NORTHROP GRUMMAN

AUTHORIZED FEDERAL SUPPLY SERVICE SCHEDULE PRICE LIST FOR PROFESSIONAL ENGINEERING SERVICES (PES) SCHEDULE

FSC Group 871

Contract Number GS-23F-0058K

SPECIAL ITEM NUMBERS (SIN):

- SIN 871-1 Strategic Planning For Technology Programs/Activities
- SIN 871-1RC
- SIN 871-2 Concept Development and Requirements Analysis
- SIN 871-2RC
- SIN 871-3 System Design, Engineering and Integration
- SIN 871-3RC
- SIN 871-4 Test and Evaluation
- SIN 871-4RC
- SIN 871-5 Integrated Logistics Support
- SIN 871-5RC
- SIN 871-6 Acquisition and Life Cycle Management
- SIN 871-6RC

ENGINEERING DISCIPLINES COVERED UNDER EACH SIN

- Chemical Engineering
- Civil Engineering
- Electrical Engineering
- Mechanical Engineering

Period Covered By Contract: December 10, 1999 – May 10, 2015
Price List Current as of Modification Number PS-0029 dated November 24, 2014
Business Size: Large

Products and ordering information in this Authorized Professional Engineering Services Schedule Price List are also available on the GSA Advantage! System. Agencies can browse GSA Advantage! Home Page via Internet at www.gsa.gov

Northrop Grumman Systems Corporation
4807 Stonecroft Blvd.
Chantilly, VA 20151
www.is.northropgrumman.com

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1.0 Customer Information

1. (a) Special Item Numbers: See pages 9-15
(b) Labor Category Descriptions: See pages 16-20
(c) Labor Rates: See pages 21-24

2. Maximum Order:
The maximum dollar value per delivery order will be $1,000,000 for all Professional Engineering Services.

3. Minimum Order Requirements: The minimum dollar value of orders to be issued is $100.

4. Geographic Coverage (delivery area): The geographic scope of this Contract is the 48 contiguous states, the District of Columbia, Alaska, Hawaii, the Commonwealth or Puerto Rico, and all U.S. Government installations and/or agencies abroad.

5. Point(s) of production: Multiple points of production that are dependent on the ordering activity's requirements.

6. Discount from list prices or statement of net price: All prices listed are shown NET of discount

7. Quantity Discounts: Not applicable

8. Prompt Payment Terms: Not applicable.

9. Notification that Government purchase cards are accepted at or below the micro-purchased threshold.
a. Contractors are required to accept the Government purchase card for payments equal to or less than the micro-purchase threshold for oral or written delivery orders.

b. Notification whether Government purchase cards are accepted or not accepted above the micro-purchase threshold: Government purchase cards will be acceptable for payment above the micro-purchase threshold. In addition, bank account information for wire transfer payments will be shown on the invoice.

10. Foreign Items: No foreign products will be provided at this time. All items are U.S. made end products, designated country end products, Caribbean Basin country end products, Canadian end products, or Mexican end products as defined in the Trade Agreements Act of 1979, as amended.

11. a. Time of Delivery: Deliverables shall be submitted in accordance with the deliverable schedule identified in each order.
b. Expedited Delivery: Items available for expedited delivery are noted in this price list.
c. Overnight and 2-day delivery: Not applicable
d. Urgent Requirements: The Northrop Grumman PES Project Manager and/or contracts point of contact are available to start the process at Northrop Grumman to receive any urgent task order requirement. Task requirements will be identified, and an assessment will be made as to Northrop Grumman's ability to provide rapid response in terms of qualified personnel and other necessary resources. Discussions concerning price and start date will then be held with the customer contracting officer placing the order. For straightforward requirements, this process can be as short as a few hours; more complex requirements may require up to two working days.

12. F.O.B. point(s): Destination

13. a. Ordering Address:
Northrop Grumman Systems Corporation
Attention: PES Program Management Office
7575 Colshire Drive
McLean, VA 2202
Or as specified at the task order level.

b. Ordering Procedures: For supplies and services, the ordering procedures, information on Blanket Purchase Agreements (BPAs) are found in Federal Acquisition Regulation (FAR) 8.405-3.

14. Payment Address:
Wire Transfer Payment (EFT Remittance)
Northrop Grumman Systems Corporation
Account Number: See Invoice
Bank ABA Number: See Invoice
P.O. Box 27307
New York, NY 10087-7307

Payment by check should be sent to:
Northrop Grumman Systems Corporation
C/o JP Morgan Chase Bank, New York
Account Number: See Invoice
P.O. Box 27307
New York, NY 10087-7307

Below are the telephone numbers that can be used by ordering agencies to obtain the technical and/or ordering assistance.

Phone: 703.556.1631
Fax: 703.556.1518

15. Warranty Provision: For the purpose of this contract, commitments, warranties and representations include that the items delivered hereunder are merchantable and fit for use for the particular purpose described in this contract. Except as otherwise provided by an express or implied warranty, the Contractor will not be liable to the Government for consequential damages resulting from any defect or deficiencies in accepted items. The Contractor shall comply with all applicable Federal, State and local laws, executive orders, rules and regulations applicable to its performance under this contract

16. Export packing charges: Not applicable

17. Terms and Conditions of Government purchase card acceptance (any thresholds above the micro-purchase level): In accordance with the Government Commercial Credit Card guidelines.

