SUBCONTRACT NO.	

The following clauses, the full text of which are set forth below, are hereby incorporated in and made part of the above-cited subcontract.

T1. PERMITS AND RESPONSIBILITIES (NOV 1991)

The Subcontractor shall, without additional expense to Princeton, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Subcontractor shall also be responsible for all damages to persons or property that occurs as a result of the Subcontractor's fault or negligence. The Subcontractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work that may have been accepted under the contract.

T2. COMPLIANCE WITH 10 CFR 851 AND PRINCETON WORKER SAFETY AND HEALTH PROGRAM BY INTEGRATION OF ENVIRONMENT, SAFETY AND HEALTH INTO WORK PLANNING AND EXECUTION (OCT 2015)

- (a) In performing work under this Subcontract, the Subcontractor and all of its lower-tier subcontractors at all levels shall comply with all applicable federal, state and local environment, safety and health laws and regulations. The Subcontractor and all of its lower-tier subcontractors at all levels must comply with 10 CFR 851 Worker Safety and Health Program, Princeton's Worker Safety and Health Program, and DEAR 970.5223- 1, Integration of ES&H into Work Planning and Execution (Dec. 2000). Compliance with 10 CFR 851 and DEAR 970.5223-1 is to be guided by following paragraphs (b) through (g) set forth below.
- (b) The Subcontractor shall perform work safely, in a manner ensuring adequate protection for employees, the public, and the environment and will be held accountable for the safe performance of work. The Subcontractor will exercise a degree of care commensurate with the work and the associated hazards. The Subcontractor will ensure that management of environment, safety and health (ES&H) functions and activities becomes an integral and visible part of the Subcontractor's work planning and execution process. The Subcontractor will, in the performance of work, ensure that:
 - (1) Personnel possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities, and will retain records respecting such competency and qualifications, making them available upon request.
 - (2) Resources are effectively allocated to address ES&H, programmatic, and operational considerations. Protecting employees, the public and the environment is a priority whenever activities are planned and performed.
 - (3) Prior to work performance, the associated hazards will be evaluated and a set of ES&H standards and requirements will be established and implemented to provide assurance that employees, the public, and the environment are protected from adverse consequences.
 - (4) Administrative and engineering controls to prevent and mitigate hazards are tailored to the work being performed and associated hazards. Emphasis will be on designing the work and/or controls to reduce or eliminate the hazards and to prevent accidents and unplanned releases and exposures.
 - (5) Line management is responsible for the protection of employees, the public, and the environment. Line management includes those Subcontractor and lower-tier subcontractor employees managing or supervising employees performing work.
 - (6) Clear and unambiguous lines of authority and responsibility for ensuring ES&H compliance will be established and maintained at all organizational levels.

- (c) The Subcontractor, relative to the Statement of Work and Subcontract specifications, agrees to accept Princeton's DOE-approved Worker Safety and Health Program and the Integrated Safety Management System as its own, and perform and manage work in accordance with such program. The Subcontractor shall demonstrate through documentation and work practices that performance of work under this Subcontract:
 - (1) fulfills the scope of work set out in the Subcontract;
 - (2) identifies and analyzes specific, task-level hazards associated with the work;
 - (3) develops and implements hazard controls;
 - (4) allows the performance of work within the controls
 - (5) provides feedback on the adequacy of controls and continued improvement in safety management.
- (d) In performing work in accordance with Princeton's DOE-approved Worker Safety and Health Program and the Integrated Safety Management System the Subcontractor will, prior to initiation of work:
 - (1) Demonstrate well-established safety protocols applicable to the scope of work and consistent with the requirements of this clause.
 - (2) Prior to commencement of work on any construction activity, the Subcontractor must prepare a written Integrated Safety Management (ISM) Plan (construction project safety and health plan) that implements the requirements of items A-G below for the construction work under their responsibility and obtain approval of the plan by the Princeton Technical Representative prior to commencement of any work covered by the plan. In the plan, the Subcontractor must designate the individual(s) responsible for its onsite implementation, specify qualifications for those individuals, and provide a list of those project activities for which subsequent job hazard analyses are to be performed (see item A). The level of detail within the ISM Plan should be commensurate with the size, complexity and risk level of the construction project. In addition, the Subcontractor must:
 - A. Prepare, and have approved by the Princeton Technical Representative, job hazard analyses (JHAs) in accordance with Princeton procedure ESH-004 prior to commencement of affected work. The JHAs must identity foreseeable hazards and protective measures, and address further hazards revealed by any supplemental information provided by the Princeton Technical Representative.
 - B. Provide (for approval by the Princeton Technical Representative) drawings and/or other documentation of protective measures for which applicable OSHA standards require preparation by a Professional Engineer or other qualified individual (these should be included in the ISM Plan).
 - C. Identify for approval by the Princeton Technical Representative competent persons for activities as required by applicable OSHA standards (these should be included in the ISM Plan).
 - D. Ensure workers are aware of foreseeable hazards and the protective measures as defined by the JHAs, and require that workers acknowledge being so informed.
 - E. Ensure that workers not following the safe work practices are subject to the Subcontractor's disciplinary process.
 - F. Maintain a designated representative onsite during all active construction that is knowledgeable of the associated hazards and has the authority to act on behalf of the Subcontractor; and that makes frequent and regular inspections of the construction worksite to identify and correct any instances of noncompliance with project safety and health requirements.

