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ELECTRONIC PLATFORM PROCUREMENT SPECIFICATION

QA Category A2

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Revision Record

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SPECIFICATIONS
for
STAR Experimental Platforms
BUILDING 1006

BROOKHAVEN NATIONAL LABORATORY
Associated Universities, Inc.
STAR Project
Building 830M
Upton, New York 11973

This Specification consists of 43 pages and 2 images.

SPECIFICATION

In general, work consists of, but is not limited to, the design, engineering, fabrication and assembly of two multi-level experimental platforms for the STAR Project.

Time is of the essence for this project. See Supplementary Conditions, Clause SC-1.

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STATEMENT OF WORK
FOR THE
DESIGN, FABRICATION, AND ASSEMBLY OF STAR PLATFORMS

1.0 General

1.1 Summary

This document defines the minimum conceptual design, fabrication and assembly requirements for two multi-level platforms that will be part of a large detector called STAR (Solenoidal Tracker at RHIC). Both platforms will contain electronic racks and other electrical and mechanical equipment (e.g. cable trays, transformers, distribution panels, pumps, water distribution headers (10 & 4 inch in diameter), pumps) belonging to the various systems supporting detector operation.

This Statement of Work consists of this document and drawings CNV400-E-1 through 6.

1.2 Scope

This document specifies the minimum conceptual requirements regarding the design, fabrication, assembly, quality assurance, and documentation for procuring two platform assemblies. The Seller is responsible for the design, fabrication and installation of the platform assemblies defined in this document.

The Seller shall:

1. Design the platform assemblies and submit a design specification, fabrication and assembly drawings for Buyer approval.
2. Procure all material necessary to fabricate, assemble and insure operability of the platform assemblies. It is the seller's responsibility to assure that all material used conforms with the appropriate standards and specifications. The seller is to identify all standards and specifications applicable to the project.
3. Integrate the design, fabrication, delivery and assembly of the platforms with the Buyers project schedule.
4. Identify, in the Quotation, any subcontractors, for Buyers approval, to be used in the design, fabrication and assembly process.

Procurement of the platforms assemblies will be a three phase process. Phase 1 will be engineering design, Phase 2 fabrication and Phase 3 installation.

1.3 Access

Designated representatives of the Buyer shall be allowed access to the Seller's facilities, and the Seller's subcontractor facilities during the progress of work as defined in this statement of work. The Seller shall assist and facilitate inspection visits of the Buyer.

2.0 Technical Specification

2.1 General

1. Dimensional requirements for each platform are defined on the enclosed drawings.
2. The two platform assemblies are designated as North and South Platform. Each assembly shall have three levels.
3. The South platform shall be designed for the weight of electronic racks, water distribution headers, as indicated on the enclosed drawings and electrical distribution systems (experimental and power). The remaining areas on the South platform levels 1 and 2 are personnel passage ways. South platform level three will house transformers weighing approximately 1400 pounds. The dimensions for the transformers are approximately 43" x 31" x 52 ".
4. The North platform shall be designed to accommodate the weight of electronic racks, water distribution headers and electrical distribution systems (experimental and power). Since this equipment is for future expansion of the experiment, the installation location on the North platform has not been defined. Therefore, the North platform shall be designed to accommodate this design load.
5. The estimated weight of each electronic rack, as indicated on the enclosed drawings, is 1200 pounds. The dimensions of an individual electronic rack is 24" x 32" x 88".
6. The North and South platforms shall be designed to accommodate 10 and 4 inch water distribution headers as indicated on the enclosed drawings.
7. Distance from the embedded rail plates to the structural steel supporting the first level shall be held to a minimum. See attached drawings for details.
8. The third level on each platform shall not be greater than 269 inches from the embedded rail plates.
9. The maximum width of each platform level, excluding handrails, is 300 inches except for level one on the North platform. The width of level one on the North platform is as indicated.
10. Platforms shall be attached to the detector as indicated in the enclosed drawings and shall be designed to be pushed and pulled by the detector.
11. Platforms shall move parallel to the axis of the existing embedded rail plates in the floor.
12. Maximum height of any components on the third level shall not exceed 318 inches from the embedded rail plates.
13. Platform assemblies shall be electrically isolated from the floor via insulation between the rollers and seismic tie downs and the platforms. The total capacitance, combined, for the platforms assemblies is 0.7nf. Insulating material with a dielectric constant less than 6 shall be used (e.g. Torlon.) The material to be used is to be determined by the Seller and approved by the Buyer.
14. All field connections are to be bolted
15. Bolted connections are to use certified A325 bolts torqued to values approved by Buyer. Documentation shall be provided verifying the certification of all bolts.
16. All structural steel members shall be hot rolled wide flange and meet the requirements of ASTM Specification A36.

2.2 Railings

1. Removable railings 42 inches in height, approximately 48 inches in length with 4 inch kickplates shall be installed on all levels of the platforms.
2. Railings shall be a minimum 1-1/2 inch x 14 gauge square tube.
3. All handrails shall be removable in sections no greater that 4 feet in length.
4. Handrails shall meet the requirements of ASTM Specification A500B titled "Cold Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes."

2.3 Columns

1. Platform loads shall be transferred directly to the rollers on rail plates via columns.
2. There shall be no columns installed other than directly over rollers or the main structural member to which the rollers are attached.
3. Column spacing shall match the embedded rail plates in the floor. See drawings for dimensional requirements. The nominal column spacing on the North and South platforms are specified on the attached drawings.

2.4 Support Members

1. The platforms shall be seismically designed in accordance with UCRL-15910, Design Evaluation Guidelines For Department of Energy Facilities Subjected To Natural Phenomena Hazards, dated October 1989, and should be considered an "important or low hazard facility". Per UCRL-15910 earthquake design for "important or low hazard facilities" is to be based on the 1991 edition of the *Uniform Building Code* which locates Brookhaven National Laboratory in seismic zone 2A.
2. Seismic tie downs shall be provide with each platforms to insure compliance with the UBC when the platforms are in their maintenance and operational locations. The Seller shall take into account accessibility when locating the tie downs.
3. Deflection of all components under full load shall not exceed 1/300 of span.
4. Early in the design process the seller shall work with the Buyer to determine an acceptable method and location of seismic bracing, cross bracing, and tie downs.
5. The platforms shall be designed to support a movable catwalk on the third level as identified on the enclosed drawings and Section 2.7.

2.5 Stairs

1. Stairs shall be open style, in accordance with OSHA
2. The stairs shall be located as indicated on enclosed drawings. On the North platform stairs and landings shall be installed between the columns rising in an East to West direction. On the South platform the stairs are to be installed on the East side of the platforms rising in a North to South direction.
3. The location of the stairs on the South platform is dependent on the structural design of the platform. Therefore, depending on the final design of the platforms the stairs on the South platform may have to be removable or fixed and located as indicated on the enclosed drawings. The Seller shall work with the Buyer to finalize the stair location and design.

