

**General Services Administration
Federal Supply Service**

**Authorized Federal Supply Schedule Price List
For
PROFESSIONAL ENGINEERING SERVICES**



FSC GROUP 87 * FSC CLASS 871

Contract Number: GS-23F-0006M

Period of Performance: 10/10/2011 – 10/09/2016

Pricelist is current through Modification PO-0017, dated November 16, 2011



6220 Culebra Road
San Antonio, Texas 78238

Technical Contact: David Ogden 210-522-6928

Contractual Contact: Alex Garza 210-522-2397

Fax: 210-522-3559

www.swri.org

Business Size: Large

Products and Ordering Information in this Authorized Professional Engineering Schedule Price List is also available on the GSA *Advantage!™* System. Agencies can browse GSA *Advantage!™* by accessing GSA's Home Page via Internet at www.fss.gsa.gov.

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CUSTOMER ORDERING INFORMATION

SPECIAL ITEM NUMBERS AWARDED ON THIS SCHEDULE

871-1 Strategic Planning for Technology Programs/Activities

871-2 Concept Development and Requirements Analysis

871-3 System Design Engineering & Integration

871-4 Test and Evaluation

PRIMARY ENGINEERING DISCIPLINES AWARDED ON THIS SCHEDULE:

Mechanical, Electrical, Chemical, and Components of Civil Engineering

CONTRACTOR'S ORDERING ADDRESS:

Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238-5166

CONTRACTOR'S REMITTANCE ADDRESS:

Southwest Research Institute
Attn: Accounting Department
P. O. Drawer 28510
6220 Culebra Road
San Antonio, TX 78228-0510

For SwRI PES information concerning SwRI's technical capabilities, general inquiries, including instructions on how to use the schedule and submissions of statement of work, contact:

David Ogden
Tel: (210) 522-6928
Fax: (210) 522-2572
david.ogden@swri.org.

For SwRI contracting information or to send an order, contact

Alex Garza
Tel: (210) 522-2397
Fax: (210) 522-3559
alex.garza@swri.org.

1. Maximum Order:

\$750,000; this maximum order threshold is the suggested dollar value at which agencies should seek additional discounts.

2. Minimum Order:

The minimum order designated for delivery orders/task orders awarded under this schedule contract is \$100.00.

3. Geographic Scope:

The geographic scope of this contract is the 48 contiguous states, the District of Columbia, Alaska, Hawaii, and the Commonwealth of Puerto Rico. Work can also be performed at all U.S. Government installations and/or agencies abroad, and any country in which trade is not prohibited by the U.S. Government, subject to negotiation on an individual task order basis.

4. Point(s) of Production (City, County and State or Foreign Country):

United States of America

5. Discounts from List Price or Statement of Net Price:

Determined by Delivery/task Order

6. Quantity Discounts: None

7. Prompt Payment Terms: None

8. Government Purchase Cards:

Government purchase cards will be accepted for payment up to the micro-purchase threshold. Government purchase cards will not be acceptable for payments above the micro-purchase threshold.

9. Foreign Items: None

10. Time of Delivery: Determined by the Delivery/Task Order

11. Expedited Delivery: Determined by the Delivery/Task Order

12. Overnight and 2-Day Delivery: Determined by the Delivery/Task Order

13. Urgent Requirements: Determined by the Delivery/Task Order

14. F.O.B. Points:

When deliveries are made to destinations outside the contiguous 48 States and the District of Columbia, delivery will be F.O.B. inland carrier, point of exportation (FAR 52.247-38), with the transportation charges to be paid by the Government from point of exportation to destination in Alaska, Hawaii, or the Commonwealth of Puerto Rico, as designated by the ordering office. The Contractor shall add the actual cost of transportation to destination from the point of exportation in the 48 contiguous States nearest to the designated destination. Such costs will, in all cases, be based upon the lowest regularly established rates on file with the Interstate Commerce Commission, the U.S. Maritime Commission (if shipped by water), or any State regulatory body, or those published by the U.S. Postal Service; and must be supported by paid freight or express receipt or by a statement of parcel post charges including weight of shipment.

The right is reserved to ordering agencies to furnish Government bills of lading. Ordering offices will be required to pay differential between freight charges and express charges where the Government desires express deliveries.

15. **Warranty:** None
16. **Export Packing Charges, if applicable:** Not Applicable
17. **Terms and Conditions of Rental, Maintenance, and Repair (if applicable):** Not Applicable
18. **Terms and Conditions of Installation (if applicable):** Not Applicable
19. **Terms and Conditions of Repair Parts Indicating Date of Parts Price Lists and Any Discounts from List Prices (if applicable):** Not Applicable
20. **Terms and Conditions for any Other Services (if applicable):** Not Applicable
21. **List of Service and Distribution Points (if applicable):** Not Applicable
22. **List of Participating Dealers (if applicable):** Not Applicable.
23. **Preventive Maintenance (if applicable):** Not Applicable
24. **Environmental Attributes, e.g., Recycled Content, Energy Efficiency, and/or Reduced Pollutants:**
Not Applicable
25. **Data Universal Number System (DUNS) Number:** 00-793-6842
26. **Notification Regarding Registration in Central Contractor Registration (CCR) Database:**
SwRI is registered in the CCR database
27. **Cage Code:** 26401

CUSTOMER (AGENCY) ORDERING PROCEDURES

Introduction

GSA has established special ordering procedures for services that require a Statement of Work. These special ordering procedures take precedence over the procedures in FAR 8.404 (b)(2) through (b)(3).

GSA has determined that the prices for services contained in the contractor's price list applicable to this Schedule are fair and reasonable. However, the ordering office using this contract is responsible for considering the level of effort and mix of labor proposed to perform a specific task being ordered and for making a determination that the total firm-fixed price or ceiling price is fair and reasonable.

Suggested Procedure

When ordering services, ordering offices shall:

1. Prepare a Request for Quote

- A. A performance-based statement of work that outlines, at a minimum, the work to be performed, location of work, period of performance, deliverable schedule, applicable standards, acceptance criteria, and any special requirements (i.e., security clearances, travel, special knowledge, etc.) should be prepared.
- B. A request should be prepared which includes the performance based statement of work and request the contractors to submit either a firm-fixed price or a ceiling price to provide the services outlined in the statement of work. A firm-fixed price order shall be requested, unless the ordering office makes a determination that it is not possible at the time of placing the order to estimate accurately the extent or duration of the work or to anticipate cost with any reasonable degree of confidence. When such a determination is made, a labor hour or time-and-materials proposal may be requested. The firm-fixed price shall be based on the prices in the schedule contract and shall consider the mix of labor categories and level of effort required to perform the services described in the statement of work. The firm-fixed price of the order should also include any travel costs or other direct charges related to performance of the services ordered, unless the order provides for reimbursement of travel costs at the rates provided in the Federal Travel or Joint Travel Regulations. A ceiling price must be established for labor-hour and time-and-materials orders.
- C. The request may ask the contractors, if necessary or appropriate, to submit a project plan for performing the task, and information on the contractor's experience and/or past performance performing similar tasks.
- D. The request shall notify the contractors what basis will be used for selecting the contractor to receive the order. The notice shall include the basis for determining whether the contractors are technically qualified and provide an explanation regarding the intended use of any experience and/or past performance information in determining technical qualification of responses.

2. Transmit the Request to Contractors:

- A. Based upon an initial evaluation of catalogs and price lists, the ordering office should identify the contractors that appear to offer the best value (considering the scope of services offered, pricing and other factors such as contractors' locations, as appropriate).
- B. The request should be provided to three (3) contractors if the proposed order is estimated to

exceed the micro-purchase threshold, but not exceed the maximum order threshold. For proposed orders exceeding the maximum order threshold, the request should be provided to additional contractors that offer services that will meet the agency's needs. Ordering offices should strive to minimize the contractors' costs associated with responding to requests for quotes for specific orders. Requests should be tailored to the minimum level necessary for adequate evaluation and selection for order placement. Oral presentations should be considered, when possible.

3. Evaluate Response and Select the Contractor to Receive the Order:

After responses have been evaluated against the factors identified in the request, the order should be placed with the schedule contractor that represents the best value and results in the lowest overall cost alternative (considering price, special qualifications, administrative costs, etc) to meet the Government's needs.

Blanket Purchase Agreements (BPAs):

The establishment of Federal Supply Schedule Blanket Purchase Agreements (BPAs) for recurring services is permitted within the procedures outline herein are followed. All BPAs for services must define the services that may be ordered under the BPA, along with delivery or performance time frames, billing procedures, etc. The potential volume of orders under BPAs, regardless of the size of individual orders, may offer the ordering office the opportunity to secure volume discounts. When establishing BPAs, ordering offices shall inform contractors in the request (based on the agency's requirement) if a single BPA or multiple BPAs will be established, and indicate the basis that will be used for selecting the contractors to be awarded the BPAs.

A. SINGLE BPA: Generally, a single BPA should be established when the ordering office can define the tasks to be ordered under the BPA and establish a firm-fixed price or ceiling price for individual tasks or services to be order. When this occurs, authorized users may place the order directly under the established BPA when the need for services arises. The schedule contractor that represents the best value should be awarded the BPA. (See FAR 8.404)

B. MULTIPLEBPAs: When the ordering office determines multiple BPAs are needed to meet its requirements, the ordering office should determine which contractors can meet any technical qualifications before establishing the BPAs. When multiple BPAs are established, the authorized users must follow the procedures in (a)(2)(ii) above and then place the order with the Schedule contractor that represents the best value.

C. Review BPAs periodically: Such reviews shall be conducted at least annually. The purpose of the review is to determine whether the BPA still represents the best value (considering price, special qualifications, administrative costs, etc) and results in the lowest overall cost alternative to meet the agency's needs.

D. Small Business: The Ordering Office should give preference to small business concerns when two or more contractors can provide the services at the same firm-fixed price or ceiling price.

TERMS AND CONDITIONS APPLICABLE TO PROFESSIONAL ENGINEERING SERVICES SCHEDULE 871 AND SPECIFICALLY TO SIN 871-1 STRATEGIC PLANNING FOR TECHNOLOGY PROGRAMS/ACTIVITIES, SIN 871-2 CONCEPT DEVELOPMENT AND REQUIREMENTS ANALYSIS, SIN 871-3 SYSTEM DESIGN ENGINEERING AND INTEGRATION, AND SIN 871-4 TEST AND EVALUATION

1. SCOPE

- a. The prices, terms and conditions stated under Special Item Numbers 871-1 Strategic Planning for Technology Programs/Activities, 871-2 Concept Development and Requirements Analysis, 871-3 System Design Engineering & Integration, and 871-4 Test and Evaluation apply exclusively to engineering services within the scope of this Professional Engineering Services Schedule.
- b. The Contractor shall provide services at the Contractor's facility and/or at the ordering activity location, as agreed to by the Contractor and the ordering activity.

2. PERFORMANCE INCENTIVES

- a. Performance incentives may be agreed upon between the Contractor and the ordering activity on individual fixed price orders or Blanket Purchase Agreements under this contract in accordance with this clause.
- b. The ordering activity must establish a maximum performance incentive price for these services and/or total solutions on individual orders or Blanket Purchase Agreements.
- c. Incentives should be designed to relate results achieved by the contractor to specified targets. To the maximum extent practicable, ordering activities shall consider establishing incentives where performance is critical to the ordering activity's mission and incentives are likely to motivate the contractor. Incentives shall be based on objectively measurable tasks.

3. ORDER

- a. Agencies may use written orders, EDI orders, blanket purchase agreements, individual purchase orders, or task orders for ordering services under this contract. Blanket Purchase Agreements shall not extend beyond the end of the contract period; all services and delivery shall be made and the contract terms and conditions shall continue in effect until the completion of the order. Orders for tasks which extend beyond the fiscal year for which funds are available shall include FAR 52.232-19 (Deviation – May 2003) Availability of Funds for the Next Fiscal Year. The purchase order shall specify the availability of funds and the period for which funds are available.
- b. All task orders are subject to the terms and conditions of the contract. In the event of conflict between a task order and the contract, the contract will take precedence.

4. PERFORMANCE OF SERVICES

- a. The Contractor shall commence performance of services on the date agreed to by the Contractor and the ordering activity.
- b. The Contractor agrees to render services only during normal working hours, unless otherwise agreed to by the Contractor and the ordering activity.
- c. The ordering activity should include the criteria for satisfactory completion for each task in the Statement of Work or Delivery Order. Services shall be completed in a good and workmanlike manner.
- d. Any Contractor travel required in the performance of services must comply with the Federal Travel Regulation or Joint Travel Regulations, as applicable, in effect on the date(s) the travel is performed. Established Federal Government per diem rates will apply to all Contractor travel. Contractors cannot use GSA city pair contracts.

5. STOP-WORK ORDER (FAR 52.242-15) (AUG 1989)

(a) The Contracting Officer may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part, of the work called for by this contract for a period of 90 days after the order is delivered to the Contractor, and for any further period to which the parties may agree. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within a period of 90 days after a stop-work is delivered to the Contractor, or within any extension of that period to which the parties shall have agreed, the Contracting Officer shall either-

- (1) Cancel the stop-work order; or
- (2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled or the period of the order or any extension thereof expires, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if-

- (1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and
- (2) The Contractor asserts its right to the adjustment within 30 days after the end of the period of work stoppage; provided that, if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon the claim submitted at any time before final payment under this contract.

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

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

6. INSPECTION OF SERVICES

The Inspection of Services–Fixed Price (AUG 1996) (Deviation – May 2003) clause at FAR 52.246-4 applies to firm-fixed price orders placed under this contract. The Inspection–Time-and-Materials and Labor-Hour (JAN 1986) (Deviation – May 2003) clause at FAR 52.246-6 applies to time-and-materials and labor-hour orders placed under this contract.

7. RESPONSIBILITIES OF THE CONTRACTOR

The Contractor shall comply with all laws, ordinances, and regulations (Federal, State, City, or otherwise) covering work of this character. If the end product of a task order is software, then FAR 52.227-14 (Deviation – May 2003) Rights in Data – General, may apply.

