

**Synopsis of the GSA Schedule Contract for  
Facilities Maintenance and Management**

(thru Mod PO-0003 dated 29 Oct 12)

Revised 17 February 2016

**Contract Number: GS-21F-0055U**

**SIN(S):** 811-002 Complete Facilities Maintenance  
811-003 Complete Facilities Management  
811-004 Electrical and All Utility Services, Limited to Facilities  
Maintenance  
811-005 Refrigeration, Heating, Ventilation and Air Conditioning  
(HVAC)  
Maintenance

**Contract Period: April 01, 2008 to March 31, 2018**

**About VW International, Inc.:** VW International, Inc. (VWI) is a team of professionals with unparalleled expertise. The firm was founded in 1989 as a small business firm specializing in military healthcare engineering, management and medical facilities operation and maintenance (O&M) support services. Since that time, we have expanded our focus to include the provision of services to private sector healthcare facilities and to other Government facilities. We have the organizational resources to effectively carry out execution of these services with a dedicated staff of professionals.

**VWI Points of Contact:**

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**Contract Summary:** The Facilities Maintenance and Management Services (FMM) is a competitively awarded Federal Supply Services Multiple Award Schedule Contract. The purpose of the contract is to provide authorized schedule users with access to prequalified contractors who can assist them with a variety of professional skills to accomplish their FMM related needs.

**Rates: See Attachment A (Labor Rates) and Attachment B (Labor Category Descriptions)** As set forth in Modification PO-0003, "the pricing during the option period (01 April 2013 through 31 Mar 2018) will be based on the originally awarded price list incorporated in the award document to include any changes made by subsequent contract modifications".

**Type of Orders:** This is an Indefinite Delivery/Indefinite Quantity (IDIQ) agreement. Orders placed will generally be Firm Fixed Price or Labor Hour task orders. Pricing is considered to be fair and reasonable in accordance with the provisions of Federal Acquisition Regulation (FAR) 8.404.

**Ordering Procedures:**

1. The procedures set forth in FAR Subpart 8.405, *Ordering Procedures Federal Supply Schedules*, apply to orders placed against this contract.
2. Under the provisions of FAR 8.404, the simplified acquisition procedures of FAR Part 13, the Small Business Set-Aside Provisions of FAR Subpart 19.5, and the HUB Zone Program of FAR Subpart 19.13 do not apply to orders placed under this contract. Orders placed under the Federal Supply Schedule by Government contracting activities are not required to be synopsisized, nor is a separate determination of fair and reasonable price required. Contracting activities do, however, need to issue a Request for Proposal (RFP) or Request for Quotation (RFB) to a minimum of three (3) Facilities Maintenance and Management contractors.
3. By placing an order under this schedule, the Contracting Activity has concluded that the order represents the Best Value and results in the lowest overall cost alternative (considering price, special features, administrative costs, etc) that meets the needs of the Government.
4. This agreement provides for fixed hourly rates. It is contemplated that VWI will be submitting quotes on a Statement/Scope of Work (SOW) that utilizes a combination of labor categories as a portion of the pricing. The hourly rates have been determined to be fair and reasonable.
5. VWI will respond to a RFP on a SOW along with the basis that the Government will use to select the Contractor to receive the order/technical proposal(s). The Government will evaluate the offer/proposal(s) received and place the order with the schedule

Contractor that represents the best value and results in the lowest overall cost(s) to meet the needs of the Government.

6. The Government is required to document the file with the identification of the services purchase, SOW, schedule utilized, and amount awarded. If other than Firm Fixed Price (FFP), the using activity must justify the use of Labor Hour Orders.

**Geographic Scope:** All 50 United States and the District of Columbia

**Overseas Activities:** World Wide

**Payment:** VWI will accept Government Credit Card transactions for orders up to the level of authority of the card holder placing the transaction.

**Maximum/Minimum Order Limits:** Minimum Order Limit is \$100.00 per order. Maximum Order Limit is \$750,000.00 per order.

NOTE: VWI shall honor orders exceeding the maximum order amount unless returned to the ordering office/card holder within 5 working days after receipt of the order.

**Blanket Purchase Agreements (BPAs):** BPAs may be established using this GSA contract to fill recurring requirements. BPAs shall not extend beyond March 31, 2018.

NOTE: The Huntsville Office listed in the Point(s) of Contact above, will assist in establishing the BPAs as appropriate.

**Travel:** All travel expense will be reimbursed in accordance with the Joint Travel Regulations.

**Invoices:** Invoices will be submitted upon completion of the work performed. However, progress payments may be authorized on individual orders. Progress payments shall be based upon defined milestones or deliverables (final or interim). Invoices may be submitted for recurring services performed during the preceding month or invoice period as appropriate. Incidental support costs may be included in an order as appropriate. The ordering office will separately negotiate these costs if applicable.

**Discount Terms:** 1% NET 20 Days

**APPENDIX A  
LABOR RATES**

**IN ACCORDANCE WITH MODIFICATION PO-0003 DATED 29 OCTOBER 2012, THE FOLLOWING WAGE RATES WILL BE USED TO PRICE ORDERS DURING THE PERIOD 01 APRIL 2013 THROUGH 30 MARCH 2018:**

**PART I – SCA EXEMPT POSITIONS**

	<u><b>Labor Category</b></u>	<u><b>Rate Per Hour</b></u>
1.	Architect	\$ 121.68
2.	CAD Operator	\$ 48.36
3.	Contract Administrator	\$ 59.26
4.	Contract Manager	\$ 148.03
5.	Engineer – Civil/Structural	\$ 137.67
6.	Engineer – Electrical	\$148.58
7.	Industrial Hygienist	\$ 100.66
8.	Engineer - Mechanical	\$116.79
9.	Estimator	\$ 49.21
10.	Facilities Maintenance Manager I	\$ 60.00
11.	Facilities Maintenance Manager II	\$ 72.44
12.	Facilities Maintenance Supervisor	\$ 55.79
13.	Foreman	\$ 48.07
14.	Medical Planner/Transition Manager	\$ 121.68
15.	Operations & Maintenance Manager	\$ 88.41
16.	Procurement Specialist	\$ 36.93
17.	Senior Program Manager	\$ 153.41
18.	Project Manager I	\$ 85.22
19.	Project Manager II	\$ 118.68
20.	Project Administrator	\$ 67.38
21.	Quality Control Inspector	\$ 43.38
22.	QC/Safety Manager	\$ 138.74
23.	Supply Manager	\$ 62.47
24.	Work Control Manager	\$ 48.02

**PART II – SCA NON-EXEMPT POSITIONS**

25.	Accounting Clerk III	\$ 27.59
26.	Accounting Clerk IV	\$ 33.46
27.	General Clerk I	\$ 20.70
28.	General Clerk II	\$ 24.28
29.	General Clerk III	\$ 26.18
30.	General Clerk IV	\$ 30.30
31.	Order Clerk I	\$ 31.46
32.	Order Clerk II	\$ 37.12
33.	Personnel Assistant (Employment) I	\$ 28.40

34.	Personnel Assistant (Employment) II	\$ 29.95
35.	Personnel Assistant (Employment) III	\$ 33.67
36.	Personnel Assistant (Employment) IV	\$ 36.95
37.	Production Control Clerk	\$ 34.46
38.	Rental Clerk	\$ 30.36
39.	Scheduler, Maintenance	\$ 30.11
40.	Secretary I	\$ 30.11
41.	Secretary II	\$ 33.71
42.	Secretary III	\$ 35.87
43.	Secretary IV	\$ 40.21
44.	Secretary V	\$ 45.94
45.	Service Order Dispatcher	\$ 33.26
46.	Supply Technician	\$ 42.30
47.	Computer Operator I	\$ 30.99
48.	Computer Operator II	\$ 33.67
49.	Computer Operator III	\$ 37.62
50.	Computer Operator IV	\$ 45.50
51.	Computer Operator V	\$ 46.97
52.	Computer Programmer I	\$ 46.71
53.	Computer Programmer II	\$ 46.97
54.	Computer Programmer III	\$ 46.97
55.	Computer Programmer IV	\$ 46.97
56.	Computer Systems Analyst I	\$ 46.97
57.	Computer Systems Analyst II	\$ 46.97
58.	Computer Systems Analyst III	\$ 46.97
59.	Electrician, Automotive	\$ 45.66
60.	Mobile Equipment Servicer	\$ 40.08
61.	Painter, Automotive	\$ 45.66
62.	Tire Repairer	\$ 27.29
63.	Gardener	\$ 25.43
64.	House Keeping Aid I	\$ 23.33
65.	House Keeping Aid II	\$ 25.00
66.	Janitor	\$ 25.22
67.	Laborer, Grounds Maintenance	\$ 23.28
68.	Pest Controller	\$ 25.02
69.	Refuse Collector	\$ 27.54
70.	Tractor Operator	\$ 25.25
71.	Window Cleaner	\$ 27.11
72.	Machine-Tool Operator (Toolroom)	\$ 35.26
73.	Tool and Die Maker	\$ 36.95
74.	Material Coordinator	\$ 33.01
75.	Material Expediter	\$ 33.01
76.	Material Handling Laborer	\$ 26.48
77.	Order Filler	\$ 24.56
78.	Forklift Operator	\$ 28.96
79.	Shipping/Receiving Clerk	\$ 26.34
80.	Shipping Packer	\$ 26.34
81.	Stock Clerk	\$ 28.11

82.	Tools and Parts Attendant	\$ 28.96
83.	Warehouse Specialist	\$ 29.81
84.	Appliance Mechanic	\$ 34.85
85.	Cable Splicer	\$ 41.50
86.	Carpenter, Maintenance	\$ 44.04
87.	Carpet Layer	\$ 37.61
88.	Electrician, Maintenance	\$ 51.69
89.	Electronics Technician, Maintenance I	\$ 40.85
90.	Electronics Technician, Maintenance II	\$ 43.03
91.	Electronics Technician, Maintenance III	\$ 44.70
92.	Fire Alarm System Mechanic	\$ 36.06
93.	Fire Extinguisher Repairer	\$ 31.90
94.	Fuel Distribution System Mechanic	\$ 37.86
95.	General Maintenance Worker	\$ 32.44
96.	Heating, Refrigeration and A/C Mechanic	\$ 38.03
97.	Heavy Equipment Mechanic	\$ 38.05
98.	Heavy Equipment Operator	\$ 43.30
99.	Instrument Mechanic	\$ 37.86
100.	Laborer	\$ 26.67
101.	Locksmith	\$ 35.09
102.	Machinery Maintenance Mechanic	\$ 34.52
103.	Machinist, Maintenance	\$ 33.45
104.	Maintenance Trades Helper	\$ 28.86
105.	Millwright	\$ 44.70
106.	Painter, Maintenance	\$ 38.25
107.	Pipefitter, Maintenance	\$ 49.47
108.	Plumber, Maintenance	\$ 42.54
109.	Pneudraulic Systems Mechanic	\$ 37.86
110.	Rigger	\$ 37.12
111.	Scale Mechanic	\$ 35.20
112.	Sheet-Metal Worker, Maintenance	\$ 45.12
113.	Small Engine Mechanic	\$ 32.44
114.	Telecommunication Mechanic I	\$ 41.50
115.	Telecommunication Mechanic II	\$ 42.96
116.	Welder, Combination, Maintenance	\$ 35.05
117.	Woodcrafter Worker	\$ 37.86
118.	Woodworker	\$ 30.07
119.	Boiler Tender	\$ 45.09
120.	Sewage Plant Operator	\$ 37.97
121.	Stationary Engineer	\$ 45.09
122.	Ventilation Equipment Tender	\$ 35.78
123.	Water Treatment Plant Operator	\$ 43.20
124.	Civil Engineering Technician	\$ 39.12
125.	Drafter I	\$ 28.42
126.	Drafter II	\$ 36.93
127.	Drafter III	\$ 43.63
128.	Drafter IV	\$ 52.04

129.	Engineering Technician I	\$ 25.98
130.	Engineering Technician II	\$ 31.84
131.	Engineering Technician III	\$ 39.56
132.	Engineering Technician IV	\$ 41.78
133.	Engineering Technician V	\$ 49.38
134.	Engineering Technician VI	\$ 57.68
135.	Environmental Technician	\$ 44.74
136.	Laboratory Technician	\$ 34.88
137.	Truckdriver, Light Truck	\$ 26.04
138.	Truckdriver, Medium Truck	\$ 33.01
139.	Truckdriver, Heavy Truck	\$ 34.88
140.	Truckdriver, Tractor-Trailer	\$ 34.88

## APPENDIX B

### LABOR CATEGORY DESCRIPTIONS

#### **Exempt Positions**

The following section contains labor category descriptions for the professional (exempt) labor categories proposed.

#### **1. Architect**

Responsibilities: Analyze building codes, by-laws, space and site requirements, and other technical documents and reports to determine their effect on architectural designs. Operate computer-aided drafting equipment or conventional drafting station to produce designs, working drawings, charts, forms and records. Coordinate structural, electrical and mechanical designs and determine a method of presentation in order to graphically represent building plans. Obtain and assemble data to complete architectural designs, visiting job sites to compile measurements as necessary. Draw rough and detailed scale plans for foundations, buildings and structures, based on preliminary concepts, sketches, engineering calculations, specification sheets and other data. Layout and plan interior room arrangements for commercial buildings, using computer-assisted drafting (CAD) equipment and software. Supervise, coordinate, and inspect the work of draftspersons, technicians, and technologists on construction projects. Represent architect on construction site, ensuring builder compliance with design specifications and advising on design corrections, under architect's supervision. Check dimensions of materials to be used and assign numbers to lists of materials. Determine procedures and instructions to be followed, according to design specifications and quantity of required materials. Analyze technical implications of architect's design concept, calculating weights, volumes, and stress factors. Create freehand drawings and lettering to accompany drawings. Prepare colored drawings of landscape and interior designs for presentation to client. Reproduce drawings on copy machines or trace copies of plans and drawings, using transparent paper or cloth, ink, pencil, and standard drafting instruments. Prepare cost estimates, contracts, bidding documents and technical reports for specific projects under an architect's supervision. Calculate heat loss and gain of buildings and structures to determine required equipment specifications, following standard procedures. Build landscape, architectural and display models.

Qualifications: BS Architecture, plus 3 years of documented architectural experience. Demonstrates excellent oral, written and computer communications skills.

#### **2. CADD Operator**

Responsibilities: Assemble documentation packages and produce drawing sets which are then checked by an engineer or an architect. Confer with engineering

staff and other personnel to resolve problems. Draft working drawings, wiring diagrams, wiring connection specifications or cross-sections of underground cables, as required for instructions to installation crew. Draw master sketches to scale showing relation of proposed installations to existing facilities and exact specifications and dimensions. Measure factors that affect installation and arrangement of equipment, such as distances to be spanned by wire and cable. Study work order requests to determine type of service, such as lighting or power, demanded by installation. Visit proposed installation sites and draw rough sketches of location. Determine the order of work and the method of presentation, such as orthographic or isometric drawing. Explain drawings to production or construction teams and provide adjustments as necessary. Prepare and interpret specifications, calculating weights, volumes, and stress factors. Reproduce working drawings on copy machines or trace drawings in ink. Review completed construction drawings and cost estimates for accuracy and conformity to standards and regulations. Supervise and train other technologists, technicians and drafters. Write technical reports and draw charts that display statistics and data. Use computer-aided drafting equipment and/or conventional drafting stations, technical handbooks, tables, calculators, and traditional drafting tools such as boards, pencils, protractors, and T-squares.

Qualifications: HS Diploma or GED plus CADD training through education or job experience. Three to 5 years of CADD design/drafting experience.