4. The angle of elevation for all stairs shall be the same.
5. The maximum width shall not exceed 30 inches.
6. Landings shall be 30 inches square.
7. Stairs shall be all-welded construction.
8. Stairs shall meet all applicable codes as required.
9. Stair treads shall be designed and constructed to carry a load of five times the normal live load anticipated but never of less strength than to carry safely a moving concentrated load of 1000 pounds.
10. Handrails shall be capable of withstanding a load of 200 pounds applied in any direction at any point on the rail.
11. Three inch deck risers shall be accounted for when designing the stairs (see images 1 and 2).

2.6 Rolling Mechanism

1. Rollers are to be supplied by the Seller and shall be of Hilman OT style or equivalent and approved by the Buyer. For example the rollers for the South platform shall be Hilman 37.5-OT and Hilman- 37.5-OT-96257 or equivalent. The rollers for the North platform shall be of equivalent type and appropriate for the design load of the platform.
2. Platform rollers shall be rated consistent with the design load for each level.
3. Rollers installed on the East side of the platforms shall be equipped with guiding cam rollers that will track off the inboard side of the East embedded rail plates and an embedded side rail installed on the West side of the East trench. The width of this trench is 6.25 inches. The cam rollers will have available a contact surface of 0.75 inches on the embedded rail plate and .5 inches on the embedded side rail. See drawings for details.
4. The number of rollers to be utilized are to be determined by the Seller and approved by the Buyer. Limitations may exist depending on the design of the platform and the capacity of the existing plate installed in the floor. The existing plates are made of ASTM A36 steel.

2.7 Maintenance Catwalk

A conceptual design of the maintenance catwalk is illustrated in the enclosed drawings. Alternative designs are encouraged to be proposed, however a cost must be submitted for each catwalk design.

1. A Maintenance Catwalk connecting the top level of the North and South Platforms is to be provided.
2. The catwalk shall be 30 inches wide.
3. The catwalk shall follow the contour of the detector as indicated on the enclosed drawings. The minimum clearance between the detector and the catwalk is 1 inches in order to minimize the reach and thereby provide good access to electronics installed on the detector. See drawings for details.
4. The catwalk is to be capable of being rolled, while maintaining stability, across the width (East/West direction)of the platforms and locked into any position/location on the platforms.
5. The catwalk shall be equipped with a positive means to prevent derailing due to a seismic event or for any other reason.

6. The Seller is responsible for the design of the rail system for the catwalk. One concept may have a)V-Grooved wheels and corresponding track to be installed on the South Platform, b) flat tread wheels and corresponding track to be installed on the North Platform, and c) all wheels to be installed with brakes and wheel bearing seals.
7. Stops shall be installed on all tracks to prevent the catwalk from rolling off the platform.
8. Guides shall be installed either on the catwalk or the tracks to insure positive alignment and stability of the catwalk when the catwalk is being moved and while people are occupying the catwalk.
9. The catwalk is to be easily and quickly removable utilizing the overhead crane installed in the buildings. The hook of the overhead crane is 383 inches off of the embedded rail plates. Provisions for removal should be part of design.
10. The catwalk should be designed for a uniform live load of 150 lbs./sq. ft .
11. Catwalk shall be equipped with swivel lockable casters equipped with Duralast wheels or equivalent type and brakes for rolling the catwalk on the floor for storage and transport. While removed from the platforms the catwalk shall be designed to be safely rolled around on the floor maintaining stability.

2.8 Magnet To Platform Interface

1. The platform assemblies shall be designed to be pushed and pulled by the detector through attachments to the detector. The mechanism which moves the detector and platforms is attached to the detector.
2. The platforms shall be designed to withstand horizontal loads experienced during movement.
3. Detector height will vary approximately 2 inches due to the need to raise the detector once horizontal movement is completed. However the platforms will not experience this elevation change. The interface between the platform and detector will have to take into account this vertical motion by the detector.
4. The North and South platforms will be attached to the magnet in only two locations. Each location is to be directly below the top surface of the first level, approximately in line with the columns, and on that portion of the platform that extends closest to the magnet. (See drawings for details.)
5. The Seller will work with the Buyer in designing this interface.
6. The bolt pattern on the detector that will accept the platform attachment assembly is as defined in the attached drawings. This assembly will be mutually agreed upon by the Seller and Buyer in the design phase of the platforms.
7. The Seller will provide the attachment that connects the platform assemblies to the magnet. The Seller shall design the platforms to accept this attachment.

2.9 Decking

1. All decking shall be easily removable using appropriate hand tools (e.g. suction cups or other simple hand tools). The weight of each section should be approximately 20 pounds.
2. Three inch deck risers shall be provided on the North and South platform. Images 1 and 2 illustrate a conceptual design for the South platform decking.
3. Decking on the South platform shall be "smooth" and "non-slip" with minimum gaps between sections to minimize vibration of sophisticated test equipment which is rolled across decking.
4. North platform decking shall be close mesh bar grading, installation on 3 inch deck risers.
5. Catwalk decking shall be aluminum diamond plate.
6. Decking thickness shall be limited in height to accommodate potential height restraints.
7. The Seller shall work with the Buyer in the selection of the decking material. Potential materials are aluminum grating/planking unpunched, aluminum grating/plate combination, fiberglass grating (covered or plate, etc.) or some combination of material with a linoleum top.
8. A decking plan shall be submitted for Buyer approval.

2.10 Standards

The following list of standards reflect the minimum applicable to this project. They should not be interpreted as the only standards to be applied. The Seller shall identify, in the Quotation, all codes, standards and regulations that will be implemented throughout the project.

1. American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings" latest edition
2. American Society for Testing and Materials
3. A36 "Standard Specification for Structural Steel"
4. A500B "Cold Formed Welded And Seamless Carbon Steel Structural Tubing in Rounds and Shapes"
5. A325 " High Strength Bolts for Structural Steel Joints"
6. Occupational Safety & Health Administration regulations shall be complied with in the design, fabrication and assembly process.

2.11 Painting

1. Structural steel beams, columns, bracing, etc.. shall be cleaned primed and painted blue air-dry enamel (e.g. Con-Lux 8513 Bristol Blue).
2. Handrails shall be cleaned, primed and painted safety yellow.
3. The Seller shall prepare, prime, and paint all surfaces, applicable to the material being used, the finished required and the use of the component.
4. The Seller shall submit to the Buyer for approval the painting procedure to be used in the preparation, priming, colors and finish to be applied on all surfaces.

3.0 Conflicts, Interpretation, and Revisions

3.1 Conflicts

In the event of a conflict between this Statement of Work and the Seller's design specification, fabrication and assembly drawings the Seller shall immediately notify the Buyer. The Buyer in each instance will determine which document takes precedence and advise the Seller accordingly. Failure of the Seller to notify the Buyer in any given instance shall not relieve the Seller of the obligation to comply with the Buyers determination of precedence at no additional cost to the Buyer.

