

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE		PAGE 1 OF 1 PAGES		
2. AMENDMENT/MODIFICATION NUMBER 0310		3. EFFECTIVE DATE See Block 16c		4. REQUISITION/PURCHASE REQUISITION NUMBER		5. PROJECT NUMBER (If applicable)	
6. ISSUED BY Brookhaven Site Office U.S. Department of Energy 53 Bell Avenue, Building 464 Upton, NY 11973		CODE 892430		7. ADMINISTERED BY (If other than Item 6) Brookhaven Site Office U.S. Department of Energy 53 Bell Avenue, Building 464 Upton, NY 11973		CODE 06005	
8. NAME AND ADDRESS OF CONTRACTOR (Number, street, county, State and ZIP Code) Brookhaven Science Associates, LLC Atten: Janine Mehlinger Brookhaven National Laboratory Building 460, PO Box 5000 Upton, NY 11973-5000				(X)		9A. AMENDMENT OF SOLICITATION NUMBER	
				<input type="checkbox"/>		9B. DATED (SEE ITEM 11)	
				(X)		10A. MODIFICATION OF CONTRACT/ORDER NUMBER DE-SC0012704	
				(X)		10B. DATED (SEE ITEM 13) 12/22/2014	
CODE				FACILITY CODE			

11. THIS ITEM ONLY 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 electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE 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 letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

N/A

**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NUMBER AS DESCRIBED 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 NUMBER IN ITEM 10A.
<input type="checkbox"/>	
<input type="checkbox"/>	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
<input checked="" type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: FAR 43.103(a), Mutual agreement of Both Parties.
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)

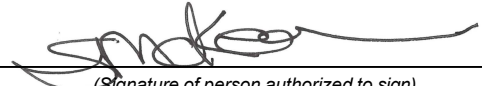
E. IMPORTANT: Contractor ☐ is not ☒ is required to sign this document and return 1 copies to the issuing office.

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

UEI: R85KZ9JP3NM3
Payment - Direct Payment
from U.S. Dept of Treasury

This Modification is issued to update Part I, Section C and H; Part III Section J, Appendix E and I
Period of Performance end date from 01/05/2025 to 01/04/2030

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) Susan McKeon, Chief Financial Officer		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Romaine Howard-McKellar, Contracting Officer	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
 (Signature of person authorized to sign)	06/06/2025	_____ (Signature of Contracting Officer)	06/09/2025

Previous edition unusable

14. DESCRIPTION OF AMENDMENT/MODIFICATION continued.

A. This modification is issued to update the following contract sections:

Contract Sections:

(a) Part I – The Schedule

- Description/Specs. /Work Statement
 - C.4 – Statement of Work
- Special Contract Requirements
 - H.21 – Employee Compensation: Pay and Benefits
 - H.49 - DOE-H-2088 - Implementation of The Framework for Nucleic Acid Synthesis Screening (NOV 2024)
 - H.51 – DOE-H-2089 – Compliance with Federal Anti-Discrimination Laws

(b) Part III – List of Documents, Exhibits, Attachments

- Section J – List of Attachments (Appendices)
 - Appendix E - Key Personnel
 - Appendix I - DOE Directives/List B

B. Table of Changes**PART I – THE SCHEDULE**

The clauses titles shown below are accurate post-modifications.

Section	Title	Change & Explanation
C.4	Statement of Work	<p>Delete: C.4(c) Protection of Workers, Public and the Environment – remove last paragraph from section of the SOW (“Finally, the Contractor shall promote effective environmental program management, through continued maintenance of ISO 14001 registration”).)</p> <p>Explanation: In accordance with BSA letter dated March 17, 2025, title “Modifications to BSA’s Prime Contract from J. Mehlinger.</p> <p>Delete: C.4(2)(i) Human Resources Management (HR) - deletes the word “diversity”</p> <p>Delete: C.4(2)(i) Human Resources Management (HR) - deletes the word “diversity”</p> <p>Explanation: In accordance with the Memorandum dated January 23, 2025, from, Ingrid C. Kolb, Acting Secretary of Department of Energy.</p>
H.21	Employee Compensation: Pay and Benefits	<p>Delete: Removes Clause H.21 in its entirety.</p> <p>Add: Incorporates new version of Clause H.21.</p> <p>Explanation: In accordance with Juston K. Fontain Memorandum dated May 7, 2025; Subject: Revision to National Laboratory Contract Clause on Employee Compensation and Benefits.</p>
H.49	DOE-H-2088 - Implementation of The Framework for Nucleic Acid Synthesis Screening (NOV 2024)	<p>Add: Correct the title to include “DOE-H-2088”.</p> <p>Explanation:</p>