### **3. Contract Administrator**

Responsibilities: Directs activities concerned with contracts for purchase or sale of equipment, materials, products, or services: Examines performance requirements, delivery schedules, and estimates of costs of material, equipment, and production to ensure completeness and accuracy. Prepares bids, process specifications, test and progress reports, and other exhibits that may be required. Reviews bids from other firms for conformity to contract requirements and determines acceptable bids. Requests or approves amendments to or extensions of contracts. Advises planning and production departments of contractual rights and obligations. May compile data for preparing estimates. May coordinate work of sales department with production and shipping department to implement fulfillment of contracts. May act as liaison between company and subcontractors.

Qualifications: AA/AS or equivalent in related field plus 5 years of relevant experience.

### **4. Contract Manager**

Responsibilities: Directs activities concerned with contracts for purchase or sale of equipment, materials, products, or services: Examines performance requirements, delivery schedules, and estimates of costs of material, equipment, and production to ensure completeness and accuracy. Prepares bids, process specifications, test and progress reports, and other exhibits that may be required. Reviews bids from other firms for conformity to contract requirements and

determines acceptable bids. Negotiates contract with customer or bidder. Requests or approves amendments to or extensions of contracts. Advises planning and production departments of contractual rights and obligations. May compile data for preparing estimates. May coordinate work of sales department with production and shipping department to implement fulfillment of contracts. May act as liaison between company and subcontractors. Other duties include managing, training, and mentoring subordinates.

Qualifications: BA/BS equivalent in related field plus 10 years of relevant experience

### **5. Engineer – Civil/Structural**

Responsibilities: Works as multi-function team member to guide projects through the development process, often serving as team leader. Works with multi-function team to define project-specific processes, including project processing time and total fees and taxes. Reviews projects in concept with multi-function team. Convenes and leads pre-design conferences. Reviews all construction plans (architectural, structural, mechanical, plumbing, electrical, grading, etc.) and related documents (soil reports, engineering calculations, energy calculations, etc.) for compliance to adopted technical codes, the zoning code, state and federal regulations. Serves as department expert in the area of structural engineering. Provides reports pertaining to technical, zoning, state, and federal codes and/or regulations. Inspects buildings and building modifications when requested or as needed to complete work. Convenes, leads, and documents pre-construction conferences. Performs other related tasks as assigned.

Qualifications: BS Civil Engineering plus 3 years experience. Working knowledge of landscaping, architectural and legal terms applicable to site development.

### **6. Engineer – Electrical**

Responsibilities: Confers with engineers, customer, and other to discuss existing or potential engineering projects and product. Designs, implements, maintains, and improves electrical instruments, and products facilities, components and systems for commercial, industrial, and domestic purposes. Directs and coordinates manufacturing, construction, installation, maintenance, support, documentation, and testing activities to ensure compliance with specifications, codes, customer requirements. Inspects completed installations and observes operations, to insure conformance to design and equipment specifications and compliance with operational and safety standards. Performs detailed calculations to compute and establish Manufacturing, construction, and installation standards and specifications. Plans and implements research methodology and procedures to apply principles of electrical theory to engineering projects. Plans layout of electric power generating plants and distributions and stations. Prepares and studies technical drawing, specifications of electrical systems and topographical maps to ensure that installation and operations conform to standards and

customer requirements. Assists in developing capital project programs for and equipment and major repairs. Collects data relating to commercial and residential developments, population, and powers system interconnection to determine operating efficiency of electrical systems. Complies with dates and writes reports regarding exiting and potential engineering studies and projects. Conducts field surveys and study maps, graphs, diagrams, and other data to identify and correct power system problems. Develops budgets, estimating labor, Material, and Construction costs. Investigate customer or public complaints; determine nature and extent of problem, and recommends remedial measures. Oversees efforts to assure projects are completed satisfactorily, on time and within budget. Prepares specifications for purchase for materials and equipment. Supervises and trains project members as necessary. Investigates and tests vendors' and competitors' products.

Qualifications: BS Electrical Engineering plus 3 years experience. Demonstrates excellent oral, written and computer communication s skills.

## ***7. Engineer - Mechanical***

Responsibilities: Research and analyze customer design proposals, specifications, manuals, and other data to evaluate the feasibility, cost, and maintenance requirements of designs or applications. Research, design, evaluate, install, operate, and maintain mechanical products, equipment, systems and processes to meet requirements, applying knowledge of engineering principles. Specify system components or direct modification of products to ensure conformance with engineering design and performance specifications. Assist drafters in developing the structural design of products, using drafting tools or computer-assisted design/drafting equipment and software. Develop, coordinate, and monitor all aspects of production, including selection of manufacturing methods, fabrication, and operation of product designs. Perform personnel functions, such as supervision of production workers, technicians, technologists and other engineers, and design of evaluation programs. Provide feedback to design engineers on customer problems and needs. Study industrial processes to determine where and how application of equipment can be made. Write performance requirements for product development or engineering projects. Apply engineering principles and practices to emerging fields, such as robotics, waste management, and biomedical engineering. Estimate costs and submit bids for engineering, construction, or extraction projects, and prepare contract documents. Read and interpret blueprints, technical drawings, schematics, and computer-generated reports. Solicit new business and provide technical customer service. Conduct research that tests and analyzes the feasibility, design, operation and performance of equipment, components and systems. Confer with engineers and other personnel to implement operating procedures, resolve system malfunctions, and provide technical information. Design test control apparatus and equipment and develop procedures for testing products. Develop and test models of alternate designs and processing methods to assess feasibility, operating condition effects, possible new applications and necessity of

modification. Establish and coordinate the maintenance and safety procedures, service schedule, and supply of materials required to maintain machines and equipment in the prescribed condition. Investigate equipment failures and difficulties to diagnose faulty operation, and to make recommendations to maintenance crew. Oversee installation, operation, maintenance, and repair to ensure that machines and equipment are installed and functioning according to specifications. Recommend design modifications to eliminate machine or system malfunctions.

Qualifications: BS Mechanical Engineering plus 3 years experience. Demonstrates excellent oral, written and computer communication skills.

### **8. Industrial Hygienist**

Responsibilities: Coordinates plans and conducts programs to educate about cleanliness, safety and sanitation in the workplace. Provides advice on methods and procedures to reduce occupational health risks. Collects data relating to health standards and compares to the existing environment. Compiles data and writes reports regarding industrial hygienist studies and projects. Investigates employee complaints, determine nature and extent of the problem, and recommends remedial measure. Prepares specifications for purchase of materials and equipment. Supervises and trains project team members as necessary.

Qualifications: BS Industrial Engineering plus 3 years experience. Demonstrates excellent oral, written and computer communications skills.

### **9. Estimator**

Responsibilities: Analyze blueprints and other documentation to prepare time, cost, materials, and labor estimates. Assess cost effectiveness of products, projects or services, tracking actual costs relative to bids as the project develops. Consult with clients, vendors, personnel in other departments or construction foremen to discuss and formulate estimates and resolve issues. Confer with engineers, architects, owners, contractors and subcontractors on changes and adjustments to cost estimates. Prepare estimates used by management for purposes such as planning, organizing, and scheduling work. Prepare estimates for use in selecting vendors or subcontractors. Review material and labor requirements, to decide whether it is more cost-effective to produce or purchase components. Prepare cost and expenditure statements and other necessary documentation at regular intervals for the duration of the project. Prepare and maintain a directory of suppliers, contractors and subcontractors. Set up cost monitoring and reporting systems and procedures. Establish and maintain tendering process, and conduct negotiations. Conduct special studies to develop and establish standard hour and related cost data or to effect cost reduction. Visit site and record information about access, drainage and.

Qualifications: AA/AS in a relevant field, plus 5 years experience, Demonstrates excellent oral, written and computer communication skills.

## **10. Facilities Maintenance Manager I**

Responsibilities: Schedules and prioritizes maintenance, preventive maintenance and repair activities of facilities, structures, equipment and events. Insures the timely completion of work. Supervises Facilities Maintenance Division personnel; assigns work, schedules leave, evaluates performance, provides technical training and safety training. Prepares and issues work order assignments and performs quality control on completed work. Coordinates, supervises and operates the facility management information system. Insures the accuracy of data input and report output. Coordinates work scheduling with other departments and tenants. Develops and implements quality control programs. Provides technical advice as needed to other departments. Performs research and writes reports and memoranda as required. Assist in budget preparation. Coordinates and manages the use of outside vendors and performs quality control on those vendors. Assists in the development and preparation of service contracts and administers those contracts. Manages supplies inventories, maintains the accuracy of those inventories and their support systems. Evaluates supply vendors. Supervises the year-end inventory audit. Assists the Program Manager in the research and preparation of bid specifications. Supervises and coordinates one or more maintenance shifts. May be required to respond to after-hours emergency conditions. Performs other duties as required.

Qualifications: BA/BS Degree (or equivalent) in a related field. 5 years minimum work experience and 5 years minimum experience in a cost related field.

## **11. Facilities Maintenance Manager II**

Responsibilities: Schedules and prioritizes maintenance, preventive maintenance and repair activities of facilities, structures, equipment and events. Insures the timely completion of work. Supervises Facilities Maintenance Division personnel; assigns work, schedules leave, evaluates performance, provides technical training and safety training. Prepares and issues work order assignments and performs quality control on completed work. Coordinates, supervises and operates the facility management information system. Insures the accuracy of data input and report output. Coordinates work scheduling with other departments and tenants. Develops and implements quality control programs. Provides technical advice as needed to other departments. Performs research and writes reports and memoranda as required. Assist in budget preparation. Coordinates and manages the use of outside vendors and performs quality control on those vendors. Assists in the development and preparation of service contracts and administers those contracts. Manages supplies inventories, maintains the accuracy of those inventories and their support systems. Evaluates supply vendors. Supervises the year-end inventory audit. Assists the Program Manager in the research and preparation of bid specifications. Supervises and coordinates one or more maintenance shifts. May be required to respond to after-hours emergency conditions. Performs other duties as required.

Qualifications: BA/BS Degree (or equivalent) in related field. 10 years minimum work experience and 5 years minimum experience in a cost related field.

## **12. Facilities Maintenance Supervisor**

Responsibilities: Oversees and manages multiple programs related to the preservation of investment in buildings and structures, including building maintenance, grounds maintenance and custodial services. Plans, prioritizes, schedules and monitors work orders and other preventive maintenance activities. Coordinates, organizes, and directs building maintenance through managing both in-house staff, outside contractors to provide an optimum maintenance service within the prescribed budget. May prepare plans and specifications for small capital improvement remodeling, alteration, and construction projects. Manages projects and inspects work while in progress and upon completion. Inspects buildings for safety hazards, maintenance needs, and disability access requirements and considers findings in the development of work plans. Responds to and resolves building user complaints regarding lighting, temperature, noise, and air quality. Establishes work priorities, goals and objectives, and coordinates and schedules assignments. Develops plans for training and cross-training of subordinates. Has responsibility for keeping the Maintenance staff informed and for ensuring that appropriate safety practices and work methods are observed. Ensures the maintenance of safe working conditions and good housekeeping practices. Ensures appropriate training is provided for staff. Conducts safety training and maintains records as required OSHA. Performs other duties as required.

Qualifications: AA/AS (or equivalent) in related field, with a minimum 5 years of progressive responsibility in the area of facilities management.

## **13. Foreman**

Responsibilities: Investigates damage, accidents, or delays at construction sites, to ensure that proper procedures are being carried out. Obtains all necessary permits and licenses. Prepares contracts and negotiate revisions, changes and additions to contractual agreements with architects, consultants, clients, suppliers and subcontractors. Requisitions supplies and materials to complete preventive maintenance service orders or construction projects. Takes actions to deal with the results of delays, bad weather, or emergencies at construction site. Confer with supervisory personnel, owners, contractors, and design professionals to discuss and resolve matters such as work procedures, complaints, and construction problems. Determine labor requirements and dispatch workers to construction sites. Direct and supervise workers. Interpret and explain plans and contract terms to administrative staff, workers, and clients, representing the owner or developer. Plan, organize, and direct activities concerned with the construction and maintenance of structures, facilities, and systems. Prepare and submit budget estimates and progress and cost tracking reports. Schedule the project in logical steps and budget time required to meet deadlines. Select, contract, and oversee workers who complete specific pieces of the project, such as painting or

plumbing. Study job specifications to determine appropriate construction methods. Develop and implement quality control programs. Evaluate construction methods and determine cost-effectiveness of plans, using computers. Inspect and review projects to monitor compliance with building and safety codes, and other regulations.

Qualifications: HS Diploma or GED with at least 3 years of experience in a related field. Demonstrates excellent oral and written communications skills.

#### **14. Medical Planner/Transition Manager**

Responsibilities: Perform a variety of duties in the planning, execution, completion of special maintenance, replacement and upgrade of healthcare facilities of all types. Assist the health care facility in their movement from an existing facility to a new or renovated facility. These services are more than simply move coordination. They include but are not limited to: • Interim and final relocation sequencing and movement planning; Coordination of movements; Facilitating development of new concept of operations; Coordinating staff training of safety, security, and new operating systems; Evaluation and assistance with updating equipment relocation, procurement and installation plans; Development of staff and public information programs; Post-occupancy follow-up and “fine-tuning” operations in the relocated areas.

Provides services that ensure the organizations’ staff is properly trained, oriented, and able to become fully functional in their interim or new spaces in a minimum amount of time. The Transition Planner coordinates with the design team to ensure appropriate training is provided. The Transition Planner must work with the construction management team, equipment procurement team, operational staff team as well as organizational leadership units. Additionally, the transition planner must provide team-building and cohesiveness programs to minimize staff concerns and turmoil while simultaneously ensuring appropriate training such as: Equipment systems; Building systems; Transportation systems; Communications systems; Life safety and support systems; Security; Housekeeping systems.

Particular attention must be provided to ensuring all appropriate policies and procedures are updated to reflect the new physical plant conditions and characteristics. Examples include revising and assisting with fire evacuation plans, mass casualty plans, clinic operating procedures as well as inter-departmental coordination.

Qualifications: AA/AS (or equivalent) in related field with a minimum of 5 years of progressive responsibility in the area of medical planning and transitioning.

#### **15. Operations & Maintenance Manager**

Responsibilities: Oversees and manages multiple programs related to the preservation of investment in buildings and structures, including building maintenance, grounds maintenance and custodial services. Plans, prioritizes, schedules and monitors work orders and other preventive maintenance activities.

Coordinates, organizes, and directs building maintenance through managing both in-house staff, outside contractors to provide an optimum maintenance service within the prescribed budget. May prepare plans and specifications for small capital improvement remodeling, alteration, and construction projects. Manages projects and inspects work while in progress and upon completion. Inspects buildings for safety hazards, maintenance needs, and disability access requirements and considers findings in the development of work plans. Responds to and resolves building user complaints regarding lighting, temperature, noise, and air quality. Establishes work priorities, goals and objectives, and coordinates and schedules assignments. Develops plans for training and cross-training of subordinates. Has responsibility for keeping the Maintenance staff informed and for ensuring that appropriate safety practices and work methods are observed. Ensures the maintenance of safe working conditions and good housekeeping practices. Ensures appropriate training is provided for staff. Conducts safety training and maintains records as required OSHA. Performs other duties as required.

Qualifications: AA/AS (or equivalent) in related field, with a minimum 5 years of progressive responsibility in the area of facilities management.

#### **16. Procurement Specialist**

Responsibilities: Approve bills for payment. Calculate costs of orders, and charge or forward invoices to appropriate accounts. Check shipments when they arrive to ensure that orders have been filled correctly and those goods meet specifications. Compare prices, specifications, and delivery dates in order to determine the best bid among potential suppliers. Compare suppliers' bills with bids and purchase orders in order to verify accuracy. Contact suppliers in order to schedule or expedite deliveries and to resolve shortages, missed or late deliveries, and other problems. Determine if inventory quantities are sufficient for needs, ordering more materials when necessary. Locate suppliers, using sources such as catalogs and the internet, and interview them to gather information about products to be ordered. Prepare, maintain, and review purchasing files, reports and price lists. Prepare purchase orders and send copies to suppliers and to departments originating requests. Respond to customer and supplier inquiries about order status, changes, or cancellations. Review requisition orders in order to verify accuracy, terminology, and specifications. Track the status of requisitions, contracts, and orders. Maintain knowledge of all organizational and governmental rules affecting purchases, and provide information about these rules to organization staff members and to vendors. Monitor contractor performance, recommending contract modifications when necessary. Monitor in-house inventory movement and complete inventory transfer forms for bookkeeping purposes. Perform buying duties when necessary. Prepare invitation-of-bid forms and mail forms to supplier firms or distribute forms for public posting.