3.2 Interpretation

All documents submitted by the Seller shall be written in the English language. All units of measure shall be in "U.S. Customary" English units. Any and all standards shall be only those applicable to this statement of work. It is the responsibility of the Seller to prove equivalency of any standards and obtain Buyer approval by means of a Deviation Request.

3.3 Revisions

Any and all specification and/or drawing revisions shall be documented and negotiated by both parties. Any cost differential shall be recorded and approved in writing by both parties. Work on any revision shall not proceed without Buyer written approval. The end items "as built" configuration shall be documented as part of the end item documentation package.

4.0 Delivery and Assembly Requirements

4.1 Delivery and Assembly

1. It is the responsibility of the Seller to ensure that damage is not incurred by the method of shipment and that all regulatory codes and requirements are complied with.
2. It is the responsibility of the Seller to obtain all the necessary permits needed for the unimpeded delivery to the Buyers facility.
3. Delivery is to the Wide Angle Hall, Building 1006, Brookhaven National Laboratory at the direction of the Buyer.
4. The Seller is responsible for off loading and staging of all deliverable components at Brookhaven National Laboratory.
5. The Seller must notify the Buyer of the size of the laydown area required at least ten working days prior to delivery, whether partial or total.
6. The Seller shall provide their own equipment in support of the installation process. There may be limitations regarding the access of equipment into the Wide Angle Hall where the South platform will be assembled. The North platform will be assembled outside. Depending on the equipment used in support of assemble there may be restrictions in this area also.
7. Access and training will be as specified in the General Conditions specified in this document.

5.0 Submissions and Approvals

5.1 To Be submitted with Quotation

- A design specification as detailed here in.
- Preliminary drawings verifying a clear understanding of platform design requirements.
- Verification of experience in the design, fabrication and assembly of platforms similar to the requirements specified in this document.
- Verification that the final design will be certified by a Professional Engineer in the State of New York.
- Identification of the codes, standards and/or regulations that are applicable in the design, fabrication, and assembly.
- A matrix identifying requirements and deliverables as contained here in.
- Proposed schedule identifying milestones and payment schedule.
- The total cost for this project shall include a separate cost breakdown and payment schedule for Phase 1 Engineering Design, Phase 2 Fabrication and Phase 3 Installation.

5.2 Drawings

Seller must submit for Buyer approval a complete set of design and assembly drawings, drawn by a qualified designer, showing location of each component and a complete material list. The Buyer will review and comment on these drawings. See section 6.0 for schedule and additional information. A final set of as built drawings are to be submitted prior to final payment. All drawings submittals shall be one hard set and one digitized (AutoCAD) set.

5.3 Production and Assembly Schedule

Thirty (30) days after contract award the Seller must submit to the Buyer for approval a production and assembly schedule showing the task duration, milestones and payment schedule. It is the responsibility of the Seller to formulate a manufacturing and assembly schedule that meets the final completion date of December 31, 1997 while addressing the requirements specified in this document.

5.4 Deviations

Any deviation from the Seller's Quotation, design specification, design and assembly drawings, or schedule shall be submitted in writing, with justification, for approval by the Buyer.

5.5 Quality Assurance

Thirty (30) days after contract award the Seller shall implement a Quality Assurance Plan that is consistent with the requirements of BNL-QA-101 attachment. The Sellers existing Quality Assurance Program may suffice if it adequately implements the quality

requirements in this attachment. The Buyer will review and approve the program, monitor activities and perform audits and/or surveillance to assure compliance.

5.6 Rigging Plan

In compliance with DOE -HDBK-1090-95 and BNL requirements, the Seller shall submit a detailed rigging plan 90 days prior to initiating installation for approval by the Buyer. Installation activities will not begin until the rigging plan is approved by the Buyer. The rigging plan shall consists of detailed step-by step procedures for the entire operation. As a minimum each procedure shall contain the following information:

- Identification of the load to be lifted.
- Identification of the specific lifting fixtures to be used in the operation.
- Identification by class and capacity (if applicable) of the types of equipment to be used, such as cranes and hoist.
- Verification that all equipment, fixtures, and accessories are operative, up-to-date on required periodic inspections and maintenance, and are in good condition before the operation begins.
- Specific instructions for attachment of the lifting fixtures to the load and to the lifting equipment.
- Parameters of motion required for the operation.
- Specific instructions for removal of the lifting fixtures from both the load and the lifting equipment.
- Documentation verifying the design, testing and inspection of any lifting fixtures that will be utilized.

5.7 Parts/Material

The seller shall certify all parts/material furnished shall be of first-class quality and shall accord in every respect with the description, specification drawings and/or sample elsewhere identified in this order. Any parts/material found to be suspect/counterfeit shall be rejected and turned over to the U.S. Office of Inspector General for possible investigation. Payment may be withheld pending outcome. The seller shall certify that all bolts are domestic only.

6.0 Schedule

6.1 Schedule of Events

Phase 1 - Engineering Design

Phase 1 of this project will be the design and engineering of the platform assemblies in compliance with the conceptual design presented in this specification. Approximately one week after contract award there will be a project kickoff meeting to initiate the design process. Discussed will be the operational objective and conceptual design of the platforms and an exchange of ideas. From this meeting the Seller shall develop a preliminary design package addressing the items contained in the technical specification and the results of the kickoff meeting. This package will be submitted via a meeting to the Buyer for review and comment three weeks after the kickoff meeting. The Buyer will have up to 3 weeks to review and comment on this package. The Seller will

incorporate comments and develop a complete design package. This package will be submitted via a meeting for review and comment to the Buyer three weeks after the Seller receives initial Buyer comments. The Buyer will have up to three weeks to review and comment on this design package. The Seller will incorporate this round of comments and generate a Final Design Package for approval and fabrication three weeks after receiving Buyers comments. The Seller will have the Final Design Package (drawings and calculations) certified by a licensed professional engineer in the State of New York.

Phase 2 - Fabrication
The Seller shall fabricate the platforms in accordance with the approved Final Design Package, technical specification and in compliance with industry code and standards. To support funding profiles and the installation schedule, the fabrication of the platforms is to be performed anytime prior to 9/30/97. The Seller is to provide a schedule that supports the payment schedule and installation schedule for Buyer approval.

Phase 3 - Installation
The seller shall install the platforms in accordance with the approved Final Design Package, technical specification, in compliance with industry codes and standards and Brookhaven National Laboratory safety standards. Buyer reserves the right to inspect all vendor equipment prior to assembly. To support the installation schedule, the installation window is between 10/1/97 and 12/31/97. The Seller is to provide a design, manufacturing and installation schedule that supports the payment schedule and installation completion date for Buyer approval.