18. Terms and conditions of rental, maintenance, and repair: Determined at the task order level

19. Terms and conditions of installation: Determined at the task order level

20. Terms and conditions of repair parts indicating date of parts price list and any discounts from list prices (if applicable): Not applicable

a. Terms and conditions for any other services (if applicable): Northrop Grumman established corporate policy with respect to travel expenses is to charge the Government for actual cost of lodging, not to exceed the Federal Travel Regulations (FTR) lodging per diem amount specified for the destination city plus applicable loadings. Meals and incidental expenses are charged at the FTR per diem rate plus applicable loadings. All requested travel between Government sites will be chargeable. Local travel is not reimbursable (i.e.; normal commuting from home to work site). Other Direct Costs (ODCs) will be billed at cost plus applicable indirect loadings.

21. List of service and distribution points: Determined at the task order level

22. List of participating dealers: Not applicable

23. Preventative maintenance: Not applicable

24. a. Special attributes such as environmental attributes (e.g., recycled content, energy efficiency, and/or reduced pollutants): None

b. Section 508 Compliance: If there are no stipulations in the Request for Proposal/Request for Quote that direct specific operational capabilities of any deliverables for access by handicapped personnel, and no specific Section 508 Standards are identified for implementation, Northrop Grumman's proposal/quote will not include any costs or plans to make any deliverables accessible to handicapped persons. Should the Government desire to incorporate specific handicap accessibility into any deliverables, it shall communicate those requirements to Northrop Grumman in writing.

25. Data Universal Number System (DUNS) Number: 962048646.

26. Notification regarding registration in Central Contractor Registration (CCR) database: Northrop Grumman has several listings in the CCR. For the purpose of this contract, the CAGE Code is 5YRP9.

27. The labor categories that fall under the requirements of the Service Contract Act (SCA) (i.e. non-exempt labor categories) are identified in the matrix below.

SCA Eligible Contract Labor Category	SCA Equivalent Code – Title	WD Number
Technical Level 1 (PES-TEC01)	30081 Engineering Technician I	05-2103
Technical Level 2 (PES-TEC02)	30082 Engineering Technician II	05-2103
Technical Level 3 (PES-TEC03)	30083 Engineering Technician III	05-2103
Technical Level 4 (PES-TEC04)	30084 Engineering Technician IV	05-2103
Clerical Level 1 (PES-CLE01)	01070 Document Preparation Clerk	05-2103
Clerical Level 2 (PES-CLE02)	01111 General Clerk I	05-2103
Clerical Level 3 (PES-CLE03)	01112 General Clerk II	05-2103
Clerical Level 4 (PES-CLE04)	01113 General Clerk III	05-2103

The Service Contract Act (SCA) is applicable to this contract and it includes SCA applicable labor categories. The prices for the indicated SCA labor categories are based on the U.S. Department of Labor Wage Determination Number(s) identified in the matrix. The prices offered are based on the preponderance of where work is performed and should the contractor perform in an area with lower SCA rates, resulting in lower wages being paid, the task order contracting officer may negotiate lower prices.

28. Overseas Price Differential: Overseas allowances will be negotiated on an individual task order basis. This should be proposed in accordance with the U.S. Department of State Standardized Regulation (http://aoprals.state.gov) as an ODC non schedule item and should be identified as such in our task order proposals. (You do not pay IFF on the ODCs.)

29. Disaster Recovery: State and local government entities may purchase a variety of products and services to facilitate recovery from a major disaster, terrorism, or nuclear, biological, chemical, or radiological attack. For reporting purposes this should be identified after the SIN i.e. 871-1RC.

2.0 Northrop Grumman Pricing Specifics

1. The prices indicated are valid from March 17, 2011 through May 10, 2015.
2. The Government's order shall contain a detailed description of the specific effort and the duration of service.
3. Northrop Grumman's travel policy is to charge in accordance with the Federal Travel Regulations and Joint Travel Regulations. All requested travel between Government sites shall be an allowable cost. Other Direct Costs, including travel, will be billed in accordance with Northrop Grumman's policies and Government-approved business systems.
4. The Government site rate is appropriate when full-time Northrop Grumman personnel are or will be performing on a Government site for at least 90 consecutive business days. The Government site rate is contingent upon the Government providing facilities and resources that are at least equal to facilities that the Government provides to its own personnel of comparable experience, ability, and position performing similar work.
5. The dedicated contractor site rate is appropriate for orders when the normal place of performance is located at a Northrop Grumman facility.
6. Service is subject to the availability of qualified personnel. Should personnel performing a particular service become unavailable for continuing performance, Northrop Grumman will provide a suitable substitute, if available. Performance will be subject to personal time off, in accordance with Northrop Grumman policy, on a mutually agreeable schedule.
7. In accordance with the U.S. Department of State Guidelines, Northrop Grumman provides employees with "danger" or "hazard" pay when they are traveling to certain designated countries. This additional compensation is provided to offset employees for the additional risk of traveling to and working in an environment more dangerous than their standard work location. "Danger" or "hazard" pay will be handled on a delivery order basis if applicable and will be an allowable cost to the order.
8. Northrop Grumman can bill both purchased labor and subcontract personnel through its labor rates as long as all personnel meet the minimum education and experience requirements for their respective labor categories.
9. Security Requirements: In the event security requirements are necessary, the ordering activities may incorporate, in their delivery orders, a security clause in accordance with current laws, regulations, and individual agency policy; however, the burden of administering the security requirements shall be with the ordering agency. If any costs are incurred as a result of the inclusion of security requirements, such costs will not exceed ten percent (10%) or $100,000 of the total dollar value of the order, whichever is lesser.
10. Other Direct Cost: Other direct costs will be proposed, as required, on a task order basis and in accordance with GSA Schedule terms and conditions. Examples of the types of non-labor costs incurred in task performance are:

Other Direct Cost	
Element	**Estimating Basis**
Material/Procurement	Consists of purchases made through the Information Systems purchasing department for commercial-off-the-shelf (COTS) products and services from competitive vendor sources. Procurement of COTS products and services includes purchased parts, assemblies and subassemblies, fabrication and manufacturing, raw material and labor services for professional, technical and administrative support (other than consultants). Materials, Procurements & Subcontracts (MPS) burden are applied.
Consultants/Purchased Technical Services	Professional advisory services required for a specific talent or experience. Consultants have exceptional qualifications based on educational background, experience, or technical expertise in a particular field to solve a complex problem or provide expert advice. Procurement burden is applied.
Subcontracts	The acquisition of products and services in accordance with contract or Information Systems specifications, not available as COTS. Subcontracted acquisitions are based on a separate statement of work for contract deliverable requirements. Materials, Procurements & Subcontracts (MPS) burden are applied.
Travel/Subsistence	All travel costs conform to the U.S. Government established per diem rates, the Federal Travel Regulations (FTR) and FAR. Personnel are reimbursed for travel expenses based on the per diem rate for the travel location.
Reproduction and Photographic Services	Consists of reproduction of reports, documents and drawings and also includes photographic services (still photo). The cost of originating the textual content (technical writing, et cetera) is included in direct labor. Publication cost for technical services is based on estimated number of pages and copies required for each document. Photographic technical services are based on estimated number of photographic hours, film footage, prints, negatives, et cetera.
Computing Services (Information Technology Solutions Service Center)	Supplied to projects through the Information Systems Information Technology (IT) Solutions service center. The service center provides personal computers and application software, special purpose equipment (workstations, specialized printers, and scanners), local (LAN) and wide (WAN) area network, email, and telecommunications (Telecom) to the personnel supporting the project. The service center maintains separate expenses that are allocated for computers, LAN, WAN, email, and Telecom to the personnel supporting the project. Computing expense do not include operation expendables, e.g., diskettes, tapes, forms, paper or printer cartridges.

3.0 Overview of Northrop Grumman Service Offerings

Northrop Grumman offers a full range of professional engineering services to all agencies and departments of the Federal Government. Under our GSA Professional Engineering Services Schedule, we serve the 48 contiguous states, the District of Columbia, Alaska, Hawaii, the Commonwealth of Puerto Rico, and all U.S. Government installations and/or agencies abroad.

Our PES Services include expertise in modeling and simulation, network engineering, communications, control systems, weapons systems, defense operations, logistics, test and evaluation, aerospace, transportation, medicine, and health, energy and environmental systems, robotics, intelligence, security, sensors and instrumentation, signal processing, critical infrastructure protection, mission planning, systems acquisition, systems analysis, and systems integration. Service offerings are organized into the following Special Item Number (SIN) functional areas:

Special Item Numbers (SIN):

871-1 Strategic Planning For Technology Programs/Activities
871-2 Concept Development and Requirements Analysis
871-3 System Design, Engineering and Integration
871-4 Test and Evaluation
871-5 Integrated Logistics Support
871-6 Acquisition and Life Cycle Management

The following engineering disciplines are covered under each SIN. (A more detailed explanation of each discipline follows the description of the SINs):

- Chemical Engineering
- Civil Engineering
- Electrical Engineering
- Mechanical Engineering

871-1 STRATEGIC PLANNING FOR TECHNOLOGY PROGRAMS/ACTIVITIES
Services required under this SIN involve the definition and interpretation of high-level organizational engineering performance requirements such as projects, systems, missions, etc., and the objectives and approaches to their achievement. Typical associated tasks include, but are not limited to an analysis of mission, program goals and objectives, requirements analysis, organizational performance assessment, special studies and analysis, training, and consulting.

871-2 CONCEPT DEVELOPMENT AND REQUIREMENTS ANALYSIS
Services required under this SIN involve abstract or concept studies and analysis, requirements definition, preliminary planning, the evaluation of alternative technical approaches and associated costs for the development or enhancement of high level general performance specifications of a system, project, mission or activity. Typical associated tasks include, but are not limited to requirements analysis, cost/cost-performance trade-off analysis, feasibility analysis, regulatory compliance support, technology conceptual designs, training, and consulting.

871-3 SYSTEM DESIGN, ENGINEERING AND INTEGRATION
Services required under this SIN involve the translation of a system (or subsystem, program, project, activity) concept into a preliminary and detailed design (engineering plans and specifications), performing risk identification/analysis, mitigation, traceability, and then integrating the various components to produce a working prototype or model of the system. Typical associated tasks include, but are not limited to computer-aided design, design studies and analysis, high level detailed specification preparation,

configuration management and document control, fabrication, assembly and simulation, modeling, training, and consulting.

871-4 TEST AND EVALUATION
Services required under this SIN involve the application of various techniques demonstrating that a prototype system (subsystem, program, project or activity) performs in accordance with the objectives outlined in the original design. Typical associated tasks include, but are not limited to testing of a prototype and first article(s) testing, environmental testing, independent verification and validation, reverse engineering, simulation and modeling (to test the feasibility of a concept), system, quality assurance, physical testing of the product or system, training, and consulting.

871-5 INTEGRATED LOGISTICS SUPPORT
Services required under this SIN involves the analysis, planning and detailed design of all engineering specific logistics support including material goods, personnel, and operational maintenance and repair of systems throughout their lifecycles excluding those systems associated with real property. Typical associated tasks include, but are not limited to ergonomic/human performance analysis, feasibility analysis, logistics planning, requirements determination, policy standards/procedures development, long-term reliability and maintainability, training, and consulting.

871-6 ACQUISITION AND LIFE CYCLE MANAGEMENT
Services required under this SIN involve the planning, budgetary, contract and systems/program management functions required to procure and/or produce, render operational and provide life cycle support (maintenance, repair, supplies, engineering specific logistics) to technology-based systems, activities, subsystems, projects, etc. Typical associated tasks include, but are not limited to operation and maintenance, program/project management, technology transfer/insertion, training, and consulting.