Qualifications: AA/AS (or equivalent) in related field plus 3 years of relevant experience. Additional experience may be substituted for education requirements.

### **17. Senior Program Manager**

Responsibilities: Responsible for managing contract operations and ensuring quality standards and work performance on all task orders and projects. Plans, organizes, and oversees work efforts; assigns and manages resources; supervises personnel; provides risk management; ensures quality management; and monitors overall project and contract performance. Provides management guidance in the accomplishment of work efforts, and ensures adherence to contract standards of performance. Serves as the contractor's task manager and is the contractor's authorized interface with the government contracting officer (CO) or the contracting officer's representative (COR).

Qualifications: BA/BS in related field and 15 years of relevant management experience. Demonstrates excellent oral, written and computer communication skills. Additional experience may be substituted for education requirements

### **18. Project Manager I**

Responsibilities: Responsible for managing and overseeing work performance of one or more task orders based on level of task complexity. Has primary responsibility for planning, managing, and overseeing work efforts of project team personnel; determining and monitoring task order schedules and budgets; and for ensuring compliance with all contract and task order requirements and quality standards. The Senior Project Manager serves as the primary interface with the customer. Demonstrates skills in the scope of work encompassed by the task order; provides technical guidance to the project team in performance of the work; and provides quality review of all work products. During contract performance, provides technical and administrative assistance to the Principle/Senior Advisor.

Qualifications: BA/BS in related field, plus 5 years of related experience. Additional experience may be substituted for education requirements

### **19. Project Manager II**

Responsibilities: Responsible for managing and overseeing work performance of one or more task orders based on level of task complexity. Has primary responsibility for planning, managing, and overseeing work efforts of project team personnel; determining and monitoring task order schedules and budgets; and for ensuring compliance with all contract and task order requirements and quality standards. The Senior Project Manager serves as the primary interface with the customer. Demonstrates skills in the scope of work encompassed by the task order; provides technical guidance to the project team in performance of the work; and provides quality review of all work products. During contract performance, provides technical and administrative assistance to the Principle/Senior Advisor.

Qualifications: BA/BS in related field, plus 10 years of related experience. Additional experience may be substituted for education requirements

## **20. Project Administrator**

Responsibilities: Oversees the daily construction activities at work site, including scheduling of workers, delivery of equipment and materials, and progress of the project. Works with contractors to complete project within the given budget and timeframe. Resolves contract disputes and arranges any necessary order changes. Requires a bachelor's degree and at least 4 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on experience and judgment to plan and accomplish goals. Performs a variety of tasks. May lead and direct the work of others. A wide degree of creativity and latitude is expected. Typically reports to a manager or head of a unit/department.

Qualifications: AA/AS or equivalent in related field plus 5 years of related experience. Additional experience may be substituted for education requirements. Demonstrates excellent oral, written and computer communication skills.

## **21. Quality Control Inspector**

Responsibilities: Samples production, analyzes it, and then makes recommendations on how to increase the quality of goods. Inspects, analyzes, and writes reports about production. Meets with workers and supervisors to make recommendations about production or services.

Qualifications: AA/AS in related field plus 5 years of relevant experience. Additional experience may be substituted for education requirements. Demonstrates excellent oral, written and computer communication skills.

## **22. QC/Safety Manager**

Responsibilities: Provides corporate oversight for the overall Quality Control Program. Manages the Quality Control Inspectors at each site. Devises and implements safety or industrial health program to prevent, correct, or control unsafe environmental conditions. Installs or directs installation of safety devices on machinery. Maintains liaison with outside organizations, such as fire departments, mutual aid societies, and rescue teams. Prepares reports of findings from investigation of accidents, inspection of facilities, or testing of environment. Designs and builds safety devices for machinery or safety clothing. Checks floors of plant to ensure they are strong enough to support heavy machinery. Conducts plant or area surveys to determine safety levels for exposure to materials and conditions. Investigates causes of industrial accidents or injuries to develop solutions to minimize or prevent recurrence. Compiles, analyzes, and interprets statistical data related to exposure factors concerning occupational illnesses and accidents. Examines plans and specifications for new machinery or equipment to determine if all safety requirements have been included. Inspects facilities, machinery, and safety equipment to identify and correct potential hazards, and ensure compliance with safety regulations. Conducts or directs testing of air quality, noise, temperature, or radiation to verify compliance with health and safety regulations. Provides technical guidance to organizations regarding how to handle health-related

problems, such as water and air pollution. Conducts or coordinates training of workers concerning safety laws and regulations, use of safety equipment, devices, and clothing, and first aid

Qualifications: AA/AS in related field plus 5 years of relevant experience. Additional experience may be substituted for education requirements. Demonstrates excellent oral, written and computer communication skills.

### **23. Supply Manager**

Responsibilities: Clean and maintain supplies, tools, equipment, and storage areas in order to ensure compliance with safety regulations. Compile, review, and maintain data from contracts, purchase orders, requisitions, and other documents in order to assess supply needs. Determine proper storage methods, identification, and stock location based on turnover, environmental factors, and physical capabilities of facilities. Examine and inspect stock items for wear or defects, reporting any damage to supervisors. Keep records on the use and/or damage of stock or stock handling equipment. Mark stock items using identification tags, stamps, electric marking tools, or other labeling equipment. Pack and unpack items to be stocked on shelves in stockrooms, warehouses, or storage yards. Prepare and maintain records and reports of inventories, price lists, shortages, shipments, expenditures, and goods used or issued. Prepare products, supplies, equipment, or other items for use by adjusting, repairing or assembling them as necessary. Issue or distribute materials, products, parts, and supplies to customers or coworkers, based on information from incoming requisitions. Receive and count stock items, and record data manually or using computer. Store items in an orderly and accessible manner in warehouses, tool rooms, supply rooms, or other areas. Verify inventory computations by comparing them to physical counts of stock, and investigate discrepancies or adjust errors. Advise retail customers or internal users on the appropriateness of parts, supplies, or materials requested. Confer with engineering and purchasing personnel and vendors regarding stock procurement and availability. Determine sequence and release of back orders according to stock availability. Dispose of damaged or defective items, or return them to vendors. Drive trucks in order to pick up incoming stock or to deliver parts to designated locations. Provide assistance or direction to other stockroom, warehouse, or storage yard workers. Purchase new or additional stock, or prepare documents that provide for such purchases. Recommend disposal of excess, defective, or obsolete stock. Sell materials, equipment, and other items from stock in retail settings.

Qualifications: HS Diploma or GED plus 3 to 5 years experience performing routine supply management duties.

### **24. Work Control Manager**

Responsibilities: Perform general maintenance work on environmental matters including remediation tasks. Communicates with internal and external customers to problem solve orders or system problems when needed.

Qualifications: HS Diploma or GED plus 5 to 7 years experience performing routine work control manager duties.

## **Non-exempt Positions**

### **25. ACCOUNTING CLERK III**

The Accounting Clerk III maintains journals or subsidiary ledgers of an accounting system and balances and reconciles accounts. Typical duties include one or both of the following: 1.) reviewing invoices and statements verifying information, ensuring sufficient funds have been obligated, and if questionable, resolving with the submitting unit determining accounts involved. The review will include coding transactions, and processing material through data processing for application in the accounting system; 2.) Analysis and reconciliation of computer printouts with operating unit reports (contacting units, researching causes of discrepancies, and taking action to ensure that accounts balance). Supervisor provides suggestions for handling unusual or non-recurring transactions. Conformance with requirements and technical soundness of completed work are reviewed by the supervisor, or are controlled by mechanisms built into the accounting processes.

### **26. ACCOUNTING CLERK IV**

The Accounting Clerk III maintains journals or subsidiary ledgers of an accounting system and balances and reconciles accounts. Typical duties include one or both of the following: 1.) reviewing invoices and statements verifying information, ensuring sufficient funds have been obligated, and if questionable, resolving with the submitting unit determining accounts involved. The review will include coding transactions, and processing material through data processing for application in the accounting system; 2.) Analysis and reconciliation of computer printouts with operating unit reports (contacting units, researching causes of discrepancies, and taking action to ensure that accounts balance). Relies on experience and judgment to plan and accomplish goals. This position performs a variety of complicated tasks. May direct and lead the work of others. Typically reports to a manager or head of a unit/department. A wide degree of creativity and latitude is required.

### **27. GENERAL CLERK I**

This position follows clearly detailed specific procedures in completing several repetitive clerical steps performed in a prescribed or slightly varied sequence, such as coding and filing documents in an extensive alphabetical file; could involve simple posting to individual accounts, opening mail, calculating and posting charges to departmental accounts, operating basic office equipment, e.g., photocopier, facsimile, multi-line phone/voicemail systems, mailing machines, and minimal computer programs. Little or no subject-matter knowledge is required, but the clerk uses his or her own judgment in choosing the proper procedure for each task.

## **28. GENERAL CLERK II**

This position requires familiarity with the terminology of the office unit. The General Clerk selects appropriate methods from a wide variety of procedures or makes simple adaptations and interpretations of a limited number of substantive guides and manuals. The clerical steps often vary in type or sequence, depending on the task. Recognized problems are referred to others.

## **29. GENERAL CLERK III**

This position uses some subject-matter knowledge and judgment to complete assignments consisting of numerous steps varying in nature and sequence. The General Clerk III selects from alternative methods and refers problems not solvable by adapting or interpreting substantive guides, manuals, or procedures. Typical duties include: assisting in a variety of administrative matters; maintaining a wide variety of financial or other records (stored both manually and electronically); verifying statistical reports for accuracy and completeness; compiling information; and handling and adjusting complaints.

The General Clerk III may also direct lower level clerks. Positions above level IV are excluded. Such positions (which may include supervisory responsibility over lower level clerks) require workers to use a thorough knowledge of an office's work and routine to: 1) choose among widely varying methods and procedures to process complex transactions; and 2) select or devise steps necessary to complete assignments. Typical jobs covered by this exclusion include administrative assistants, clerical supervisors, and office managers.

## **30. GENERAL CLERK IV**

This position uses some subject-matter knowledge and judgment to complete assignments consisting of numerous steps varying in nature and sequence. The General Clerk III selects from alternative methods and refers problems not solvable by adapting or interpreting substantive guides, manuals, or procedures. Typical duties include: assisting in a variety of administrative matters; maintaining a wide variety of financial or other records (stored both manually and electronically); verifying statistical reports for accuracy and completeness; compiling information; and handling and adjusting complaints.

This position performs a variety of complicated tasks. Directs and leads the work of others. Typically reports to a manager or head of a unit/department. A wide degree of creativity and latitude is expected.

## **31. ORDER CLERK I**

This position handles orders involving items that have readily identified uses and applications. The Order Clerk I may refer to a catalog, manufacturer's manual or similar document to insure that the proper item is supplied or to verify the price of order.

### **32. ORDER CLERK II**

This position handles orders that involve making judgments such as choosing which specific product or material from the establishment's product lines will satisfy the customer's needs, or determining the price to be quoted when pricing involves more than merely referring to a price list or making some simple mathematical calculations.

### **33. PERSONNEL ASSISTANT I**

This position performs a variety of tasks including, but not limited to, clerical and secretarial duties. The work is under general supervision of higher-level personnel in preparation of various human resource tasks throughout compensation, benefits, staffing/employment, EEO procedures and policy administration. The Personnel Assistant I is expected to exercise discretion at all times; limited judgment may be necessary at times. This assistant may be required to operate general office equipment such as: typewriter, personal computer, copier, adding machine, and facsimile.

### **34. PERSONNEL ASSISTANT II**

This position serves as a clerical expert in independently processing the most complicated types of personnel actions, e.g., temporary employment, rehires, and dismissals. In this position, one may perform tasks beyond routine clerical such as: pre-employment drug screening and new hire orientation, responding to routine questions on policy and procedures, and/or provide reports on employee turnover or time and attendance. This assistant may be asked to evaluate and consolidate information from various sources under short deadlines, such as internal or external survey information, reporting on company employment statistics (retention, equal opportunity reporting, etc). The Personnel Assistant II may provide guidance to lower level Personnel Assistants. This level requires extensive knowledge of various office software packages. Guidance is provided as needed. Completed written work receives close technical review from higher-level personnel office employees. Work may be checked occasionally.

### **35. PERSONNEL ASSISTANT III**

This position performs work in support of human resource professionals that requires a good working knowledge of personnel procedures, guides, and precedents. Job tasks may include interviewing applicants, obtaining references, and recommending placement in a well-defined occupation. At this level, assistants typically have a range of personal contacts within and outside the organization, in addition to handling employee-sensitive material. Therefore, the Assistant must be tactful, discrete, and articulate. This Assistant may be involved in identifying potential issues and grievance procedures, in addition to documenting necessary information to avoid company threat. The Personnel Assistant III may make recommendations to human resource professionals on job

classification, wage rates, and employee salaries. The use of computers may be relied on heavily for organizational and reporting purposes. Advanced experience with office software packages may be needed. This Assistant may perform some clerical work in addition to the above duties. Supervisor will review completed work against stated objectives.

### **36. PERSONNEL ASSISTANT IV**

This position performs work in support of human resource professionals that requires a good working knowledge of personnel procedures, guides, and precedents. Job tasks may include interviewing applicants, obtaining references, and recommending placement in a well-defined occupation. At this level, assistants typically have a range of personal contacts within and outside the organization, in addition to handling employee-sensitive material. Therefore, the Assistant must be tactful, discrete, and articulate. This Assistant may be involved in identifying potential issues and grievance procedures, in addition to documenting necessary information to avoid company threat. The Personnel Assistant III may make recommendations to human resource professionals on job classification, wage rates, and employee salaries. The use of computers may be relied on heavily for organizational and reporting purposes. Advanced experience with office software packages may be needed. The position may require an associate's degree or its equivalent with 5 or more years of experience in the field or in a related area. This position performs a variety of tasks. May lead and direct the work of others. A wide degree of creativity and latitude is expected. Typically reports to a supervisor or manager.

### **37. PRODUCTION CONTROL CLERK**

This position compiles and records production data for industrial establishments to compare records and reports on volume of production, consumption of material, quality control, and other aspects of production. May perform any combination of the following duties: compile and record production data from customer orders, work tickets, product specifications, and individual worker production sheets following prescribed recording procedures and using different word processing techniques. This Clerk calculates such factors as types and quantities of items produced, materials used, amount of scrap, frequency of defects, and worker and department production rates, using a computer, calculator, and/or spreadsheets. Additional tasks include: writing production reports based on data compiled, tabulated and computed, following prescribed formats, maintaining files of documents used and prepared, compiling detailed production sheets or work tickets for use by production workers as guides in assembly or manufacture of products. This Clerk prepares written work schedules based on established guidelines and priorities, compiles material inventory records and prepares requisitions for procurement of materials and supplies charts production using chart, graph, or pegboard based on statistics compiled for reference by production and management personnel. This Clerk also sorts and distributes work tickets or material and may compute wages from employee time cards and post wage data on records used for preparation of payroll.

### **38. RENTAL CLERK**

This position performs clerical duties concerned with rental and management of public housing projects answers telephone and responds to requests for maintenance, complaints, rental information or, as appropriate, forwards calls to senior officials. The Rental Clerk receives rental payments and other income, assesses late charges, applies cancellation stamp required by government housing agency, writes receipts, and prepares rental transmittal forms and collection logs for government accounting system. This Clerk receives security deposits and prepares tenant receipts, prepares bank deposits, maintains tenant files, and follows up on income re-certifications.