Tentative Schedule - (To be finalized in August 1997)

1. On-site delivery of the North platform is to be after 9/24/97.
2. On-site installation of the North platform may begin on 11/7/97 and must be completed by 11/25/97.
3. On-site delivery and storing of the South platform parts in the Wide Angle Hall is to be between 10/13/97 and 10/15/97.
4. On-site installation of the South platform is to be between 11/25/97 and 12/12/97
5. The Seller must supply all the necessary manpower and equipment required to unload and assemble the platforms.
6. Written assembly procedures shall be supplied to Buyer for approval 90 days prior to initiating installation. Procedures must comply with Brookhaven National Laboratory safety standards and OSHA.

6.2 Payment Schedule

The Seller is to provide an implementation schedule that supports the installation and payment schedule for Buyers approval. The Seller may submit a separate payment schedule and implementation schedule for consideration by the Buyer if the alternative approach reflects a more efficient and cost effective approach while still supporting the overall project schedule.

Phase 1 Engineering Design - completed - 5% of total cost

Phase 2 Fabrication - initiated - 25% of total cost
completed - 25% of total cost
Phase 3 Installation - completed
South Platform - 25% of total cost
North Platform - 20% of total cost

GENERAL CONDITIONS

GC-1. DEFINITIONS:

A. As used in these Specifications, the following have the meaning shown opposite each:

1. BNL - Associated Universities, Inc., operator of Brookhaven National Laboratory.

2. Buyer - BNL's authorized representative.

3. BNL Site - Land occupied by Brookhaven National Laboratory, Brookhaven Township, Suffolk County, New York.

4. Site - Immediate area of BNL Site assigned to Contractor for performance of work.

5. Work - Includes but is not limited to all labor, materials, tools, and equipment required and reasonably inferred by Contract to complete all construction.

6. Contractor - Person or entity identified in Lump Sum Contract and responsible for completion of all work.

7. Subcontractor - Person or entity directly contracting with Contractor including one who furnishes material worked to a special design according to Drawings and Specifications, but not including one who merely furnishes materials not so worked.

B. Words such as provide, furnish, install, and include, mean work by Contractor. Words such as approved, directed, and inspected, mean BNL's approval, direction and inspection.

C. In the interest of brevity, words such as "Contractor shall," have been omitted from some sections of the Specifications.

GC-2. SCALE OF DRAWINGS:

A. Drawings are generally to scale, but follow indicated dimensions.

GC-3. REFERENCE DRAWINGS:

A. Drawings of existing building and site are available for reference at RHIC Project office.

GC-4. MANUFACTURERS' SPECIFICATIONS:

A. Conform to specified manufacturer's published specifications and installation instructions unless otherwise specified or indicated.

B. Federal agencies, to the extent practicable, are required to amend procurement practices so as to minimize the purchase of products manufactured with ozone depleting

substances. The Contractor shall, therefore, provide materials that use low or non-ozone depleting substances during their manufacture and/or installation. Materials that do not comply shall be identified in the contractor's submittal for approval.

GC-5. VOLATILE ORGANIC COMPOUNDS (VOC'S):

A. Volatile Organic Compounds (VOC's) and their emissions are controlled under the New York Codes, Rules and Regulations of the State of New York. Architectural surface coatings must comply with 6NYCRR Part 205. Coating lines must comply with 6NYCRR Part 228.

1. For the purpose of the BNL location, Nassau, Suffolk, Westchester and Rockland Counties fall under the compliance rules of the New York City metropolitan area.

2. All coatings and coated products to be used in the work, shall comply with the appropriate rules and regulations.

GC-6. WORK HOURS:

A. Perform all work on weekdays, excluding BNL holidays, between 8:00 a.m. and 5:00 p.m., unless otherwise specified or approved. BNL holiday list available upon request.

B. Notify BNL 24 hours in advance to request approval to work outside of the above working hours. Advise PE of all planned activities and submit a list of all contractor and subcontractor employees who are expected on-site during the off-hour period. All employees working during off-hours must possess a valid BNL contractor employee photo identification badge (see GC-8).

C. If off-hours work request is approved, PE will notify BNL Police Headquarters and the Main Gate of the days and hours that work is planned. Failure to notify PE will be cause for BNL Police to deny access to the job-site.

GC-7. CONSTRUCTION NOTIFICATION:

A. BNL must be notified and made aware of all construction work-in-progress.

GC-8. IDENTIFICATION OF EMPLOYEES:

A. All Contractor and Subcontractor employees must attend The BNL Safety Orientation (see GC-9) and be approved by BNL to obtain a BNL contractor employee photo identification badge in order to work on the site.

B. The Contractor shall assure that all Contractor and Subcontractor employees promptly obtain a current BNL contractor employee photo identification badge. Badges shall be obtained in the Lobby of the Brookhaven Center, Bldg. 30, Monday through Friday, between 8:30 a.m. and 10:30 a.m. In order to keep badging times to a minimum, the Contractor should limit sending all of his employees at the same time.

C. Contractor and Subcontractor employees must wear the badge so as to be visible at all times while on-site.

D. Badges will be provided at no cost to the Contractor. Immediately upon release of employees or project completion, Contractor's Superintendent shall return badges to Bldg. 30 Lobby. (BNL will retain badges for re-issue for one year.)

E. Contractor employees shall report lost identification badges immediately to the Badging Office, in the Lobby of Bldg. 30.

GC-9. CONTRACTOR EMPLOYEE SAFETY ORIENTATION:

A. All Contractor and Subcontractor employees are required to attend BNL's Contractor Employee Safety Orientation on their first or second day on-site.

B. Contractor Employee Safety Orientation is a two (2) hour overview of BNL and OSHA safety requirements. The orientation is offered 8:30 a.m. weekdays at the Trailer Training Room west of Bldg. 129 on Cornell Ave. near Technology St. This safety orientation will be valid for a period of one year. Satisfactory completion will be indicated by issue of employee identification badge.

C. Contractor and Subcontractor employees who have not attended the Safety Orientation will be directed to stop work until they have done so.

GC-10. COORDINATION:

A. The contractor shall arrange and coordinate work, be responsible for acts and omissions of all parties involved in the work, be responsible for satisfactory performance of all work, ensure that each trade is fully informed of full extent of work required, and coordinate installation of all equipment and shop fabricated material, including that supplied by BNL. BNL assumes no responsibility for contractual relations between Contractor and other parties.

GC-11. MEN AND MATERIALS:

A. Do not utilize men or materials which would cause work stoppage on BNL Site.

GC-12. SUBCONTRACTOR APPROVAL:

A. BNL reserves the right to approve or disapprove Subcontractors. No later than two (2) weeks after signed Contract, submit directly to BNL, a complete list of proposed Subcontractors for approval.