- G. Instruct workers to report to the Subcontractor's designated representative, hazards not previously identified or evaluated. If immediate corrective action is not possible or the hazard falls outside the project scope, the Subcontractor must immediately notify affected workers, post appropriate warning signs, modify the appropriate JHAs, implement needed interim control measures, and notify the Princeton Technical Representative of the action taken. The Subcontractor or the designated representative must stop work in the affected area until appropriate protective measures are established.
- (e) The Subcontractor's on-site ES&H activities will be subject to review by the Technical Representative of this Subcontract. Other representatives of PPPL may conduct periodic inspections of the Subcontractor's on-site offices, equipment, work and storage areas for compliance with the applicable ES&H requirements. The Princeton Administrative Representative for this Subcontract will notify the Subcontractor in writing of any observed non-compliance with applicable ES&H requirements. The Subcontractor shall immediately take appropriate corrective action. The Subcontractor shall advise the Princeton Administrative Representative, in writing, within five (5) working days of the corrective action taken on any safety non-compliance noted. If the Subcontractor fails or refuses to correct the safety non-compliance, Princeton may perform, or cause to be performed, the necessary corrective work and unilaterally charge the Subcontractor for the cost thereof. Such charges will be deducted from payments otherwise due the Subcontractor under this Subcontract. Repeated or willful non-compliances with applicable ES&H requirements by the Subcontractor shall constitute a default under other provisions of this Subcontract and Princeton may terminate the Subcontract in accordance with those provisions.
- (f) The Subcontractor shall promptly evaluate and resolve any non-compliance with applicable ES&H requirements. If the Subcontractor fails to provide resolution or if, at any time, the Subcontractor's acts or failure to act causes substantial harm or an imminent danger to the environment, or health and safety of employees or the public, any employee, subcontractor, visitor, or other individual at Princeton may issue an order stopping work in whole or in part and the Subcontractor shall be liable for the delay and any costs thereby incurred. Any stop-work order issued by Princeton under this clause (or issued by the Subcontractor to a lower-tier subcontractor in accordance with this clause) shall be without prejudice to any other legal or contractual rights of Princeton. In the event that Princeton issues a stop-work order, an order authorizing the resumption of the work may be issued at the discretion of Princeton. The Subcontractor shall not be entitled to an extension of time, or additional cost or fee, or damages by reason of, or in connection with, any work stoppage ordered in accordance with this clause.
- (g) The Subcontractor is responsible for its lower-tier subcontractors' compliance with the ES&H requirements of this Subcontract. The Subcontractor shall include a clause substantially the same as this clause in lower-tier subcontracts involving complex or hazardous construction work on site at a DOE-owned or –leased facility. Such lower-tier subcontracts shall provide for the right to stop work under the conditions described herein.

T3. WORKPLACE SUBSTANCE ABUSE PROGRAMS AT DOE SITES (DEC 2000)

(This clause is applicable if subcontract is greater than \$25,000 AND if Subcontractor personnel working on site at PPPL are performing functions subject to the requirements of 10 CFR 707.2, i.e., subcontracts that involve (i) access to or handling of classified information or special nuclear materials, (ii) high risk of danger to life, the environment, public health and safety, or national security; or (iii) transportation of hazardous materials to or from a DOE site.)

(a) Program Implementation. The Subcontractor shall, consistent with 10 CFR part 707, Workplace Substance Abuse Programs at DOE Sites, incorporated herein by reference with full force and effect, develop, implement, and maintain a workplace substance abuse program.