### **39. SCHEDULER, MAINTENANCE**

This position schedules vehicle repairs and lubrication for vehicle-maintenance, schedules vehicles for lubrication or repairs based on date of last lubrication and mileage traveled or urgency of repairs. The Maintenance Scheduler contacts garage to verify availability of facilities, notifies parking garage workers to deliver specified vehicles, and maintains a file of requests for services.

### **40 - 44. SECRETARY\* (Occupational Base) (Secretary I thru Secretary V)**

This position provides principal secretarial support in an office, usually to one individual, and, in some cases, to the subordinate staff of that individual. The Secretary maintains a close and highly responsive relationship to the day-to-day activities of the supervisor and staff, works fairly independently receiving a minimum of detailed supervision and guidance, and performs various clerical and secretarial duties requiring knowledge of office routine and an understanding of the organization, programs, and procedures related to the work of the office. Computers may exist in the environment, requiring working knowledge of certain office software programs.

#### Classification by Level

Secretary jobs that meet the required characteristics are matched at one of three levels according to two factors: (a) level of the secretary's supervisor within the overall organizational structure, and (b) level of the secretary's responsibility. The table following the explanations of these factors indicates the level of the secretary for each combination of factors.

#### Level of Secretary's Supervisor (LS)

Secretaries should be matched with one of the three LS levels below that best describes the organization of the secretary's supervisor.

- LS-1      Organizational structure is not complex and internal procedures and

administrative controls are simple and informal; supervisor directs staff through face-to-face meetings.

- LS-2 Organizational structure is complex and is divided into subordinate groups that usually differ from each other as to subject matter, function, etc. Supervisor usually directs staff through intermediate supervisors. Internal procedures and administrative controls are formal. An entire organization (e.g., division, subsidiary, or parent organization) may contain a variety of subordinate groups that meet the LS-2 definition. Therefore, it is not unusual for one LS-2 supervisor to report to another LS-2 supervisor.

The presence of subordinate supervisors does not by itself, mean LS-2 applies. For example, a clerical processing organization divided into several units, each performing very similar work, is placed in LS-1.

In smaller organizations or industries such as retail trades, with relatively few organizational levels, the supervisor may have an impact on the policies and major programs of the entire organization, and may deal with important outside contacts as described in LS-3.

- LS-3 Organizational structure is divided into two or more subordinate supervisory levels (of which at least one is a managerial level) with several subdivisions at each level. Executive's program(s) are usually interlocked on a direct and continuing basis with other major organizational segments, requiring constant attention to extensive formal coordination, clearances, and procedural controls. Executive typically has: financial decision-making authority for assigned program(s); considerable impact on the entire organization's financial position or image; and responsibility for, or has staff specialists in such areas as, personnel and administration for assigned organization. Executive plays an important role in determining the policies and major programs of the entire organization, and spends considerable time dealing with outside parties actively interested in assigned program(s) and current or controversial issues.

#### Level of Secretary's Responsibility (LR)

This factor evaluates the nature of the work relationship between the secretary and the supervisor or staff, and the extent to which the secretary is expected to exercise initiative and judgment. Secretaries should be matched at the level best describing their level of responsibility. When a position's duties span more than one LR level, the introductory paragraph at the beginning of each LR level should be used to determine which of the levels best matches the position. (Typically,

secretaries performing at the higher levels of responsibility also perform duties described at the lower levels.)

LR-1 Carries out recurring office procedures independently, and selects the guideline or reference that fits the specific case. The supervisor provides specific instructions on new assignments and checks completed work for accuracy. The LR-1 performs varied duties including or comparable to the following:

- a. Respond to routine telephone requests that have standard answers; refer calls and visitors to appropriate staff. Control mail and assure timely staff response, and send form letters;
- b. As instructed, maintain supervisor's calendar, make appointments, and arrange for meeting rooms;
- c. Review materials prepared for supervisor's approval for typographical accuracy and proper format;
- d. Maintain recurring internal reports, such as time and leave records, office equipment listings, correspondence controls, and training plans;
- e. Requisition supplies, printing, maintenance or other services, type, take and transcribe dictation, create and maintain office files.

LR-2 handles differing situations, problems, and deviations in the work of the office according to the supervisor's general instructions, priorities, duties, policies, and program goals. Supervisor may assist secretary with special assignments. Duties include or are comparable to the following:

- a. Screen telephone calls, visitors, and incoming correspondence; personally respond to requests for information concerning office procedures; determine which requests should be handled by the supervisor, appropriate staff member or other offices, prepare and sign routine non-technical correspondence in own or supervisor's name;
- b. Schedule tentative appointments without prior clearance. Make arrangements for conferences and meetings and

assemble established background materials as directed. May attend meetings and record and report on the proceedings;

- c. Review outgoing materials and correspondence for internal consistency and conformance with supervisor's procedures; assure that proper clearances have been obtained, when needed;
- d. Collect information from the files or staff for routine inquiries on office program(s) or periodic reports, and refer non-routine requests to supervisor or staff;
- e. Explain to subordinate staff supervisor's requirements concerning office procedures, coordinate personnel and administrative forms for the office and forwards for processing.

LR-3 uses greater judgment and initiative to determine the approach or action to take in non-routine situations, interprets and adapts guidelines, including unwritten policies, precedents, and practices, which are not always completely applicable to changing situations. Duties include or are comparable to the following:

- a. Based on knowledge of the supervisor's views, compose correspondence on own initiative about administrative matters and general office policies for supervisor's approval;
- b. Anticipate and prepare materials needed by the supervisor for conferences, correspondence, appointments, meetings, telephone calls, etc., and informs supervisor on matters to be considered;
- c. Prepare special or one-time reports, summaries, or replies to inquiries, selecting relevant information from a variety of sources such as reports, documents, correspondence, other offices, etc., under general directions;
- d. Advise secretaries in subordinate offices on new procedures; request information needed from the subordinate office(s) for periodic or special conferences, reports, inquiries, etc., and shifts clerical staff to accommodate workload needs.

Excludes secretaries performing any of the following duties:

Acting as office manager for the executive's organization, e.g., determines when new procedures are needed for changing situations and devises and implements alternatives; revising or clarifying procedures to eliminate conflict or duplication; identifying and resolving various problems that affect the orderly flow of work in transactions with parties outside the organization.

Preparing agenda for conferences; explain discussion topics to participants; drafts introductions and develops background information and prepares outlines for executive or staff member(s) to use in writing speeches.

The LR-3 advises individuals outside the organization on the executive's views on major policies or current issues facing the organization; contacts or responds to contact from high-ranking outside officials (e.g., city or state officials, members of congress, presidents of national unions or large national or international firms, etc.) in unique situations. These officials may be relatively inaccessible, and each contact typically must be handled differently, using judgment and discretion.

**CRITERIA FOR MATCHING SECRETARIES BY LEVEL**

Secretary I (01311), Secretary II (01312), Secretary III (01313)

Intentionally blank	LR-1	LR-2	LR-3	
LS-1	II 01311	III 01312	III 01313	
LS-2	II 01311	III 01313	See Note	
LS-3	II 01311	See Note	See Note	

NOTE: Employees whose duties meet this level of responsibility and supervision may be properly classified under the Administrative Assistant category or the class may need to be conformed.

**45. SERVICE ORDER DISPATCHER**

This position receives, records, and distributes work orders to service crews upon customers' requests for service on articles or utilities purchased from wholesale or retail establishment or utility company, records information, such as name, address, article to be repaired, or service to be rendered, prepares work order and distributes to service crew, schedules service calls and dispatches service crew. The Service Order Dispatcher calls or writes the customer to insure satisfactory performance of service keeps record of service calls and work orders, may dispatch orders and relay messages and special instructions to mobile crews and other departments using radio or cellular telephone equipment.

#### **46. SUPPLY TECHNICIAN**

This position performs limited aspects of technical supply management work (e.g., inventory management, storage management, cataloging, and property utilization) related to depot, local, or other supply activities. Work usually is segregated by commodity area or function, and controlled in terms of difficulty, complexity, or responsibility. Assignments usually relate to stable or standardized segments of technical supply management operations; or to functions or subjects that are narrow in scope or limited in difficulty. The work generally involves individual case problems or supply actions. This work may require consideration of program requirements together with specific variations in or from standardized guidelines. Assignments require:

(a) a good working knowledge of the governing supply systems, programs, policies, nomenclature, work methods, manuals, or other established guidelines; (b) an understanding of the needs of the organization serviced; and (c) analytical ability to define or recognize the dimension of the problems involved, to collect the necessary data to establish the facts, and take or recommend action based upon application or interpretation of established guidelines.

#### **47. COMPUTER OPERATOR I**

The Computer Operator I works under close personal supervision and is provided detailed written or oral guidance before and during assignments. As instructed, this worker resolves common operating problems and may serve as an assistant operator working under close supervision or performing a portion of a more senior operator's work.

#### **48. COMPUTER OPERATOR II**

The Computer Operator II processes scheduled routines that present few difficult operating problems (e.g., infrequent or easily resolved error conditions). In response to computer output instructions or error conditions, this worker applies standard operating or corrective procedure, refers problems that do not respond to preplanned procedure, and may serve as an assistant operator, working under general supervision.

#### **49. COMPUTER OPERATOR III**

The Computer Operator III processes a range of scheduled routines. In addition to operating the system and resolving common error conditions, this worker diagnoses and acts on machine stoppage and error conditions not fully covered by existing procedures and guidelines (e.g., resetting switches and other controls or making mechanical adjustments to maintain or restore equipment operations). In response to computer output instructions or error conditions, the Computer Operator III may deviate from standard procedures if standard procedures do not

provide a solution and refers problems which do not respond to corrective procedures to a person of supervisory or higher individual contributor level.

#### **50. COMPUTER OPERATOR IV**

The Computer Operator IV adapts to a variety of nonstandard problems that require extensive operator intervention (e.g. frequent introduction of new programs, applications, or procedures). In response to computer output instructions or error conditions, this worker chooses or devises a course of action from among several alternatives and alters or deviates from standard procedures if standard procedures do not provide a solution.

(e.g. reassigning equipment in order to work around faulty equipment or transfer channels); then refers problems if necessary. Typically, completed work is submitted to users without supervisory review.

#### **51. COMPUTER OPERATOR V**

The Computer Operator V resolves a variety of difficult operating problems (e.g. making unusual equipment connections and rarely used equipment and channel configurations to direct processing through or around problems in equipment, circuits, or channels or reviewing test run requirements and developing unusual system configurations that will allow test programs to process without interfering with ongoing job requirements). In response to computer output instructions and error conditions or to avoid loss of information or to conserve computer time, operator deviates from standard procedures. Such actions may materially alter the computer unit's production plans. This operator may spend considerable time away from the control station providing technical assistance to lower level operators and assisting programmers, systems analysts, and subject matter specialists with resolution of problems.

#### **52. COMPUTER PROGRAMMER I**

The Computer Programmer I assists higher level staff by performing elementary programming tasks which concern limited and simple data items and steps which closely follow patterns of previous work done in the organization, e.g. drawing flow charts, writing operator instructions, or coding and testing routines to accumulate counts, tallies, or summaries. This worker may perform routine programming assignments (as described in Level II) under close supervision.

In addition to assisting higher level staff, the Computer Programmer I may perform elementary fact-finding concerning a specified work process, e.g., a file of clerical records which is treated as a unit (invoices, requisitions, or purchase orders, etc.) and then report findings to higher level staff. May receive training in elementary fact-finding. Detailed step-by-step instructions are given for each task, and any deviation must be authorized by a supervisor. Work is closely monitored in progress and reviewed in detail upon completion.

### **53. COMPUTER PROGRAMMER II**

At this level, initial assignments are designed to develop competence in applying established programming procedures to routine problems. This Computer Programmer performs routine programming assignments that do not require skilled background experience but do require knowledge of established programming procedures and data processing requirements, and works according to clear-cut and complete specifications. The data are refined, and the format of the final product is very similar to that of the input, or is well defined when significantly different, i.e., there are few, if any, problems with interrelating varied records and outputs.

The Computer Programmer II maintains and modifies routine programs, makes approved changes by amending program flow charts, developing detailed processing logic, and coding changes, tests and documents modifications and writes operator instructions, may write routine new programs using prescribed specifications, and may confer with EDP personnel to clarify procedures, processing logic, etc.

In addition, the Computer Programmer II may evaluate simple interrelationships in the immediate programming area confers with user representatives to gain an understanding of the situation sufficient to formulate the needed change, and implements the change upon approval of the supervisor or higher level staff. The incumbent is provided with charts, narrative descriptions of the functions performed, an approved statement of the product desired (e.g., a change in a local establishment report), and the inputs, outputs, and record formats. This Worker reviews objectives and assignment details with higher level staff to insure thorough understanding; uses judgment in selecting among authorized procedures and seeks assistance when guidelines are inadequate, significant deviations are proposed, or when unanticipated problems arise. Work is usually monitored in progress, and all work is reviewed upon completion for accuracy and compliance with standards.

### **54. COMPUTER PROGRAMMER III**

As a fully qualified Computer Programmer, this Worker applies standard programming procedures and detailed knowledge of pertinent subject matter in a programming area such as a record keeping operation (supply, personnel and payroll, inventory, purchasing, insurance payments, depositor accounts, etc.); a well-defined statistical or scientific problem; or other standardized operation or problem. The incumbent works according to approved statements of requirements and detailed specifications.

While the data are clear cut, related, and equally available, there may be substantial interrelationships of a variety of records and several varied sequences of formats are usually produced. The programs developed or modified typically are linked to several other programs in that the output of one becomes the input for

another. This Computer Programmer recognizes probable interactions of other related programs with the assigned program(s) and is familiar with related system software and computer equipment, and solves conventional programming problems, (In small organizations, may maintain programs that concern or combine several operations, i.e. users, or develop programs where there is one primary user and the others give input.)

The Computer Programmer III performs such duties as developing, modifying, and maintaining assigned programs, designing and implementing modifications to the interrelation of files and records within programs in consultations with higher level staff. This Worker monitors the operation of assigned programs and responds to problems by diagnosing and correcting errors in logic and coding; implements and/or maintains assigned portions of a scientific programming project, applying established scientific programming techniques to well-defined mathematical, statistical, engineering, or other scientific problems usually requiring the translation of mathematical notation into processing logic and code. (Scientific programming includes assignments such as: using predetermined physical laws expressed in mathematical terms to relate one set of data to another; the routine storage and retrieval of field test data, and using procedures for real-time command and control, scientific data reduction, signal processing, or similar areas.) This Programmer tests, documents work, writes and maintains operator instructions for assigned programs, and confers with other EDP personnel to obtain or provide factual data.

In addition, this Programmer may carry out fact-finding and programming analysis of a single activity or routine problem, applying established procedures where the nature of the program, feasibility, computer equipment, and programming language have already been decided. Job tasks may require the incumbent to analyze present performance of the program and take action to correct deficiencies based on discussion with the user and consultation with and approval of the supervisor or higher-level staff. This Programmer may assist in the review and analysis of detailed program specifications, and in program design to meet changes in work processes.

The Computer Programmer III works independently under specified objectives; applies judgment in devising program logic and in selecting and adapting standard programming procedures, resolves problems and deviations according to established practices, and obtains advice where precedents are unclear or not available. This Worker, may guide or instruct lower level programmers; supervise technicians and others who assist in specific assignments, works on complex programs under close direction of higher level staff or supervisor, and may assist higher level staff by independently performing moderately complex tasks assigned, and performing complex tasks under close supervision. Work at a level above this is deemed Supervisory or Individual Contributor. Completed work is reviewed for conformance to standards, timeliness, and efficiency.

## **55. COMPUTER PROGRAMMER IV**

The Computer Programmer IV applies expertise in programming procedures to complex programs; recommends the redesign of programs, investigates and analyzes feasibility and program requirements, and develops programming specifications. Assigned programs typically affect a broad multi-user computer system which meets the data processing needs of a broad area (e.g., manufacturing, logistics planning, finance management, human resources, or material management) or a computer system for a project in engineering, research, accounting, statistics, etc. This Programmer plans the full range of programming actions to produce several interrelated but different products from numerous and diverse data elements, which are usually from different sources; solves difficult programming problems, and uses knowledge of pertinent system software, computer equipment, work processes, regulations, and management practices.