8. RESPONSIBILITIES OF THE ORDERING ACTIVITY

Subject to security regulations, the ordering activity shall permit Contractor access to all facilities necessary to perform the requisite Engineering Services.

9. INDEPENDENT CONTRACTOR

All services performed by the Contractor under the terms of this contract shall be as an independent Contractor, and not as an agent or employee of the ordering activity.

10. ORGANIZATIONAL CONFLICTS OF INTEREST

a. Definitions.

“Contractor” means the person, firm, unincorporated association, joint venture, partnership, or corporation that is a party to this contract.

“Contractor and its affiliates” and “Contractor or its affiliates” refers to the Contractor, its chief executives, directors, officers, subsidiaries, affiliates, subcontractors at any tier, and consultants and any joint venture involving the Contractor, any entity into or with which the Contractor subsequently merges or affiliates, or any other successor or assignee of the Contractor.

An “Organizational conflict of interest” exists when the nature of the work to be performed under a proposed ordering activity contract, without some restriction on ordering activities by the Contractor and its affiliates, may either (i) result in an unfair competitive advantage to the Contractor or its affiliates or (ii) impair the Contractor’s or its affiliates’ objectivity in performing contract work.

b. To avoid an organizational or financial conflict of interest and to avoid prejudicing the best interests of the ordering activity, ordering activities may place restrictions on the Contractors, its affiliates, chief executives, directors, subsidiaries and subcontractors at any tier when placing orders against schedule contracts. Such restrictions shall be consistent with FAR 9.505 and shall be designed to avoid, neutralize, or mitigate organizational conflicts of interest that might otherwise exist in situations related to individual orders placed against the schedule contract. Examples of situations, which may require restrictions, are provided at FAR 9.508.

11. INVOICES

The Contractor, upon completion of the work ordered, shall submit invoices for IT services. Progress payments may be authorized by the ordering activity on individual orders if appropriate. Progress payments shall be based upon completion of defined milestones or interim products. Invoices shall be submitted monthly for recurring services performed during the preceding month.

12. PAYMENTS

For firm-fixed price orders the ordering activity shall pay the Contractor, upon submission of proper invoices or vouchers, the prices stipulated in this contract for service rendered and accepted. Progress payments shall be made only when authorized by the order. For time-and-materials orders, the Payments under Time-and-Materials and Labor-Hour Contracts at FAR 52.232-7 (DEC 2002), (Alternate II – Feb 2002) (Deviation – May 2003) applies to time-and-materials orders placed under this contract. For labor-hour orders, the Payment under Time-and-Materials and Labor-Hour Contracts at FAR 52.232-7 (DEC 2002), (Alternate II – Feb 2002) (Deviation – May 2003)) applies to labor-hour orders placed under this contract.

13. RESUMES

Resumes shall be provided to the GSA Contracting Officer or the user ordering activity upon request.

14. INCIDENTAL SUPPORT COSTS

Incidental support costs are available outside the scope of this contract. The costs will be negotiated separately with the ordering activity in accordance with the guidelines set forth in the FAR.

15. APPROVAL OF SUBCONTRACTS

The ordering activity may require that the Contractor receive, from the ordering activity's Contracting Officer, written consent before placing any subcontract for furnishing any of the work called for in a task order.

16. DESCRIPTION OF IT SERVICES AND PRICING

A description of the SwRI Labor Categories available for each engineering or scientific discipline performing Professional Engineering Services under GSA Schedule 871 Special Item Numbers 871-1, 871-2, 871-3, and 871-4 are show in Appendix F.

17. TRAVEL

Any Contractor travel required in the performance of services must comply with the federal Travel Regulation or Joint Travel Regulation, as applicable, in effect on the date(s) the travel is performed. Established Federal Government per diem rates will apply to all Contractor travel. Contractors cannot use GSA city pair contracts. The Contractor shall not add the Industrial Funding fee onto the travel costs.

APPENDIX A

USA COMMITMENT TO PROMOTE SMALL BUSINESS PARTICIPATION PROCUREMENT PROGRAMS

PREAMBLE

Southwest Research Institute (SwRI) provides commercial products and services to the Federal Government. We are committed to promoting participation of small, small disadvantaged, veteran-owned, and women-owned small businesses in our contracts. We pledge to provide opportunities to the small business community through reselling opportunities, mentor-protégé programs, joint ventures, team arrangements, and subcontracting.

COMMITMENT

To actively seek and partner with small businesses.

To identify, qualify, mentor and develop small, small disadvantaged, veteran-owned and women-owned small businesses by purchasing from these business whenever practical.

To develop and promote company policy initiatives which demonstrate our support for awarding contracts and subcontracts to small business concerns.

To undertake significant efforts to determine the potential of small, small disadvantaged, veteran-owned, and women-owned small businesses to supply products and services to our company.

To ensure procurement opportunities are designed to permit the maximum possible participation of small, small disadvantaged, veteran-owned, and women-owned small businesses.

To attend business opportunity workshops, minority business enterprise seminars, trade fairs, procurement conferences, etc., to identify and increase small businesses with whom to partner.

To publicize in our marketing publications our interest in meeting small businesses that may be interested in subcontracting opportunities.

We signify our commitment to work in partnership with small, small disadvantaged, veteran-owned, and women-owned small businesses to promote and increase their participation in Federal Government contracts. To accelerate potential opportunities, please contact Southwest Research Institute, Paul Easley, (210) 522-3077; fax (210) 522-2262; peasley@swri.org.

APPENDIX B

BEST VALUE BLANKET PURCHASE AGREEMENT FEDERAL SUPPLY SCHEDULE

(Insert Company Name)

In the spirit of the Federal Acquisition streamlining Act (Agency) and (Contractor) enter into a cooperative agreement to further reduce the administrative costs of acquiring commercial items from the General Services Administration (GSA) Federal Supply Schedule Contract(s)

Federal Supply Schedule contract BPAs eliminate contracting and open market costs such as: search for sources; the development of technical documents, solicitations and the evaluation of offers. Team Arrangements are permitted with Federal Supply Schedule contractors in accordance with Federal Acquisition Regulation (FAR) 9.6.

The BPA will further decrease costs, reduce paperwork, and save time by eliminating the need for repetitive, individual purchases from the schedule contract. The end result is to create a purchasing mechanism for the Government that works better and costs less.

Signatures

Agency Date Contractor Date

BPA NUMBER _____

**(CUSTOMER NAME)
BLANKET PURCHASE AGREEMENT**

Pursuant to GSA Federal Supply Schedule Contract Number(s) _____, Blanket Purchase Agreements, the Contractor agrees to the following terms of a Blanket Purchase Agreement (BPA) EXCLUSIVELY WITH (Ordering Agency):

(1) The following contract items can be ordered under this BPA. All orders placed against this BPA are subject to the terms and conditions of the contract, except as noted below;

Model Number/Part Number Special BPA Discount/Price

(2) Delivery:

Destination Delivery Schedules/Dates

(3) The Government estimates, but does not guarantee, that the volume of purchase through this agreement will be _____.

(4) This BPA does not obligate any funds.

(5) This BPA expires on _____, or at the end of the contract period, whichever is earlier.

(6) The following office(s) is hereby authorized to place orders under this BPA:

Office Point of Contact

(7) Orders will be placed against this BPA via Electronic Data Interchange (EDI), FAX, or paper.

(8) Unless otherwise agreed to, all deliveries under this BPA must be accompanied by delivery tickets or sales slips that must contain the following information as a minimum:

(a) Name of Contractor

(b) Contract Number

(c) BPA Number

(d) Model Number or National Stock Number (NSN)

(e) Purchase Order Number

(f) Date of Purchase

(g) Quantity, Unit Price, and Extension of each item (unit prices and extensions need not be shown when incompatible with the use of automated systems, provided that the invoice is itemized to show the information) and

(h) Date of Shipment

(9) The requirements of a proper invoice are specified in the Federal Supply Schedule Contract. Invoices will be submitted to the address specified with the purchase order transmission issued against the BPA.

(10) The terms and conditions included in this BPA apply to all purchases made pursuant to it. In the event of an inconsistency between the provisions of this BPA and the Contractor's invoice, the provisions of the BPA will take precedence.

APPENDIX C

BASIC GUIDELINES FOR USING “CONTRACTOR TEAM ARRANGEMENTS”

Federal Supply Schedule Contractors may use “Contractor Team Arrangements” (see FAR 9.6) to provide solutions when responding to a customer agency requirements.

These Team Arrangements can be included under a Blanket Purchase Agreement (BPA). BPAs are permitted under all Federal Supply Schedule contracts.

Orders under a Team Arrangement are subject to terms and conditions of Federal Supply Schedule Contract.

Participation in a Team Arrangement is limited to Federal Supply Schedule Contractors.

Here is a general outline on how it works:

The customer identifies their requirements.

Federal Supply Schedule Contractors may individually meet the customer’s needs, or

Federal Supply Schedule Contractors may individually submit a Schedule “Team solution” to meet the customer’s requirements.

Customers make a best value selection.

APPENDIX D

A BRIEF HISTORY OF SwRI

Southwest Research Institute (SwRI), headquartered in San Antonio, Texas, is one of the oldest and largest independent, nonprofit, applied research and development (R&D) organizations in the United States. Founded in 1947, SwRI provides contract research and development services to industrial and government clients. The Institute is governed by a board of directors, which is advised by approximately 100 trustees.

SwRI initiates contracts with clients based on consultations and prepares a formal proposal outlining the scope of work. Subject to client wishes, programs are kept confidential. As part of a long-held tradition, patent rights arising from sponsored research are often assigned to the client. SwRI generally retains the rights to Institute-funded advancements.

SwRI consists of 11 technical divisions that offer multidisciplinary, problem-solving services in a variety of areas in engineering and the physical sciences. Historically, nearly 2,000 projects are open at the Institute at any one time. These projects are funded almost equally between the government and commercial sectors. SwRI's total revenue for fiscal year 2010 was \$548 million. During 2010, SwRI provided \$6.7 million to fund innovative research through its internally sponsored R&D program.

SwRI's headquarters occupy almost two million square feet of office and laboratory space on more than 1,200 acres in San Antonio. The Institute has technical offices and laboratories in Ann Arbor, Michigan; Boulder, Colorado; Oklahoma City, Oklahoma; Rockville, Maryland; Warner-Robins, Georgia; Beijing, China; and other locations. SwRI provides environmental monitoring expertise at munitions demilitarization sites at the Umatilla Army Depot at Hermiston, Oregon, and the Pine Bluff Chemical Depot at Pine Bluff, Arkansas.

At the close of fiscal year 2010, SwRI staff numbered 3,057 employees. Of those, 274 hold doctorates, 505 hold master's degrees and 766 hold bachelor's degrees. In 2010 the Institute received 47 U.S. patent awards, filed 46 patent applications and submitted 79 invention disclosures. The technical staff published 406 papers and gave 382 presentations.

SwRI holds more than 980 U.S. patents awarded to its staff members, has earned 35 R&D 100 awards and has been inducted into the U.S. Space Foundation's Space Technology Hall of Fame. The Institute has received two Department of Defense James S. Cogswell Outstanding Industrial Security Achievement Awards. The American Society of Mechanical Engineers has recognized our split-Hopkinson pressure bar apparatus (2006) and the Southern Gas Association analog (1990), developed by SwRI in 1955 for the natural gas industry, as ASME National Historic Engineering Landmarks. Several SwRI divisions have achieved ISO 9001, ISO 14001, or AS9100C certification and ISO/IEC 17025 accreditation. The Ford Motor Company has designated SwRI a Tier 1 product development engineering services supplier and has awarded the Institute its Q1-2000 award.

Several staff members received national recognition for professional accomplishments during Fiscal Year 2010. Robert Fanick was named a Fellow of the American Chemical Society. Dr. Glenn Light received the American Society for Nondestructive Testing's Research Award for Sustained Excellence. Janet Buckingham earned the American Statistical Association Founders Award. Dr. Marc Janssens received the 2010 Interflam Trophy, awarded once every three years for key contributions to fire science, and Steve Westbrook received the Nahum Por Memorial Award from the International Association for Stability, Handling and Use of Liquid Fuels Inc.

A partial listing of research areas includes antennas and propagation; automation, robotics, and intelligent systems; avionics and support systems; bioengineering; chemistry and chemical engineering; communications systems; corrosion and electrochemistry; Earth and planetary sciences; emissions research; engineering mechanics; fire technology; fluid systems and machinery dynamics; and fuels and lubricants. Additional areas include geochemistry and mining engineering; hydrology and geohydrology; space science and engineering; materials sciences and fracture mechanics; modeling and simulation; nondestructive evaluation; oil and gas exploration; pipeline technology; surface modification and coatings; training systems and simulators; and vehicle, engine, and powertrain design, research, and development.

APPENDIX E

PROFESSIONAL ENGINEERING SERVICES (PES) DESCRIPTIONS

Southwest Research Institute provides all resources including personnel, management, supplies, services, materials, equipment, facilities and transportation necessary to support and conduct a wide range of Professional Engineering Services. SwRI will provide the requisite mechanical and/or electrical technical and associated support expertise for the services specified, but not limited to, in the following SIN descriptions:

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, privatization and outsourcing.

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, privatization and outsourcing.

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, privatization and outsourcing.

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 safety, quality assurance, physical testing of the product or system, training, privatization and outsourcing.

