III – List of Documents,
Exhibits and Other Attachments**

Section J

Appendix H

**LIST OF APPROVED LABORATORY LAND/FACILITIES
(OWNED AND LEASED)**

Section J - Appendix H

**LIST OF APPROVED LABORATORY LAND/FACILITIES
(OWNED AND LEASED)**

(Depicted by Figures JH-1, JH-2)

| DOE-SC Owned | | |
|--|--------------------|---|
| Land | Property ID | Predominant Use |
| PNNL Site | PNNL Site | Approximately 348 acres of Federally owned land (with multiple entries in FIMS) reserved for PNNL use located within Benton County, WA and in proximity to the Hanford Site 300 Area and the BMI Land-Richland. The PNNL Site encompasses 102 acres of a Preservation Designated Area which is not available for development. |
| Facility Name | Property ID | Predominant Use (FIMS Usage Code) |
| Coastal Security Institute 1 | CSI1 | Office |
| 3020 Environmental Molecular Science Laboratory | 3020EMSL | Applied Physics Laboratory |
| 3410 Material Science & Technology Laboratory | 3410 | Chemical Laboratory (Nuclear) |
| 3420 Radiation Detection Laboratory | 3420 | Other Materials R&D Test Buildings |
| 3425 Ultra Low Background Counting Laboratory | 3425 | Other Materials R&D Test Buildings |
| 3430 Ultratrace Laboratory | 3430 | Other Materials R&D Test Buildings |
| 3440 Large Detector Laboratory | 3440 | Other Support Labs |
| 3455 Trailer | 3455 | Office |
| 3465 Trailer | 3465 | Office |
| 3475 Laboratory Support Warehouse | 3475 | Programmatic General Storage |
| DOE-EM Owned¹ | | |
| Facility Name | Property ID | Predominant Use (FIMS Usage Code) |
| 350 Plant Operations & Maintenance Facility | 350 | Maintenance Shops, General |

¹ The Operational Agreement between the Office of Science, Pacific Northwest Site Office, and the Office of Environmental Management, Richland Operations Office (included as Appendix F of this Contract) explicitly addresses DOE-EM real property in use by PNNL which includes the facilities explicitly listed in this Appendix as well as other structural facilities supporting their operation. DOE EM-Owned Facilities in the 300 Area will be removed when no longer needed by SC and transitioned to EM in accordance with the referenced DOE-RL and PNSO Operational Agreement.

| | | |
|--|--------------------|---|
| 350A Paint Shop | 350A | Paint Shop |
| 350B Warehouse | 350B | Pipe Fitting and Plumbing Shop |
| 350C Storage Building | 350C | General Storage |
| 350D Oil Storage Facility | 350D | Hazardous/Flammable Storage |
| 318 Radiological Calibrations Laboratory | 318 | Calibrations Laboratory |
| 318TRL4 Office Trailer | 318TRL4 | Office |
| 331 Life Sciences Laboratory 1 | 331 | Biological Research Laboratory |
| 325 Radiochemical Processing Laboratory | 325RPL | Chemical Laboratory (Nuclear) |
| Contractor Leased-Programmatic² | | |
| Facility Name | Property ID | Predominant Use (FIMS Usage Code) |
| Albuquerque NM Office | Albuquerque | Security Hq / Badge Issuance / Gate Houses (Polygraph Center) |
| Port of Skamania Lab-Warehouse | POS | Programmatic General Storage |
| Port of Skamania Tietzel Office | POS2 | Office |
| Port Of Pasco Airport Hanger | POP | Helicopter and Airplane Hangars |
| Virginia Tech Applied Research Corp. | VTARC | Office |
| Contractor Leased-Institutional² | | |
| Facility Name | Property ID | Predominant Use (FIMS Usage Code) |
| 2400/2410 Stevens Office-Lab | 2400-2410STV | Applied Physics Laboratory |
| Applied Processing Engineering Laboratory | APEL | Large Scale Demonstration/Research Building |
| Battelle Seattle Research Center (ILA) | BSRC | Office |
| WSU Bioproducts Science & Engineering Laboratory | WSUBSEL | Biological Research Laboratory |
| Biological Sciences Facility | BSF | Biological Research Laboratory |
| Battelle Washington Office (ILA) | BWO | Office |
| Computational Sciences Facility | CSF | Computation Laboratory |
| Environmental Technology Building | ETB | Office |
| Information Sciences Building 1 | ISB1 | Office |
| Information Sciences Building 2 | ISB2 | Office |
| Laboratory Support Building | LSB | Office |

² Contractor Leased Facilities are added to and removed from this list as approved Real Estate Packages, where DOE reviews terms and conditions, rates, market surveys and mission need to determine the use of this space by the Pacific Northwest National Laboratory. This establishes reimbursement for those lease costs incidental to the performance of work.