This Programmer performs such duties as: developing, modifying, and maintains complex programs; designs and implements the interrelations of files and records within programs which will effectively fit into the overall design of the project; works with problems or concepts and develops programs for the solution to major scientific computational problems requiring the analysis and development of logical or mathematical descriptions of functions to be programmed; and develops occasional special programs, e.g. a critical path analysis program to assist in managing a special project. This Worker tests, documents, and writes operating instructions for all work, confers with other EDP personnel to secure information, investigate and resolve problems, and coordinates work efforts.

In addition, this incumbent performs such programming analyses as: investigating the feasibility of alternate program design approaches to determine the best balanced solution, e.g., one that will best satisfy immediate user needs, facilitate subsequent modification, and conserve resources. Duties include the following: assisting user personnel in defining problems or needs, determining work organization on typical maintenance projects and smaller scale, working on limited new projects, the necessary files and records, and their interrelation with the program or working on large or more complicated projects, and participating as a team member along with other EDP personnel and users, holding responsibility for a portion of the project.

The Computer Programmer IV works independently under overall objectives and direction, apprising the supervisor about progress and unusual complications and modifying and adapting precedent solutions and proven approaches. Guidelines include constraints imposed by the related programs with which the incumbent's programs must be meshed. Completed work is reviewed for timeliness, compatibility with other work, and effectiveness in meeting requirements. This Worker may function as team leader or supervise a few lower level programmers or technicians on assigned work.

## **56. COMPUTER SYSTEMS ANALYST I**

At this level, initial assignments are designed to expand practical experience in applying systems analysis techniques and procedures. This Analyst provides several phases of the required systems analysis where the nature of the system is predetermined, uses established fact-finding approaches, knowledge of pertinent work processes and procedures, and familiarity with related computer programming practices, system software, and computer equipment.

This Worker carries out fact finding and analyses as assigned, (usually of a single activity or a routine problem); applies established procedures where the nature of the system, feasibility, computer equipment and programming language have already been decided; may assist a higher level systems analyst by preparing the detailed specifications required by computer programmers from information developed by the higher level analyst, and may research routine user problems and solve them by modifying the existing system when the solutions follow clear precedents. When cost and deadline estimates are required, results receive closer review.

The supervisor defines objectives, priorities, and deadlines. Incumbents work independently; adapt guides to specific situations; resolve problems and deviations according to established practices; and obtain advice where precedents are unclear or not available. Completed work is reviewed for conformance to requirements, timeliness, and efficiency. This position may supervise technicians and others who assist in specific assignments. Work at a level above this is deemed Supervisory or Individual Contributor.

## **57. COMPUTER SYSTEMS ANALYST II**

This Analyst applies systems analysis and design skills in an area such as a record keeping or scientific operation. A system of several varied sequences or formats is usually developed, e.g. the analyst develops systems for maintaining depositor accounts in a bank, maintaining accounts receivable in a retail establishment, maintaining inventory accounts in a manufacturing or wholesale establishment, or processing a limited problem in a scientific project. This position requires competence in most phases of system analysis and knowledge of pertinent system software and computer equipment and of the work processes, applicable regulations, workload, and practices of the assigned subject-matter area. Job duties require the incumbent to be able to recognize probable interactions of related computer systems and predict impact of a change in assigned system.

The Computer Systems Analyst II reviews proposals which consist of objectives, scope, and user expectations; gathers facts, analyzes data, and prepares a project synopsis which compares alternatives in terms of cost, time, availability of equipment and personnel, and recommends a course of action; upon approval of synopsis, prepares specifications for development of computer programs. Duties

also include the ability to determine and resolve data processing problems and coordinate the work with program, users, etc. This worker orients user personnel on new or changed procedures, may conduct special projects such as data element and code standardization throughout a broad system, working under specific objectives and bringing to the attention of the supervisor any unusual problems or controversies.

In this position, the incumbent works independently under overall project objectives and requirements, and apprises supervisor about progress and unusual complications. Guidelines usually include existing systems and the constraints imposed by related systems with which the incumbent's work must be meshed. This worker adapts design approaches successfully used in precedent systems, works on a segment of a complex data processing scheme or broad system, as described for Computer Systems Analyst, level III, works independently on routine assignments and receives instructions and guidance on complex assignments. Work is reviewed for accuracy of judgment, compliance with instructions, and to insure proper alignment with the overall system. Completed work is reviewed for timeliness, compatibility with other work, and effectiveness in meeting requirements. This analyst may provide functional direction to lower level assistants on assigned work.

#### **58. COMPUTER SYSTEMS ANALYST III**

The Computer Systems Analyst III applies systems analysis and design techniques to complex computer systems in a broad area such as manufacturing, finance management, engineering, accounting, or statistics, logistics planning, material management, etc. Usually, there are multiple users of the system; however, there may be complex one-user systems, e.g., for engineering or research projects. This position requires competence in all phases of systems analysis techniques, concepts, and methods and knowledge of available system software, computer equipment, and the regulations, structure, techniques, and management practices of one or more subject-matter areas. Since input data usually come from diverse sources, this worker is responsible for recognizing probable conflicts and integrating diverse data elements and sources, and produces innovative solutions for a variety of complex problems.

The Computer Systems Analyst III maintains and modifies complex systems or develops new subsystems such as an integrated production scheduling, inventory control, cost analysis, or sales analysis record in which every item of each type is automatically processed through the full system of records. The incumbent guides users in formulating requirements, advises on alternatives and on the implications of new or revised data processing systems, analyzes resulting user project proposals, identifies omissions and errors in requirements and conducts feasibility studies. This analyst recommends optimum approach and develops system design for approved projects, interprets information and informally arbitrates between system users when conflicts exist. This worker may serve as lead analyst in a

design subgroup, directing and integrating the work of one or two lower level analysts, each responsible for several programs. Supervision and nature of review are similar to level II; existing systems provide precedents for the operation of new subsystems.

#### **59. *AUTOMOTIVE, ELECTRICIAN***

This position tests, repairs, overhauls, modifies, and maintains electrical equipment of a specialized nature such as automatic alternator synchronizing equipment, amplifying control units, voltage regulating equipment, generators, switching and control panels, and junction boxes, in motor vehicles such as automobiles, buses and trucks.

#### **60. *MOBILE EQUIPMENT SERVICER***

Operating from a mobile fuel station and/or tanker, the Mobile Equipment Servicer performs one or more of the following duties: supplies all types of vehicles with gasoline or diesel fuel, and records mileage and tag numbers, checks fluid levels, battery, cooling system and engine oil, checks tires for wear and pressure, replaces wiper blades, fuses, sealed beam lights, and light bulbs. Inspects equipment and performs preventive maintenance services, changes oil and filters, lubricates and greases vehicles, washes and cleans interiors and exteriors of vehicles; maintains inventories of parts and supplies; and cleans and maintains work areas.

#### **61. *PAINTER, AUTOMOTIVE***

The Painter, Automotive Worker coats surfaces of motor vehicles such as automobiles, buses, and trucks with paint, lacquer, epoxy, resin or other material, using brushes, rollers, spray guns and other devices, removes old paint from vehicle, using liquid paint remover and scraper, smoothes surface with sandpaper and steel wool. The Painter, Automotive Worker roughens aluminum surfaces with acid solution and steel wool to ensure that paint adheres to surface, masks and covers portions of surfaces not to be painted, paints vehicle or specified portion of vehicle and may paint insignia, letters or numerals on vehicle surface using stencils.

#### **62. *TIRE REPAIRER***

The Tire Repairer repairs damaged tires of automobiles, buses, trucks, and other automotive vehicles, raises vehicle, using hydraulic jack, and unbolts wheel, using lug wrench, removes wheel from vehicle by hand or, when repairing giant tires of heavy equipment, by use of power hoist, locates puncture in tubeless tire by visual inspection or by immersing inflated tire in water bath and observing air bubbles emerging from puncture, and seals puncture in tubeless tire by inserting adhesive material and expanding rubber plug into puncture, using hand tools.

Job task for the Tire Repairer also includes separating tubed tire from wheel, using rubber mallet and metal bar or mechanical tire changer, removing inner tube from tire and inspects tire casing for defects, such as holes and tears, gluing boot (tire patch) over rupture in tire casing using rubber cement, inflating inner tube and immerses it in water to locate leak, buffing defective area of inner tube, using scraper, and patches tubes with adhesive rubber patch or seals rubber patch to tube, using hot vulcanizing plate. The Tire Repairer reassembles tire onto wheel, and places wheel on balancing machine to determine counterweights required to balance wheel, hammers required counterweights onto rim of wheel.

### **63. GARDENER**

The Gardener plans and executes small scale landscaping operations and maintains grounds and landscape of household, business and other properties, works with assistant in preparing and grading terrain, applying fertilizers, seeding and laying sod, and transplanting shrubs and plants, and cultivates them, using gardening implements and power-operated equipment. The Gardener plants new and repairs established lawns, using seed mixtures and fertilizers recommended for particular soil type and lawn location, locates and plants shrubs, trees, and flowers recommended for particular landscape effect or those selected by property owner, mows and trims lawns, using hand or power mower, trims shrubs and cultivates gardens, sprays trees and shrubs and applies supplemental liquid and dry nutrients to lawn, trees and shrubs; cleans ground, using rakes, brooms, and hose, dig trenches and install drain tiles, repair concrete and asphalt walks and driveways.

### **64. HOUSEKEEPING AIDE I**

The Housekeeping Aide performs special cleaning projects as well as daily cleaning duties in accordance with standard procedures of the housekeeping department and with hospital objectives. An employee uses cleaning equipment, including automatic floor machines, commercial vacuums, wet mops, large wringers and other necessary equipment, tools, chemicals and supplies. The Housekeeping Aide will dry and wet mop floors, scrub and buff floors with rotor and other machines, vacuum carpets to clean and control bacteria, transport trash from utility rooms and other collection points to incinerator, compactor, or pick-up area, perform special cleaning of induction units, walls, lighting fixtures, and windows, both inside and outside, move furniture and set up meeting rooms. This Aide collects soiled linen, assists in cleaning emergency spills that are observed or as requested, maintains assigned equipment for cleanliness and requests repairs when needed, reports need for repairs to hospital equipment, furniture, building and fixtures, assists in moving patients in case of fire, disaster or emergency evacuation, and assists security personnel in restraining disturbed patients in psychiatric wards.

## **65. HOUSEKEEPING AIDE II**

The Housekeeping Aide performs special cleaning projects as well as daily cleaning duties in accordance with standard procedures of the housekeeping department and with hospital objectives. An employee uses cleaning equipment, including automatic floor machines, commercial vacuums, wet mops, large wringers and other necessary equipment, tools, chemicals and supplies. The Housekeeping Aide will dry and wet mop floors, scrub and buff floors with rotor and other machines, vacuum carpets to clean and control bacteria, transport trash from utility rooms and other collection points to incinerator, compactor, or pick-up area, perform special cleaning of induction units, walls, lighting fixtures, and windows, both inside and outside, move furniture and set up meeting rooms. This Aide collects soiled linen, assists in cleaning emergency spills that are observed or as requested, maintains assigned equipment for cleanliness and requests repairs when needed, reports need for repairs to hospital equipment, furniture, building and fixtures, assists in moving patients in case of fire, disaster or emergency evacuation, and assists security personnel in restraining disturbed patients in psychiatric wards.

## **66. JANITOR**

The Janitor cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office, apartment house, or commercial or other establishment. Duties involve a combination of the following: Sweeping, mopping or scrubbing, and polishing floors; removing chips, trash, and other refuse; dusting equipment, furniture, or fixtures; polishing metal fixtures or trimmings; providing supplies and minor maintenance services; and cleaning lavatories, showers, and restrooms.

Excluded are:

- a. Workers who specialize in window washing.
- b. Housekeeping staff that make beds and change linens as a primary responsibility.
- c. Workers required to disassemble and assemble equipment in order to clean machinery.
- d. Workers who receive additional compensation to maintain sterile facilities or equipment.

## **67. LABORER, GROUNDS MAINTENANCE**

The Laborer, Grounds Maintenance maintains grounds of industrial, commercial or public property such as buildings, camp and picnic grounds, parks, playgrounds,

greenhouses, and athletic fields, and repairs structures and equipment, performing one or more of the following tasks: cut grass, using walking-type or riding mowers (less than 2000 lbs.), trim hedges and edges around walks, flowerbeds, and wells, using hedge trimmers, clippers and edging tools, prunes shrubs and trees to shape and improve growth, using shears and other hand tools, sprays lawn, shrubs, and trees with fertilizer or insecticide. Job duties also include the following: planting grass, flowers, trees, and shrubs, watering lawn and shrubs during dry periods, using hose or activating sprinkler system, picks up and burns or carts away leaves, paper or other litter; removing snow from walks, driveways, roads, or parking lots, using shovel and snow blower, spreads salt on walkways and other areas, repairing and painting fences, gates, benches, tables, guardrails, and outbuildings. This Worker assists in repair of roads, walks, buildings, and mechanical equipment, and may clean comfort stations, offices workshop areas, and parking lots by sweeping, washing, mopping and polishing.

#### **68. PEST CONTROLLER (Exterminator)**

The Pest Controller sprays chemical solutions or toxic gases and sets mechanical traps to kill pests that infest buildings and surrounding areas, fumigates rooms and buildings using toxic gases, sprays chemical solutions or dusts powders in rooms and work areas, places poisonous paste or bait and mechanical traps where pests are present; may clean areas that harbor pests, using rakes, brooms, shovels, and mops preparatory to fumigating; and may be required to hold State license.

#### **69. REFUSE COLLECTOR**

The Refuse Collector picks up garbage, trash, or refuse from homes, businesses and other locations and deposits it in a truck.

#### **70. TRACTOR OPERATOR**

The Tractor Operator drives gasoline or diesel powered tractor to: move materials, draw implements, tow trailers, pull out objects embedded in ground, or pull cable of winch to raise, lower, or load heavy material or equipment. The Tractor Operator fastens attachments such as graders, plows, rollers, mowers (over 2000 lbs.), backhoes, seeders, and disc harrows to tractor, adjusts equipment for proper operation, lubricates and makes minor repairs to tractor and attachments such as tightening bolts, and replacing washers, cotter pins, and screws.

#### **71. WINDOW CLEANER**

The Window Cleaner cleans windows, glass partitions, mirrors, and other glass surfaces of building interior or exterior, using pail of soapy water or other cleaner, sponge, and squeegee, crawls through windows from inside and hooks safety belt to brackets for support; sets and climbs ladder to reach second or third story; uses basin chair, swings stage or other scaffolding lowered from roof to reach outside windows; or stands to reach first floor or inside windows.

## **72. MACHINE-TOOL OPERATOR (TOOLROOM)**

Someone in this position specializes in operating one or more than one type of machine tool (e.g., jig borer, grinding machine, engine lathe, milling machine) to machine metal for use in making or maintaining jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass). Work typically involves: planning and performing difficult machining operations which require complicated setups or a high degree of accuracy, setting up machine tool or tools (e.g., installing cutting tools and adjusting guides, stops, working tables, and other controls to handle the size of stock to be machined.

The Machine Tool Operator determines proper feeds, speeds, tooling, and operation sequence or selects those prescribed in drawings, blueprints, or layouts). Work also involves using a variety of precision measuring instruments, making necessary adjustments during machining operation to achieve requisite dimensions to very close tolerances. This worker may be required to select proper coolants and cutting and lubricating oils to recognize when tools need dressing, and to dress tools. In general, the work of a Machine-Tool Operator (Tool room) at the skill level called for in this classification, requires extensive knowledge of machine shop and tool room practice usually acquired though considerable on-the-job training and experience.