		New clause added to Prime Contract M0299 per PF-2025-12
H.51	DOE-H-2089 – Compliance with Federal Anti-Discrimination Laws	Add: Incorporates new clause. Explanation: Transmitted by PF-2025-23.

PART III – SECTION J – LIST OF DOCUMENTS, EXHIBITS, ATTACHMENTS

Clause No.	Title	Change & Explanation
Appendix E	Key Personnel	Delete: Remove the word (interim) from Dr. Abhay Deshpande. Explanation: Dr. Abhay Deshpande was appointed as Associate Laboratory Director for Nuclear & Particle Physics effective May 15, 2025.
Appendix I	DOE Directives/List B	Delete: Delete the current version of Appendix I in its' entirety. Added: DOE Order 241.1C, Scientific and Technical Information Management, dated 10/28/2024 Deleted: DOE Order 241.1B Chg. 1, Scientific and Technical Information Management, dated 4/26/16 Added: DOE Order 414.1E, Quality Assurance, dated 12/18/2024 Deleted: DOE Order 414.1D Chg. 2 (Ltd Chg.), Quality Assurance, dated 9/15/2020 Added: DOE Order 443.1C, Chg. 1 (Ltd Chg.), Protection of Human Research Subjects, dated 11/23/2024 Deleted: DOE Order 443.1C, Protection of Human Subjects, dated 11/26/2019 Added: DOE Order 481.1E Chg. 2 (Ltd Chg.), Strategic Partnership Projects [Formerly Known as Work for Others (Non-Department of Energy Funded Work)], dated 10/28/2024 Deleted: DOE Order 481.1E Chg. 1 (Ltd Chg.), Strategic Partnership Projects [Formerly Known as Work for Others (Non-Department of Energy Funded Work)], dated 12/13/2019

		<p>Added: DOE Order 483.1B, Chg. 3 (Min Chg.), DOE Cooperative Research and Development Agreements, dated 10/28/2024</p> <p>Deleted: DOE Order 483.1B Chg. 2 (Ltd Chg.), DOE Cooperative Research and Development Agreements, dated 12/13/2019</p> <p>Added: DOE Order 484.1 Chg. 4 (Ltd Chg.), Reimbursable Work for the Department of Homeland Security, dated 10/28/2024</p> <p>Deleted: DOE Order 484.1 Chg. 3 (Ltd Chg.), Reimbursable Work for Department of Homeland Security, dated 3/21/2023</p> <p>Added: DOE Order 520.1B Chg. 2 (Ltd Chg.), Financial Management and Chief Financial Officer Responsibilities, dated 12/18/2024</p> <p>Deleted: DOE Order 520.1B Chg. 1 (Ltd Chg.), Financial Management and Chief Financial Officer Responsibilities dated 11/11/2022</p> <p>Added: DOE Order 522.1A Chg. 1 (Ltd Chg.), Pricing of Departmental Materials and Services, dated 10/28/2024</p> <p>Deleted: DOE Order 522.1A, Pricing of Departmental Materials and Services, dated 08/02/2018</p> <p>Revised: DOE Order 422.1 Chg. 4 (Ltd Chg.), Conduct of Operations, dated 2/03/2022</p>
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C. All other Terms and Conditions remain unchanged.

END OF MODIFICATION

SECTION C

DESCRIPTION/SPECS/WORK STATEMENT

clause of this contract. The Contractor may also capitalize on its location in the Northeast by developing productive relationships with regional and local companies and through forums such as conferences, workshops, and traveling presentations. It is anticipated that these organizations will be particularly effective participants in the Laboratory's technology transfers activities in promoting a mutually beneficial relationship between DOE and the communities surrounding the Laboratory.