APPENDIX F

LABOR CATEGORY DESCRIPTIONS AND RATES

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Automation and Data Systems Division	<u>36</u>
Applied Physics Division	<u>40</u>
Space Science and Engineering Division	<u>44</u>
Signal Exploitation and Geolocation Division	<u>48</u>
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Geological and Materials Engineering	<u>56</u>

CHEMISTRY AND CHEMICAL ENGINEERING DIVISION

LABOR CATEGORY	YR 11: 10/10/11 - 10/09/12	YR 12: 10/10/12 - 10/09/13	YR 13: 10/10/13 - 10/09/14	YR 14: 10/10/14 - 10/09/15	YR 15: 10/10/15 - 10/09/16
Chemist & Chemical Engineer 2	\$214.83	\$221.96	\$228.91	\$235.69	\$242.28
Chemist & Chemical Engineer 3	\$140.82	\$145.50	\$150.05	\$154.49	\$158.82
Chemist & Chemical Engineer 4	\$105.81	\$109.32	\$112.75	\$116.08	\$119.33
Chemist & Chemical Engineering Support 1	\$77.22	\$79.78	\$82.28	\$84.72	\$87.09
Chemist & Chemical Engineering Support 2	\$52.07	\$53.80	\$55.48	\$57.13	\$58.73
Chemist & Chemical Engineering Support 3	\$61.08	\$62.67	\$64.22	\$66.01	\$67.96
Chemist & Chemical Engineering Support 4	\$52.52	\$53.89	\$55.22	\$56.76	\$58.44

CHEMIST AND CHEMICAL ENGINEER 2

Task Description

Individuals assigned are recognized as a vital technical resource, having established a reputation for scientific excellence at the Institute and to some extent in the external community. Individuals manage projects, programs and staff members in the pursuit of technical and financial objectives. Individuals assigned in this position:

- Accomplish advanced scientific and engineering work within technical area of expertise and discipline.
- Are recognized as highly qualified in a research specialty and possess a similar reputation with clients and the professional community.
- Develop collaborative efforts in research and development across division and company lines.
- Take the lead in the promotion of new projects and programs while advancing technology.
- Oversee the preparation, presentation, and follow-up of major proposals and/or program results that normally require a high degree of creativity and technical organization.
- Are recognized both internally and externally as an authority in a research specialty.
- Receive invitations to participate in technical conferences and serve on national committees.
- Manage Institute employee sections or large complex programs.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and twelve years of experience as a minimum. Individuals have superb verbal, written and interpersonal communications skills and are successful in building a technical program and/or program group primarily in chemistry, fire technology, and chemical engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, design, integration, evaluation, instrumentation, method development, research development, and testing.

Acceptable Substitutions: AS and 27 years experience; MA and 11 years experience; PhD and 10 experience.

CHEMIST AND CHEMICAL ENGINEER 3

Task Description

Individuals at this level demonstrate significant technical leadership within Institute Science and Engineering staff. Individuals contribute to and guide the technical direction of projects. Individuals comprise the corps of knowledgeable, responsible and experienced project managers operating under the technical management line of authority. Individuals serve as program managers of smaller and less complex initiatives or tasks of larger, more complex projects. Individuals assigned in this position:

- Plan, design, coordinate and control the progress of project work to meet client objectives.
- Supervise others as project managers, assuming full responsibility for technical, financial, and work product project completion goals.
- Lead proposal efforts and new promotional work.
- Provide recommendations to management regarding planning, program development and project and promotional efforts.
- Present and publish technical papers.
- Manage technical groups of employees with specific skill sets.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and 7 years of experience as a minimum. Individuals are successful in managing laboratory, testing and development projects and have the aptitude to lead others and administer the technical, financial, client interaction and organizational aspects of programs primarily in chemistry, fire technology, and chemical engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, design, integration, evaluation, instrumentation, method development, research development, and testing.

Acceptable Substitutions: AS and 22 years experience; MS and 6 years experience; PhD and 5 years experience.

CHEMIST AND CHEMICAL ENGINEER 4

Task Description

Individuals at this level generally perform project activities in a support capacity. Emphasis at this level is on the development of skills as a project team member, the development of individual technical specializations, the development of abilities to innovatively support technical objectives and to serve as future program leaders. Individuals may manage tasks associated to larger programs and interact with client technical representatives. Individuals assigned in this position:

- Perform work involving conventional investigation within a technical specialty.
- Identify ideas for new projects and ensure technical quality of current project activities.
- Establish working relationships with clients.
- Develop proficiency in writing and verbal presentation skills
- Deal regularly with other researchers across the Institute to collaborate in studies of interest.
- Supervise laboratory staff in testing activities.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and zero years of experience as a minimum. The individual exercises judgment, diligence and has an aptitude for carrying out assignments primarily in chemistry, fire technology, and chemical engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, design, integration, evaluation, instrumentation, method development, research development, and testing.

Acceptable Substitutions: AS and 15 years experience.

CHEMIST AND CHEMICAL ENGINEERING SUPPORT 1

Task Description

Individuals assigned in these non-exempt positions possess in-depth skills and expertise in a specialty field and provide key support to scientific and engineering project personnel. Individuals exercise wide latitude in carrying out technical instructions and require minimum supervision. Individuals assigned in this position:

- Utilize personal discretion and knowledge to construct components, models and adaptations of standard equipment.
- Troubleshoot problems with test equipment and components.
- Interact with senior staff and clients in discussion of current tests or future activities.
- Provide input to technical reports, proposals and procedures.
- Analyze technical data to uncover anomalies and/or report pertinent data elements.
- Provide training and assist with development of subordinate staff.
- Mentor subordinate technical laboratory staff.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education and five years of relevant experience as a minimum. Individuals supervise and train subordinate staff and interact with project managers and client technical representatives to ensure proper laboratory testing of products or prototypes primarily in chemistry, fire technology, and chemical engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, design, integration, evaluation, instrumentation, method development, research development, and testing.

CHEMIST AND CHEMICAL ENGINEERING SUPPORT 2

Task Description

Individuals assigned at these non-exempt positions provide support to the skilled senior technical staff. Using developed skills and practical knowledge. The technician is expected to do assigned tasks in the laboratory and/or testing environment under supervision. Individuals assigned in this position:

- Set up experimental apparatus following written or verbal instructions.
- Prepare samples, specimens, prototype instruments and/or test materials following defined procedures.
- Conduct, observe and document standardized test and analyses data following established protocols.
- Conduct routine maintenance on equipment.
- Maintain and order required materials.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education, and one year of relevant experience as a minimum. Individuals have basic knowledge of tasks associated with the technical area of work with skills in the application of mathematical functions, the use of PC software and hands-on craft abilities. Individuals are able to read schematics, drawings, sketches and technical instructions of testing protocols primarily in chemistry, fire technology, and chemical engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, design, integration, evaluation, instrumentation, method development, research development, and testing.

CHEMIST AND CHEMICAL ENGINEERING SUPPORT 3

Task Description

Individuals assigned in these non-exempt positions execute all clerical and administrative duties required to support the scientific and engineering staff in the performance of project responsibilities. Individuals use office equipment, and using internal processes to complete required project and Institute correspondence and filing requirements. Individuals organize meetings, make travel arrangements and deal effectively with clients. Individuals assigned in this position:

- Have good communication skills to interact with Institute staff and client representatives.
- Answer telephones and exhibit good judgment in answering basic questions.
- Compile administrative, operating or program data and formats based on instructions or established standards.
- Prepare correspondence, proposals and reports editing for format, spelling, punctuation and grammar.
- Act on their own initiative within defined responsibility to carry out routine tasks and procedures.
- Interact with vendors and support services in the normal execution of duties.

Qualifications

This position requires a High School diploma or equivalent education as a minimum, trade school education or continuing education, certification as a professional secretary, and a minimum of zero years of clerical experience. Individuals provide administrative support to projects primarily in chemistry, fire technology, and chemical engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, design, integration, evaluation, instrumentation, method development, research development, and testing.

CHEMIST AND CHEMICAL ENGINEERING SUPPORT 4

Task Description

Individuals assigned in these non-exempt positions perform entry-level technical support functions of a routine nature under the close supervision of senior technical staff. Individuals at this level have an ability to learn, knowledge of general technical areas and materials and equipment. Individuals assigned in this position:

- Clean laboratory equipment, materials, and components for testing following defined procedures.
- Assist skilled personnel in performing technical work.
- Use PCs and PC applications to maintain test data.
- Conduct routine tests as directed by supervisors following written or verbal protocols.
- Assists with data documentation and analysis.

Qualifications

This position requires a High School diploma or equivalent education, trade school education or continuing education and zero years of relevant experience. Individuals perform general technical activities that support projects primarily in chemistry, fire technology, and chemical engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, design, integration, evaluation, instrumentation, method development, research development, and testing.

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ENGINE, EMISSIONS, AND VEHICLE RESEARCH DIVISION

LABOR CATEGORY	YR 11: 10/10/11 - 10/09/12	YR 12: 10/10/12 - 10/09/13	YR 13: 10/10/13 - 10/09/14	YR 14: 10/10/14 - 10/09/15	YR 15: 10/10/15 - 10/09/16
Automotive Engineer 2	226.24	233.75	241.07	248.20	255.15
Automotive Engineer 3	163.30	168.72	174.00	179.15	184.17
Automotive Engineer 4	129.96	134.27	138.48	142.58	146.57
Automotive Engineering Support 1	82.02	84.74	87.39	89.98	92.50
Automotive Engineering Support 2	51.81	53.53	55.21	56.84	58.43
Automotive Engineering Support 3	74.91	76.87	78.76	80.96	83.35
Automotive Engineering Support 4	48.61	49.87	51.10	52.53	54.08

AUTOMOTIVE ENGINEER 2

Task Description

Individuals assigned are recognized as a vital technical resource, having established a reputation for scientific excellence at the Institute and to some extent in the external community. Individuals manage projects, programs and staff members in the pursuit of technical and financial objectives. Individuals assigned in this position:

- Accomplish advanced scientific and engineering work within technical area of expertise and discipline.
- Are recognized as highly qualified in a research specialty and possess a similar reputation with clients and the professional community.
- Develop collaborative efforts in research and development across division and company lines.
- Take the lead in the promotion of new projects and programs while advancing technology.
- Oversee the preparation, presentation, and follow-up of major proposals and/or program results that normally require a high degree of creativity and technical organization.
- Are recognized both internally and externally as an authority in a research specialty.
- Receive invitations to participate in technical conferences and serve on national committees.
- Manage Institute employee sections or large complex programs.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and twelve years of experience as a minimum. Individuals have superb verbal, written and interpersonal communications skills and are successful in building a technical program and/or program group primarily in automotive engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, powertrains, fuel systems, chassis, hydraulics, electronics, control systems, test systems, and contamination control.

Acceptable Substitutions: AS and 27 years experience; MA and 11 years experience; PhD and 10 experience.

AUTOMOTIVE ENGINEER 3

Task Description

Individuals at this level demonstrate significant technical leadership within Institute Science and Engineering staff. Individuals contribute to and guide the technical direction of projects. Individuals comprise the corps of knowledgeable, responsible and experienced project managers operating under the technical management line of authority. Individuals serve as program managers of smaller and less complex initiatives or tasks of larger, more complex projects. Individuals assigned in this position:

- Plan, design, coordinate and control the progress of project work to meet client objectives.
- Supervise others as project managers, assuming full responsibility for technical, financial, and work product project completion goals.
- Lead proposal efforts and new promotional work.
- Provide recommendations to management regarding planning, program development and project and promotional efforts.
- Present and publish technical papers.
- Manage technical groups of employees with specific skill sets.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and 7 years of experience as a minimum. Individuals are successful in managing laboratory, testing and development projects and have the aptitude to lead others and administer the technical, financial, client interaction and organizational aspects of programs primarily in automotive engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, powertrains, fuel systems, chassis, hydraulics, electronics, control systems, test systems, and contamination control.

Acceptable Substitutions: AS and 22 years experience; MS and 6 years experience; PhD and 5 years experience.

AUTOMOTIVE ENGINEER 4

Task Description

Individuals at this level generally perform project activities in a support capacity. Emphasis at this level is on the development of skills as a project team member, the development of individual technical specializations, the development of abilities to innovatively support technical objectives and to serve as future program leaders. Individuals may manage tasks associated to larger programs and interact with client technical representatives. Individuals assigned in this position:

- Perform work involving conventional investigation within a technical specialty.
- Identify ideas for new projects and ensure technical quality of current project activities.
- Establish working relationships with clients.
- Develop proficiency in writing and verbal presentation skills
- Deal regularly with other researchers across the Institute to collaborate in studies of interest.
- Supervise laboratory staff in testing activities.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and zero years of experience as a minimum. The individual exercises judgment, diligence and has an aptitude for carrying out assignments primarily in automotive engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, powertrains, fuel systems, chassis, hydraulics, electronics, control systems, test systems, and contamination control.

Acceptable Substitutions: AS and 15 years experience.

AUTOMOTIVE ENGINEERING SUPPORT 1

Task Description

Individuals assigned in these non-exempt positions possess in-depth skills and expertise in a specialty field and provide key support to scientific and engineering project personnel. Individuals exercise wide latitude in carrying out technical instructions and require minimum supervision. Individuals assigned in this position:

- Utilize personal discretion and knowledge to construct components, models and adaptations of standard equipment.
- Troubleshoot problems with test equipment and components.
- Interact with senior staff and clients in discussion of current tests or future activities.
- Provide input to technical reports, proposals and procedures.
- Analyze technical data to uncover anomalies and/or report pertinent data elements.
- Provide training and assist with development of subordinate staff.
- Mentor subordinate technical laboratory staff.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education and five years of relevant experience as a minimum. Individuals supervise and train subordinate staff and interact with project managers and client technical representatives to ensure proper laboratory testing of products or prototypes primarily in automotive engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, powertrains, fuel systems, chassis, hydraulics, electronics, control systems, test systems, and contamination control.

AUTOMOTIVE ENGINEERING SUPPORT 2

Task Description

Individuals assigned at these non-exempt positions provide support to the skilled senior technical staff. Using developed skills and practical knowledge. The technician is expected to do assigned tasks in the laboratory and/or testing environment under supervision. Individuals assigned in this position:

- Set up experimental apparatus following written or verbal instructions.
- Prepare samples, specimens, prototype instruments and/or test materials following defined procedures.
- Conduct, observe and document standardized test and analyses data following established protocols.
- Conduct routine maintenance on equipment.
- Maintain and order required materials.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education, and one year of relevant experience as a minimum. Individuals have basic knowledge of tasks associated with the technical area of work with skills in the application of mathematical functions, the use of PC software and hands-on craft abilities. Individuals are able to read schematics, drawings, sketches and technical instructions of testing protocols primarily in automotive engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, powertrains, fuel systems, chassis, hydraulics, electronics, control systems, test systems, and contamination control.