GC-13. CONSTRUCTION SCHEDULE:

A. Within three (3) weeks after signed Contract, submit, directly to BNL, a detailed work schedule which must fall within number of weeks specified.

B. When work falls behind schedule due to Contractor's fault or negligence, increase all labor and overtime to assure completion within schedule.

C. BNL will utilize all available contractual remedies to enforce schedule compliance. Should the Contractor encounter delays caused by BNL, it is the Contractor's responsibility to promptly notify the contracting officer and to request an extension of the contract compliance date.

GC-14. SCHEDULE OF VALUES:

A. Submit a Schedule of Values in accordance with heading "Schedule of Values" in the Supplementary Conditions, on forms supplied by BNL. Provide data to substantiate accuracy when requested. Approved Schedule will be basis for Progress Payments.

GC-15. SUBSTITUTIONS:

A. Unless otherwise specified, substitutions may be made for items specified when substitutions are approved equals. Submit substitutions for approval in accordance with heading "SHOP DRAWINGS, MANUFACTURERS DATA, AND SAMPLES" in Supplementary Conditions.

B. When proposing a substitution, submit:
   1. Shop Drawings providing complete descriptive and technical data. Submit samples and additional information when directed.
   2. Statement of effect on all other work in Contract.

C. BNL reserves right to request drawings indicating all required revisions to Contract Drawings prior to giving approval.

D. If a substitution is approved, be responsible for all resulting changes in work and for all systems, equipment and material, functioning as originally intended.

GC-16. CONTRACTOR'S MATERIALS:

A. Obtain property pass for removal of Contractor's materials and equipment from BNL Site. Schedule removals during specified work hours.

GC-17. TRANSPORTATION:

A. In transporting materials and equipment, use designated roads and railroad on BNL Site. Obtain information concerning these facilities from BNL. When necessary to maintain work schedule, ship all materials, including Subcontractors' items, from point of origin to BNL Site by direct means equal to, or better than, express service.

GC-18. TRAFFIC WAYS:

A. Schedule, confine, and perform work, as directed, so as not to interfere with BNL traffic on existing roads, walks, parking and other paved areas. Park all vehicles in designated parking areas. Load and unload vehicles where directed.

GC-19. CODES AND STANDARDS:

A. Meet requirements of BNL Environment, Safety and Health Standards and other codes and standards specified. In cases of conflict, the standard providing the greater protection shall govern. Copies are available for reference.

GC-20. FIRE PROTECTION AND DETECTION SYSTEMS:

A. Do not modify, disconnect and, in any way, impair systems without approval.

B. Notify BNL forty-eight (48) hours in advance of all work on fire protection systems.

GC-21. OPEN FLAME OPERATIONS:

A. It shall be the duty and responsibility of the Contractor performing any cutting or welding to comply with the provisions of BNL Environment, Safety and Health Standards, and the National Fire Protection Association's National Fire Codes pertaining to such work.

The Contractor shall read and be familiar with the provisions of this Guide. The Contractor shall be responsible for all damages resulting from failure to so comply.

B. Notify BNL forty-eight (48) hours in advance of cutting, welding, or similar open flame operations.

C. Provide any required fire watch and take all required precautions where directed.

D. BNL will make arrangements for a Cutting/Welding Permit. NO WORK shall proceed prior to the issuance of the written Cutting/Welding Permit nor shall work continue after expiration date of permit.

GC-22. PROTECTION OF PROPERTY:

A. Protect all new and existing property from damage by and as a result of work in this Contract as approved.

B. Repair, refinish, replace and otherwise correct all damage as directed and approved.

GC-23. TEMPORARY SERVICES:

A. All requests by the Contractor for temporary services i.e. electric power, for their own use or for use by any subcontractor, shall be made only through their designated contact.

B. All methods, materials, and scheduling of temporary services shall be as directed and approved.

1. BNL will furnish, without charge, sources of water and electric power and will perform initial tie-in and removal of same.

2. Contractor shall supply, install, maintain, and remove all equipment and required devices for temporary water, power, and lighting systems from point of initial tie-in as necessary to perform the work.

GC-24. SERVICE INTERRUPTIONS:

A. Do not interrupt service until directed. Notify BNL two (2) weeks in advance of all proposed service interruptions unless otherwise specified or directed.

B. Keep all interruptions to a minimum. Complete all possible prior work and prefabrication, and have all labor and materials on Site, as approved, prior to interruption.

GC-25. COORDINATION WITH BNL ACTIVITIES:

A. Coordinate and schedule all work with all BNL activities and operations through designated contracts.

GC-26. CUTTING AND PATCHING:

A. Cut, drill, alter, remove, and replace all existing construction as required for performance of work. Patch and finish all changed and damaged work to match existing construction as approved.

GC-27. WORK BY TRADES:

A. Work of a trade is not necessarily limited to the Drawing or Specification page describing work to be done by that trade.

GC-28. SALVAGE:

A. Remove all salvageable material and equipment, as specified by BNL, and place on BNL Site where directed.

B. Remove all non-salvageable material and equipment and legally dispose of same off the BNL Site.

C. All removed salvageable material and equipment, as defined in the Specifications, shall remain property of BNL.

D. All removed salvageable and non-salvageable materials and equipment shall pass through the vehicle radiation monitor prior to disposal on the BNL site or exiting the BNL site.

GC-29. WORK AS BUILT:

A. Contractor will provide a complete set of "As Built" Drawings upon contractor completion and prior to final payment.

GC-30. CLEANING AND DISPOSAL OF DEBRIS:

A. Keep Site clear of debris and rubbish at all times. Burning of debris and rubbish will not be permitted.

B. Place all debris and rubbish in appropriate containers and legally dispose of same periodically off the BNL Site.

C. At job completion, promptly remove tools and equipment, and clean premises thoroughly, as approved.

D. All removed debris, excess clearing, excavation and/or grading material, rubbish, and equipment, removed from the Site, shall pass through the Vehicle Radiation Monitor on East Princeton Avenue, whether it is to be disposed of at another site within BNL or disposed of off the BNL Site.

SUPPLEMENTARY CONDITIONS

SC-1. TIME IS OF THE ESSENCE:

A. This project is to be considered as one where "time is of the essence". The contract completion date shall be adhered to. Failure to be "substantially complete" by the completion date established in the signed contract will be considered by BNL as being non-responsive and could lead to the barring of the Contractor from bidding future projects at BNL for a period of one (1) year.

B. Substantial Completion is the stage in the progress of the Work when the Work or a designated portion thereof is sufficiently complete, as determined by BNL in accordance with the Contract Documents, so as to be able to be occupied or utilized for its intended use.

SC-2. SHOP DRAWINGS, MANUFACTURERS DATA, AND SAMPLES:

A. The term "shop drawings and data" includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, similar materials and samples furnished by Contractor to explain and show in detail, specific portions of work required by Contract.