- (b) Remedies. In addition to any other remedies available to Princeton, subcontractor's failure to comply with the requirements of 10 CFR part 707 or to perform in a manner consistent with its approved program may render the Subcontractor subject to: the suspension of subcontract payments, or, where applicable, a reduction in award fee; termination for default; and suspension or debarment.
- (c) Lower Tier Subcontracts.
 - (1) The Subcontractor agrees to notify the Princeton Procurement Specialist reasonably in advance of, but not later than 30 days prior to, the award of any lower tier subcontract the Subcontractor believes may be subject to the requirements of 10 CFR Part 707.
 - (2) Princeton shall require all lower-tier subcontracts subject to the provisions of 10 CFR Part 707 to agree to develop and implement a workplace substance abuse program that complies with the requirements of 10 CFR Part 707, Workplace Substance Abuse Programs at DOE Sites, as a condition for award of the lower-tier subcontract. Princeton shall review and approve each lower-tier subcontractor's program, and shall periodically monitor each subcontractor's implementation of the program for effectiveness and compliance with 10 CFR Part 707.
 - (3) The Subcontractor agrees to include, and require the inclusion of, the requirements of this clause in all subcontracts, at any tier, that are subject to the provisions of 10 CFR Part 707.

T4. TERMS AND CONDITIONS OF INSURANCE (OCT 2015)

(a) Where this Agreement requires the furnishing of on-site labor, the Subcontractor shall maintain and keep in force at Subcontractor's expense, the following minimum liability insurance coverage during the Agreement period of performance:

(i)	TYPE Workers Compensation	IN THE NAME OF Subcontractor	MINIMUM LIMITS Statutory
	Employer's Liability		\$500,000
(ii)	General Liability, including: Contractual Premises Operations, Products and Completed Operations, Independent Contractors and Personal Injury, Bodily Injury and Property Damage, Combined Single Limit Each Occurrence	Subcontractor	\$2,000,000
	Aggregate		\$2,000,000
(iii)	Automobile Liability Bodily Injury and Property Damage	Subcontractor	\$1,000,000

- (b) If the Subcontractor is required to maintain a professional license in order to practice his/her profession, Contractor must maintain professional liability insurance in the amount of \$2 million per occurrence. Professions this applies to, but is not limited to, include architects, engineers, attorneys, physicians, nurses and physical therapists. This sample list of professions is representative only and is not meant to be complete.
- (c) The Subcontractor shall insert the substance of this clause, including this paragraph (c), in lower-tier subcontracts under this subcontract that require work on a Government installation and shall require subcontractors to provide and maintain the insurance required in paragraph (a) above. At least 5 days before entry of each such subcontractor's personnel on the Government installation, the Subcontractor

shall furnish (or ensure that there has been furnished) to PPPL a current certificate of insurance, meeting the requirements of paragraph (b) above, for each such subcontractor.

- (d) The Automobile Liability insurance specified in subparagraph (a)(iii) shall provide coverage for any vehicle used by the Subcontractor.
- (e) All policies shall be underwritten by a carrier licensed in the State of New Jersey and rated at least "A-" in Best's Key Rating Guide. "The Trustees of Princeton University, including its officers, employees and agents" and the U.S. Government shall be named as additional insureds in the General Liability policy specified in subparagraph (a)(ii). The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective (1) for such period as the laws of the State in which this subcontract is to be performed prescribe or (2) until 30 days after the insurer or the Subcontractor gives written notice to PPPL, whichever period is longer. Additionally, each policy of insurance shall contain an endorsement reading substantially as follows: "The insurer waives any right of subrogation against the United States of America and Princeton Plasma Physics Laboratory, which might arise by reason of any payment made under this policy."
- (f) The amounts, where specified above, are minimums but shall not be construed to be sufficient for any particular subcontract. It shall be the Subcontractor's full responsibility to determine, obtain and maintain the insurance coverage necessary to adequately protect people and property during the performance of this Subcontract.
- (g) The Subcontractor shall be solely responsible for payment of premiums and deductibles for all of the aforesaid insurance. Should any of the aforesaid insurance policies be cancelled or materially changed, the Subcontractor shall provide thirty (30) days prior written notice to Princeton. The Subcontractor shall not change the levels of coverage or permit coverage to expire until all the Services have been completed and accepted.
- (h) Certificate(s) evidencing the above insurance coverages, with statement thereon that Princeton and the U.S. Government is an additional named insured as required above, shall be sent to the Procurement Specialist before the Subcontractor's work begins. Renewal certificates shall be provided annually until the Subcontractor's work is completed. The Subcontractor shall not enter Princeton's facilities to perform its work unless it is and remains insured in accordance with the above requirements, unless waived by mutual written agreement of Princeton and the Subcontractor. The Subcontractor shall indemnify Princeton for any loss suffered by Princeton for the failure of the Subcontractor to be so insured.