AUTOMOTIVE ENGINEERING SUPPORT 3

Task Description

Individuals assigned in these non-exempt positions execute all clerical and administrative duties required to support the scientific and engineering staff in the performance of project responsibilities. Individuals use office equipment, and using internal processes to complete required project and Institute correspondence and filing requirements. Individuals organize meetings, make travel arrangements and deal effectively with clients. Individuals assigned in this position:

- Have good communication skills to interact with Institute staff and client representatives.
- Answer telephones and exhibit good judgment in answering basic questions.
- Compile administrative, operating or program data and formats based on instructions or established standards.
- Prepare correspondence, proposals and reports editing for format, spelling, punctuation and grammar.
- Act on their own initiative within defined responsibility to carry out routine tasks and procedures.
- Interact with vendors and support services in the normal execution of duties.

Qualifications

This position requires a High School diploma or equivalent education as a minimum, trade school education or continuing education, certification as a professional secretary, and a minimum of zero years of clerical experience. Individuals provide administrative support to projects primarily in automotive engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, powertrains, fuel systems, chassis, hydraulics, electronics, control systems, test systems, and contamination control.

AUTOMOTIVE ENGINEERING SUPPORT 4

Task Description

Individuals assigned in these non-exempt positions perform entry-level technical support functions of a routine nature under the close supervision of senior technical staff. Individuals at this level have an ability to learn, knowledge of general technical areas and materials and equipment. Individuals assigned in this position:

- Clean laboratory equipment, materials, and components for testing following defined procedures.
- Assist skilled personnel in performing technical work.
- Use PCs and PC applications to maintain test data.
- Conduct routine tests as directed by supervisors following written or verbal protocols.
- Assists with data documentation and analysis.

Qualifications

This position requires a High School diploma or equivalent education, trade school education or continuing education and zero years of relevant experience. Individuals perform general technical activities that support projects primarily in automotive engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, powertrains, fuel systems, chassis, hydraulics, electronics, control systems, test systems, and contamination control.

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FUELS AND LUBRICANTS ENGINEERING DIVISION

LABOR CATEGORY	YR 11: 10/10/11 - 10/09/12	YR 12: 10/10/12 - 10/09/13	YR 13: 10/10/13 - 10/09/14	YR 14: 10/10/14 - 10/09/15	YR 15: 10/10/15 - 10/09/16
Fuels & Lubes Engineer 2	189.33	195.62	201.74	207.71	213.53
Fuels & Lubes Engineer 3	131.58	135.95	140.20	144.35	148.40
Fuels & Lubes Engineer 4	107.50	111.07	114.55	117.94	121.24
Fuels & Lubes Engineering Support 1	75.35	77.85	80.29	82.66	84.98
Fuels & Lubes Engineering Support 2	46.33	47.87	49.37	50.83	52.25
Fuels & Lubes Engineering Support 3	53.28	54.67	56.02	57.58	59.28
Fuels & Lubes Engineering Support 4	42.60	43.71	44.79	46.04	47.40

FUELS & LUBES ENGINEER 2

Task Description

Individuals assigned are recognized as a vital technical resource, having established a reputation for scientific excellence at the Institute and to some extent in the external community. Individuals manage projects, programs and staff members in the pursuit of technical and financial objectives. Individuals assigned in this position:

- Accomplish advanced scientific and engineering work within technical area of expertise and discipline.
- Are recognized as highly qualified in a research specialty and possess a similar reputation with clients and the professional community.
- Develop collaborative efforts in research and development across division and company lines.
- Take the lead in the promotion of new projects and programs while advancing technology.
- Oversee the preparation, presentation, and follow-up of major proposals and/or program results that normally require a high degree of creativity and technical organization.
- Are recognized both internally and externally as an authority in a research specialty.
- Receive invitations to participate in technical conferences and serve on national committees.
- Manage Institute employee sections or large complex programs.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and twelve years of experience as a minimum. Individuals have superb verbal, written and interpersonal communications skills and are successful in building a technical program and/or program group primarily in fuels and fluids engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, managing fuels, lubricants, functional fluids research, development, and evaluation programs.

Acceptable Substitutions: AS and 27 years experience; MA and 11 years experience; PhD and 10 experience.

FUELS & LUBES ENGINEER 3

Task Description

Individuals at this level demonstrate significant technical leadership within Institute Science and Engineering staff. Individuals contribute to and guide the technical direction of projects. Individuals comprise the corps of knowledgeable, responsible and experienced project managers operating under the technical management line of authority. Individuals serve as program managers of smaller and less complex initiatives or tasks of larger, more complex projects. Individuals assigned in this position:

- Plan, design, coordinate and control the progress of project work to meet client objectives.
- Supervise others as project managers, assuming full responsibility for technical, financial, and work product project completion goals.
- Lead proposal efforts and new promotional work.
- Provide recommendations to management regarding planning, program development and project and promotional efforts.
- Present and publish technical papers.
- Manage technical groups of employees with specific skill sets.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and 7 years of experience as a minimum. Individuals are successful in managing laboratory, testing and development projects and have the aptitude to lead others and administer the technical, financial, client interaction and organizational aspects of programs primarily in fuels and fluids engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, managing fuels, lubricants, functional fluids research, development, and evaluation programs.

Acceptable Substitutions: AS and 22 years experience; MS and 6 years experience; PhD and 5 years experience.

FUELS & LUBES ENGINEER 4

Task Description

Individuals at this level generally perform project activities in a support capacity. Emphasis at this level is on the development of skills as a project team member, the development of individual technical specializations, the development of abilities to innovatively support technical objectives and to serve as future program leaders. Individuals may manage tasks associated to larger programs and interact with client technical representatives. Individuals assigned in this position:

- Perform work involving conventional investigation within a technical specialty.
- Identify ideas for new projects and ensure technical quality of current project activities.
- Establish working relationships with clients.
- Develop proficiency in writing and verbal presentation skills
- Deal regularly with other researchers across the Institute to collaborate in studies of interest.
- Supervise laboratory staff in testing activities.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and zero years of experience as a minimum. The individual exercises judgment, diligence and has an aptitude for carrying out assignments primarily in fuels and fluids engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, managing fuels, lubricants, functional fluids research, development, and evaluation programs.

Acceptable Substitutions: AS and 15 years experience.

FUELS & LUBES ENGINEERING SUPPORT 1

Task Description

Individuals assigned in these non-exempt positions possess in-depth skills and expertise in a specialty field and provide key support to scientific and engineering project personnel. Individuals exercise wide latitude in carrying out technical instructions and require minimum supervision. Individuals assigned in this position:

- Utilize personal discretion and knowledge to construct components, models and adaptations of standard equipment.
- Troubleshoot problems with test equipment and components.
- Interact with senior staff and clients in discussion of current tests or future activities.
- Provide input to technical reports, proposals and procedures.
- Analyze technical data to uncover anomalies and/or report pertinent data elements.
- Provide training and assist with development of subordinate staff.
- Mentor subordinate technical laboratory staff.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education and five years of relevant experience as a minimum. Individuals supervise and train subordinate staff and interact with project managers and client technical representatives to ensure proper laboratory testing of products or prototypes primarily in fuels and fluids engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, managing fuels, lubricants, functional fluids research, development, and evaluation programs.

FUELS & LUBES ENGINEERING SUPPORT 2

Task Description

Individuals assigned at these non-exempt positions provide support to the skilled senior technical staff. Using developed skills and practical knowledge. The technician is expected to do assigned tasks in the laboratory and/or testing environment under supervision. Individuals assigned in this position:

- Set up experimental apparatus following written or verbal instructions.
- Prepare samples, specimens, prototype instruments and/or test materials following defined procedures.
- Conduct, observe and document standardized test and analyses data following established protocols.
- Conduct routine maintenance on equipment.
- Maintain and order required materials.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education, and one year of relevant experience as a minimum. Individuals have basic knowledge of tasks associated with the technical area of work with skills in the application of mathematical functions, the use of PC software and hands-on craft abilities. Individuals are able to read schematics, drawings, sketches and technical instructions of testing protocols primarily in fuels and fluids engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, managing fuels, lubricants, functional fluids research, development, and evaluation programs.

FUELS & LUBES ENGINEERING SUPPORT 3

Task Description

Individuals assigned in these non-exempt positions execute all clerical and administrative duties required to support the scientific and engineering staff in the performance of project responsibilities. Individuals use office equipment, and using internal processes to complete required project and Institute correspondence and filing requirements. Individuals organize meetings, make travel arrangements and deal effectively with clients. Individuals assigned in this position:

- Have good communication skills to interact with Institute staff and client representatives.
- Answer telephones and exhibit good judgment in answering basic questions.
- Compile administrative, operating or program data and formats based on instructions or established standards.
- Prepare correspondence, proposals and reports editing for format, spelling, punctuation and grammar.
- Act on their own initiative within defined responsibility to carry out routine tasks and procedures.
- Interact with vendors and support services in the normal execution of duties.

Qualifications

This position requires a High School diploma or equivalent education as a minimum, trade school education or continuing education, certification as a professional secretary, and a minimum of zero years of clerical experience. Individuals provide administrative support to projects primarily in fuels and fluids engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, managing fuels, lubricants, functional fluids research, development, and evaluation programs.

FUELS & LUBES ENGINEERING SUPPORT 4

Task Description

Individuals assigned in these non-exempt positions perform entry-level technical support functions of a routine nature under the close supervision of senior technical staff. Individuals at this level have an ability to learn, knowledge of general technical areas and materials and equipment. Individuals assigned in this position:

- Clean laboratory equipment, materials, and components for testing following defined procedures.
- Assist skilled personnel in performing technical work.
- Use PCs and PC applications to maintain test data.
- Conduct routine tests as directed by supervisors following written or verbal protocols.
- Assists with data documentation and analysis.

Qualifications

This position requires a High School diploma or equivalent education, trade school education or continuing education and zero years of relevant experience. Individuals perform general technical activities that support projects primarily in fuels and fluids engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, managing fuels, lubricants, functional fluids research, development, and evaluation programs.

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AEROSPACE ELECTRONICS, SYSTEMS ENGINEERING, AND TRAINING DIVISION

LABOR CATEGORY	YR 11: 10/10/11 - 10/09/12	YR 12: 10/10/12 - 10/09/13	YR 13: 10/10/13 - 10/09/14	YR 14: 10/10/14 - 10/09/15	YR 15: 10/10/15 - 10/09/16
Aerospace Engineer 2	228.67	236.26	243.66	250.87	257.90
Aerospace Engineer 3	155.99	161.17	166.21	171.13	175.93
Aerospace Engineer 4	128.69	132.96	137.12	141.18	145.13
Aerospace Engineering Support 1	94.46	97.60	100.65	103.63	106.53
Aerospace Engineering Support 2	70.95	73.30	75.60	77.83	80.01
Aerospace Engineering Support 3	76.02	78.00	79.92	82.16	84.58
Aerospace Engineering Support 4	48.61	49.87	51.10	52.53	54.08

AEROSPACE & TRAINING ENGINEER 2

Task Description

Individuals assigned are recognized as a vital technical resource, having established a reputation for scientific excellence at the Institute and to some extent in the external community. Individuals manage projects, programs and staff members in the pursuit of technical and financial objectives. Individuals assigned in this position:

- Accomplish advanced scientific and engineering work within technical area of expertise and discipline.
- Are recognized as highly qualified in a research specialty and possess a similar reputation with clients and the professional community.
- Develop collaborative efforts in research and development across division and company lines.
- Take the lead in the promotion of new projects and programs while advancing technology.
- Oversee the preparation, presentation, and follow-up of major proposals and/or program results that normally require a high degree of creativity and technical organization.
- Are recognized both internally and externally as an authority in a research specialty.
- Receive invitations to participate in technical conferences and serve on national committees.
- Manage Institute employee sections or large complex programs.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and twelve years of experience as a minimum. Individuals have superb verbal, written and interpersonal communications skills and are successful in building a technical program and/or program group primarily in aerospace engineering. Technical areas of expertise include, but are not limited to, avionics, aircraft systems, unmanned aircraft, propulsion control and monitoring, electronic warfare, and instrumentation and test systems.

Acceptable Substitutions: AS and 27 years experience; MA and 11 years experience; PhD and 10 experience.

AEROSPACE & TRAINING ENGINEER 3

Task Description

Individuals at this level demonstrate significant technical leadership within Institute Science and Engineering staff. Individuals contribute to and guide the technical direction of projects. Individuals comprise the corps of knowledgeable, responsible and experienced project managers operating under the technical management line of authority. Individuals serve as program managers of smaller and less complex initiatives or tasks of larger, more complex projects. Individuals assigned in this position:

- Plan, design, coordinate and control the progress of project work to meet client objectives.
- Supervise others as project managers, assuming full responsibility for technical, financial, and work product project completion goals.
- Lead proposal efforts and new promotional work.
- Provide recommendations to management regarding planning, program development and project and promotional efforts.
- Present and publish technical papers.
- Manage technical groups of employees with specific skill sets.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and 7 years of experience as a minimum. Individuals are successful in managing laboratory, testing and development projects and have the aptitude to lead others and administer the technical, financial, client interaction and organizational aspects of programs primarily in aerospace engineering. Technical areas of expertise include, but are not limited to, avionics, aircraft systems, unmanned aircraft, propulsion control and monitoring, electronic warfare, and instrumentation and test systems.

Acceptable Substitutions: AS and 22 years experience; MS and 6 years experience; PhD and 5 years experience.