(c) Protection of Workers, the Public and the Environment

The safety and health of workers and the public and the protection and restoration of the environment are fundamental responsibilities of the Contractor. The Contractor shall establish an environment, safety and health program operated as an integral, but visible, part of how the organization conducts business, including prioritizing work and allocating resources based on risk reduction. A key element is continued implementation of an Integrated Safety Management System to ensure all work activities are performed in a manner that prevents disruption of the Laboratory's missions by preventing fatalities, minimizing injuries and illnesses, minimizing exposures to hazardous substances and materials, preventing environmental releases in excess of established limits, and preventing property loss.

The Contractor shall maintain an organization that supports effective Environment, Safety and Health (ES&H) management by ensuring appropriate levels of ES&H staffing and competence at every level within BNL. Specifically, the Contractor shall assure that employees are trained, qualified, and involved in aspects of the organization's activities, including providing input to the planning and execution of work, and identification, mitigation, or elimination of workplace hazards. The Contractor shall, similarly, assure that subcontractor employees are trained and qualified on job tasks, hazards, DOE and BNL Departmental safety policies, expectations and requirements, and shall freely communicate applicable ES&H requirements down to subcontractors. The Contractor shall, as appropriate, consider ES&H performance in selection of its subcontractors and incorporate ES&H requirements into subcontracts.

The Contractor shall perform all activities in compliance with applicable health, safety, and environmental laws, orders, regulations, national consensus standards, governing agreements and permits executed with regulatory and oversight government organizations.

Incorporating integrated line management, the Contractor shall put in place a system that clearly communicates the roles, responsibilities, and authorities of line managers. The Contractor shall hold line managers, including direct reports, accountable for implementing necessary controls for safe performance of work in their respective area of responsibility. The Contractor shall establish effective management systems to identify deficiencies, resolve them in a timely manner, ensure that corrective actions

are implemented, (addressing the extent of conditions, root causes, and measures to prevent recurrence) and prioritize and track commitments and actions.

(d) Management and Operation of the Laboratory

The Contractor shall manage, operate, protect, maintain and enhance the Laboratory's ability to function as a DOE multi-program laboratory, provide the infrastructure and support activities, support the accomplishment of the Laboratory's missions, and assure the accountability to the DOE under the results-oriented, performance-based provisions of this contract. The Contractor shall establish and maintain an integrated management system capable of producing implementation-level plans, programs and procedures for the management and operation of the Laboratory. The Contractor shall implement a broad scope contractor assurance program to assess the overall performance in, and drive continuous improvement of Laboratory operations and management.

(1) Strategic Planning

The Contractor shall conduct a strategic planning process and develop institutional business plans and strategic facility plans in consideration of DOE provided planning guidance and strategic planning material to assure consistency with DOE missions and goals.

(2) Business Management

(i) Human Resources Management (HR)

The Contractor shall have an HR system designed to attract and retain outstanding employees in accordance with DOE expectations, policies, and procedures. The Contractor shall maintain a market based system of compensation and benefit plans to motivate employees to achieve high productivity in scientific research and laboratory operation. The Contractor also shall create and maintain at the Laboratory an environment that promotes and fully utilizes the talents and capabilities of a diverse workforce.

(ii) Financial Management

The Contractor shall maintain a financial management system responsive to the obligations of sound financial stewardship and public accountability. The overall system shall include an integrated accounting system suitable to collect, record, and report all financial activities; a budgeting system that includes the formulation and executions of all resource requirements needed to accomplish projected missions and formulate short- and long-range budgets; an internal control system for all financial and other business management processes; and a disbursements system for both employee payroll and supplier payments. The internal audit group for the

Laboratory shall report to the most senior governing body of the Contractor's parent organization(s).

(iii) Purchasing Management

The Contractor shall have and manage a DOE-approved purchasing system to provide purchasing support and subcontract administration. The Contractor shall, when directed by DOE, enter into subcontracts for the performance of any part of the work under this contract. The Contractor may also enter into subcontracts for the performance of any part of the work under this contract when authorized by DOE.