4.0 Engineering Discipline Definitions

The contractor shall provide all resources including personnel, management, supplies, services, materials, equipment, facilities and transportation necessary to provide a wide range of professional engineering services as specified in each task order. Services specified in a task order may be performed at the contractor's facilities or the ordering agencies' facilities.

There are four primary disciplines in the engineering field and hundreds of sub-disciplines or specialties associated with engineering disciplines. Below is a list of primary engineering disciplines with a partial list of sub-disciplines or specialties contemplated under PES.

4.1 CHEMICAL ENGINEERING:

Planning, development, evaluation and operation of chemical, biochemical or physical plants and processes. Changes in composition, energy content, state of aggregation of materials, forces that act on matter and relationships are examined and new and conventional chemical materials, products and processes. It includes, but is not limited to, planning, evaluating chemical plants and petroleum refineries, pollution control systems, biochemical processes, plastics, pharmaceuticals, fibers; analysis of chemical reactions that take place in mixtures; determination of methodologies for the systematic design, control and analysis of processes, evaluating economics, safety, etc. Within the chemical engineering discipline, there are several specialties within the scope of this work; a partial listing follows:

- Refining
- Pharmaceuticals
- Ceramics
- Petrochemicals
- Textiles
- Electronic Components & Chemicals
- Food
- Pulp and Paper
- Biotechnology
- Safety Engineering

4.2 CIVIL ENGINEERING:

It includes, but is not limited to, planning, evaluation, operations, production, furnishing, construction, alteration, repair, processing or assembling of vessels, aircraft, or other kinds of personal property, including heating, ventilation and air-conditioning for such vessels and/or aircraft.
Within the civil PED, there are several specialties within the scope of this work; a partial listing follows:

- Geotechnical
- Surveying

Note: Surveying as it relates to real property is not appropriate not is it solicited under this schedule.

4.3 ELECTRICAL ENGINEERING:

Planning, design, development, evaluation and operation of electrical principles, models and processes. It includes, but is not limited to, the design, fabrication, measurement and operation of electrical devices, equipment and systems (e.g., signal processing; telecommunication; sensors, microwave, and image processing; micro-fabrication; energy systems and control; micro- and nano-electronics; plasma processing; laser and photonics; satellites, missiles and guidance systems, space vehicles, fiber optics, robotics, etc.).
Within the electrical engineering discipline, there are several specialties within the scope of this work; a partial listing follows:

- Aerospace and Electronic Systems
- Circuits and Systems
- Dielectrics and Electrical Insulation
- Remote Sensing
- Information Theory
- Lasers & Electro-Optics
- Nuclear and Plasma Sciences
- Power Electronics
- Reliability
- Solid-State Circuits
- Vehicular Technology
- Signal Processing on Social
- Implications of Technology
- Signal processing on social implications of technology
- Antennas and Propagation
- Communications
- Computer
- Consumer Electronics
- Education
- Engineering Management
- Industrial Electronics
- Intelligent Transportation Systems
- Magnetics
- Neural Networks Council
- Power Engineering
- Systems, Man, and Cybernetics
- Robotics & Automation
- Professional Communication
- Broadcast Technology
- Components Packaging, and Manufacturing Technology
- Control Systems
- Electromagnetic Compatibility
- Engineering in Medicine and Biology
- Industry Applications
- Instrumentation and Measurement
- Microwave Theory and Techniques
- Oceanic Engineering
- Ultrasonics, Ferroelectrics, and Frequency Control

4.4 MECHANICAL ENGINEERING:

Planning, development, evaluation and control of systems and components involving the production and transfer of energy and with the conversion of one form of energy to another. It includes, but is not limited to, planning and evaluation of power plants, analysis of the economical combustion of fuels, conversion of heat energy into mechanical energy, use of mechanical energy to perform useful work, analysis of structures and motion in mechanical systems, and conversion of raw materials into a final product, etc. (e.g., thermodynamics, mechanics, fluid mechanics, jets, rocket engines, internal combustion engines, steam and gas turbines, continuum mechanics, dynamic systems, dynamics fluid mechanics, heat transfer, manufacturing, materials, solid mechanics, reactors, etc.).

- ASME K16 Heat Transfer
- Applied Mechanics
- Dynamic Systems and Control
- Fluids Power Systems and Technology Systems
- Nuclear Engineering
- Rail Transportation
- Manufacturing Engineering*
- Textile Engineering
- Safety Engineering and Risk Analysis
- Microchannel flow and heat transfer
- Ocean Engineering
- Advanced Energy Systems
- Bioengineering
- Electrical and Electronic Packaging
- Materials
- Offshore Mechanics and Arctic Engineering
- Technology abd Society
- Internal Combustion Engineering
- Non-destructive Evaluation Engineering
- Heat Transfer
- Noise Control and Acoustics
- Process Industries
- Aerospace Engineering
- Tribology
- Fluids Engineering
- Management
- Power
- Fuels and Combustion Technologies
- Materials Handling Engineering*
- Pressure Vessels and Piping
- International Gas Turbine
- Design/Specification-associated real property
- Solar Energy

The following non-inclusive list represents a sampling of the types of engineering tasks contemplated:

- Acquisition and life cycle management
- Analysis of program goals, mission, objectives, performance
- Assessment Support
- Computer Aided Design (CAD)
- Computer Aided Engineering (CAE)
- Computer Aided Management (CAM)
- Concept development
- D&D (decontamination and decommissioning)
- Demonstration and Validation
- Design/Specifications of engineering nature not associated with real property
- Documentation and Information Dissemination
- Economic/Business case analysis
- Economic impact evaluations
- Education/training
- Environmental control for electrical units (e.g., cooling units)
- Forensic engineering
- Independent Verification and Validation (IV&V)
- Information services (studies, impact statements, program development, project documentation, data collection, data analysis/evaluation, etc.)
- Instrumentation
- Integration
- Investigative Engineering Service
- Life Cycle Costing
- Logistics
- Long-term Reliability and Maintainability
- Migration Strategy
- National Academy of Sciences studies
- Operations Research (Non R&D)
- Plan, organize, establish, implement, manage, maintain, upgrade and control of technical systems
- Privatization
- Program and Project management
- Prototype development and first article(s) production
- Radar/Sonar
- Regulatory compliance support
- Reliability and Maintainability Analysis
- Reverse engineering
- Signal processing
- Simulation and modeling
- Source data development (forward engineering hardware and software systems)
- Source data validation (existing hardware and software systems)
- Special projects and studies
- Statistical analysis
- Support services
- Systems engineering data base development, maintenance, and analysis
- Technical analysis
- Technical and management support
- Technical writing/editorial support
- T&E (test and evaluation) of products and systems
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*SERVICES NOT INCLUDED:

1. Production and Manufacturing: Mass production or manufacturing of standardized products on production or assembly lines is not being solicited. The manufacture, fabrication, installation or production for the purpose of developing working models or prototypes that may be used for further testing, analysis and evaluation before full scale production begins IS allowed under the PES schedule. The number of prototypes or working models to be produced is dependent upon the ordering activities' requirement for testing and analysis. However, the predominate amount of the work on PES task orders should be performed by professional labor categories.

2. Computer Engineering and Information Technology. Customers interested in computer/software engineering and information technology services are directed to use NGIS' Information Technology Services Schedule (contract number GS-35F-4506G)

3. Environmental Advisory Services
·Environmental Planning Services & Documentation (i.e., environmental impact statements; endangered species, wetlands, watersheds and other natural resource management plans, studies and consultations; archeological, historic and other cultural resources management plans, studies, and consultations; economic, technical, and risk analyses in support of environmental needs)
·Environmental compliance services (i.e., environmental compliance audits; compliance management planning; pollution prevention surveys;
·Environmental/occupational training services specific to environmental planning and environmental compliance as discussed above (i.e., conventional course development and presentation; customized courses to meet specific needs; computer-based interactive course development)
·Waste management services (i.e., data collection, data development, analyses of comments, regulatory and economic analyses, feasibility analyses, hazard assessments, exposure assessments, and risk analyses. Examples include, but are not limited to development of waste characterization studies and recommendations for management strategy including identification of recycling options. Assessments might include studies relating to collection and transfer of waste, source reduction, and evaluation of energy/fuel options. Services could include data collection, data development, and analyses of comments, regulatory and economic analyses, feasibility analyses, hazard assessments, exposure assessments and risk analyses.
·Hazardous materials management advisory services (i.e., furnishing of Material Safety Data Sheets (MDSD) by compact disc, on-line via Internet, mail or facsimile (FAX); reporting and compliance software, hazardous materials tracking software and other related software/services.
·Telephone advisory services (i.e., telephone assistance with hazardous material spills, poisons, MSDS, and other related services).

4. Foundations and Landscaping Engineering. Customers interested in this should contact GSA's PBS.

5. **Heating, Ventilation and Air-Conditioning (HVAC)** Related to Buildings, Structures, or Other Real Property set forth for Construction and Architect-Engineering services governed by FAR Part 36. Please note that HVAC related to the manufacture, production, furnishing, construction, alteration, repair, processing or assembling of vessels, aircraft, or other kinds of personal property IS included and solicited within the scope of PES.

6. **Research and Development** as set forth in FAR Part 35. Research, analysis, and developmental work related to providing a solution to an engineering requirement is allowed under the PES Schedule.

7. **Surveying as it relates to real property.**

8. Fire Protection Services.

9. Products/materials already solicited under other Federal Supply Service (FSS) Schedule contracts (e.g., information technology, paper, chemicals, pharmaceuticals, laboratory instruments, etc.). However, PES contractors may team across FSS Schedules to provide a total solution to agency requirements.

5.0 Northrop Grumman PES Labor Categories

Consistent with Northrop Grumman hiring practices, experience can be substituted for education and education for experience. The table below provides Northrop Grumman's education/experience substitution guidelines. Experience, education, and description of duties for the service categories in the schedule are provided as a guideline to the typical background for staff to be provided under individual task orders.

Degree	Related Work Experience Substitution	Related Degree and Experience Substitution
Associate	2 years work experience may be substituted for an Associate's Degree	2 years work experience may be substituted for an Associate's Degree
Bachelor's	4 years work experience may be substituted for a Bachelor's Degree	Associate's Degree plus 2 years work experience may be substituted for a Bachelor's Degree
Master's	6 years work experience may be substituted for a Master's Degree	Bachelor's Degree plus 2 years work experience may be substituted for a Master's Degree
Doctorate	10 years work experience may be substituted for a Doctorate Degree	Bachelor's Degree plus 6 years work experience, or a Master's Degree plus 4 years work experience may be substituted for a Doctorate