| | | |
|--|--------------------------|---|
| Marine Sciences Laboratory 7 Office | MSL7 | Office |
| National Security Building | NSB | Office |
| Portland Office | PORTLAND | Office |
| Research Support Warehouse | RSW | General Storage |
| Salk Building | SALK | Computation Laboratory |
| Systems Engineering Facility | SEF | Office |
| SIGMA 1 Office Building | SIGMA1 | Office |
| SIGMA 2 Office Building | SIGMA2 | Office |
| Guest House | GUESTHOUSE | Motel/Hotel/Lodges |
| Joint Global Change Research Institute- | JGCRI | Office |
| BMI-Owned | | |
| Land³ | Property ID | Predominant Use |
| BMI Land-Richland | BMI Land-Richland | Battelle Memorial Institute (BMI)-owned land is included in this list as DOE has authorized work to be conducted at specific work locations on this land, or it has been deemed beneficial to the operations of the Pacific Northwest National Laboratory in direct connection with and in proximity to the facilities listed herein. |
| BMI Land-Sequim | BMI Land-Sequim | Battelle Memorial Institute (BMI)-owned land is included in this list as DOE has authorized work to be conducted at specific work locations on this land, or it has been deemed beneficial to the operations of the Pacific Northwest National Laboratory in direct connection with and in proximity to the facilities listed herein. |
| Facility Name⁴ | Property ID | Predominant Use |
| Atmospheric Measurement | AML | Physics Laboratory |

³ The majority of BMI-owned land and supporting site infrastructure or Other Structures and Facilities (OSF) is located in Richland, WA in proximity to the PNNL Site. The listed BMI-Richland real property excludes the Battelle Staff Association (BSA) Recreation Area, the BSA Soccer Field, Kindercare, the vacant land parcels south of Battelle Boulevard, non-listed buildings, and other land parcels as specifically agreed to by DOE and Battelle. Vacant Battelle-owned land parcels north of Battelle Boulevard are provided for the beneficial use of PNNL. Use of these land parcels by PNNL is limited to those work activities as approved or authorized by DOE. Non-PNNL activities may be conducted in these areas as long as they are not in conflict with PNNL needs. The remaining BMI-owned land and supporting site infrastructure or Other Structures and Facilities (OSF) is located in Sequim, WA. The BMI-Sequim real property excludes the agricultural and forested areas on vacant land parcels, non-listed buildings, and other land parcels as specifically agreed to by DOE and Battelle. The inclusion of BMI-owned land into this list does not specifically address any potential costs or other liabilities by either party; it is only identified to designate authorized work locations. Supporting site infrastructure, or Other Structures and Facilities (OSF) as defined and categorized in FIMS, include any fixed real property improvements to land that are not classified as a building or predominately housed within a building.

⁴ Battelle Memorial Institute (BMI)-owned facilities are included in this list as DOE has authorized work to be conducted at these specific locations or it has been deemed beneficial to the operations of the Pacific Northwest National Laboratory, through a series of Contracting Officer letters authorizing the reimbursement of certain costs BMI incurs in providing these facilities to the Government for its use and enjoyment. The inclusion of BMI-owned facilities into this list does not specifically address any potential costs or other liabilities by either party; it is only identified to designate authorized work locations. For planning and operational management purposes, consult the annual Laboratory Plan for dates of anticipated cessation of PNNL use of BMI-owned facilities.

| | | |
|--|---------------|--|
| Laboratory | | |
| Auditorium | AUD | Auditorium/Theater |
| Battelle Inhalation Laboratory | BIL | Biological Research Laboratory |
| Battelle Receiving & Shipping Warehouse | BRSW | General Storage |
| Engineering Development Laboratory | EDL | Physics Laboratory |
| Engineering Support Building | ESB | Office |
| Grounds Equipment Storage | GES | Hazardous/Flammable Storage |
| Life Sciences Laboratory 2 | LSL2 | Biological Research Laboratory |
| Life Sciences Lab 2A Chem Storage | LSL2A | Biological Research Laboratory |
| Mathematics Building | MATH | Office |
| Marine Sci Lab 1 Beach Office-Lab | MSL1 | Biological Research Laboratory |
| Marine Sci Lab 1W Waste Wtr Treat | MSL1W | Plants (Water Treatment) |
| Marine Sci Lab 2 Biotech, Conf, Shop | MSL2 | Biological Research Laboratory |
| Marine Sci Lab 3 Filter Building | MSL3 | Pumping Station |
| Marine Sci Lab 4 Pumphouse | MSL4 | Pumping Station (Potable Water) |
| Marine Sci Lab 5 Uplands Office-Lab | MSL5 | Chemistry Labs (Nuclear) |
| Chemical Engineering Laboratory | CEL | Other Chemistry Laboratory |
| Process Development Laboratory East | PDLE | Other Support Labs (High Bay) |
| Process Development Laboratory West | PDLW | Other Support Labs (High Bay) |
| Physical Science Laboratory | PSL | Chemistry Laboratory (Non-nuclear) |
| Research Operations Building | ROB | Office |
| RTL510 Chemical And Flammable Storage | RTL510 | Hazardous/Flammable Storage |
| RTL520 Research Technology Laboratory | RTL520 | Nuclear Physics Laboratory |
| RTL524 Fire Riser Facility | RTL524 | Other Service Building (Fire Riser) |
| RTL530 Radioactive Storage | RTL530 | Nuclear Contaminated Storage |
| RTL540 Paper Shredder Facility | RTL540 | Programmatic General Storage |
| RTL550 Technical Services | RTL550 | Maintenance Shops, General |

| | | |
|------------------------------------|---------------|---|
| RTL560 Utility Building | RTL560 | Plants (Gas Fired) |
| RTL570 Autoclave Center | RTL570 | Other Materials R&D Test Buildings |
| RTL580 Crafts Shop | RTL580 | Maintenance Shops, General |
| RTL590 Warehouse | RTL590 | General Storage |
| Technical Support Warehouse | TSW | General Storage |

Richland Map (Figure JH-1)



Sequim Map (Figure JH-2)