The Contractor shall also strive to promote all of the Laboratory's subcontracting efforts with emphasis on the use of the types of businesses identified in the Small Business Subcontracting Plan clause of this contract.

(iv) Property Management

The Contractor shall have and manage a DOE-approved property management system that provides assurance that the Government-owned, contractor-held property is accounted for, safeguarded, and disposed of in accordance with DOE's expectations and policies. The Contractor shall perform overall integrated planning, acquisition, maintenance, operation, management, and disposition of Government-owned personal and real property, and any Contractor-leased facilities and infrastructure used by the Laboratory.

SECTION H

SPECIAL CONTRACT REQUIREMENTS

CLAUSE H.21 – 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 consistent with FAR 31.205-6 and DEAR 970.3102-506, Compensation for Personal Services. DOE-approved standards (e.g., set forth in an advance understanding or appendix), if any, shall be applied to the Total Compensation System.

The Contractor's Total Compensation System shall be fully documented and consistently applied. Periodic appraisals of contractor performance with respect to the Contractors' Total Compensation System may be conducted.

Compensation costs will be audited annually to establish final allowable cost for the reportable fiscal year. The Contractor is required to submit an adequate annual final indirect cost rate proposal in accordance with DEAR 970.5216-7. The incurred claimed costs will be initially reviewed for adequacy and then audited. Included in the scope of the audit are direct and indirect compensation costs (e.g., salaries, health benefits, pensions, etc.). Failure to adequately support the incurred costs may result in the claimed costs being disallowed in part or in its entirety.

(b) Compensation and Benefit Report

The Contractor shall provide the Contracting Officer with an Annual Compensation and Benefits Report no later than March 15th of each year.

(c) Cash Compensation

(1) The Contracting Officer's approval of individual compensation actions will be required only for identified Key Personnel in the contract. For any Key Personnel not included in the contractors' internal Compensation Increase Plan (CIP), the approval is required upon the initial contract award, annually thereafter, and when they are replaced during the life of the contract. For all Key Personnel, besides the Laboratory Director, included in the internal CIP, approval is required upon the initial contract award and when they are replaced during the life of the contract. The base salary reimbursement level for the top contractor official establishes the maximum allowable salary reimbursement under the contract. The contractor shall not be reimbursed for the top contractor official's incentive compensation. The base salary reimbursement level for the top contractor official establishes the maximum allowable salary reimbursement under the contract when compared to subordinate compensation, which would include base salary and any potential incentive compensation under an incentive compensation agreement. 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.

(2) Severance Pay is not payable to an employee under this Contract if the employee:

- Voluntarily separates, resigns or retires from employment (unless associated with a workforce restructuring action in accordance with Appendix A, Section entitled Reductions in Contractor Employment),
- Is offered employment with a successor/replacement Contractor,
- Is offered employment with a parent or affiliated company, or
- Is discharged for cause.

(d) Pension and Other Post Retirement Benefit Programs

- (1) Incumbent Employees shall remain in their existing pension plans (or comparable successor plans if continuation of the existing plans is not practicable) pursuant to pension plan eligibility requirements and applicable law.
- (2) The Contractor shall submit for prior approval any benefit changes that result in increases to the Department's long-term pension and other actuarial liabilities that are reported in the Department's financial statement. Examples of benefits changes that increase the Department's long-term liabilities include defined benefit pension plan changes and postretirement benefits other than pensions.
- (3) Cost reimbursement for post-retirement benefits other than pensions (PRBs) is contingent on DOE approved service eligibility requirements for PRB that shall be based on a minimum period of continuous employment service not less than 5 years under a DOE cost reimbursement contract(s) immediately prior to retirement. Unless required by Federal or State law, advance funding of PRBs is not allowable.
- (4) Each Contractor sponsoring a defined benefit pension plan 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(s) and participating in a conference call to discuss the Contractor submission (see (g)(6) below for Pension Management Plan requirements).

- (5) Each Contractor will respond to quarterly data calls issued through iBenefits, or its successor system.