	Labor Category	Description
1	**Manager Level 5 (PES-MGR05)**	Individual has oversight of all major functions, disciplines, or segments of a program/project relating to the PES chemical, civil, electrical, or mechanical engineering disciplines. Responsibilities may include long range planning, and full responsibility for all aspects of program/project performance. Education and Experience: 20+ years with Bachelors or; 18+ years with Masters or 15+ years with PhD.
2	**Manager Level 4 (PES-MGR04)**	Individual directs a major function, discipline or significant segment of a functional group or program relating to the PES chemical, civil, electrical, or mechanical engineering disciplines. Responsibilities may include planning, risk management, and project performance addressing cost, schedule, and technical quality for large system development task or full responsibility for all aspects of program performance on a large technical services or systems integration task. Education and Experience: 14 years with Bachelors or; 12 years with Masters or 9 years with PhD.
3	**Manager Level 3 (PES-MGR03)**	Manages a program relating to the PES chemical, civil, electrical, or mechanical engineering disciplines by providing guidance based on goals, objectives, and customer requirements. Responsibilities may include planning, risk management, and project performance addressing cost, schedule, and technical quality for related Work Breakdown Structure (WBS) elements on a large system development-type task or full responsibility for all aspects of program/project performance on a large technical services-type task. Education and Experience: 9 years with Bachelors; 7 years with Masters or 4 years with PhD
4	**Manager Level 2 (PES-MGR02)**	Manages a segment of a program, project, or function relating to the PES chemical, civil, electrical, or mechanical engineering disciplines. The

	Labor Category	Description
		individual will be responsible for providing objective-oriented direction utilizing management guidelines and general policies. Responsibilities may include planning and program/project performance addressing cost, schedule, technical performance, and quality of a work package, subsystem, or related group of work packages on a large system development type task or full responsibility for all aspects of program/project performance on technical services-type task. Education and Experience: 5 years with Bachelors; 3 years with Masters or 0 years with PhD.
5	**Manager Level 1 (PES-MGR01)**	Individual responsible for daily operations of a team or work unit (direct supervision of the staff, assignment of work, schedules, day-to-day workflow, and operating costs) relating to the PES chemical, civil, electrical, or mechanical engineering disciplines. Responsibilities may include cost, schedule, and technical performance of a specific unit or work package on a large system development-type task or broad responsibility for all aspects of program/project performance on a small technical services-type task. Education and Experience: 2 years with Bachelors or 0 years with Masters.
6	**Engineering Level 6 (PES-ENG06)**	Responsible for planning, organizing, and directing engineering programs relating to the PES chemical, civil, electrical, or mechanical engineering disciplines. Defines and interprets strategic requirements and analyzes and provides guidance on strategic issues and complex problems. Develops and leads large projects including defining scope, objectives, and methods. Applies and/or develops highly advanced technologies, scientific principles, theories, and concepts. Resolve issues associated with the development and implementation of operational programs. Individual recognized as an expert in field, providing a major impact on program success and productivity. Education and Experience: 20+ years with Bachelors or 18+ years with Masters or 15+ years with PhD.
7	**Engineering Level 5 (PES-ENG05)**	Possess in-depth knowledge of principles, concepts, and techniques appropriate to the PES chemical, civil, electrical, or mechanical engineering disciplines. Interprets requirements, performs highly complex analyses, and resolves complex problems. Develops advanced technological ideas and guides their development into a final product. The individual may act as advisor to customers on advanced technical research studies and applications. Individual provides leadership efforts, training, mentoring, and guidance. Individual may lead medium to large projects, including defining scope, objectives, and methods. Education and Experience: 14 years with Bachelors or 12 years with Masters or 9 years with PhD.
8	**Engineering Level 4 (PES-ENG04)**	Responsible for solving engineering problems relating to the PES chemical, civil, electrical, or mechanical engineering disciplines. Determines program objectives and requirements and develops standards and guides for diverse engineering and scientific activities. Guides the successful completion of major programs and may function in a project leadership role. Individual serves as the prime technical contact on contracts and projects. Individual will interact with customers on significant technical matters. Education and Experience: 9 years with Bachelors or 7 years with Masters or 4 years with PhD.
9	**Engineering Level 3 (PES-ENG03)**	Responsibilities require applications of diversified knowledge of engineering principles and practices, while developing new or improved techniques and procedures. Provide technical solutions to a wide range of requirements relating to the PES chemical, civil, electrical, or mechanical engineering

	Labor Category	Description
		disciplines. Individual contributes to the completion of specific programs and projects with frequent customer contact. Education and Experience: 5 years with Bachelors or 3 years with Masters or 0 years with PhD.
10	**Engineering Level 2 (PES-ENG02)**	Responsibilities require comprehensive knowledge of engineering principles to support complex research and engineering assignments relating to the PES chemical, civil, electrical, or mechanical engineering disciplines. Follows established procedures and contributes to the completion of milestones associated with specific projects. Education and Experience: 2 years with Bachelors or 0 years with Masters.
11	**Engineering Level 1 (PES-ENG01)**	Develop and recommend solutions to technical problems as assigned relating to the PES chemical, civil, electrical, or mechanical engineering disciplines. Work follows technical and process guidance and instructions, contributing to the completion of assigned technical tasks. Education and Experience: 0 years with Bachelors.
12	**Analyst Level 6 (PES-ANA06)**	Responsible for planning, organizing, and directing programs relating to the PES chemical, civil, electrical, or mechanical engineering disciplines. Defines and interprets strategic requirements, analyzes and provides guidance on strategic issues. Develops and leads large projects including defining scope, objectives, and methods. Applies and/or develops advanced technologies, scientific principles, theories, and concepts. Individual recognized as an expert in field, providing a major impact on customer success and productivity. Education and Experience: 20+ years with Bachelors or 18+ years with Masters or 15+ years with PhD.
13	**Analyst Level 5 (PES-ANA05)**	Possess in-depth knowledge of principles, concepts and techniques appropriate to the PES chemical, civil, electrical, or mechanical engineering disciplines. Interprets requirements, performs highly complex analyses, and resolves complex problems. Develops advanced technological ideas and guides their development into a final product. May acts as advisor to customers on advanced technical research studies and applications. Education and Experience: 14 years with Bachelors or 12 years with Masters or 9 years with PhD..
14	**Analyst Level 4 (PES-ANA04)**	Responsibilities may include solving engineering requirements relating to the PES chemical, civil, electrical, or mechanical engineering disciplines. Determines program objectives and requirements and develops standards and guides. Guides the successful completion of major programs and may function in a project leadership role. Education and Experience: 9 years with Bachelors; 7 years with Masters or 4 years with PhD.
15	**Analyst Level 3 (PES-ANA03)**	Responsibilities may require developing new or improved techniques and procedures relating to the PES chemical, civil, electrical, or mechanical engineering disciplines. Provide analysis on a wide range of requirements. Individual contributes to the completion of specific programs and projects with frequent customer contacts. Education and Experience: 5 years with Bachelors; 3 years with Masters or 0 years with PhD.
16	**Analyst Level 2 (PES-ANA02)**	Responsibilities may support complex research and engineering assignments relating to the PES chemical, civil, electrical, or mechanical engineering disciplines. Follows established procedures and contributes to the completion of milestones associated with specific projects. Education and Experience: 2 years with Bachelors or 0 years with Masters.
17	**Analyst Level 1 (PES-ANA01)-**	May develop and recommend solutions to technical requirements as assigned relating to the PES chemical, civil, electrical, or mechanical engineering disciplines. Work follows technical and process guidance and