AEROSPACE & TRAINING ENGINEER 4

Task Description

Individuals at this level generally perform project activities in a support capacity. Emphasis at this level is on the development of skills as a project team member, the development of individual technical specializations, the development of abilities to innovatively support technical objectives and to serve as future program leaders. Individuals may manage tasks associated to larger programs and interact with client technical representatives. Individuals assigned in this position:

- Perform work involving conventional investigation within a technical specialty.
- Identify ideas for new projects and ensure technical quality of current project activities.
- Establish working relationships with clients.
- Develop proficiency in writing and verbal presentation skills
- Deal regularly with other researchers across the Institute to collaborate in studies of interest.
- Supervise laboratory staff in testing activities.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and zero years of experience as a minimum. The individual exercises judgment, diligence and has an aptitude for carrying out assignments primarily in aerospace engineering. Technical areas of expertise include, but are not limited to, avionics, aircraft systems, unmanned aircraft, propulsion control and monitoring, electronic warfare, and instrumentation and test systems.

Acceptable Substitutions: AS and 15 years experience.

AEROSPACE & TRAINING ENGINEERING SUPPORT 1

Task Description

Individuals assigned in these non-exempt positions possess in-depth skills and expertise in a specialty field and provide key support to scientific and engineering project personnel. Individuals exercise wide latitude in carrying out technical instructions and require minimum supervision. Individuals assigned in this position:

- Utilize personal discretion and knowledge to construct components, models and adaptations of standard equipment.
- Troubleshoot problems with test equipment and components.
- Interact with senior staff and clients in discussion of current tests or future activities.
- Provide input to technical reports, proposals and procedures.
- Analyze technical data to uncover anomalies and/or report pertinent data elements.
- Provide training and assist with development of subordinate staff.
- Mentor subordinate technical laboratory staff.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education and five years of relevant experience as a minimum. Individuals supervise and train subordinate staff and interact with project managers and client technical representatives to ensure proper laboratory testing of products or prototypes primarily in aerospace engineering. Technical areas of support include, but are not limited to, avionics, aircraft systems, unmanned aircraft, propulsion control and monitoring, electronic warfare, and instrumentation and test systems.

AEROSPACE & TRAINING ENGINEERING SUPPORT 2

Task Description

Individuals assigned at these non-exempt positions provide support to the skilled senior technical staff. Using developed skills and practical knowledge. The technician is expected to do assigned tasks in the laboratory and/or testing environment under supervision. Individuals assigned in this position:

- Set up experimental apparatus following written or verbal instructions.
- Prepare samples, specimens, prototype instruments and/or test materials following defined procedures.
- Conduct, observe and document standardized test and analyses data following established protocols.
- Conduct routine maintenance on equipment.
- Maintain and order required materials.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education, and one year of relevant experience as a minimum. Individuals have basic knowledge of tasks associated with the technical area of work with skills in the application of mathematical functions, the use of PC software and hands-on craft abilities. Individuals are able to read schematics, drawings, sketches and technical instructions of testing protocols primarily in aerospace engineering. Technical areas of support include, but are not limited to, avionics, aircraft systems, unmanned aircraft, propulsion control and monitoring, electronic warfare, and instrumentation and test systems.

AEROSPACE & TRAINING ENGINEERING SUPPORT 3

Task Description

Individuals assigned in these non-exempt positions execute all clerical and administrative duties required to support the scientific and engineering staff in the performance of project responsibilities. Individuals use office equipment, and using internal processes to complete required project and Institute correspondence and filing requirements. Individuals organize meetings, make travel arrangements and deal effectively with clients. Individuals assigned in this position:

- Have good communication skills to interact with Institute staff and client representatives.
- Answer telephones and exhibit good judgment in answering basic questions.
- Compile administrative, operating or program data and formats based on instructions or established standards.
- Prepare correspondence, proposals and reports editing for format, spelling, punctuation and grammar.
- Act on their own initiative within defined responsibility to carry out routine tasks and procedures.
- Interact with vendors and support services in the normal execution of duties.

Qualifications

This position requires a High School diploma or equivalent education as a minimum, trade school education or continuing education, certification as a professional secretary, and a minimum of zero years of clerical experience. Individuals provide administrative support to projects primarily in aerospace engineering, exercise discretion within dictated areas of responsibility and supervise subordinate staff. Technical areas of support include, but are not limited to, avionics, aircraft systems, unmanned aircraft, propulsion control and monitoring, electronic warfare, and instrumentation and test systems.

AEROSPACE & TRAINING ENGINEERING SUPPORT 4

Task Description

Individuals assigned in these non-exempt positions perform entry-level technical support functions of a routine nature under the close supervision of senior technical staff. Individuals at this level have an ability to learn, knowledge of general technical areas and materials and equipment. Individuals assigned in this position:

- Clean laboratory equipment, materials, and components for testing following defined procedures.
- Assist skilled personnel in performing technical work.
- Use PCs and PC applications to maintain test data.
- Conduct routine tests as directed by supervisors following written or verbal protocols.
- Assists with data documentation and analysis.

Qualifications

This position requires a High School diploma or equivalent education, trade school education or continuing education and zero years of relevant experience. Individuals perform general technical activities that support projects primarily in aerospace engineering. Technical areas of support include, but are not limited to, avionics, aircraft systems, unmanned aircraft, propulsion control and monitoring, electronic warfare, and instrumentation and test systems.

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AUTOMATION AND DATA SYSTEMS DIVISION

LABOR CATEGORY	YR 11: 10/10/11 - 10/09/12	YR 12: 10/10/12 - 10/09/13	YR 13: 10/10/13 - 10/09/14	YR 14: 10/10/14 - 10/09/15	YR 15: 10/10/15 - 10/09/16
Systems Engineer 2	243.75	251.84	259.72	267.41	274.90
Systems Engineer 3	173.38	179.14	184.74	190.21	195.54
Systems Engineer 4	127.63	131.86	135.99	140.02	143.94
Systems Engineering Support 1	98.55	101.83	105.01	108.12	111.15
Systems Engineering Support 2	54.04	55.83	57.58	59.29	60.95
Systems Engineering Support 3	73.06	74.97	76.81	78.96	81.29
Systems Engineering Support 4	44.82	45.99	47.13	48.44	49.87

SYSTEMS ENGINEER 2

Task Description

Individuals assigned are recognized as a vital technical resource, having established a reputation for scientific excellence at the Institute and to some extent in the external community. Individuals manage projects, programs and staff members in the pursuit of technical and financial objectives. Individuals assigned in this position:

- Accomplish advanced scientific and engineering work within technical area of expertise and discipline.
- Are recognized as highly qualified in a research specialty and possess a similar reputation with clients and the professional community.
- Develop collaborative efforts in research and development across division and company lines.
- Take the lead in the promotion of new projects and programs while advancing technology.
- Oversee the preparation, presentation, and follow-up of major proposals and/or program results that normally require a high degree of creativity and technical organization.
- Are recognized both internally and externally as an authority in a research specialty.
- Receive invitations to participate in technical conferences and serve on national committees.
- Manage Institute employee sections or large complex programs.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and twelve years of experience as a minimum. Individuals have superb verbal, written and interpersonal communications skills and are successful in building a technical program and/or program group primarily in systems engineering. Technical areas of expertise include, but are not limited to, communications, manufacturing, automation, bioengineering, intelligent transportation, process improvement/reengineering and computer science.

Acceptable Substitutions: AS and 27 years experience; MA and 11 years experience; PhD and 10 experience.

SYSTEMS ENGINEER 3

Task Description

Individuals at this level demonstrate significant technical leadership within Institute Science and Engineering staff. Individuals contribute to and guide the technical direction of projects. Individuals comprise the corps of knowledgeable, responsible and experienced project managers operating under the technical management line of authority. Individuals serve as program managers of smaller and less complex initiatives or tasks of larger, more complex projects. Individuals assigned in this position:

- Plan, design, coordinate and control the progress of project work to meet client objectives.
- Supervise others as project managers, assuming full responsibility for technical, financial, and work product project completion goals.
- Lead proposal efforts and new promotional work.
- Provide recommendations to management regarding planning, program development and project and promotional efforts.
- Present and publish technical papers.
- Manage technical groups of employees with specific skill sets.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and 7 years of experience as a minimum. Individuals are successful in managing laboratory, testing and development projects and have the aptitude to lead others and administer the technical, financial, client interaction and organizational aspects of programs primarily in systems engineering. Technical areas of expertise include, but are not limited to, communications, manufacturing, automation, bioengineering, intelligent transportation, process improvement/reengineering and computer science.

Acceptable Substitutions: AS and 22 years experience; MS and 6 years experience; PhD and 5 years experience.

SYSTEMS ENGINEER 4

Task Description

Individuals at this level generally perform project activities in a support capacity. Emphasis at this level is on the development of skills as a project team member, the development of individual technical specializations, the development of abilities to innovatively support technical objectives and to serve as future program leaders. Individuals may manage tasks associated to larger programs and interact with client technical representatives. Individuals assigned in this position:

- Perform work involving conventional investigation within a technical specialty.
- Identify ideas for new projects and ensure technical quality of current project activities.
- Establish working relationships with clients.
- Develop proficiency in writing and verbal presentation skills
- Deal regularly with other researchers across the Institute to collaborate in studies of interest.
- Supervise laboratory staff in testing activities.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and zero years of experience as a minimum. The individual exercises judgment, diligence and has an aptitude for carrying out assignments primarily in systems engineering. Technical areas of expertise include, but are not limited to, communications, manufacturing, automation, bioengineering, intelligent transportation, process improvement/reengineering and computer science.

Acceptable Substitutions: AS and 15 years experience.

SYSTEMS ENGINEERING SUPPORT 1

Task Description

Individuals assigned in these non-exempt positions possess in-depth skills and expertise in a specialty field and provide key support to scientific and engineering project personnel. Individuals exercise wide latitude in carrying out technical instructions and require minimum supervision. Individuals assigned in this position:

- Utilize personal discretion and knowledge to construct components, models and adaptations of standard equipment.
- Troubleshoot problems with test equipment and components.
- Interact with senior staff and clients in discussion of current tests or future activities.
- Provide input to technical reports, proposals and procedures.
- Analyze technical data to uncover anomalies and/or report pertinent data elements.
- Provide training and assist with development of subordinate staff.
- Mentor subordinate technical laboratory staff.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education and five years of relevant experience as a minimum. Individuals supervise and train subordinate staff and interact with project managers and client technical representatives to ensure proper laboratory testing of products or prototypes primarily in systems engineering. Technical areas of support include, but are not limited to, communications, manufacturing, automation, bioengineering, intelligent transportation, process improvement/reengineering and computer science.

SYSTEMS ENGINEERING SUPPORT 2

Task Description

Individuals assigned at these non-exempt positions provide support to the skilled senior technical staff. Using developed skills and practical knowledge. The technician is expected to do assigned tasks in the laboratory and/or testing environment under supervision. Individuals assigned in this position:

- Set up experimental apparatus following written or verbal instructions.
- Prepare samples, specimens, prototype instruments and/or test materials following defined procedures.
- Conduct, observe and document standardized test and analyses data following established protocols.
- Conduct routine maintenance on equipment.
- Maintain and order required materials.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education, and one year of relevant experience as a minimum. Individuals have basic knowledge of tasks associated with the technical area of work with skills in the application of mathematical functions, the use of PC software and hands-on craft abilities. Individuals are able to read schematics, drawings, sketches and technical instructions of testing protocols primarily in systems engineering. Technical areas of support include, but are not limited to, communications, manufacturing, automation, bioengineering, intelligent transportation, process improvement/reengineering and computer science.

SYSTEMS ENGINEERING SUPPORT 3

Task Description

Individuals assigned in these non-exempt positions execute all clerical and administrative duties required to support the scientific and engineering staff in the performance of project responsibilities. Individuals use office equipment, and using internal processes to complete required project and Institute correspondence and filing requirements. Individuals organize meetings, make travel arrangements and deal effectively with clients. Individuals assigned in this position:

- Have good communication skills to interact with Institute staff and client representatives.
- Answer telephones and exhibit good judgment in answering basic questions.
- Compile administrative, operating or program data and formats based on instructions or established standards.
- Prepare correspondence, proposals and reports editing for format, spelling, punctuation and grammar.
- Act on their own initiative within defined responsibility to carry out routine tasks and procedures.
- Interact with vendors and support services in the normal execution of duties.

Qualifications

This position requires a High School diploma or equivalent education as a minimum, trade school education or continuing education, certification as a professional secretary, and a minimum of zero years of clerical experience. Individuals provide administrative support to projects primarily in systems engineering, exercise discretion within dictated areas of responsibility and supervise subordinate staff. Technical areas of support include, but are not limited to, communications, manufacturing, automation, bioengineering, intelligent transportation, process improvement/reengineering and computer science.

SYSTEMS ENGINEERING SUPPORT 4

Task Description

Individuals assigned in these non-exempt positions perform entry-level technical support functions of a routine nature under the close supervision of senior technical staff. Individuals at this level have an ability to learn, knowledge of general technical areas and materials and equipment. Individuals assigned in this position:

- Clean laboratory equipment, materials, and components for testing following defined procedures.
- Assist skilled personnel in performing technical work.
- Use PCs and PC applications to maintain test data.
- Conduct routine tests as directed by supervisors following written or verbal protocols.
- Assists with data documentation and analysis.

Qualifications

This position requires a High School diploma or equivalent education, trade school education or continuing education and zero years of relevant experience. Individuals perform general technical activities that support projects primarily in systems engineering. Technical areas of support include, but are not limited to, communications, manufacturing, automation, bioengineering, intelligent transportation, process improvement/reengineering and computer science.