(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 after the date of Contract award.
- (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 Defined Benefit pension plans and Post Retirement Benefit Plans that are reimbursed by DOE pursuant to cost reimbursement contracts for management and operation of DOE facilities and pursuant to other cost reimbursement facilities contracts.

- (1) The Contractor shall become a sponsor of the existing pension and other benefit plans (or comparable successor plans), including other 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). The Contractor shall carry over the length of service credit and leave balances accrued as of the date of the Contractor's assumption of Contract performance.
- (2) For existing Commingled Plans, the Contractor shall maintain and provide annual separate accounting of DOE liabilities and assets as for a Separate Plan.
- (3) 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.
- (4) The Pension Management Plan (PMP) shall include a discussion of the Contractor's plans for management and administration of all pension plans consistent with the terms of the Contract. The PMP shall be submitted in the

iBenefits system, or its successor system no later than February 15th of each applicable year. A full description of the necessary reporting will be provided in the annual management plan data request. If requested by the Contracting Officer, the Contractor representatives shall participate in a conference call to discuss the Contractor's PMP submission and any other current plan issues or concerns.

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

- (1) Contractors that sponsor single employer multiple employer or multiemployer defined benefit pension plans will be reimbursed for the annual required minimum contributions after fully applying any prefunding and carryover balances. Reimbursement above the annual minimum required contribution will require prior approval of the Contracting Officer. the Contractor requesting above the minimum shall submit/update a business case for funding above the minimum if preliminary approval is needed prior to the Pension Management Plan process. The business case shall include a projection of the annual minimum required contribution and the proposed contribution above the minimum. The submission of the business case will provide the opportunity for the Department to provide preliminary approval, within 30 days after contractor submission, pending receipt of final estimates, generally after January 1st of the calendar year. Final approval of funding will be communicated by the Head of Contracting Activity (HCA) when discount rates are finalized and it is known whether there are any budget issues with the proposed contribution amount.

(h) Changes to Pension and PRB Plans

No presumption of allowability will exist when the Contractor makes changes to existing pension plans or PRB plans that impact the Department's long-term liability, and the Contractor has not provided the Contracting Officer the opportunity to review the allowability of the changes prior to implementation. The Contractor shall submit for prior approval changes that result in increases to the Department's long-term pension and PRB liabilities that are reported in the Department's financial statement. At least sixty (60) days prior to the adoption of any changes to a pension plan, the Contractor shall submit the information required below, to the Contracting Officer. The Contracting Officer must approve plan changes that increase costs to the Department's long-term liabilities as part of a determination as to whether the costs are deemed allowable pursuant to FAR 31.205-6, as supplemented by DEAR 970.3102-506.

- (1) For proposed changes to pension plans, 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 actuarial accrued liabilities and costs;
- (C) 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;
- (D) the Summary Plan Description; and,
- (E) any such additional information as requested by the Contracting Officer.

(i) Terminating Operations

When operations at a designated DOE facility are terminated and no further work is to occur under the prime contract, 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 "accrual-basis market value" on the date of termination of operations.

(j) 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) 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.

- (3) 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.
- (4) After all liabilities of the plan are satisfied, the Contractor shall return to DOE an amount equaling the net asset reversion after any taxes 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.

(k) Definitions

- (1) Commingled Plans. Cover employees from the Contractor's private operations and its DOE contract work.
- (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 Department of Labor 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."

**CLAUSE H.49 – DOE-H-2088 - IMPLEMENTATION OF THE FRAMEWORK FOR
NUCLEIC ACID SYNTHESIS SCREENING (NOV 2024)**

(a) *Definitions.*

Customer – as defined in the *Framework for Nucleic Acid Synthesis Screening*, is the individual or entity (such as an institution) that orders or requests synthetic nucleic acids from a Provider, or that purchases nucleic acid synthesis equipment from a Manufacturer. For the purposes of this clause, the Department of Energy’s contractors and subcontractors are considered customers.

Provider — as defined in the *Framework for Nucleic Acid Synthesis Screening*, is an entity that synthesizes and distributes synthetic nucleic acids. Providers may provide nucleic acids to a customer or third-party vendor. A Provider is understood to be synthesizing and distributing nucleic acids as a transactional service, rather than as a research scientist collaborating with a colleague.