B. Shop drawings and data for construction shall be submitted with such promptness as to cause no delay in the work. Allow sufficient time for checking, correcting, resubmitting and rechecking. Submittals to BNL by Contractor, subcontractor, or any low tier subcontractor, pursuant to a construction contract, shall show in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., layout, form, fit, setting, and attachment details) of materials or equipment. BNL may duplicate, use, and disclose in any manner and for any purpose shop drawings and data delivered under this Contract.

C. These contract conditions shall be included in all subcontracts hereunder at any tier.

D. Before submitting any data for approval, the Contractor shall coordinate all such drawings and data, and check them for accuracy, completeness, and compliance with Contract requirements. The Contractor shall see that all work contiguous with and having bearing on the work indicated on drawings is accurately and distinctly illustrated and that work shown is in conformity with contract requirements.

E. The Contractor shall indicate his approval on all submittals as evidence of the above coordination and review. Shop drawings and data submitted to BNL without evidence of Contractor's approval, may be returned for resubmission.

F. Shop drawings shall be numbered consecutively and shall represent:

1. All working and erection dimensions.

2. Arrangement and sectional views.

3. Necessary details, including information for making connections to other work.

4. Kinds of materials and finishes.

G. Shop drawings shall be dated, and shall contain:
1. Name and Number of project.

2. Description of required equipment, materials, and classification item numbers.

3. Locations at which materials or equipment are to be installed in the work.

4. Identification of drawings and specification sections to which they apply.

H. BNL's technical liaison will indicate its approval or disapproval of shop drawings and data and, if not approved as submitted, shall indicate its reasons therefor. No work shall be done on an item or system, including fabrication, prior to such approval. Approval of BNL shall not relieve Contractor from responsibility for any errors or omissions in such drawings and data, nor from responsibility for complying with requirements of this Contract, except with respect to variations described and approved in accordance with (I) below.

I. If shop drawings and data show variations from Contract requirements, Contractor shall describe such variations in writing separate from drawings and data at the time of submission. If BNL approves any such variation(s), it shall issue an appropriate Contract modification, except that, if variation is minor and does not involve a change in price or in time of performance, a modification need not be issued.

J. Submission of data for approval shall be accompanied by letter of transmittal, in duplicate, containing the name of the project, Contractor's name, number of drawings, titles and other pertinent data.

K. Submit Shop Drawings on Ozalid transparencies of original Contractor's Drawings. Submit one (1) set of transparencies and five (5) sets of Ozalid prints for each submission until approved.

L. Submit opaque manufacturer's cuts and data sheets clearly marking all applicable data. Submit five (5) copies for each submission until approved.

M. Submit samples, tagged and labeled and with a 3" x 4" space for approval stamp. Submit two (2) samples for each submission.

N. The General Conditions portion of the Contractors monthly payment requisitions may be reduced if required Shop Drawings, Manufacturers Data, Samples and any other required submissions are not received, or until they are received in a timely manner.

O. Except for required submissions specified below, submit Shop Drawings, Manufacturers Data, and Samples only for items where a substitution is requested. Refer to GC-15.

P. Address all submissions to:
Brookhaven National Laboratory

Mr. Bruce Miller
Building 830M
Upton, New York 11973

Q. Mark all submission transmittals as follows:
JOB TITLE: STAR Experimental Platforms
JOB NO. _ _ _ _ _ _ _ _ _ _ _, BLDG. NO. 1006

R. Required Submissions:

Item	Shop DWG.	Mfgrs. Data	Samples	Other Data
*1. Schedule of Values				X
2. Construction Safety Plan				X
3. Certification of Specification Compliance				X
4. Preventative Maintenance Program Data				X
5. Conceptional DWG.				X
6. Calculations				X
7. Fabrication DWG.				X
8. Installation DWG.				X
9. As-Builts			X	

S. BNL reserves right to request additional data.

T. Critical Items:
1. Submit items marked with an asterisk within four (4) weeks after signed Contract.

2. No later than two (2) weeks after receiving approval, submit copies of purchase orders and vouchers showing final purchase agreement and promised delivery date.

SC-3. BNL SUPPLIED ITEMS:
A. Items supplied by BNL:
1. Power
2. Water

B. Shop Drawings and Manufacturer's Data will be available at BNL.

C. Check all items in presence of BNL Representative to insure they are complete with all parts and appurtenances, and free from damage. Move items from point of storage on BNL Site and completely install and connect at Site. Handle all items with care.

SC-4. TEMPORARY WORK:

A. All methods, materials, and schedules for installation, operation, maintenance, and removal of all temporary work shall be approved. Upon removal, restore all property to original condition as approved.

B. Telephone: BNL will not provide telephones. Contact telephone business office Administration Office within five (5) working days after notice to proceed with installation and arrange for a temporary telephone to be installed.

C. Field Office: BNL will not provide building office space. Within five (5) working days after notice to proceed with installation, provide, where directed, an approved Field Office with lighting. Provide heat, when temperature drops below 60°F.

D. Toilet Facilities: BNL will not provide toilet facilities. Provide, where directed, and properly maintain, portable toilet facilities, as approved, from start to finish of operations.

E. Closures: Install temporary, weathertight closures over exterior openings immediately after openings are created.

F. Partitions: Provide, where indicated on Drawings, temporary, dust-tight partitions, complete with all doors, constructed of noncombustible materials with all joints and edges taped.

G. Storage Facilities: BNL will not provide storage space. Provide, where directed, an approved storage facility.

H. Fences: Erect four (4) foot high lath and wire temporary fencing, where indicated on Drawings, before start of other work.

I. Existing Roofing: Protect existing roofing with plywood or other approved material. Confine workmen and material to protected area.

J. Existing Flooring: Protect existing flooring with plywood or other approved material. Confine workmen and material to protected area.

K. Ventilation:
1. Provide ventilation in accordance with codes specified and as approved.

2. Conform to standards of the American Conference of Governmental Industrial Hygienists Threshold Limit Values and Occupational Safety and Health Administration Standards for permissible exposure limits.

L. Showers:
1. Provide a shower trailer in accordance with codes specified and as approved. Locate where directed.

M. Heating:
1. Provide heating in accordance with codes specified and as approved.

2. Maintain proper temperatures for storage and installation of all materials as recommended by material manufacturers' published instructions and as directed.

3. Provide systems approved for unattended operation. Conform to requirements of NFPA 31, 89M, 211, 54, and OSHA Part 1926.154. All components of temporary systems shall be UL, FM, and AGA approved.

4. Maintain proper ventilation for health and safety of personnel.

5. Use of resistance heating to provide temporary heat will not be permitted.

SC-5. PAINTING:

A. Prepare and paint existing surfaces marred during construction and new surfaces with one (1) prime coat and two (2) finish coats matching surrounding areas. Comply with OSHA 29 CFR 1926, BNL Environment, Safety and Health Standards, 6NYCRR Parts 205 & 228, and UL standards and regulations.