T5. SUBCONTRACTOR EMPLOYEE STOP WORK AUTHORITY (OCT 2015)

In the event that a subcontractor employee becomes aware of a condition at the job site which creates an imminent danger to an individual, property and/or the environment, the subcontractor employee has the authority and responsibility to require that all work related to the dangerous condition be stopped immediately. Individuals who receive a notification to stop work must comply with that request immediately. Subcontractor employees who are capable of doing so should place the system/hardware in a safe shutdown status as part of the stop work. In those cases where the danger can be corrected immediately, work can resume when the situation is corrected and clearance to resume work is received from the Princeton Technical Representative. In those cases where the danger cannot be immediately corrected, the Princeton Technical Representative and the PPPL ES&H Department Head must be notified immediately. Work shall not resume until a report is completed and the Princeton Technical Representative authorizes and documents resumption of the activity with the concurrence of the ES&H Department Head.

T6. ACCIDENT REPORTING (OCT 2015)

The Subcontractor shall immediately (i.e., within 15 minutes of discovery) report to Princeton's Technical Representative any and all accidents incident to work performed under this Subcontract at Princeton's facilities, and shall provide a written report of the incident in such detail as Princeton requires, if so directed. Subcontractor personnel, including lower tier subcontractor personnel, who become injured or ill while working at Princeton's facilities must report to Princeton's Occupational Medicine Office. The Subcontractor agrees to participate in, and cooperate with, any resulting Princeton or DOE Accident Investigation Board.

T7. CONTAMINANT SPILLS (OCT 1997)

- (a) The Subcontractor shall perform all work in accordance with and shall comply with all environmental laws, regulations, rules, orders, ordinances and requirements of any and all governmental authorities as well as the requirements of any insurance company which is then insuring the Subcontractor and/or performance of the Subcontractor's work.
- (b) Subcontractor shall be responsible for securing all environmental licenses, permits and approvals required for the performance of the Subcontractor's work and shall further be responsible for providing all notices required for performance of the work and for posting any bond or security which may be required for performance of Subcontractor's work.
- (c) The Subcontractor is responsible for the prompt notification to the PPPL Emergency Services Unit (ESU) at (609) 243-3333 in the event of the discharge to the environment of any contaminant, including, but not limited to, petroleum hydrocarbons, e.g., fuels, motor oils and lubricating oils, which occurs as a result of any action taken by the Subcontractor's officers, employees, agents or lower tier subcontractors.
- (d) A written follow-up report shall be submitted to the Princeton Technical Representative not later than 24 hours after the initial notification. The written report shall be in narrative form and, at a minimum, include the following:
 - (1) Description of the item spilled (including identity, quantity, manifest number (if applicable), etc.);
 - (2) Whether the amount spilled is required to be reported to the EPA or other federal, state or local agency, and if so whether it was reported;
 - (3) Exact time and location of the spill including a description of the area involved;
 - (4) Containment procedure initiated;
 - (5) Summary of any communications Subcontractor has with the press, federal, state or local officials;
 - (6) Description of clean up procedures employed, or to be employed, at the site including the location of the spill residue.
- (e) In the event of such a discharge, the Subcontractor will be responsible for notification as required in (c) above and for complete and thorough remediation of the discharge in accordance with requirements of any and all governmental authorities.
- (f) The Subcontractor is solely responsible for any and all spills or discharges of contaminants into the environment during the performance of this subcontract, which occur as a result of, or are contributed to, by the actions of its agents, employees, or lower tier subcontractors. The Subcontractor agrees to clean up such spills or leaks to the satisfaction of PPPL and in a manner that complies with the applicable federal, state and local laws and regulations. The clean up shall be at no cost to PPPL.
- (g) In all cases in which a spill or discharge of contaminants into the environment is required to be reported to PPPL pursuant to subparagraph (c) of this clause, the PPPL reserves the option and right to take over and complete the clean up of the spill or discharge without the assistance of the Subcontractor. This right may be exercised at the sole discretion of the PPPL. All reasonable costs incurred by the PPPL in the clean up of such spills or discharges will be offset against amounts owed or payable to the Subcontractor on this

and other Subcontracts with the PPPL. If such amounts are not sufficient to cover all reasonable costs of the spill clean up the Subcontractor will be billed for the remainder.