Manufacturer — as defined in the *Framework for Nucleic Acid Synthesis Screening*, is an entity that produces and distributes benchtop equipment for synthesizing nucleic acids. Manufacturers may provide equipment to a customer or third-party vendor.

(b) *Requirements.*

- (1) The Contractor shall obtain synthetic nucleic acids – or devices capable of synthesizing them – from Providers or Manufacturers that attest to implementing 2024 Office of Science and Technology Policy (OSTP) Framework for Nucleic Acid Synthesis Screening.
- (2) The attestation may be provided through a publicly posted statement (e.g., public website) or directly to the Contracting Officer (or contractor/subcontractor for subcontracts) by the Provider or Manufacturer.

(c) *Flowdown of requirements to subcontractors.* The Contractor shall incorporate the substance of this clause, its terms and requirements, including this paragraph, in all subcontracts in support of the contract that may involve the procurement of synthetic nucleic acids and benchtop nucleic acid synthesis equipment.

(End of Clause)

H.51 - DOE-H-2089 COMPLIANCE WITH FEDERAL ANTI-DISCRIMINATION LAWS

Prescription: The Contracting Officer shall insert the following clause in all solicitations and contracts for products and services over the simplified acquisition threshold.

COMPLIANCE WITH FEDERAL ANTI-DISCRIMINATION LAWS (APR 2025)

- (a) *Definition.* As used in this clause—
Program promoting diversity, equity, and inclusion means a program whose purpose is to promote preferences based on race, color, religion, sex, or national origins, such as in training or hiring.
- (b) *Compliance.* The Contractor shall comply with all applicable Federal anti-discrimination laws. These laws apply whether or not the company is a Government contractor.
Compliance with applicable Federal anti-discrimination laws is material to eligibility for and payment under this contract for purposes of 31 U.S.C. 3729(b)(4).
- (c) *Certification.* By requesting payment under this award, the contractor certifies that, to the best of its knowledge and belief, it does not operate programs promoting diversity, equity, and inclusion that violate any applicable Federal anti-discrimination laws.

(End of Clause)

APPENDIX E

KEY PERSONNEL

**Applicable to the Operations of
The Brookhaven National Laboratory**

Pursuant to the Section I Clause entitled “DEAR 952.215-70 – Key Personnel”, the following positions are considered to be essential to work being performed.

Title	Name
Laboratory Director	Ms. JoAnne Hewitt
Deputy Director for Science and Technology	Mr. John Hill
Deputy Director for Operations	Ms. Ann M. Emrick
Associate Laboratory Director for Energy Sciences	Dr. James Misewich
Associate Laboratory Director for Nuclear & Particle Physics	Dr. Abhay Deshpande
Associate Laboratory Director for Environmental Safety & Health	Ms. Sharon Kohler
Associate Laboratory Director and Project Director for Electron-Ion Collider (EIC)	Mr. James H. Yeck

APPENDIX I

DOE Directives/List B

**Applicable to the Operations of
Brookhaven National Laboratory**

There is no List A to this Appendix.

List B to this Appendix contains the following:

Part I: "Directives List"

This section contains a list of Directives that are considered by DOE as applicable to the BNL contract.

Appendix I - Part I

DOE DIRECTIVES LIST

DOE Directives may be found at the following address: <http://www.directives.doe.gov>