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APPLIED PHYSICS DIVISION

LABOR CATEGORY	YR 11: 10/10/11 - 10/09/12	YR 12: 10/10/12 - 10/09/13	YR 13: 10/10/13 - 10/09/14	YR 14: 10/10/14 - 10/09/15	YR 15: 10/10/15 - 10/09/16
Electromechanical Systems Engineer 2	231.87	239.57	247.07	254.38	261.50
Electromechanical Systems Engineer 3	164.21	169.66	174.97	180.15	185.20
Electromechanical Systems Engineer 4	129.23	133.52	137.70	141.78	145.75
Electromechanical Systems Engineering Support 1	88.54	91.48	94.35	97.14	99.86
Electromechanical Systems Engineering Support 2	57.31	59.21	61.06	62.87	64.63
Electromechanical Systems Engineering Support 3	72.12	74.00	75.82	77.94	80.24

ELECTROMECHANICAL SYSTEMS ENGINEER 2

Task Description

Individuals assigned are recognized as a vital technical resource, having established a reputation for scientific excellence at the Institute and to some extent in the external community. Individuals manage projects, programs and staff members in the pursuit of technical and financial objectives. Individuals assigned in this position:

- Accomplish advanced scientific and engineering work within technical area of expertise and discipline.
- Are recognized as highly qualified in a research specialty and possess a similar reputation with clients and the professional community.
- Develop collaborative efforts in research and development across division and company lines.
- Take the lead in the promotion of new projects and programs while advancing technology.
- Oversee the preparation, presentation, and follow-up of major proposals and/or program results that normally require a high degree of creativity and technical organization.
- Are recognized both internally and externally as an authority in a research specialty.
- Receive invitations to participate in technical conferences and serve on national committees.
- Manage Institute employee sections or large complex programs.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and twelve years of experience as a minimum. Individuals have superb verbal, written and interpersonal communications skills and are successful in building a technical program and/or program group primarily in systems engineering. Technical areas of expertise include, but are not limited to, digital and analog electronics, physics and applications of physical science, chemistry, biology, robotics, electro-mechanical system design, optics, MEMs, and power systems.

Acceptable Substitutions: AS and 27 years experience; MA and 11 years experience; PhD and 10 experience.

ELECTROMECHANICAL SYSTEMS ENGINEER 3

Task Description

Individuals at this level demonstrate significant technical leadership within Institute Science and Engineering staff. Individuals contribute to and guide the technical direction of projects. Individuals comprise the corps of knowledgeable, responsible and experienced project managers operating under the technical management line of authority. Individuals serve as program managers of smaller and less complex initiatives or tasks of larger, more complex projects. Individuals assigned in this position:

- Plan, design, coordinate and control the progress of project work to meet client objectives.
- Supervise others as project managers, assuming full responsibility for technical, financial, and work product project completion goals.
- Lead proposal efforts and new promotional work.
- Provide recommendations to management regarding planning, program development and project and promotional efforts.
- Present and publish technical papers.
- Manage technical groups of employees with specific skill sets.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and 7 years of experience as a minimum. Individuals are successful in managing laboratory, testing and development projects and have the aptitude to lead others and administer the technical, financial, client interaction and organizational aspects of programs primarily in systems engineering. Technical areas of expertise include, but are not limited to, digital and analog electronics, physics and applications of physical science, chemistry, biology, robotics, electro-mechanical system design, optics, MEMs, and power systems.

Acceptable Substitutions: AS and 22 years experience; MS and 6 years experience; PhD and 5 years experience.

ELECTROMECHANICAL SYSTEMS ENGINEER 4

Task Description

Individuals at this level generally perform project activities in a support capacity. Emphasis at this level is on the development of skills as a project team member, the development of individual technical specializations, the development of abilities to innovatively support technical objectives and to serve as future program leaders. Individuals may manage tasks associated to larger programs and interact with client technical representatives. Individuals assigned in this position:

- Perform work involving conventional investigation within a technical specialty.
- Identify ideas for new projects and ensure technical quality of current project activities.
- Establish working relationships with clients.
- Develop proficiency in writing and verbal presentation skills
- Deal regularly with other researchers across the Institute to collaborate in studies of interest.
- Supervise laboratory staff in testing activities.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and zero years of experience as a minimum. The individual exercises judgment, diligence and has an aptitude for carrying out assignments primarily in systems engineering. Technical areas of expertise include, but are not limited to, digital and analog electronics, physics and applications of physical science, chemistry, biology, robotics, electro-mechanical system design, optics, MEMs, and power systems.

Acceptable Substitutions: AS and 15 years experience.

ELECTROMECHANICAL SYSTEMS ENGINEERING SUPPORT 1

Task Description

Individuals assigned in these non-exempt positions possess in-depth skills and expertise in a specialty field and provide key support to scientific and engineering project personnel. Individuals exercise wide latitude in carrying out technical instructions and require minimum supervision. Individuals assigned in this position:

- Utilize personal discretion and knowledge to construct components, models and adaptations of standard equipment.
- Troubleshoot problems with test equipment and components.
- Interact with senior staff and clients in discussion of current tests or future activities.
- Provide input to technical reports, proposals and procedures.
- Analyze technical data to uncover anomalies and/or report pertinent data elements.
- Provide training and assist with development of subordinate staff.
- Mentor subordinate technical laboratory staff.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education and five years of relevant experience as a minimum. Individuals supervise and train subordinate staff and interact with project managers and client technical representatives to ensure proper laboratory testing of products or prototypes primarily in systems engineering. Technical areas of expertise include, but are not limited to, digital and analog electronics, physics and applications of physical science, chemistry, biology, robotics, electro-mechanical system design, optics, MEMs, and power systems.

ELECTROMECHANICAL SYSTEMS ENGINEERING SUPPORT 2

Task Description

Individuals assigned at these non-exempt positions provide support to the skilled senior technical staff. Using developed skills and practical knowledge. The technician is expected to do assigned tasks in the laboratory and/or testing environment under supervision. Individuals assigned in this position:

- Set up experimental apparatus following written or verbal instructions.
- Prepare samples, specimens, prototype instruments and/or test materials following defined procedures.
- Conduct, observe and document standardized test and analyses data following established protocols.
- Conduct routine maintenance on equipment.
- Maintain and order required materials.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education, and one year of relevant experience as a minimum. Individuals have basic knowledge of tasks associated with the technical area of work with skills in the application of mathematical functions, the use of PC software and hands-on craft abilities. Individuals are able to read schematics, drawings, sketches and technical instructions of testing protocols primarily in systems engineering. Technical areas of expertise include, but are not limited to, digital and analog electronics, physics and applications of physical science, chemistry, biology, robotics, electro-mechanical system design, optics, MEMs, and power systems.

ELECTROMECHANICAL SYSTEMS ENGINEERING SUPPORT 3

Task Description

Individuals assigned in these non-exempt positions execute all clerical and administrative duties required to support the scientific and engineering staff in the performance of project responsibilities. Individuals use office equipment, and using internal processes to complete required project and Institute correspondence and filing requirements. Individuals organize meetings, make travel arrangements and deal effectively with clients. Individuals assigned in this position:

- Have good communication skills to interact with Institute staff and client representatives.
- Answer telephones and exhibit good judgment in answering basic questions.
- Compile administrative, operating or program data and formats based on instructions or established standards.
- Prepare correspondence, proposals and reports editing for format, spelling, punctuation and grammar.
- Act on their own initiative within defined responsibility to carry out routine tasks and procedures.
- Interact with vendors and support services in the normal execution of duties.

Qualifications

This position requires a High School diploma or equivalent education as a minimum, trade school education or continuing education, certification as a professional secretary, and a minimum of zero years of clerical experience. Individuals provide administrative support to projects primarily in systems engineering, exercise discretion within dictated areas of responsibility and supervise subordinate staff. Technical areas of expertise include, but are not limited to, digital and analog electronics, physics and applications of physical science, chemistry, biology, robotics, electro-mechanical system design, optics, MEMs, and power systems.

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SPACE SCIENCE AND ENGINEERING DIVISION

LABOR CATEGORY	YR 11: 10/10/11 - 10/09/12	YR 12: 10/10/12 - 10/09/13	YR 13: 10/10/13 - 10/09/14	YR 14: 10/10/14 - 10/09/15	YR 15: 10/10/15 - 10/09/16
Space Science Engineer 2	230.82	238.48	245.95	253.23	260.32
Space Science Engineer 3	163.02	168.43	173.70	178.85	183.85
Space Science Engineer 4	122.82	126.90	130.87	134.74	138.52
Space Science Engineering Support 1	95.86	99.05	102.15	105.17	108.11
Space Science Engineering Support 2	59.71	61.69	63.62	65.51	67.34
Space Science Engineering Support 3	75.28	77.25	79.15	81.36	83.76
Space Science Engineering Support 4	51.63	52.97	54.28	55.80	57.44

SPACE SCIENCE ENGINEER 2

Task Description

Individuals assigned are recognized as a vital technical resource, having established a reputation for scientific excellence at the Institute and to some extent in the external community. Individuals manage projects, programs and staff members in the pursuit of technical and financial objectives. Individuals assigned in this position:

- Accomplish advanced scientific and engineering work within technical area of expertise and discipline.
- Are recognized as highly qualified in a research specialty and possess a similar reputation with clients and the professional community.
- Develop collaborative efforts in research and development across division and company lines.
- Take the lead in the promotion of new projects and programs while advancing technology.
- Oversee the preparation, presentation, and follow-up of major proposals and/or program results that normally require a high degree of creativity and technical organization.
- Are recognized both internally and externally as an authority in a research specialty.
- Receive invitations to participate in technical conferences and serve on national committees.
- Manage Institute employee sections or large complex programs.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and twelve years of experience as a minimum. Individuals have superb verbal, written and interpersonal communications skills and are successful in building a technical program and/or program group primarily in systems engineering. Technical areas of expertise include, but are not limited to, digital and analog electronics, physics and applications of physical science, chemistry, biology, robotics, electromechanical system design, optics, MEMs, and power systems.

Acceptable Substitutions: AS and 27 years experience; MA and 11 years experience; PhD and 10 experience.

SPACE SCIENCE ENGINEER 3

Task Description

Individuals at this level demonstrate significant technical leadership within Institute Science and Engineering staff. Individuals contribute to and guide the technical direction of projects. Individuals comprise the corps of knowledgeable, responsible and experienced project managers operating under the technical management line of authority. Individuals serve as program managers of smaller and less complex initiatives or tasks of larger, more complex projects. Individuals assigned in this position:

- Plan, design, coordinate and control the progress of project work to meet client objectives.
- Supervise others as project managers, assuming full responsibility for technical, financial, and work product project completion goals.
- Lead proposal efforts and new promotional work.
- Provide recommendations to management regarding planning, program development and project and promotional efforts.
- Present and publish technical papers.
- Manage technical groups of employees with specific skill sets.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and 7 years of experience as a minimum. Individuals are successful in managing laboratory, testing and development projects and have the aptitude to lead others and administer the technical, financial, client interaction and organizational aspects of programs primarily in systems engineering. Technical areas of expertise include, but are not limited to, digital and analog electronics, physics and applications of physical science, chemistry, biology, robotics, electromechanical system design, optics, MEMs, and power systems.

Acceptable Substitutions: AS and 22 years experience; MS and 6 years experience; PhD and 5 years experience.

SPACE SCIENCE ENGINEER 4

Task Description

Individuals at this level generally perform project activities in a support capacity. Emphasis at this level is on the development of skills as a project team member, the development of individual technical specializations, the development of abilities to innovatively support technical objectives and to serve as future program leaders. Individuals may manage tasks associated to larger programs and interact with client technical representatives. Individuals assigned in this position:

- Perform work involving conventional investigation within a technical specialty.
- Identify ideas for new projects and ensure technical quality of current project activities.
- Establish working relationships with clients.
- Develop proficiency in writing and verbal presentation skills
- Deal regularly with other researchers across the Institute to collaborate in studies of interest.
- Supervise laboratory staff in testing activities.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and zero years of experience as a minimum. The individual exercises judgment, diligence and has an aptitude for carrying out assignments primarily in systems engineering. Technical areas of expertise include, but are not limited to, digital and analog electronics, physics and applications of physical science, chemistry, biology, robotics, electromechanical system design, optics, MEMs, and power systems.

Acceptable Substitutions: AS and 15 years experience.

SPACE SCIENCE ENGINEERING SUPPORT 1

Task Description

Individuals assigned in these non-exempt positions possess in-depth skills and expertise in a specialty field and provide key support to scientific and engineering project personnel. Individuals exercise wide latitude in carrying out technical instructions and require minimum supervision. Individuals assigned in this position:

- Utilize personal discretion and knowledge to construct components, models and adaptations of standard equipment.
- Troubleshoot problems with test equipment and components.
- Interact with senior staff and clients in discussion of current tests or future activities.
- Provide input to technical reports, proposals and procedures.
- Analyze technical data to uncover anomalies and/or report pertinent data elements.
- Provide training and assist with development of subordinate staff.
- Mentor subordinate technical laboratory staff.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education and five years of relevant experience as a minimum. Individuals supervise and train subordinate staff and interact with project managers and client technical representatives to ensure proper laboratory testing of products or prototypes primarily in systems engineering. Technical areas of expertise include, but are not limited to, digital and analog electronics, physics and applications of physical science, chemistry, biology, robotics, electromechanical system design, optics, MEMs, and power systems.

SPACE SCIENCE ENGINEERING SUPPORT 2

Task Description

Individuals assigned at these non-exempt positions provide support to the skilled senior technical staff. Using developed skills and practical knowledge. The technician is expected to do assigned tasks in the laboratory and/or testing environment under supervision. Individuals assigned in this position:

- Set up experimental apparatus following written or verbal instructions.
- Prepare samples, specimens, prototype instruments and/or test materials following defined procedures.
- Conduct, observe and document standardized test and analyses data following established protocols.
- Conduct routine maintenance on equipment.
- Maintain and order required materials.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education, and one year of relevant experience as a minimum. Individuals have basic knowledge of tasks associated with the technical area of work with skills in the application of mathematical functions, the use of PC software and hands-on craft abilities. Individuals are able to read schematics, drawings, sketches and technical instructions of testing protocols primarily in systems engineering. Technical areas of expertise include, but are not limited to, digital and analog electronics, physics and applications of physical science, chemistry, biology, robotics, electromechanical system design, optics, MEMs, and power systems.