## **73. TOOL AND DIE MAKER**

The Tool and Die Maker constructs and repairs jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass). Work typically involves: planning and laying out work according to models, blueprints, drawings, or other written or oral specifications, understanding the working properties of common metals and alloys, selecting appropriate materials, tools, and processes required to complete task, making necessary shop computations, and setting up and operating various machine tools and related equipment. Work for someone in this position also involves using various Tool and Die Maker's hand tools and precision measuring instrument, working to very close tolerances, heat-treating metal parts and finished tools and dies to achieve required qualities, and fitting and assembling parts to prescribed tolerances and allowances. In general, the Tool and Die Maker's work requires rounded training in machine shop and tool room practice usually acquired through formal apprenticeship or equivalent training and experience.

## **74. MATERIAL COORDINATOR**

The Material Coordinator coordinates and expedites flow of material, parts, and assemblies within or between departments in accordance with production and shipping schedules or department supervisors' priorities. In this job, the Material Coordinator reviews production schedules and confers with department supervisors to determine material required or overdue and to locate material,

requisitions material and establishes delivery sequences to departments according to job order priorities and anticipated availability of material; arranges for in-plant transfer of materials to meet production schedules, and with department supervisors for repair and assembly of material and its transportation to various departments, and examines material delivered to production departments to verify if type specified.

This Worker may monitor and control movement of material and parts along conveyor system, using remote-control panel board, compute amount of material needed for specific job orders, applying knowledge of product and manufacturing processes and using adding machine; compile report of quantity and type of material on hand, move or transport material from one department to another, using hand or industrial truck; may compile perpetual production records in order to locate material in process of production, using manual or computerized system, and maintain employee records.

#### **75. MATERIAL EXPEDITER**

The Material Expediter executes the following: locates and moves materials and parts between work areas of plant to expedite processing of goods, according to predetermined schedules and priorities, and keeps related record, reviews production schedules inventory reports, and work orders to determine types, quantities, and availability of required material and priorities of customer orders, confers with department supervisors to determine materials overdue and to inform them of location, availability, and condition of materials, locates and moves materials to specified production areas, using cart or hand truck, and records quantity and type of materials distributed and on hand. Work may include the following tasks: directing Power-Truck Operator or Material Handling Laborer to expedite movement of materials between storage and production areas, compare work ticket specifications with material at work stations to verify appropriateness of material in use, prepare worker production records and timecards, and may update and maintain inventory records, using computer terminal.

#### **76. MATERIAL HANDLING LABORER**

This person will perform physical tasks to transport or store materials or merchandise. Duties involve one or more of the following: manually loading or unloading freight cars, trucks, or other transporting devices; unpacking, shelving, or placing items in proper storage locations; or transporting goods by hand truck, cart, or wheelbarrow.

Excluded from this definition are workers whose primary function involves:

- a. Participating directly in the production of goods (e.g., moving items from one production station to another or placing them on or removing

- them from the production process);
- b. Stocking merchandise for sale;
  - c. Counting or routing merchandise;
  - d. Operating a crane or heavy-duty motorized vehicle such as forklift or truck;
  - e. Loading and unloading ships (alongshore workers);
  - f. Traveling on trucks beyond the establishment's physical location to load or unload merchandise.

### **77. ORDER FILLER**

The Order Filler fills shipping or transfer orders for finished goods from stored merchandise in accordance with specifications on sales slips, customers' orders, or other instructions. This worker may, in addition to filling orders and indicating items filled or omitted, keep records of outgoing orders, requisition additional stock or report short supplies to supervisor, and perform other related duties.

### **78. FORKLIFT OPERATOR**

The Forklift Operator operates a manually controlled gasoline, electric or liquid propane gas powered forklift to transport goods and materials of all kinds within a warehouse, manufacturing plant, or other establishment.

### **79. SHIPPING/RECEIVING CLERK**

The Shipping/Receiving Clerk performs clerical and physical tasks in connection with shipping goods of the establishment in which employed and receiving incoming shipments. In performing day-to-day, routine tasks, this worker follows established guidelines. In handling unusual non-routine problems, this worker receives specific guidance from supervisor or other officials. This incumbent may direct and coordinate the activities of other workers engaged in handling goods to be shipped or being received. Shipping duties typically involve the following: verifying that orders are accurately filled by comparing items and quantities of goods gathered for shipment against documents; insuring that shipments are properly packaged, identified with shipping information, and loaded into transporting vehicles, and preparing and keeping records of goods shipped, e.g., manifests, bills of lading. Receiving duties typically involve the following: verifying the correctness of incoming shipments by comparing items and quantities unloaded against bills of lading, invoices, manifests, storage receipts, or other records, checking for damaged goods, insuring that goods are appropriately identified for routing to departments within the establishment, and preparing and keeping records of goods received.

## **80. SHIPPING PACKER**

Someone in this position prepares finished products for shipment or storage by placing them in shipping containers, the specific operations performed being dependent upon the type, size, and number of units to be packed, the type of container employed, and method of shipment. Work requires the placing of items in shipping containers, and may involve one or more of the following: knowledge of various items of stock in order to verify content, selection of appropriate type and size of container, inserting enclosures in container; using excelsior or other material to prevent breakage or damage, closing and sealing container, and applying labels or entering identifying data on container.

Exclude packers who also make wooden boxes or crates.

## **81. STOCK CLERK (Shelf Stocker; Store Worker II)**

The Stock Clerk receives, stores, and issues equipment, materials, supplies, merchandise, foodstuffs, or tools, and compiles stock records of items in stockroom, warehouse or storage yard. This worker sorts, or weighs incoming articles to verify receipt of items on requisition or invoice, examines stock to verify conformance to specifications, stores articles in bins, on floor or on shelves, according to identifying information, such as style, size or type of material, fills orders or issues supplies from stock, prepares periodic, special or perpetual inventory of stock, and requisitions articles to fill incoming orders. This worker also compiles reports on use of stock handling equipment, adjustments of inventory counts and stock records, spoilage of or damage to stock, location changes, and refusal of shipments, may mark identifying codes, figures, or letters on articles, may distribute stock among production workers, keeping records of material issued, may make adjustments or repairs to articles carried in stock, and may cut stock to size to fill order.

## **82. TOOLS AND PARTS ATTENDANT (Tool Crib Attendant)**

This incumbent receives, stores, and issues hand tools, machine tools, dies, replacement parts, shop supplies and equipment, such as measuring devices, in an industrial establishment. The Tools and Parts Attendant does the following: keeps records of tools issued to and returned by workers, searches for lost or misplaced tools, prepares periodic inventory or keeps perpetual inventory and requisitions stock as needed, unpacks and stores new equipment; visually inspects tools or measures with micrometer for wear or defects and reports damaged or worn-out equipment to superiors; may coat tools with grease or other preservative, using a brush or spray gun, and may attach identification tags or engrave identifying information on tools and equipment using electric marking tool.

## **83. WAREHOUSE SPECIALIST (Warehouse Worker)**

As directed, the Warehouse Specialist performs a variety of warehousing duties that require an understanding of the establishment's storage plan. Work involves

most of the following: verifying materials (or merchandise) against receiving documents, noting and reporting discrepancies and obvious damages, routing materials to prescribed storage locations; storing, stacking, or palletizing materials in accordance with prescribed storage methods, rearranging and taking inventory of stored materials, examining stored materials and reporting deterioration and damage, removing material from storage and preparing it for shipment. This worker may operate hand or power trucks in performing warehousing duties.

Note: Exclude workers whose primary duties involve shipping and receiving work (see Shipping/Receiving Clerk), order filling (see Order Filler), or operating forklifts (see Forklift Operator).

#### **84. APPLIANCE MECHANIC**

The Appliance Mechanic installs, services and repairs stoves, refrigerators, dishwashing machines, and other electrical household or commercial appliances, using hand tools, test equipment and following wiring diagrams and manufacturer's specifications. This person connects appliance to power source and test meters, such as wattmeter, ammeter, or voltmeter, observes readings on meters and graphic recorders, examines appliance during operating cycle to detect excess vibration, overheating, fluid leaks and loose parts, and disassembles appliances and examines mechanical and electrical parts. The worker traces electrical circuits, following diagram and locates shorts and grounds, using ohmmeter, calibrates timers, thermostats and adjusts contact points, and cleans and washes parts, using wire brush, buffer, and solvent to remove carbon, grease and dust. This person replaces worn or defective parts, such as switches, pumps, bearings, transmissions, belts, gears, blowers and defective wiring, repairs and adjusts appliance motors, reassembles appliance, adjusts pulleys and lubricates moving parts, using hand tools and lubricating equipment.

#### **85. CABLE SPLICER**

A Cable Splicer installs, maintains, repairs, and modifies cable systems. This worker uses engineered drawings, statements of work, and technical manuals to determine requirements for underground, buried, and aerial cable systems, prepares and installs distribution equipment, terminates tip cables on main distribution frames, and installs, maintains, and repairs dry air compressors and continuous flow and static pressurization systems. This incumbent ensures techniques, materials, and accomplishments are according to technical standards and specifications and engineered directives; locates, repairs, and/or replaces splice cases, performs pneumatic troubleshooting to locate faulty splice cases and pressure component assemblies, using resistance measurements and pressure gradients, and determines course of signal deterioration in voice and data circuits over cable by using test equipment. This person also interprets compressor meter readings and adjusts controls, and troubleshoots pneumatic and electrical malfunctions in cable air-dryer compressors.

## **86. CARPENTER, MAINTENANCE**

The Carpenter, Maintenance performs the carpentry duties necessary to maintain in good repair building woodwork and equipment such as bins, cribs, counters, benches, partitions, doors. Work involves most of the following: planning and laying out of work from blueprints, drawings, models, or verbal instructions, using a variety of carpenter's hand tools, portable power tools and standard measuring instruments, and making standard shop computations relating to dimensions of work; and selecting materials necessary for the work. In general, the work of the maintenance carpenter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

## **87. CARPET LAYER**

The Carpet Layer prepares floor by removing old carpet or other covering, stripping, patching, or cleaning floor, measures and cuts carpeting to size, using carpet knife; lays padding and places carpeting on top of padding, cuts, trims, and stretches carpeting to fit along wall edges, openings, and projections, installs metal edging and metal door strips; may lay carpet tiles, applying adhesive to floor, and transport carpeting to installation site.

## **88. ELECTRICIAN, MAINTENANCE**

An Electrician performs a variety of electrical trade functions such as the installation, maintenance, or repair of equipment for the generation, distribution, or utilization of electric energy. Work involves most of the following: installing or repairing any of a variety of electrical equipment such as generators, transformers, switchboards, controllers, circuit breakers, motors, heating units, conduit systems, or other transmission equipment; working from blueprints, drawings, layouts, or other specifications, locating and diagnosing trouble in the electrical system or equipment, working standard computations relating to load requirements of wiring or electrical equipment, and using a variety of electrician's hand tools and measuring and testing instruments. In general, the work of the maintenance electrician requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

## **89. ELECTRONICS TECHNICIAN MAINTENANCE I**

The Electronics Technician Maintenance I applies basic technical knowledge to perform simple or routine tasks following detailed instructions, performs such tasks as replacing components, wiring circuits, repairing simple electronic equipment; and taking test readings using common instruments such as digital multi-meters, signal generators, semiconductor testers, curve tracers, and oscilloscopes. This person works under close supervision receiving technical guidance from supervisor or higher-level technician. Work is checked frequently for accuracy.

## **90. ELECTRONICS TECHNICIAN MAINTENANCE II**

The Electronics Technician Maintenance II applies basic and some advanced technical knowledge to solve routine problems by interpreting manufacturers' manuals or similar documents. Work requires familiarity with the interrelationships of circuits and judgment in planning work sequence, in selecting tools, testing instruments, and is reviewed for compliance with accepted practices. This technician works under immediate supervision and achieves technical guidance, as required, from supervisor or higher-level technician.

## **91. ELECTRONICS TECHNICIAN MAINTENANCE III**

The Electronics Technician Maintenance III applies advanced technical knowledge to solve complex problems that typically cannot be solved solely by referencing manufacturers' manuals or similar documents. Examples of such problems include determining the location and density of circuitry, evaluating electromagnetic radiation, isolating malfunctions, and incorporating engineering changes. Work typically requires an understanding of the interrelationships of circuits, exercising independent judgment in performing such tasks as making circuit analyses, calculating wave forms, and tracing relationships in signal flow, using complex test instruments such as high frequency pulse generators, frequency synthesizers, distortion analyzers, and complex computer control equipment. Work may be reviewed by supervisor for general compliance with accepted practices. This position may provide technical guidance to lower level technicians.

## **92. FIRE ALARM SYSTEM MECHANIC**

The Fire Alarm System Mechanic inspects, tests, maintains, and repairs installed fire alarm detection and suppression systems in accordance with manufacturer's specifications and National Fire Protection Association standards, inspects fire alarm equipment visually and replaces defective components, tests initiating and signal circuits, detectors, and system transmitter, makes needed repairs, and checks pressure gauges on suppression system storage containers and recharges or replaces containers.

## **93. FIRE EXTINGUISHER REPAIRER**

The Fire Extinguisher Repairer performs the following duties: repairs and tests fire extinguishers in repair shops and in establishments, such as factories, homes, garages, and office buildings, Using hand tools and hydrostatic test equipment, this repairer dismantles extinguisher and examines tubing's, horns, head gaskets, cutter disks, and other parts for defects, and replaces worn or damaged parts. Using hand tools, this repairer cleans extinguishers and recharges them with materials, (such as soda water and sulfuric acid, carbon tetrachloride, nitrogen or patented solutions); tests extinguishers for conformity with legal specifications using hydrostatic test equipment, and may install cabinets and brackets to hold extinguishers.

#### **94. FUEL DISTRIBUTION SYSTEM MECHANIC**

The Fuel Distribution System Mechanic maintains and repairs fuel storage and distribution systems, using hand and power tools and testing instruments, inspects fuel receiving, storage, and distribution facilities to detect and correct leakage, corrosion, faulty fittings, and malfunction of mechanical units, meters, and gauges, (such as distribution lines, float gauges, piping valves, pumps, and roof sumps); inspects electrical wiring, switches, and controls for safe-operating condition, grounding, and adjustment, lubricates and repacks valves; lubricates pumps, replaces gaskets, seals and corrects pumping equipment misalignment, and cleans strainers and filters.

This mechanic services water separators, checks meters for correct delivery and calibration, overhauls system components such as pressure regulating valves and excess valves, disassembles, adjusts, aligns, and calibrates gauges and meters or replaces them, removes and installs equipment such as filters and piping to modify system or repair and replace system component. Duties include: cleaning fuel tanks and distribution lines, removing corrosion and repainting surfaces, overhauling vacuum and pressure vents, floating roof seals, hangers, and roof sumps, and maintaining record of inspections and repairs.

#### **95. GENERAL MAINTENANCE WORKER**

The General Maintenance Worker performs general maintenance and repair of equipment and buildings requiring practical skill and knowledge (but not proficiency) in such trades as painting, carpentry, plumbing, masonry, and electrical work. Work involves a variety of the following duties: replacing electrical receptacles, wires, switches, fixtures, and motors, using plaster or compound to patch minor holes and cracks in walls and ceilings, repairing or replacing sinks, water coolers, and toilets painting structures and equipment; repairing or replacing concrete floors, steps, and sidewalks, replacing damaged paneling and floor tiles, hanging doors and installing door locks, replacing broken window panes, and performing general maintenance on equipment and machinery.

Excluded are:

- a. Craft workers included in a formal apprenticeship or progression program based on training and experience;
- b. Skilled craft workers required to demonstrate proficiency in one or more trades;
- c. Workers performing simple maintenance duties not requiring practical skill and knowledge of a trade (e.g., changing light bulbs and replacing faucet washers).