ISSUED	TYPE	NUMBER	THROUGH CHANGE	TITLE Includes Compliance Notes as Necessary
9/4/2008	Manual	142.2-1	Chg. 1 (Admin Chg.) 6/27/2013	Manual for Implementation of the Voluntary Offer Safeguards Agreement and Additional Protocol with the International Atomic Energy Agency
12/15/2006	Order	142.2A	Chg. 1 (Admin Chg.) 6/27/2013	Voluntary Offer Safeguards Agreement and Additional Protocol with the International Atomic Energy Agency
1/15/2021	Order	142.3B	Chg. 1 (LtdChg) 3/2/2022	Unclassified Foreign National Access Program
12/21/2021	Order	150.1B		Continuity Programs
10/28/2024	Order	151.1E		Comprehensive Emergency Management System
11/17/2022	Order	153.1A		Departmental Nuclear Emergency Support Team Capabilities
12/23/2008	Order	200.1A	Chg.2 (LtdChg) 8/11/2023	Information Technology Management
4/30/2024	Order	205.1D		Department of Energy Cybersecurity Program
1/19/2024	Order	206.1A		Department of Energy Privacy Program
2/19/2013	Order	206.2	Chg. 2 (LtdChg) 10/28/2024	Identity, Credential and Access Management (ICAM)
4/8/2011	Order	210.2A		DOE Corporate Operating Experience Program
9/27/2016	Order	221.1B		Reporting Fraud, Waste, and Abuse to the Office of Inspector General
2/25/2008	Order	221.2A		Cooperation with the Office of Inspector General
3/4/2011	Order	225.1B		Accident Investigations
12/21/2015	Order	227.1A	Chg. 1 (Admin Chg.) 1/21/2020	Independent Oversight Program
6/27/2011	Order	231.1B	Chg. 1 (Admin Chg.) 11/28/2012	Environment, Safety and Health Reporting
1/17/2017	Order	232.2A	Chg.1 (Minor Chg.) 10/04/2019	Occurrence Reporting and Processing of Operations Information
10/28/2024	Order	241.1C		Scientific and Technical Information Management

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ISSUED	TYPE	NUMBER	THROUGH CHANGE	TITLE Includes Compliance Notes as Necessary
2/7/2022	Order	243.1C		Records Management Program
2/23/2011	Order	252.1A	Chg. 2 (Admin Chg.) 9/30/2024	Technical Standards Program
11/19/2009	Order	313.1		Management and Funding of the Department's Overseas Presence
10/18/2007	Order	341.1A Parts: 1.(a- b) 2.a(1-3) 2.a(4)(a-h)		Federal Employee Health Services
9/30/1996	Order	350.1	Chg. 7 (LtdChg.) 2/19/2020	Contractor Human Resource Management Programs
8/17/2009	Order	410.2	Chg. 1 (Admin Chg.) 4/10/2014	Management of Nuclear Materials
1/4/2017	Order	411.2		Scientific Integrity
1/19/2024	Policy	411.2B	Chg. 1 (Admin Chg.) 01/30/2025	DOE Scientific Integrity Policy
10/22/2015	Order	413.2C	Chg.1 (Minor Chg.) 8/2/2018	Laboratory Directed Research and Development
11/29/2010	Order	413.3B	Chg. 7 (LtdChg.) 6/21/2023	Program and Project Management for the Acquisition of Capital Assets
12/18/2024	Order	414.1E		Quality Assurance
12/3/2012	Order	415.1	Chg. 2 (Minor Chg.) 1/17/2017	Information Technology Project Management

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12/4/2012	Order	420.1C	Chg.3 (LtdChg.) 11/14/2019	Facility Safety Compliance Note: CRD Chapters 1, 3, and 5 are applicable only to Hazard Category 1, 2, or 3 nuclear facilities. The requirements of DOE O 420. 1C Chg. 2 CRD Chapters 2 (Fire Protection) and 4 (Natural Phenomena Hazards Mitigation) apply to all facilities.
7/21/2011	Order	420.2C		Safety of Accelerator Facilities Compliance Note: Radionuclide Research and Production Laboratory (RRPL) only during the period of the approved exemption.
9/9/2022	Order	420.2D		Safety of Accelerators Compliance Note: Not applicable to the Radionuclide Research and Production Laboratory (RRPL).
6/29/2010	Order	422.1	Chg. 4 (LtdChg.) 2/3/2022	Conduct of Operations
4/16/2010	Order	425.1D	Chg 2 (MinChg) 10/04/2019	Verification of Readiness to Start Up or Restart Nuclear Facilities Compliance Note: Order is only applicable to Hazard Category 1, 2, or 3 nuclear facilities.
1/29/2024	Order	426.2A	Chg 1 (Admin Chg) 5/30/2024	Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities Compliance Note: Order is only applicable to Hazard Category 1, 2, or 3 nuclear facilities.
4/21/2010	Order	433.1B	Chg 1 (Admin Chg) 3/12/2013	Maintenance Management Program for DOE Nuclear Facilities Compliance Note: Order is only applicable to Hazard Category 1, 2, or 3 nuclear facilities.
11/25/2016	Policy	434.1B		Conduct and Approval of Select Agent and Toxin Work at Department of Energy Sites
7/9/1999	Order	435.1	Chg. 2 (Admin Chg.) 1/11/2021	Radioactive Waste Management
7/9/1999	Manual	435.1-1	Chg. 3 (LtdChg.) 1/11/2021	Radioactive Waste Management Manual
9/23/2024	Order	437.1A		Bridge and Tunnel Management
6/15/2011	Order	440.2C	Chg. 3 (LtdChg.) 3/21/2023	Aviation Management and Safety
3/7/2008	Manual	441.1-1	Chg. 1 (Admin Chg.) 02/24/2016	Nuclear Material Packaging Manual
1/31/2019	Order	442.1B		Department of Energy Employee Concerns Program