SPACE SCIENCE ENGINEERING SUPPORT 3

Task Description

Individuals assigned in these non-exempt positions execute all clerical and administrative duties required to support the scientific and engineering staff in the performance of project responsibilities. Individuals use office equipment, and using internal processes to complete required project and Institute correspondence and filing requirements. Individuals organize meetings, make travel arrangements and deal effectively with clients. Individuals assigned in this position:

- Have good communication skills to interact with Institute staff and client representatives.
- Answer telephones and exhibit good judgment in answering basic questions.
- Compile administrative, operating or program data and formats based on instructions or established standards.
- Prepare correspondence, proposals and reports editing for format, spelling, punctuation and grammar.
- Act on their own initiative within defined responsibility to carry out routine tasks and procedures.
- Interact with vendors and support services in the normal execution of duties.

Qualifications

This position requires a High School diploma or equivalent education as a minimum, trade school education or continuing education, certification as a professional secretary, and a minimum of zero years of clerical experience. Individuals provide administrative support to projects primarily in systems engineering, exercise discretion within dictated areas of responsibility and supervise subordinate staff. Technical areas of expertise include, but are not limited to, digital and analog electronics, physics and applications of physical science, chemistry, biology, robotics, electromechanical system design, optics, MEMs, and power systems.

SPACE SCIENCE ENGINEERING SUPPORT 4

Task Description

Individuals assigned in these non-exempt positions perform entry-level technical support functions of a routine nature under the close supervision of senior technical staff. Individuals at this level have an ability to learn, knowledge of general technical areas and materials and equipment. Individuals assigned in this position:

- Clean laboratory equipment, materials, and components for testing following defined procedures.
- Assist skilled personnel in performing technical work.
- Use PCs and PC applications to maintain test data.
- Conduct routine tests as directed by supervisors following written or verbal protocols.
- Assists with data documentation and analysis.

Qualifications

This position requires a High School diploma or equivalent education, trade school education or continuing education and zero years of relevant experience. Individuals perform general technical activities that support projects primarily in systems engineering. Technical areas of expertise include, but are not limited to, digital and analog electronics, physics and applications of physical science, chemistry, biology, robotics, electromechanical system design, optics, MEMs, and power systems.

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SIGNAL EXPLOITATION AND GEOLOCATION DIVISION

LABOR CATEGORY	YR 11: 10/10/11 - 10/09/12	YR 12: 10/10/12 - 10/09/13	YR 13: 10/10/13 - 10/09/14	YR 14: 10/10/14 - 10/09/15	YR 15: 10/10/15 - 10/09/16
Electromagnetics Engineer 2	224.06	231.49	238.74	245.81	252.69
Electromagnetics Engineer 3	157.96	163.20	168.31	173.29	178.15
Electromagnetics Engineer 4	121.23	125.26	129.18	133.00	136.73
Electromagnetics Engineering Support 1	79.70	82.34	84.92	87.44	89.88
Electromagnetics Engineering Support 2	53.20	54.97	56.69	58.37	60.00
Electromagnetics Engineering Support 3	63.51	65.16	66.77	68.64	70.66
Electromagnetics Engineering Support 4	48.61	49.87	51.10	52.53	54.08

ELECTROMAGNETICS ENGINEER 2

Task Description

Individuals assigned are recognized as a vital technical resource, having established a reputation for scientific excellence at the Institute and to some extent in the external community. Individuals manage projects, programs and staff members in the pursuit of technical and financial objectives. Individuals assigned in this position:

- Accomplish advanced scientific and engineering work within technical area of expertise and discipline.
- Are recognized as highly qualified in a research specialty and possess a similar reputation with clients and the professional community.
- Develop collaborative efforts in research and development across division and company lines.
- Take the lead in the promotion of new projects and programs while advancing technology.
- Oversee the preparation, presentation, and follow-up of major proposals and/or program results that normally require a high degree of creativity and technical organization.
- Are recognized both internally and externally as an authority in a research specialty.
- Receive invitations to participate in technical conferences and serve on national committees.
- Manage Institute employee sections or large complex programs.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and twelve years of experience as a minimum. Individuals have superb verbal, written and interpersonal communications skills and are successful in building a technical program and/or program group primarily in electromagnetics, signals, and communications engineering. Technical areas of expertise include signal processing, signal exploitation, direction finding, surveillance systems, geolocation, embedded systems, electromagnetics, antennas, communications systems, and radio-frequency (RF) analysis and design.

Acceptable Substitutions: AS and 27 years experience; MA and 11 years experience; PhD and 10 experience.

ELECTROMAGNETICS ENGINEER 3

Task Description

Individuals at this level demonstrate significant technical leadership within Institute Science and Engineering staff. Individuals contribute to and guide the technical direction of projects. Individuals comprise the corps of knowledgeable, responsible and experienced project managers operating under the technical management line of authority. Individuals serve as program managers of smaller and less complex initiatives or tasks of larger, more complex projects. Individuals assigned in this position:

- Plan, design, coordinate and control the progress of project work to meet client objectives.
- Supervise others as project managers, assuming full responsibility for technical, financial, and work product project completion goals.
- Lead proposal efforts and new promotional work.
- Provide recommendations to management regarding planning, program development and project and promotional efforts.
- Present and publish technical papers.
- Manage technical groups of employees with specific skill sets.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and 7 years of experience as a minimum. Individuals are successful in managing laboratory, testing and development projects and have the aptitude to lead others and administer the technical, financial, client interaction and organizational aspects of programs primarily in electromagnetics, signals, and communications engineering. Technical areas of expertise include signal processing, signal exploitation, direction finding, surveillance systems, geolocation, embedded systems, electromagnetics, antennas, communications systems, and radio-frequency (RF) analysis and design.

Acceptable Substitutions: AS and 22 years experience; MS and 6 years experience; PhD and 5 years experience.

ELECTROMAGNETICS ENGINEER 4

Task Description

Individuals at this level generally perform project activities in a support capacity. Emphasis at this level is on the development of skills as a project team member, the development of individual technical specializations, the development of abilities to innovatively support technical objectives and to serve as future program leaders. Individuals may manage tasks associated to larger programs and interact with client technical representatives. Individuals assigned in this position:

- Perform work involving conventional investigation within a technical specialty.
- Identify ideas for new projects and ensure technical quality of current project activities.
- Establish working relationships with clients.
- Develop proficiency in writing and verbal presentation skills
- Deal regularly with other researchers across the Institute to collaborate in studies of interest.
- Supervise laboratory staff in testing activities.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and zero years of experience as a minimum. The individual exercises judgment, diligence and has an aptitude for carrying out assignments primarily in electromagnetics, signals, and communications engineering. Technical areas of expertise include signal processing, signal exploitation, direction finding, surveillance systems, geolocation, embedded systems, electromagnetics, antennas, communications systems, and radio-frequency (RF) analysis and design.

Acceptable Substitutions: AS and 15 years experience.

ELECTROMAGNETICS ENGINEERING SUPPORT 1

Task Description

Individuals assigned in these non-exempt positions possess in-depth skills and expertise in a specialty field and provide key support to scientific and engineering project personnel. Individuals exercise wide latitude in carrying out technical instructions and require minimum supervision. Individuals assigned in this position:

- Utilize personal discretion and knowledge to construct components, models and adaptations of standard equipment.
- Troubleshoot problems with test equipment and components.
- Interact with senior staff and clients in discussion of current tests or future activities.
- Provide input to technical reports, proposals and procedures.
- Analyze technical data to uncover anomalies and/or report pertinent data elements.
- Provide training and assist with development of subordinate staff.
- Mentor subordinate technical laboratory staff.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education and five years of relevant experience as a minimum. Individuals supervise and train subordinate staff and interact with project managers and client technical representatives to ensure proper laboratory testing of products or prototypes primarily in electromagnetics, signals, and communications engineering. Technical areas of expertise include signal processing, signal exploitation, direction finding, surveillance systems, geolocation, embedded systems, electromagnetics, antennas, communications systems, and radio-frequency (RF) analysis and design.

ELECTROMAGNETICS ENGINEERING SUPPORT 2

Task Description

Individuals assigned at these non-exempt positions provide support to the skilled senior technical staff. Using developed skills and practical knowledge. The technician is expected to do assigned tasks in the laboratory and/or testing environment under supervision. Individuals assigned in this position:

- Set up experimental apparatus following written or verbal instructions.
- Prepare samples, specimens, prototype instruments and/or test materials following defined procedures.
- Conduct, observe and document standardized test and analyses data following established protocols.
- Conduct routine maintenance on equipment.
- Maintain and order required materials.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education, and one year of relevant experience as a minimum. Individuals have basic knowledge of tasks associated with the technical area of work with skills in the application of mathematical functions, the use of PC software and hands-on craft abilities. Individuals are able to read schematics, drawings, sketches and technical instructions of testing protocols primarily in electromagnetics, signals, and communications engineering. Technical areas of expertise include signal processing, signal exploitation, direction finding, surveillance systems, geolocation, embedded systems, electromagnetics, antennas, communications systems, and radio-frequency (RF) analysis and design.

ELECTROMAGNETICS ENGINEERING SUPPORT 3

Task Description

Individuals assigned in these non-exempt positions execute all clerical and administrative duties required to support the scientific and engineering staff in the performance of project responsibilities. Individuals use office equipment, and using internal processes to complete required project and Institute correspondence and filing requirements. Individuals organize meetings, make travel arrangements and deal effectively with clients. Individuals assigned in this position:

- Have good communication skills to interact with Institute staff and client representatives.
- Answer telephones and exhibit good judgment in answering basic questions.
- Compile administrative, operating or program data and formats based on instructions or established standards.
- Prepare correspondence, proposals and reports editing for format, spelling, punctuation and grammar.
- Act on their own initiative within defined responsibility to carry out routine tasks and procedures.
- Interact with vendors and support services in the normal execution of duties.

Qualifications

This position requires a High School diploma or equivalent education as a minimum, trade school education or continuing education, certification as a professional secretary, and a minimum of zero years of clerical experience. Individuals provide administrative support to projects primarily in electromagnetics, signals, and communications engineering. Technical areas of expertise include signal processing, signal exploitation, direction finding, surveillance systems, geolocation, embedded systems, electromagnetics, antennas, communications systems, and radio-frequency (RF) analysis and design.

ELECTROMAGNETICS ENGINEERING SUPPORT 4

Task Description

Individuals assigned in these non-exempt positions perform entry-level technical support functions of a routine nature under the close supervision of senior technical staff. Individuals at this level have an ability to learn, knowledge of general technical areas and materials and equipment. Individuals assigned in this position:

- Clean laboratory equipment, materials, and components for testing following defined procedures.
- Assist skilled personnel in performing technical work.
- Use PCs and PC applications to maintain test data.
- Conduct routine tests as directed by supervisors following written or verbal protocols.
- Assists with data documentation and analysis.

Qualifications

This position requires a High School diploma or equivalent education, trade school education or continuing education and zero years of relevant experience. Individuals perform general technical activities that support projects primarily in electromagnetics, signals, and communications engineering. Technical areas of expertise include signal processing, signal exploitation, direction finding, surveillance systems, geolocation, embedded systems, electromagnetics, antennas, communications systems, and radio-frequency (RF) analysis and design.

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MECHANICAL ENGINEERING DIVISION

LABOR CATEGORY	YR 11: 10/10/11 - 10/09/12	YR 12: 10/10/12 - 10/09/13	YR 13: 10/10/13 - 10/09/14	YR 14: 10/10/14 - 10/09/15	YR 15: 10/10/15 - 10/09/16
Mechanical Engineer 2	227.06	234.59	241.94	249.10	256.07
Mechanical Engineer 3	163.81	169.25	174.55	179.71	184.74
Mechanical Engineer 4	127.73	131.97	136.10	140.13	144.05
Mechanical Engineering Support 1	84.80	87.62	90.36	93.03	95.64
Mechanical Engineering Support 2	56.89	58.77	60.61	62.41	64.15
Mechanical Engineering Support 3	73.68	75.60	77.46	79.63	81.98
Mechanical Engineering Support 4	45.00	46.17	47.31	48.64	50.07

MECHANICAL ENGINEER 2

Task Description

Individuals assigned are recognized as a vital technical resource, having established a reputation for scientific excellence at the Institute and to some extent in the external community. Individuals manage projects, programs and staff members in the pursuit of technical and financial objectives. Individuals assigned in this position:

- Accomplish advanced scientific and engineering work within technical area of expertise and discipline.
- Are recognized as highly qualified in a research specialty and possess a similar reputation with clients and the professional community.
- Develop collaborative efforts in research and development across division and company lines.
- Take the lead in the promotion of new projects and programs while advancing technology.
- Oversee the preparation, presentation, and follow-up of major proposals and/or program results that normally require a high degree of creativity and technical organization.
- Are recognized both internally and externally as an authority in a research specialty.
- Receive invitations to participate in technical conferences and serve on national committees.
- Manage Institute employee sections or large complex programs.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and twelve years of experience as a minimum. Individuals have superb verbal, written and interpersonal communications skills and are successful in building a technical program and/or program group primarily in mechanical and materials engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include engineering dynamics, materials engineering, mechanical and fluids engineering, structural engineering, and electromagnetic compatibility engineering to improve the safety, reliability, efficiency and life of new or existing mechanical components, structures and systems.

Acceptable Substitutions: AS and 27 years experience; MA and 11 years experience; PhD and 10 experience.

MECHANICAL ENGINEER 3

Task Description

Individuals at this level demonstrate significant technical leadership within Institute Science and Engineering staff. Individuals contribute to and guide the technical direction of projects. Individuals comprise the corps of knowledgeable, responsible and experienced project managers operating under the technical management line of authority. Individuals serve as program managers of smaller and less complex initiatives or tasks of larger, more complex projects. Individuals assigned in this position:

- Plan, design, coordinate and control the progress of project work to meet client objectives.
- Supervise others as project managers, assuming full responsibility for technical, financial, and work product project completion goals.
- Lead proposal efforts and new promotional work.
- Provide recommendations to management regarding planning, program development and project and promotional efforts.
- Present and publish technical papers.
- Manage technical groups of employees with specific skill sets.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and 7 years of experience as a minimum. Individuals are successful in managing laboratory, testing and development projects and have the aptitude to lead others and administer the technical, financial, client interaction and organizational aspects of programs primarily in mechanical and materials engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include engineering dynamics, materials engineering, mechanical and fluids engineering, structural engineering, and electromagnetic compatibility engineering to improve the safety, reliability, efficiency and life of new or existing mechanical components, structures and systems.