## **96. HEATING, VENTILATION, AND AIR-CONDITIONING MECHANIC**

The Heating, Ventilation, and Air-Conditioning Mechanic installs, services and repairs environmental-control systems in residences, department stores, office buildings, and other commercial establishments, utilizing knowledge of refrigeration theory, pipefitting and structural layout, mounts compressor and condenser units on platform or floor, using hand tools, following blueprints or engineering specifications, fabricates, assembles and installs ductwork and chassis parts, using portable metalworking tools and welding equipment, and installs evaporator unit in chassis or in air-duct system, using hand tools. This mechanic also cuts and bends tubing to correct length and shape, using cutting and bending equipment and tools, cuts and threads pipe, using machine-threading or hand-threading equipment, joins tubing or pipes to various refrigerating units by means of sleeves, couplings or unions, and solders joints, using torch, forming complete circuit for refrigerant, installs expansion and discharge valves in circuit.

This worker connects motors, compressors, temperature controls, humidity controls, and circulating ventilation fans to control panels and connects control panels to power source; installs air and water filters in completed installation, injects small amount of refrigerant into compressor to test systems and adds Freon gas to build up prescribed operating pressure. This mechanic observes pressure and vacuum gauges and adjusts controls to insure proper operation, tests joints and connections for gas leaks, using gauges or soap and-water solution, wraps pipes in insulation batting and secures them in place with cement or wire bands, replaces defective breaker controls, thermostats, switches, fuses and electrical wiring to repair installed units, may install, repair and service air conditioners, ranging from fifteen to twenty tons cooling capacity in warehouses and small factory buildings.

## **97. HEAVY EQUIPMENT MECHANIC**

The Heavy Equipment Mechanic analyzes malfunctions and repairs, rebuilds and maintains power equipment, such as cranes, power shovels, scrapers, paving machines, motor graders, trench-digging machines, conveyors, bulldozers, dredges, pumps, compressors and pneumatic tools. This worker operates and inspects machines or equipment to diagnose defects, dismantles and reassembles equipment, using hoists and hand tools, examines parts for damage or excessive wear, using micrometers and gauges, replaces defective engines and subassemblies, such as transmissions, and tests overhauled equipment to insure operating efficiency. The mechanic welds broken parts and structural members, may direct workers engaged in cleaning parts and assisting with assembly and disassembly of equipment, and may repair, adjust and maintain mining machinery, such as stripping and loading shovels, drilling and cutting machines, and continuous mining machines.

## **98. HEAVY EQUIPMENT OPERATOR**

The Heavy Equipment Operator operates heavy equipment such as cranes, clamshells, power shovels, motor graders, heavy loaders, carryalls, bulldozers, rollers, scrapers, and large industrial tractors with pan or scrapper attachments. Equipment is used to excavate, load, or move dirt, gravel, or other materials. Operator may read and interpret grade and slope stakes and simple plans, and may grease, adjust and make emergency repairs to equipment.

## **99. INSTRUMENT MECHANIC**

The Instrument Mechanic installs, repairs, maintains, and adjusts indicating, recording, telemetering, and controlling instruments used to measure and control variables, such as pressure, flow, temperature, motion, force, and chemical composition, using hand tools and precision instruments. This worker disassembles malfunctioning instruments, examines and tests mechanism and circuitry for defects; troubleshoots equipment in or out of control system and replaces or repairs defective parts, reassembles instrument and tests assembly for conformance with specifications, using instruments, such as potentiometer, resistance bridge, manometer, and pressure gauge; inspects instruments periodically, and makes minor calibration adjustments to insure functioning within specified standards. This mechanic may adjust and repair final control mechanisms, such as automatically controlled valves or positioners, and may calibrate instruments according to established standards.

## **100. LABORER**

The Laborer performs tasks that require mainly physical abilities and effort involving little or no specialized skill or prior work experience. The following tasks are typical of this occupation: The Laborer loads and unloads trucks, and other conveyances, moves supplies and materials to proper location by wheelbarrow or hand truck; stacks materials for storage or binning, collects refuse and salvageable materials, and digs, fills, and tamps earth excavations, The Laborer levels ground using pick, shovel, tamper and rake, shovels concrete and snow; cleans culverts and ditches, cuts tree and brush; operates power lawnmowers, moves and arranges heavy pieces of office and household furniture, equipment, and appliance, moves heavy pieces of automotive, medical engineering, and other types of machinery and equipment, spreads sand and salt on icy roads and walkways, and picks up leaves and trash.

## **101. LOCKSMITH**

The Locksmith installs, repairs, modifies, and opens a variety of locking mechanisms found on doors, desks, compartments, mobile equipment, safes, and vaults. This worker examines locking mechanism and installs new unit or disassembles unit and replaces worn tumblers, springs, and other parts or repairs them by filing, drilling, chiseling and grinding, opens door locks by moving lock pick in cylinder or opens safe locks by listening to lock sounds or drilling. This

worker makes new or duplicate keys, using key cutting machine, changes combination by inserting new or repaired tumblers into lock, and establishes keying systems for buildings.

### **102. MACHINERY MAINTENANCE MECHANIC**

The Machinery Maintenance Mechanic repairs machinery or mechanical equipment. Work involves most of the following: examining machines and mechanical equipment to diagnose source of trouble, dismantling or partly dismantling machines and performing repairs that mainly involve the use of hand tools in scraping and fitting parts. Responsibilities include replacing broken or defective parts with items obtained from stock, and ordering the production of a replacement part by a machine shop or sending the machine to a machine shop for major repairs. Duties also include preparing written specifications for major repairs or for the production of parts ordered from machine shops, reassembling machines and making all necessary adjustments for operation. In general, the work of a Machinery Maintenance Mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

Excluded from this classification are workers whose primary duties involve setting up or adjusting machines.

### **103. MACHINIST, MAINTENANCE**

The Machinist, Maintenance produces replacement parts and new parts in making repairs of metal parts of mechanical equipment. Work involves most of the following: interpreting written instructions and specifications, planning and laying out of work, using a variety of machinist's hand tools and precision measuring instruments, setting up and operating standard machine tools. This incumbent is responsible for the shaping of metal parts to close tolerances, making standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining; knowledge of the working properties of the common metals, selecting standard materials, parts, and equipment required for this work; and fitting and assembling parts into mechanical equipment. In general, the machinist's work normally requires a rounded training in machine-shop practice, usually acquired through a formal apprenticeship or equivalent training and experience.

### **104. MAINTENANCE TRADES HELPER**

The Maintenance Trades Helper assists one or more workers in the skilled maintenance trades by performing specific or general duties of lesser skill such as: keeping a worker supplied with materials and tools, cleaning working area, machine, and equipment; assisting journeyman by holding materials or tools; and performing other unskilled tasks as directed by journeyman. The kind of work the helper is permitted to perform varies from trade to trade. In some trades the helper is confined to supplying, lifting, and holding materials and tools, and cleaning

working areas and in others, the worker is permitted to perform specialized machine operations, or parts of a trade that are also performed by workers on a full-time basis.

#### **105. *MILLWRIGHT***

The Millwright installs new machines or heavy equipment, and dismantles and installs machines or heavy equipment when changes in the plant layout are required. Work involves most of the following: planning and laying out work; interpreting blueprints or other specifications, using a variety of hand tools and rigging; making standard shop computations relating to stresses, strength of materials, and centers of gravity, aligning and balancing equipment, selecting standard tools, equipment and parts to be used, and installing and maintaining in good order power transmission equipment such as drives and speed reducers. In general, the Millwright's work normally requires a rounded training and experience in the trade acquired through a formal apprenticeship or equivalent training and experience.

#### **106. *PAINTER, MAINTENANCE***

The Painter, Maintenance paints and redecorates walls, woodwork and fixtures. Work involves the following: knowledge of surface peculiarities and types of paint required for different applications, preparing surface for painting by removing old finish or by placing putty or filler in nail holes and interstices, and applying paint with spray gun or brush. This person may mix colors, oils, white lead and other paint ingredients to obtain proper color or consistency. In general, the work of the maintenance painter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

#### **107. *PIPEFITTER, MAINTENANCE***

The Pipe fitter, Maintenance installs or repairs water, steam, gas or other types of pipe and pipefitting. Work involves most of the following: laying out work and measuring to locate position of pipe from drawings or other written specifications, cutting various sizes of pipe to correct lengths with chisel and hammer, oxyacetylene torch or pipe-cutting machines, threading pipe with stocks and dies. This person is responsible for bending pipe by hand-driven or power-driven machines, assembling pipe with couplings and fastening pipe to hangers, making standard shop computations relating to pressures, flow and size of pipe required; and making standard tests to determine whether finished pipes meet specifications. In general, the work of the Maintenance Pipe fitter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

Workers primarily engaged in installing and repairing building sanitation or heating systems are excluded.

### **108. PLUMBER, MAINTENANCE**

The Plumber, Maintenance assembles, installs and repairs pipes, fittings and fixtures of heating, water, and drainage systems, according to specifications and plumbing codes, studies building plans and working drawings to determine work aids required, and sequence of installations. This worker inspects structure to ascertain obstructions to be avoided to prevent weakening of structure resulting from installation of pipe, and locates and marks position of pipe and pipe connections and passage holes for pipes in walls and floors. This worker cuts openings in walls and floors to accommodate pipe and pipe fittings, using hand tools and power tools, cuts and threads pipe, using pipe cutters, cutting torch, and pipe-threading machine, bends pipe to required angle by use of pipe-bending machine, or by placing pipe over block and bending it by hand.

The Plumber, Maintenance assembles and installs valves, pipe fitting's, and pipes composed of metals, such as iron, steel, brass and lead, and nonmetals, such as glass, vitrified clay, and plastic. This person joins pipe by use of screws, bolts, fittings, solder, plastic solvent, and caulks joints, fills pipe system with water or air and reads pressure gauges to determine whether system is leaking, installs and repairs plumbing fixtures, such as sinks, commodes, bathtubs, water heaters, hot water tanks, garbage disposal units, dishwashers, and water softeners. This person repairs and maintains plumbing by replacing washers in leaky faucets, mending burst pipes, and opening clogged drains, and may weld holding fixtures to steel structural members.

### **109. PNEUDRAULIC SYSTEMS MECHANIC**

The Pneudraulic Systems Mechanic maintains, modifies, and repairs hydraulic and pneumatic systems and components that actuate mechanisms or produce, control, and regulate the flow of fluids (liquids and gases), tests for and isolates malfunctions in hydraulic and pneumatic systems or components, utilizing technical manuals and schematics, and modifies, repairs or disassembles and overhauls systems or components.

### **110. RIGGER**

A Rigger assembles rigging to lift and move equipment or material in manufacturing plant or shipyard, selects cables, ropes, pulleys, winches, blocks, and sheaves, according to weight and size of load to be moved, attaches pulley and blocks to fixed overhead structures, such as beams, ceilings, and gin pole booms, with bolts and clamps, attaches load with grappling devices, such as loops, wires, ropes and chains, to crane hook, gives directions to Bridge-or-Gantry-Crane Operator or Hoisting Engineer engaged in hoisting and moving loads to insure safety of workers and material handled, using hand signals, loudspeaker, or telephone. The Rigger also sets up, braces, and rigs hoisting equipment, using hand tools and power wrenches, splices rope and wire cables to make or repair

slings and tackle, and may direct workers engaged in hoisting machinery and equipment into ships.

### **111. SCALE MECHANIC**

The Scale Mechanic installs, calibrates, and repairs weighing scales, using hand tools, power tools, and standard test weights, moves scale into position, using hoists and rollers, inserts shims between scale base and foundation to level scale, secures scale to foundation, using hand tools. This worker tests scale, using certified weights, and adjusts pivots, dial settings, and pendulums to ensure that weight indication meets legal specifications, turns setscrews to adjust spring scales disassembles scales and repairs or replaces worn or damaged parts, such as pivots and bearings. This worker straightens, cleans, and repaints structural parts of scale, and may install, adjust and repair electronically controlled scales.

### **112. SHEET-METAL WORKER, MAINTENANCE**

The Sheet-Metal Worker, Maintenance fabricates, installs and maintains in good repair the sheet-metal equipment and fixtures (such as machine guards, grease pans, shelves, lockers, tanks, ventilators, chutes, ducts, metal roofing) of an establishment. Work involves most of the following: planning and laying out all types of sheet-metal maintenance work from blueprints, models, or other specifications, setting up and operating all available types of sheet-metal working machines, using a variety of hand tools in cutting, bending, forming, shaping, fitting and assembling, and installing sheet-metal articles as required. In general, the work of the maintenance sheet-metal worker requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

### **113. SMALL ENGINE MECHANIC**

The Small Engine Mechanic repairs fractional-horsepower gasoline engines used to power lawnmowers, garden tractors, and similar machines, using hand tools, locates causes of trouble, dismantles engines, using hand tools, and examines parts for defects, replaces or repairs parts, such as rings and bearings, cleans and adjusts carburetor and magneto, starts repaired engines and listens to sounds to test performance.

### **114. TELECOMMUNICATIONS MECHANIC I**

The Telecommunications Mechanic I installs, removes, maintains, modifies, troubleshoots, and repairs voice and/or non-voice communications systems including intercom and public address systems, alarm systems, teletype equipment, and electronic and electromechanical telephone key systems/PBAXs; terminal and communications equipment, including line drivers. This mechanic runs cables, key cables, or house wire to all telephone sets, terminal connectors,

lugs, pins, or screws, associated with key telephone equipment and/or terminating equipment for non-voice circuits.

### **115. TELECOMMUNICATIONS MECHANIC II**

The Telecommunications Mechanic II installs, tests, troubleshoots, programs, maintains, and repairs digital switching equipment, attendant consoles, power and ringing relay racks, miscellaneous telephone, radio, fire alarms, intrusion alarms, and computer data circuits and related apparatus required in the central switching office. This worker analyzes system failures and other unusual system occurrences to isolate the source of the problem and determine whether the failure is caused by software, hardware, or other factors. Employees in this position maintain manual and/or computerized central office records, including detail records, traffic analysis records, cable records, line records, subscriber service records, and spare parts inventories.

### **116. WELDER, COMBINATION, MAINTENANCE**

This incumbent welds metal components together to fabricate or repair products, such as machine parts, plant equipment, mobile homes, motors and generators, according to layouts, blueprints or work orders, using brazing and a variety of arc and gas welding equipment. This worker welds metal parts together, using both gas welding or brazing and any combination of arc welding processes, performs related tasks such as thermal cutting and grinding, repairs broken or cracked parts, fills holes and increases size of metal parts, positions and clamps together components of fabricated metal products preparatory to welding. This worker may locate and repair cracks in industrial engine cylinder heads, using inspection equipment and gas torch, may perform repairs only and be required to pass employer performance tests or standard tests to meet certification standards of governmental agencies or professional and technical associations.

Note: Employees welding aircraft and ground support equipment should be classified as an Aerospace Structural Welder.

### **117. WOODCRAFT WORKER**

The Woodcraft Worker makes and repairs high-grade wooden items such as fine cabinets and furniture, studies blueprints or drawings of articles to be constructed or repaired, and plans sequence of cutting or shaping operations to be performed. This worker marks outline or dimensions of parts on paper or lumber stock, according to blueprint or drawing

specifications, matches materials for color, grain, or texture, sets up and operates woodworking machines, such as power saws, jointer, mortiser, tenoner, molder, and shaper, to cut and shape parts from woodstock. This worker trims component parts of joints to insure snug fit, using hand tools, such as planes, chisels, or wood files; bores holes for insertion of screws or dowels by hand or using boring machine, glues, fits, and clamps parts and subassemblies together to form

complete unit using clamps or clamping machine, and drives nails or other fasteners into joints at designated places to reinforce joints. This worker sands and scrapes surfaces and joints of articles to prepare articles for finishing, may dip, brush, or spray assembled articles with protective or decorative materials, such as stain, varnish or paint, and may install hardware, such as hinges, catches, and drawer pulls.