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7/29/2011	Order	442.2	Chg. 1 (Pg.Chg.) 10/5/2016	Differing Professional Opinions for Technical Issues Involving Environment, Safety and Health
11/26/2019	Order	443.1C	Chg. 1 (LtdChg.) 11/23/2024	Protection of Human Research Subjects
7/21/2011	Order	452.8		Control of Nuclear Weapon Data
7/15/2016	Order	456.1A		The Safe Handling of Unbound Engineered Nanoparticles
2/11/2011	Order	458.1	Chg. 5 (Admin Chg.) 01/30/2025	Radiation Protection of the Public and the Environment
12/20/2016	Order	460.1D	Chg. 1 (LtdChg.) 6/10/2022	Hazardous Materials Packaging and Transportation Safety
6/10/2022	Order	460.2B		Departmental Materials Transportation Management
11/23/2016	Order	470.3C	Chg. 2 (LtdChg.) 2/23/2024	Design Basis Threat (DBT)
7/21/2011	Order	470.4B	Chg. 3 (LtdChg.) 9/23/2021	Safeguards and Security Program
6/2/2014	Order	470.5		Insider Threat Program
9/2/2015	Order	470.6	Chg. 1 (Minor Chg.) 1/11/2017	Technical Security Program
3/1/2010	Order	471.1B		Identification and Protection of Unclassified Controlled Nuclear Information
6/20/2011	Order	471.6	Chg. 4 (LtdChg.) 8/22/2023	Information Security
2/3/2022	Order	471.7		Controlled Unclassified Information

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6/10/2022	Order	472.2A	Chg. 1 (LtdChg) 10/28/2024	Personnel Security
8/30/2021	Order	473.1A		Physical Protection Program
8/30/2021	Order	473.2A		Protection Force Operations
2/7/2023	Order	474.2A	Chg. 1 (Admin Chg.) 04/16/2024	Nuclear Material Control and Accountability
12/10/2004	Order	475.1		Counterintelligence Program
10/3/2014	Order	475.2B		Identifying Classified Information
12/20/2018	Order	481.1E	Chg. 2 (LtdChg.) 10/28/2024	Strategic Partnership Projects [Formerly Known as Work for Others (Non-Department of Energy Funded Work)]
12/20/2016	Order	483.1B	Chg. 3 (MinChg.) 10/28/2024	DOE Cooperative Research and Development Agreements
8/17/2006	Order	484.1	Chg. 4 (LtdChg.) 10/28/2024	Reimbursable Work for the Department of Homeland Security
12/13/2019	Policy	485.1A		Foreign Engagements with DOE National Laboratories
9/4/2020	Order	486.1A		Foreign Government Sponsored or Affiliated Activities
1/7/2021	Order	520.1B	Chg. 2 (LtdChg) 12/18/2024	Financial Management and Chief Financial Officer Responsibilities
8/2/2018	Order	522.1A	Chg. 1 (LtdChg.) 10/28/2024	Pricing of Departmental Materials and Services
5/2/2019	Order	550.1	Chg. 1 (LtdChg.) 12/13/2019	Official Travel