SC-6. SPECIAL CLEANING:

A. Use extreme care to prevent infiltration and spreading of dust, dirt, fumes, and other foreign matter within the _1006 Wide Angle Hall and Assembly Building area.

B. Remove dust promptly with vacuum cleaners and other approved means. Place all debris in approved covered containers. Empty containers outside building, where directed, at least once a day.

SC-7. POWER AND LIGHT:

A. BNL will provide contractor location for connection of temporary power and light. All cost to be borne by contractor.

SC-8. SAFETY REQUIREMENTS:

A. All Contractor and Subcontractor employees are required to attend BNL's Contractor Employee Safety Orientation (see GC-8).

B. BNL will arrange and Safety Environmental Protection Division will provide additional safety instructions, as required. All personnel shall conform to special requirements for wearing film badges, personal protective equipment, protective clothing, respirators, and other safety measures as required.

SC-9. SPECIAL SCHEDULING:

A. BNL will set up a kickoff meeting upon contract award to discuss scope, schedule and conceptual design. See Technical specification for details.

SC-10. BUILDING CRANE USE:

A. The existing building crane may be used by the Contractor as approved. Coordinate and schedule its use with BNL.

B. Assume full responsibility for its use and repair all damage resulting from its use.

C. Only trained personnel will be permitted to operate crane. Arrange for training through BNL. Training normally takes two hours.

SC-11. CONSTRUCTION SAFETY:

A. The Contractor is solely responsible for Construction Safety for the duration of this Contract. He shall prepare and submit a Construction Safety Plan before the commencement of any work on site. This plan will be reviewed and approved by BNL and shall include the following:

1. Specific assignment of an individual, employed by the Contractor and named in the Plan, who will be responsible for job site construction safety.

2. A letter or certificate of compliance indicating that the Contractor is aware of, and has reviewed, and will comply with the safety regulations of both the OSHA Standards (29 CFR 1926/1910) and BNL Environment, Health and Safety Standards (available for reference at BNL).

3. A copy of the company record of past injury, accident, fire and property damage experience, including motor vehicle, for previous two (2) years. In lieu of this data, contractor may submit the previous two (2) years industrial insurance experience modifiers or rates.

4. A descriptive outline of the Contractor's safety program indicating:
   a. Provisions for emergency aid.

   b. Specific identification of "Competent Person" (per OSHA), his/her qualifications, and method of accomplishment in a specific excavation plan. Competent Person must have had formal training, have knowledge of existing standards, and have authority to take actions deemed necessary.

   c. A program for training employees in the recognition and avoidance of unsafe conditions and in the safety regulations applicable to this project. DOE requires that the construction contractor conduct informal "tool box" safety and health training sessions at least weekly for all employees on the work site. Depending on the size and nature of the project, this may be accomplished in single or multiple sessions and may address different topics

for different work crews. Outlines of all "tool box" training sessions shall be prepared by the construction contractor and annotated with the date, time, and names of all employees in attendance.

d. A program to provide for the frequent and regular inspection and reporting of job site conditions relating to safety.

e. A program certifying the safe operating condition and assuring the proper maintenance of earth moving equipment, cranes, vehicles and other such equipment.

f. A program certifying the safe operating condition and assuring the proper maintenance of permanent and/or temporary light, power and electrical equipment, including protective devices (GFCI) for portable electric tools.

g. Provisions through meetings, established contacts or other means, for the mutual exchange of information with contractor and subcontractor personnel on:
. Changes in scope of work
. Recognized hazards
. Identified inspection deficiencies
. Future phases of work
. Potential problem areas
. Coordination of crafts

B. All workers shall be able to comprehend the scope of work and safety instructions required to perform the job. If workers cannot read or speak English or are hearing impaired, an interpreter shall be provided by the contractor to ensure that the scope of work, information regarding hazards associated with the work-site, and safety requirements are relayed to them in a manner in which they can understand. The interpreter shall be at the work-site whenever these workers are on the job.

C. When Confined Space Entry is required, the Contractor shall have a written Confined Space Entry Program which complies with OSHA and BNL standards.
1. The program will require the Competent Person (as defined by OSHA) to:
a. Establish procedures and practices for safe entry and to determine if a permit is required.

b. Have air monitors to check concentration of oxygen, explosive/flammable gases and the specific contaminants of concern (e.g. hydrogen sulfide in sewer utility holes).

c. Test and monitor conditions to identify and evaluate hazards.

d. Prevent unauthorized entry.

e. Station an attendant outside permit spaces during entry.

f. Post procedures to summon rescuers and prevent unauthorized personnel from attempting rescue.

g. Develop a system for preparing, issuing, using, and canceling entry permits.

2. Permits are required to include an identification of the confined space, its hazards, a list of authorized entrants, the purpose of their entry, and the date and duration of their permits; the current attendants and entry supervisor; and both the results of tests performed and any measures necessary to isolate the permit space and eliminate or control the hazards. The permit must also describe the acceptable entry conditions, emergency equipment and the means to summon rescue and emergency services.

3. Authorized entrants into confined spaces must be trained to be aware of any hazards they may face and be able to recognize signs and symptoms of exposure. They must also be familiar with any emergency equipment in the confined space.

D. The Contractor shall be required to include the applicable safety requirements in all contracts with subcontractors.

E. Prior to the start of construction, a pre-construction meeting shall be scheduled with the outside contractor to review specific safety requirements of the project.

F. A Construction Safety Plan is required under this Contract. No work at the Site will be permitted to proceed and no payment requisitions will be authorized until this plan is submitted and approved.

G. Lock-Out/Tag-Out is the preferred method of control when working on electrical circuits.

1. It is BNL Policy that working on energized electrical circuits ("Working Hot") will only be allowed subject to the restrictions and provisions of BNL Environment, Health and Safety Standards.

2. In order to comply with these Guides, the Contractor shall submit, for PE review and approval, the specific names of all electrical, mechanical, and other personnel who may be required to "Work Hot" on electrical circuits within the BNL AC Distribution System and all associated equipment.

3. Submission shall include specific details of their qualifications and training in this area. BNL recognizes the training of Electrical Union Local 3 and 25. For those journeymen only, their name and a copy of their union card will be recognized as acceptable training.

4. BNL will arrange for "Working Hot Permits" as required by the above stated Guides. The Contractor shall give BNL 48 hours notice of any requirement to "Work Hot" to allow time for preparation of the required permit. Operations involving working hot for voltages less than 250 Volts AC to ground may be covered by a Generic Working Hot Permit which may cover the entire project

period. Operations involving working hot for voltages greater than 250 Volts AC to ground shall require a specific Working Hot Permit for each work situation required.

H. BNL will not tolerate non-adherence to safety requirements. The Contractor shall be required to comply with all applicable OSHA Safety requirements. Failure to comply will result in BNL's direction to stop work in accordance with Article 30 of Attachment A, General provisions.