	Labor Category	Description
		instructions, contributing to the completion of assigned technical tasks. Education and Experience: 0 Years with Bachelors Degree.
18	**Support Level 5 (PES-ADM05)**	Duties may include activities related to program administration, scheduling, contracts, and pricing. Demonstrates skill to analyze and develop innovative solutions to complex problems supporting the PES chemical, civil, electrical, or mechanical engineering requirements. Develops advanced concepts, techniques, and standards; creates new applications based on professional principles and theories. Individual viewed as expert in field. Education and Experience: 15+ years with Bachelors or 13+ years with Masters.
19	**Support Level 4 (PES-ADM04)**	Duties may include activities related to program administration, scheduling, contracts, and pricing. Individual contributes to the development of new concepts, techniques, and standards supporting the PES chemical, civil, electrical, or mechanical engineering requirements. Creates and identifies solutions to complex problems. Ensures solutions are consistent with program objectives. Individual acts as an advisor to customers and is considered an expert in the field within the program. Education and Experience: 10 years with Bachelors or 8 years with Masters.
20	**Support Level 3 (PES-ADM03)**	Duties may include activities related to program administration, scheduling, contracts and pricing. Complete understanding and application of principles, concepts, practices, and standards supporting the PES chemical, civil, electrical, or mechanical engineering requirements. Full knowledge of industry practices. Demonstrates the skill to perform fairly complex professional tasks and develop solutions. Education and Experience: 6 years with Bachelors or 4 years with Masters.
21	**Support Level 2 (PES-ADM02)**	Duties may include activities related to program administration, scheduling, contracts and pricing. Job requires frequent use and general knowledge of industry practices, techniques, standards and a general application of concepts and principles to support the PES chemical, civil, electrical, or mechanical engineering requirements. Demonstrates the skill and ability to perform moderately complex professional tasks, and develop solutions to a variety of problems of moderate scope and complexity. Education and Experience: 3 years with Bachelors or 1 year with Masters.
22	**Support Level 1 (PES-ADM01)**	Individual is an entry-level support person whose duties may include activities related to program administration, scheduling, contracts and pricing. Job requires limited use and/or application of basic principles, theories, and concepts and a general knowledge of industry practices and standards relating to support of the PES chemical, civil, electrical, or mechanical engineering requirements. Demonstrates the skill and ability to perform basic professional tasks, and solve routine problems of limited scope and complexity following established policies and procedures. Education and Experience: 0 years with BA.
23	**Technical Level 4 (PES-TEC04)**	Top-level technical position may support laboratory design, development, and test activities relating to the PES chemical, civil, electrical, or mechanical engineering requirements. Requires advanced knowledge in specialized functions and a comprehensive understanding of complex problems and situations encountered. Employee often designated as "lead" worker, providing direction and guidance to lower level employees. Education and Experience: High School and 6 years additional education and/or AA Degree in related discipline and 3 years of related experience.
24	**Technical Level 3 (PES-TEC03)**	Senior-level position may provide technical support of laboratory design, development, and test activities relating to the PES chemical, civil,

	Labor Category	Description
		electrical, or mechanical engineering requirements. Individual should have a complete understanding of the job. Individual may assist in orienting, training, and checking others' work. Duties and tasks are varied and moderately complex. Education and Experience: High School and 4 years additional education or AA Degree.
25	**Technical Level 2 (PES-TEC02)**	Junior-level position may provide technical support of laboratory design, development, and test activities relating to the PES chemical, civil, electrical, or mechanical engineering requirements. Education and Experience: High School and 2 years additional education and/or experience.
26	**Technical Level 1 (PES-TEC01)**	Entry-level position may provide technical support of laboratory design, development, and test activities relating to the PES chemical, civil, electrical, or mechanical engineering requirements. Education and Experience: High School diploma or equivalent and 0 years experience.
27	**Clerical Level 4 (PES-CLE04)**	Top level position providing clerical and administrative duties supporting the PES chemical, civil, electrical, or mechanical engineering requirements of a program. Extensive knowledge in specialized functions, and a wide and comprehensive acquaintance with and understanding of both general and specific aspects of the job and their practical application to complex problems and situations ordinarily encountered. Often designated as "lead" worker and may assist in orienting, training, assigning and checking the work of lower-level employees. Duties and tasks are varied and complex. Education and Experience: High School and 6 years additional education and/or experience.
28	**Clerical Level 3 (PES-CLE03)**	Senior-level position providing clerical and administrative tasks supporting the PES chemical, civil, electrical, or mechanical engineering requirements of a program. Job requires complete acquaintance with and understanding of the general and detailed aspects of the job and their practical applications to problems and situations ordinarily encountered. Education and Experience: High School and 4 years additional education and/or experience.
29	**Clerical Level 2 (PES-CLE02)**	Junior-level position providing clerical and administrative tasks supporting the PES chemical, civil, electrical, or mechanical engineering requirements of a program. Duties and tasks are varied but standardized; performs some more advanced functions. Education and Experience: High School and 2 years additional education and/or experience.
30	**Clerical Level 1 (PES-CLE01)**	Entry level position providing clerical and administrative tasks supporting the PES chemical, civil, electrical, or mechanical engineering requirements of a program. Job requires moderate understanding of general job aspects and some understanding of the detailed aspects. Education and Experience: High School diploma or equivalent and 0 years experience.