Acceptable Substitutions: AS and 22 years experience; MS and 6 years experience; PhD and 5 years experience.

MECHANICAL ENGINEER 4

Task Description

Individuals at this level generally perform project activities in a support capacity. Emphasis at this level is on the development of skills as a project team member, the development of individual technical specializations, the development of abilities to innovatively support technical objectives and to serve as future program leaders. Individuals may manage tasks associated to larger programs and interact with client technical representatives. Individuals assigned in this position:

- Perform work involving conventional investigation within a technical specialty.
- Identify ideas for new projects and ensure technical quality of current project activities.
- Establish working relationships with clients.
- Develop proficiency in writing and verbal presentation skills
- Deal regularly with other researchers across the Institute to collaborate in studies of interest.
- Supervise laboratory staff in testing activities.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and zero years of experience as a minimum. The individual exercises judgment, diligence and has an aptitude for carrying out assignments primarily in mechanical and materials engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include engineering dynamics, materials engineering, mechanical and fluids engineering, structural engineering, and electromagnetic compatibility engineering to improve the safety, reliability, efficiency and life of new or existing mechanical

components, structures and systems.

Acceptable Substitutions: AS and 15 years experience.

MECHANICAL ENGINEERING SUPPORT 1

Task Description

Individuals assigned in these non-exempt positions possess in-depth skills and expertise in a specialty field and provide key support to scientific and engineering project personnel. Individuals exercise wide latitude in carrying out technical instructions and require minimum supervision. Individuals assigned in this position:

- Utilize personal discretion and knowledge to construct components, models and adaptations of standard equipment.
- Troubleshoot problems with test equipment and components.
- Interact with senior staff and clients in discussion of current tests or future activities.
- Provide input to technical reports, proposals and procedures.
- Analyze technical data to uncover anomalies and/or report pertinent data elements.
- Provide training and assist with development of subordinate staff.
- Mentor subordinate technical laboratory staff.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education and five years of relevant experience as a minimum. Individuals supervise and train subordinate staff and interact with project managers and client technical representatives to ensure proper laboratory testing of products or prototypes primarily in mechanical and materials engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include engineering dynamics, materials engineering, mechanical and fluids engineering, structural engineering, and electromagnetic compatibility engineering to improve the safety, reliability, efficiency and life of new or existing mechanical components, structures and systems.

MECHANICAL ENGINEERING SUPPORT 2

Task Description

Individuals assigned at these non-exempt positions provide support to the skilled senior technical staff. Using developed skills and practical knowledge. The technician is expected to do assigned tasks in the laboratory and/or testing environment under supervision. Individuals assigned in this position:

- Set up experimental apparatus following written or verbal instructions.
- Prepare samples, specimens, prototype instruments and/or test materials following defined procedures.
- Conduct, observe and document standardized test and analyses data following established protocols.
- Conduct routine maintenance on equipment.
- Maintain and order required materials.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education, and one year of relevant experience as a minimum. Individuals have basic knowledge of tasks associated with the technical area of work with skills in the application of mathematical functions, the use of PC software and hands-on craft abilities. Individuals are able to read schematics, drawings, sketches and technical instructions of testing protocols primarily in mechanical and materials engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include engineering dynamics, materials engineering, mechanical and fluids engineering, structural engineering, and electromagnetic compatibility engineering to improve the safety,

reliability, efficiency and life of new or existing mechanical components, structures and systems.

MECHANICAL ENGINEERING SUPPORT 3

Task Description

Individuals assigned in these non-exempt positions execute all clerical and administrative duties required to support the scientific and engineering staff in the performance of project responsibilities. Individuals use office equipment, and using internal processes to complete required project and Institute correspondence and filing requirements. Individuals organize meetings, make travel arrangements and deal effectively with clients. Individuals assigned in this position:

- Have good communication skills to interact with Institute staff and client representatives.
- Answer telephones and exhibit good judgment in answering basic questions.
- Compile administrative, operating or program data and formats based on instructions or established standards.
- Prepare correspondence, proposals and reports editing for format, spelling, punctuation and grammar.
- Act on their own initiative within defined responsibility to carry out routine tasks and procedures.
- Interact with vendors and support services in the normal execution of duties.

Qualifications

This position requires a High School diploma or equivalent education as a minimum, trade school education or continuing education, certification as a professional secretary, and a minimum of zero years of clerical experience. Individuals provide administrative support to projects primarily in mechanical and materials engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include engineering dynamics, materials engineering, mechanical and fluids engineering, structural engineering, and electromagnetic compatibility engineering to improve the safety, reliability, efficiency and life of new or existing mechanical components, structures and systems.

MECHANICAL ENGINEERING SUPPORT 4

Task Description

Individuals assigned in these non-exempt positions perform entry-level technical support functions of a routine nature under the close supervision of senior technical staff. Individuals at this level have an ability to learn, knowledge of general technical areas and materials and equipment. Individuals assigned in this position:

- Clean laboratory equipment, materials, and components for testing following defined procedures.
- Assist skilled personnel in performing technical work.
- Use PCs and PC applications to maintain test data.
- Conduct routine tests as directed by supervisors following written or verbal protocols.
- Assists with data documentation and analysis.

Qualifications

This position requires a High School diploma or equivalent education, trade school education or continuing education and zero years of relevant experience. Individuals perform general technical activities that support projects primarily in mechanical and materials engineering and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include engineering dynamics, materials engineering, mechanical and fluids engineering, structural engineering, and electromagnetic compatibility engineering to improve the safety, reliability, efficiency and life of new or existing mechanical components, structures and systems.

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GEOLOGICAL AND MATERIALS ENGINEERING

LABOR CATEGORY	YR 11: 10/10/11 - 10/09/12	YR 12: 10/10/12 - 10/09/13	YR 13: 10/10/13 - 10/09/14	YR 14: 10/10/14 - 10/09/15	YR 15: 10/10/15 - 10/09/16
Geological and Materials Engineer 2	219.45	226.74	233.83	240.75	247.50
Geological and Materials Engineer 3	170.77	176.44	181.96	187.35	192.59
Geological and Materials Engineer 4	126.27	130.46	134.55	138.53	142.41
Geological and Materials Engineering Support 1	91.35	94.38	97.33	100.22	103.02
Geological and Materials Engineering Support 2	61.02	63.04	65.02	66.94	68.82
Geological and Materials Engineering Support 3	61.73	63.34	64.90	66.72	68.68
Geological and Materials Engineering Support 4	50.77	52.10	53.38	54.88	56.49

GEOLOGICAL AND MATERIALS ENGINEER 2

Task Description

Individuals assigned are recognized as a vital technical resource, having established a reputation for scientific excellence at the Institute and to some extent in the external community. Individuals manage projects, programs and staff members in the pursuit of technical and financial objectives. Individuals assigned in this position:

- Accomplish advanced scientific and engineering work within technical area of expertise and discipline.
- Are recognized as highly qualified in a research specialty and possess a similar reputation with clients and the professional community.
- Develop collaborative efforts in research and development across division and company lines.
- Take the lead in the promotion of new projects and programs while advancing technology.
- Oversee the preparation, presentation, and follow-up of major proposals and/or program results that normally require a high degree of creativity and technical organization.
- Are recognized both internally and externally as an authority in a research specialty.
- Receive invitations to participate in technical conferences and serve on national committees.
- Manage Institute employee sections or large complex programs.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and twelve years of experience as a minimum. Individuals have superb verbal, written and interpersonal communications skills and are successful in building a technical program and/or program group primarily in the geological and materials and engineering, and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, geology, hydrology, natural hazard assessment, environmental engineering, and material science and engineering.

Acceptable Substitutions: AS and 27 years experience; MA and 11 years experience; PhD and 10 experience.

GEOLOGICAL AND MATERIALS ENGINEER 3

Task Description

Individuals at this level demonstrate significant technical leadership within Institute Science and Engineering staff. Individuals contribute to and guide the technical direction of projects. Individuals comprise the corps of knowledgeable, responsible and experienced project managers operating under the technical management line of authority. Individuals serve as program managers of smaller and less complex initiatives or tasks of larger, more complex projects. Individuals assigned in this position:

- Plan, design, coordinate and control the progress of project work to meet client objectives.
- Supervise others as project managers, assuming full responsibility for technical, financial, and work product project completion goals.
- Lead proposal efforts and new promotional work.
- Provide recommendations to management regarding planning, program development and project and promotional efforts.
- Present and publish technical papers.
- Manage technical groups of employees with specific skill sets.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and 7 years of experience as a minimum. Individuals are successful in managing laboratory, testing and development projects and have the aptitude to lead others and administer the technical, financial, client interaction and organizational aspects of programs primarily in the geological and materials and engineering, and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, geology, hydrology, natural hazard assessment, environmental engineering, and material science and engineering.

Acceptable Substitutions: AS and 22 years experience; MS and 6 years experience; PhD and 5 years experience.

GEOLOGICAL AND MATERIALS ENGINEER 4

Task Description

Individuals at this level generally perform project activities in a support capacity. Emphasis at this level is on the development of skills as a project team member, the development of individual technical specializations, the development of abilities to innovatively support technical objectives and to serve as future program leaders. Individuals may manage tasks associated to larger programs and interact with client technical representatives. Individuals assigned in this position:

- Perform work involving conventional investigation within a technical specialty.
- Identify ideas for new projects and ensure technical quality of current project activities.
- Establish working relationships with clients.
- Develop proficiency in writing and verbal presentation skills
- Deal regularly with other researchers across the Institute to collaborate in studies of interest.
- Supervise laboratory staff in testing activities.

Qualifications

This position requires a Bachelor's Degree in the individual's field of specialization and zero years of experience as a minimum. The individual exercises judgment, diligence and has an aptitude for carrying out assignments primarily in the geological and materials and engineering, and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, geology, hydrology, natural hazard assessment, environmental engineering, and material science and engineering.

Acceptable Substitutions: AS and 15 years experience.

GEOLOGICAL AND MATERIALS ENGINEERING SUPPORT 1

Task Description

Individuals assigned in these non-exempt positions possess in-depth skills and expertise in a specialty field and provide key support to scientific and engineering project personnel. Individuals exercise wide latitude in carrying out technical instructions and require minimum supervision. Individuals assigned in this position:

- Utilize personal discretion and knowledge to construct components, models and adaptations of standard equipment.
- Troubleshoot problems with test equipment and components.
- Interact with senior staff and clients in discussion of current tests or future activities.
- Provide input to technical reports, proposals and procedures.
- Analyze technical data to uncover anomalies and/or report pertinent data elements.
- Provide training and assist with development of subordinate staff.
- Mentor subordinate technical laboratory staff.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education and five years of relevant experience as a minimum. Individuals supervise and train subordinate staff and interact with project managers and client technical representatives to ensure proper laboratory testing of products or prototypes primarily in the geological and materials and engineering, and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, geology, hydrology, natural hazard assessment, environmental engineering, and material science and engineering.

GEOLOGICAL AND MATERIALS ENGINEERING SUPPORT 2

Task Description

Individuals assigned at these non-exempt positions provide support to the skilled senior technical staff. Using developed skills and practical knowledge. The technician is expected to do assigned tasks in the laboratory and/or testing environment under supervision. Individuals assigned in this position:

- Set up experimental apparatus following written or verbal instructions.
- Prepare samples, specimens, prototype instruments and/or test materials following defined procedures.
- Conduct, observe and document standardized test and analyses data following established protocols.
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- Maintain and order required materials.

Qualifications

This position requires a High School diploma or equivalent education, an Associate's degree, trade school education or continuing education, and one year of relevant experience as a minimum. Individuals have basic knowledge of tasks associated with the technical area of work with skills in the application of mathematical functions, the use of PC software and hands-on craft abilities. Individuals are able to read schematics, drawings, sketches and technical instructions of testing protocols primarily in the geological and materials and engineering, and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, geology, hydrology, natural hazard assessment, environmental engineering, and material science and engineering.

GEOLOGICAL AND MATERIALS ENGINEERING SUPPORT 3

Task Description

Individuals assigned in these non-exempt positions execute all clerical and administrative duties required to support the scientific and engineering staff in the performance of project responsibilities. Individuals use office equipment, and using internal processes to complete required project and Institute correspondence and filing requirements. Individuals organize meetings, make travel arrangements and deal effectively with clients. Individuals assigned in this position:

- Have good communication skills to interact with Institute staff and client representatives.
- Answer telephones and exhibit good judgment in answering basic questions.
- Compile administrative, operating or program data and formats based on instructions or established standards.
- Prepare correspondence, proposals and reports editing for format, spelling, punctuation and grammar.
- Act on their own initiative within defined responsibility to carry out routine tasks and procedures.
- Interact with vendors and support services in the normal execution of duties.

Qualifications

This position requires a High School diploma or equivalent education as a minimum, trade school education or continuing education, certification as a professional secretary, and a minimum of zero years of clerical experience. Individuals provide administrative support to projects primarily in the geological and materials and engineering, and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, geology, hydrology, natural hazard assessment, environmental engineering, and material science and engineering.

GEOLOGICAL AND MATERIALS ENGINEERING SUPPORT 4

Task Description

Individuals assigned in these non-exempt positions perform entry-level technical support functions of a routine nature under the close supervision of senior technical staff. Individuals at this level have an ability to learn, knowledge of general technical areas and materials and equipment. Individuals assigned in this position:

- Clean laboratory equipment, materials, and components for testing following defined procedures.
- Assist skilled personnel in performing technical work.
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- Conduct routine tests as directed by supervisors following written or verbal protocols.
- Assists with data documentation and analysis.

Qualifications

This position requires a High School diploma or equivalent education, trade school education or continuing education and zero years of relevant experience. Individuals perform general technical activities that support projects primarily in the geological and materials and engineering, and have built a program or direct multiple program activities in a wide technical field. Technical areas of expertise include, but are not limited to, geology, hydrology, natural hazard assessment, environmental engineering, and material science and engineering.

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