SC-12. CRANES, TRUCKS, MATERIAL HANDLING, AND LIFTING EQUIPMENT:

A. Contractor shall notify BNL 48 hours prior to any earthwork and/or rigging operations. All cranes, boom trucks, and lifting equipment must be approved by BNL prior to use. No equipment operations will be allowed until approval of equipment has been granted. Contact G. Wunderlich, BNL Hoist and Rigging Inspector, (516) 344-5456, for equipment inspections.

B. All heavy equipment, including cranes and earth-working equipment must be in compliance with OSHA and DOT requirements, must be in good repair, and is subject to inspection by BNL. Equipment found to be leaking oil or other fluids will not be permitted to operate at BNL.

SC-13. SPILLS OF HAZARDOUS MATERIALS:

A. When the work requires the Contractor to bring temporary fuel storage facilities on to the BNL Site, the Contractor shall be responsible for providing a temporary impermeable containment area for all fuel transfer operations in accordance with Suffolk County Department of Health Services, Article 12.

B. If, during construction activities, a release, discharge, or spill of petroleum products or chemicals occurs, the Contractor shall:

1. Immediately notify Safeguards and Security at ext. 2222, and designated contract, of the release, discharge, or spill.

2. Immediately initiate cleanup and disposal operations by a BNL approved hazardous waste management contractor, complete the operations, and be responsible for monitoring and/or sampling in the event of a spill, to the satisfaction of BNL.

OR

3. Request BNL to initiate cleanup and disposal operations with the agreement that the Contractor shall assume all costs associated with the cleanup and disposal work.

C. The disposal of contaminated material will be coordinated by BNL through the Hazardous Waste Management Group of the Safety & Environmental Protection Division, with appropriate documentation and disposition forms.

SC-14. PREVENTATIVE MAINTENANCE PROGRAM:

A. A program of scheduling preventative and routine maintenance covering all operating equipment of the platforms shall be prepared by the General Contractor, Vendors, and Subcontractors and shall be assembled by the General Contractor in accordance with the requirements set forth in Section SC-1.

B. The preparation, submittal, and approval of this program is prerequisite to Final Acceptance of the work and resultant Final Payment.

C. Each Respective Trade Contractor, Vendor, and Subcontractor shall furnish to the General Contractor for compilation, the pertinent data shown on the attached form applicable to each piece of operating equipment.

ATTACHMENT - 2 Sheets - PMPD 1 & 2

SC-15. CERTIFICATION:

A. Certification of compliance with specification performance standards and manufacturers' specifications and directions shall be furnished for any portion of this work for which specific performance requirements and/or manufacturers' specifications are listed.

B. It shall be the responsibility of the General Contractor to secure two (2) copies of each certification when required and transmit same to BNL.

C. Sample Certification Form (2 pages) is attached as an exhibit at the close of the Supplementary Conditions. Each item requiring certification shall be so noted and affidavits shall be filed singly to cover each specified material, installation, application, and the like.

D. CERTIFICATION SHALL ACCOMPANY EACH SUBMITTAL.

PREVENTATIVE MAINTENANCE PROGRAM OPERATING EQUIPMENT DATA

1. Equipment Name

2. Manufacturer

3. Model No.

4. Serial No.

5. Contractor

6. Specialty Contractor

7. Vendor

8. Job Name

9. Job Number

10. Agency from whom parts may be obtained:

11. Agency from whom service may be obtained:

12. Service Agreement: Yes No Expires -

13. a) Guarantee: Yes No Expires -
b) Warrantee: Yes No Expires -

14. Equipment Location: Building Floor
Room No. Area Des.

15. Area Served: Building Floor
Room No. Area Des.

16. Furnished in accordance with:
Contract Drawing No.
Specification Paragraph

Date of Issuance: _____
Submitted By: _____
Equipment Name: _____

PMPD-1

PREVENTATIVE MAINTENANCE PROGRAM OPERATING EQUIPMENT DATA (cont'd)

17. List Shop Drawings, Equipment Cuts, Catalogs, or the other drawings which show this equipment.

18. Indicate spare parts lists, maintenance and instruction manuals, or other data furnished.

19. Indicate all services connected to this equipment - water, drain, steam, return, gas, vacuum, chilled water, electric, etc. Give sizes of connections, amount used, pressure, etc.

20. Type of refrigerant (if any)

21. Capacity of equipment

22. Electrical Characteristics: Voltage Amp Phase

23. Electrical Circuit Data Panel Designation
Panel Location Circuit Number
Fuse Size Fuse Type

24. Location and data of any auxiliaries

25. Other Data

Date of Issuance: _____
Submitted By: _____
Equipment Name: _____

PMPD-2

CERTIFICATION OF SPECIFICATION COMPLIANCE

I/WE, the MANUFACTURER/SUPPLIER and INSTALLER of
_____
_____
as specified in Section Number _____ of the Contract Documents prepared by Brookhaven National Laboratory, Upton, New York 11973 for:

(Project Title) _____
(Building) _____ (J/N) _____
(Contract Number) _____

do (does) herein certify that all materials furnished for said project do fully comply with all specification requirements as stated within the Contract Documents and further certifies that installation of this work has been performed in strict accordance with recognized standards of the industry governing such work, and all applicable Codes, Regulations, and Standards.

CONTRACTOR:
_____
CERTIFICATION BY: _____ TITLE: _____
ADDRESS: _____
CERTIFICATION DATED:
_____

Distribution:
Original and One Copy to:

Brookhaven National Laboratory
Mr. Bruce Miller
Building 830M
Upton, New York 11973

CERTIFICATION OF SPECIFICATION COMPLIANCE

CORPORATE ACKNOWLEDGMENT

On the.....day of....., before me came.....
to me known and who by me being duly sworn did depose and say that he resides
at.....that he is the officer of the said corporation executing the foregoing instrument that he knows the seal of said corporation, that the seal affixed to said instrument is such corporate seal, that it was so affixed by order of the Board of Directors of said corporation and that he signed his name thereto by like order.

.....
Notary Public

INDIVIDUAL ACKNOWLEDGMENT

State of
County of

On the.....day of....., before me came..... to me known and who by me being duly sworn did depose and say that he resides at.....that he is the individual who executed the foregoing instrument.

.....
Notary Public

PARTNERSHIP ACKNOWLEDGMENT

State of
County of

On the.....day of....., before me came.....
.....to me known and who by me being duly sworn did depose

and say that he resides at.....

that he is a partner in the firm of.....

doing business under the name of.....

and that he executed the foregoing instrument on behalf of said partnership.

.....
Notary Public

CSC-2

Attachment 1

Image #1

Conceptual design of platform decking

Image #2

Attachment 2

BNL-QA-101

BNL Seller Quality Assurance Requirements