6.0 Northrop Grumman PES Labor Rates

For SINs 871-1, 871-2, 871-3, 871-4, 871-5 and 871-6

The rates shown are inclusive of 0.75% of Industrial Funding Fee (IFF).

		Labor Category (Contractor Site)	12/10/14 – 12/9/15 Contract Year 16
1	**PES-MGR05**	**Manager Level 5**	$292.76
2	**PES-MGR04**	**Manager Level 4**	$271.13
3	**PES-MGR03**	**Manager Level 3**	$256.66
4	**PES-MGR02**	**Manager Level 2**	$210.12
5	**PES-MGR01**	**Manager Level 1**	$167.66
6	**PES-ENG06**	**Engineering Level 6**	$275.23
7	**PES-ENG05**	**Engineering Level 5**	$246.80
8	**PES-ENG04**	**Engineering Level 4**	$200.84
9	**PES-ENG03**	**Engineering Level 3**	$160.88
10	**PES-ENG02**	**Engineering Level 2**	$132.21
11	**PES-ENG01**	**Engineering Level 1**	$107.85
12	**PES-ANA06**	**Analyst Level 6**	$275.23
13	**PES-ANA05**	**Analyst Level 5**	$246.80
14	**PES-ANA04**	**Analyst Level 4**	$200.84
15	**PES-ANA03**	**Analyst Level 3**	$160.88
16	**PES-ANA02**	**Analyst Level 2**	$132.21
17	**PES-ANA01**	**Analyst Level 1**	$107.85
18	**PES-ADM05**	**Support Level 5**	$211.98
19	**PES-ADM04**	**Support Level 4**	$171.85
20	**PES-ADM03**	**Support Level 3**	$133.96
21	**PES-ADM02**	**Support Level 2**	$108.39

		Labor Category (Contractor Site)	12/10/14 – 12/9/15 Contract Year 16
22	**PES-ADM01**	**Support Level 1**	$94.96
23	**PES-TEC04**	**Technical Level 4**	$119.64
24	**PES-TEC03**	**Technical Level 3**	$101.48
25	**PES-TEC02**	**Technical Level 2**	$85.29
26	**PES-TEC01**	**Technical Level 1**	$66.75
27	**PES-CLE04**	**Clerical Level 4**	$108.84
28	**PES-CLE03**	**Clerical Level 3**	$91.66
29	**PES-CLE02**	**Clerical Level 2**	$81.04
30	**PES-CLE01**	**Clerical Level 1**	$62.83

Northrop Grumman PES Labor Rates Cont.

For SINs 871-1, 871-2, 871-3, 871-4, 871-5 and 871-6

The rates shown are inclusive of 0.75% of Industrial Funding Fee (IFF).

		Labor Category (Government Site)	12/10/14 – 12/9/15 Contract Year 16
1	**PES- MGR05**	**Manager Level 5**	$263.94
2	**PES-MGR04**	**Manager Level 4**	$244.45
3	**PES-MGR03**	**Manager Level 3**	$231.40
4	**PES-MGR02**	**Manager Level 2**	$189.46
5	**PES-MGR01**	**Manager Level 1**	$151.16
6	**PES-ENG06**	**Engineering Level 6**	$248.16
7	**PES-ENG05**	**Engineering Level 5**	$222.53
8	**PES-ENG04**	**Engineering Level 4**	$181.07
9	**PES-ENG03**	**Engineering Level 3**	$145.05
10	**PES-ENG02**	**Engineering Level 2**	$119.20
11	**PES-ENG01**	**Engineering Level 1**	$97.24
12	**PES-ANA06**	**Analyst Level 6**	$248.16
13	**PES-ANA05**	**Analyst Level 5**	$222.53
14	**PES-ANA04**	**Analyst Level 4**	$181.07
15	**PES-ANA03**	**Analyst Level 3**	$145.05
16	**PES-ANA02**	**Analyst Level 2**	$119.20
17	**PES-ANA01**	**Analyst Level 1**	$97.24
18	**PES-ADM05**	**Support Level 5**	$191.12
19	**PES-ADM04**	**Support Level 4**	$154.94
20	**PES-ADM03**	**Support Level 3**	$120.78

		Labor Category (Government Site)	12/10/14 – 12/9/15 Contract Year 16
21	**PES-ADM02**	**Support Level 2**	$97.72
22	**PES-ADM01**	**Support Level 1**	$85.63
23	**PES-TEC04**	**Technical Level 4**	$107.87
24	**PES-TEC03**	**Technical Level 3**	$91.50
25	**PES-TEC02**	**Technical Level 2**	$76.90
26	**PES-TEC01**	**Technical Level 1**	$60.18
27	**PES-CLE04**	**Clerical Level 4**	$98.14
28	**PES-CLE03**	**Clerical Level 3**	$82.64
29	**PES-CLE02**	**Clerical Level 2**	$73.07
30	**PES-CLE01**	**Clerical Level 1**	$56.66