### **118. WOODWORKER**

The Woodworker constructs and repairs items such as boxes, crates, pallets, and storage bins from wood and wood substitutes, studies specifications; and measures, marks, and cuts boards, using patterns, templates, ruler, pencil, and hand and power saws. This worker fastens or installs parts, using hammer, nailing machine, or power staple, repairs defective containers by replacing damaged parts, inserts wood bracings, cardboard files, and felt pads in containers. This incumbent may build crate around object, using ruler, hand tools, and pneumatic nailer, may fabricate, repair, modify, and replace woodwork on vehicle sides and beds, apply preservative to prolong wood life, and may pack, seal, band, and apply markings to crates and containers.

### **119. BOILER TENDER**

The Boiler Tender tends one or more boilers to produce steam or high-temperature water for use in an establishment, fires boiler, observes and interprets readings on gauges, meters, and charts which register various aspects of boiler operation, adjusts controls to insure safe and efficient boiler operation and to meet demands for steam or high-temperature water. This incumbent may also do one or more of the following: maintain a log in which various aspects of boiler operation are recorded; clean, oil, make minor repairs or assist in repair to boiler room equipment; and following prescribed methods, treat boiler water with chemicals and analyze boiler water for such things as acidity, causticity, and alkalinity.

### **120. SEWAGE PLANT OPERATOR (*Wastewater Treatment Plant Operator*)**

This incumbent operates sewage treatment, sludge processing, and disposal equipment in wastewater (sewage) treatment plant to control flow and processing of sewage, monitors control panels and adjusts valves and gates manually or by remote control to regulate flow of sewage, observes variations in operating conditions and interprets meter and gauge readings, and tests results to determine load requirements. This worker starts and stops pumps, engines, and generators to control flow of raw sewage through filtering, settling, aeration, and sludge digestion processes, maintains log of operations and records meter and gas readings, gives directions to wastewater treatment-plant attendants and sewage-disposal workers in performing routine operations and maintenance, and may collect sewage sample, using dipper or bottle and conduct laboratory tests, using testing equipment, such as colorimeter. This person may operate and maintain power-generating equipment to provide steam and electricity for plant.

### **121. STATIONARY ENGINEER**

The Stationary Engineer operates and maintains one or more systems that provide an establishment with such services as heat, air-conditioning (cool, humidify, dehumidify, filter, and circulate air), refrigeration, steam or high-temperature water or electricity. Duties involve: observing and interpreting readings on gauges, meters and charts which register various aspects of the system's operation, adjusting controls to insure safe and efficient operation of the system and to meet demands for the service provided, recording in logs various aspects of the system's operation, keeping the engines, machinery and equipment of the system in good working order. This engineer may direct and coordinate activities of other workers (not stationary engineers) in performing tasks directly related to operating and maintaining the system or systems. The classification excludes head or chief engineers in establishments employing more than one engineer. Workers are required to be skilled in the repair of electronic control equipment; workers in establishments producing electricity, steam, or heated or cooled air primarily for sale, and Boiler Tenders.

### **122. VENTILATION EQUIPMENT TENDER**

This incumbent tends ventilating and heating equipment, such as fans, vacuum pumps, air compressors, vents and ducts, and lubrication-oil coolers used in buildings or industrial processes; adjusts valves to regulate temperature of lubrication oil and flow of water through system, moves controls to regulate speed of fans, adjust vents and ducts, records gauge readings, and repairs completed, and time lost because of inoperative equipment. This worker writes repair work order tickets and out-of-order tags preparatory to equipment repair, inspects equipment to detect excessive noise and heat, replaces gauges and tightens and chalks leaky fittings, using wrenches, hammers, and chalking tool, cleans carbon deposits, pitch, and grease from fans, vents and ducts, using scrapers, hammer, and compressed air or steam.

### **123. WATER TREATMENT PLANT OPERATOR**

This position controls treatment plant machines and equipment to purify and clarify water for human consumption and for industrial use. This person operates and controls electric motors, pumps, and valves to regulate flow of raw water into treating plant and dumps specified amounts of chemicals such as chlorine, ammonia, and lime into water, or adjusts automatic devices that admit specified amounts of chemicals into tanks to disinfect, deodorize, and clarify water. This person starts agitators to mix chemicals and allows impurities to settle to bottom of tank, turns valves to regulate water through filter beds to remove impurities, pumps purified water into water mains, monitors panel board and adjusts controls to regulator flow rates, loss of head pressure and water elevation and distribution of water.

This operator cleans tanks and filter beds, using backwashing (reverse flow of water), repairs and lubricates machines and equipment, using hand- and power

tools, tests water samples to determine acidity, color, and impurities, using colorimeter, turbid meter, and conductivity meter. Work includes dumping chemicals such as alum into tanks to coagulate impurities and reduce acidity, recording data, such as residual content of chemicals, water turbidity, and water pressure. This operator may operate portable water-purification plant to supply drinking water, and purify wastewater from plant preparatory to pumping water into rivers and streams or city mains.

#### **124. CIVIL ENGINEERING TECHNICIAN**

This technician assists the Civil Engineer in application of principles, methods, and techniques of civil engineering technology, reviews project specifications and confers with the Civil Engineer concerning assistance required, such as plan preparation, acceptance testing, and evaluation of field conditions, design changes, and reports. This worker conducts materials testing and analysis, using tools and equipment and applying engineering knowledge necessary to conduct tests, prepares reports detailing tests conducted and their results. The Civil Engineering Technician surveys project sites to obtain and analyze topographical details of sites, using maps and surveying equipment, drafts detailed dimensional drawings such as those needed for highway plans, structural steel fabrication, and water control projects. This work involves performing duties as described under Drafter, and calculating dimensions, profile specifications, and quantities of materials such as steel, concrete, and asphalt, using calculator.

#### **125. DRAFTER/CAD OPERATOR I**

This operator prepares drawings or computer models of simple, easily visualized structures, systems, parts or equipment from sketches or marked-up prints, selects appropriate templates/computer programs or uses a compass and other equipment needed to complete assignments. Drawings and models fit familiar patterns and present few technical problems. Supervisor provides detailed instructions on new assignments, gives guidance when questions arise, and reviews completed work for accuracy. Typical assignments include:

- a. Revisions to the original drawings of a plumbing system by increasing pipe diameters.
- b. Drawing from sketches, the building floor plans, determining size, spacing and arrangement of freehand lettering according to scale.
- c. Drawing simple land profiles from predetermined structural dimensions and reduced survey notes.
- d. Tracing river basin maps and enters symbols to denote stream sampling locations, municipal and industrial waste discharges, and water supplies.
- e. Preparing a computer model of a room, building, and structure from data, prints, and photos.

### **126. DRAFTER/CAD OPERATOR II**

This operator prepares various drawings computer models of such units as construction projects or parts and assemblies, including various views, sectional profiles, irregular or reverse curves, hidden lines, and small or intricate details. Work requires use of most of the conventional drafting and CAD techniques and a working knowledge of the terms and procedures of the occupation. The Draft/CAD Operator II makes arithmetic computations using standard formulas. Familiar or recurring work is assigned in general terms. Unfamiliar assignments include information on methods, procedures, sources of information, and precedents to follow. Simple revisions to existing drawings or computer models may be assigned with a verbal explanation of the desired results. More complex revisions are produced from sketches, computer models or specifications that clearly depict the desired product.

Typical assignments include:

- a. Preparing several views of a simple gear system from a layout and manual references and obtaining dimensions and tolerances from manuals and by measuring the layout.
- b. Preparing and revising detail and design drawings for such projects as the construction and installation of electrical or electronic equipment, plant wiring, and the manufacture and assembly of printed circuit boards. Drawings typically include details of mountings, frames, guards, or other accessories; conduit layouts; or wiring diagrams indicating transformer sizes, conduit locations and mountings.
- c. Drawing base and elevation views, sections, and details of new bridges or other structures, revising complete sets of roadway drawings for highway construction projects, or preparing block maps, indicating water and sewage line locations.

### **127. DRAFTER/CAD OPERATOR III**

This operator prepares complete sets of complex drawings or computer models that include multiple views, detail drawings, and assembly drawings. Drawings or models include complex design features that require considerable drafting skill to visualize and portray. Assignments regularly require the use of mathematical formulas to draw land contours or to compute weights, center of gravity, load capacities, dimensions, quantities of material, etc. The Draft/CAD Operator works from sketches, computer models, and verbal information supplied by an engineer, architect, or designer to determine the most appropriate views, detail drawings, and supplementary information needed to complete assignments. This operator selects required information from computer programs, and internet sites, precedents, manufacturers' catalogs, and technical guides. This operator

independently resolves most of the problems encountered. Supervisor or design originator may suggest methods of approach or provide advice on unusually difficult problems. Typical assignments include:

- a. Prepares complete sets of drawings of test equipment to be manufactured from layouts, models, or sketches. Several cross-sectional and subassembly drawings are required. From information supplied by the design originator and from technical handbooks and manuals, this operator describes dimensions, tolerances, fits, fabrication techniques, and standard parts to use in manufacturing the equipment.
- b. From electronic schematics, information as to maximum size, and manuals giving dimensions of standard parts, determines the arrangement and prepares drawing of printed circuit boards.
- c. From precedents, drafting standards, and established practices, prepares final construction drawings for floodgates, navigation locks, dams, bridges, culverts, levees, channel excavations, dikes and berms, prepares boring profiles, typical cross-sections, and land profiles; and delineates related topographical details as required.
- d. Prepares final drawings for street paving and widening or for water and sewer lines having complex trunk lines; reduces field notes and calculates true grades. From engineering designs, lays out plan, profile and detail appurtenances required; and notifies supervisor of conflicting details in design.

Excludes drafter performing work of similar difficulty to that described at this level but who provides support for a variety of organizations that have widely differing functions or requirements.

#### **128. DRAFTER/CAD OPERATOR IV**

This operator works closely with design originators, preparing drawings or computer models of unusual, complex, or original designs that require a high degree of precision, performs unusually difficult assignments requiring considerable initiative, resourcefulness, and drafting expertise. This incumbent assures that anticipated problems in manufacture, assembly, installation, and operation are resolved by the drawing produced, exercises independent judgment in selecting and interpreting data based on knowledge of the design intent. Although working primarily as a drafter, this worker may occasionally interpret general designs prepared by others to complete minor details, may provide advice and guidance to lower level drafters or serve as coordinator and planner for large and complex drafting projects.

### **129. ENGINEERING TECHNICIAN I**

This technician performs simple routine tasks under close supervision or from detailed procedures. Work is checked in progress or on completion. This person performs one or a combination of such typical duties as:

- a. Assembling or installing equipment or parts requiring simple wiring, soldering, or connecting.
- b. Performing simple or routine tasks or tests such as tensile or hardness tests; operating and adjusting simple test equipment; records test data.
- c. Gathering and maintaining specified records of engineering data such as tests, drawings, etc.; performing computations by substituting numbers in specified formulas; plotting data and draws simple curves and graphs.

### **130. ENGINEERING TECHNICIAN II**

The Engineering Technician II performs standardized or prescribed assignments involving a sequence of related operations, follows standard work methods on recurring assignments but receives explicit instructions on unfamiliar assignments. Technical adequacy of routine work is reviewed on completion; non-routine work may be reviewed in progress. This technician performs at this level, one or a combination of such typical duties as:

- a. Following specific instructions, assembles or constructs simple or standard equipment or parts, servicing or repairing simple instruments or equipment;
- b. Conducting a variety of tests using established methods, preparing test specimens, adjusting and operating equipment, recording test data, and pointing out deviations resulting from equipment malfunction or observational errors;
- c. Extracting engineering data from various prescribed but non-standardized sources, processing the data following well-defined methods including elementary algebra and geometry, and presenting the data in prescribed form.

### **131. ENGINEERING TECHNICIAN III**

The Engineering Technician III performs assignments that are not completely standardized or prescribed, selects or adapts standard procedures or equipment, using fully applicable precedents, receives initial instructions, equipment requirements, and advice from supervisor or engineer as needed, performs recurring work independently. Work is reviewed for technical adequacy or

conformity with instructions. This technician performs at this level one or a combination of such typical duties as:

- a. Constructing components, subunits, or simple models or adapts standard equipment; may troubleshoot and correct malfunctions;
- b. Following specific layout and scientific diagrams to construct and package simple devices and subunits of equipment.
- c. Conducting various tests or experiments which may require minor modifications in test setups or procedures as well as subjective judgments in measurement, selecting, preparing, and operating standard test equipment and records test data;
- d. Extracting and compiling a variety of engineering data from field notes, manuals, lab reports, etc., processing data, identifying errors or inconsistencies, selecting methods of data presentation.
- e. Assisting in design modification by compiling data related to design, specifications, and materials that are pertinent to specific items of equipment or component parts; developing information concerning previous operational failures and modifications, and using judgment and initiative to recognize inconsistencies or gaps in data and seek sources to clarify information.

### **132. ENGINEERING TECHNICIAN IV**

The Engineering Technician IV performs non-routine assignments of substantial variety and complexity, using operational precedents that are not fully applicable, such assignments that are typically parts of broader assignments, are screened to eliminate unusual design problems. This incumbent may plan such assignments. This technician receives technical advice from supervisor or engineer. Work is reviewed for technical adequacy (or conformity with instructions). This position may be assisted by lower level technicians and have frequent contact with professionals and others within the establishment, and performs one or a combination of such typical duties as:

- a. Developing or reviewing designs by extracting and analyzing a variety of engineering data, applying conventional engineering practices to develop, prepare, or recommend schematics, designs, specifications, electrical drawings and parts lists. (Examples of designs include: detailed circuit diagrams; hardware fittings or test equipment involving a variety of mechanisms; conventional piping systems; and building site layouts).
- b. Conducting tests or experiments requiring selection and adaptation or modification of a wide variety of critical test equipment and test

procedures, preparing and operating equipment, recording data, measuring and recording problems of significant complexity that sometimes require resolution at a higher level, and analyzes data and prepares test reports.

- c. Applying methods outlined by others to limited segments of research and development projects, constructing experimental or prototype models to meet engineering requirements; conducts tests or experiments and redesigns as necessary and recording and evaluating data and reports findings.

### **133. ENGINEERING TECHNICIAN V**

This technician performs non-routine and complex assignments involving responsibility for planning and conducting a complete project of relatively limited scope or a portion of a larger and more diverse project, selects and adapts plans, techniques, designs, or layouts, contacts personnel in related activities to resolve problems and coordinate the work, reviews, analyzes, and integrates the technical work of others. Supervisor or professional engineer outlines objectives, requirements, and design approaches. Completed work is reviewed for technical adequacy and satisfaction of requirements. This incumbent may train and be assisted by lower level technicians, and performs one or a combination of the following:

- a. Designs, develops, and constructs major units, devices, or equipment; conducts tests or experiments; analyzes results and redesigns or modifies equipment to improve performance; and reports results.
- b. From general guidelines and specifications (e.g., size or weight requirements), develops designs for equipment without critical performance requirements that are difficult to satisfy such as engine parts, research instruments, or special purpose circuitry. Analyzes technical data to determine applicability to design problems; selects from several possible design layouts; calculates design data; and prepares layouts, detailed specifications, parts lists, estimates, procedures, etc. May check and analyze drawings or equipment to determine adequacy of drawings and design.
- c. Plans or assists in planning tests to evaluate equipment performance. Determines test requirements, equipment modification, and test procedures; conducts tests using all types of instruments; analyzes and evaluates test results, and prepares reports on findings and recommendations.

### **134. ENGINEERING TECHNICIAN VI**

This technician independently plans and accomplishes complete projects or studies of broad scope and complexity, or serves as an expert in a narrow aspect of a particular field of engineering, e.g., environmental factors affecting electronic engineering. Complexity of assignments typically requires considerable creativity and judgment to devise approaches to accomplish work, resolve design and operational problems, and make decisions in situations where standard engineering methods, procedures, and techniques may not be applicable. Supervisor or professional engineer provides advice on unusual or controversial problems or policy matters. Completed work is reviewed for compliance with overall project objectives. This worker may supervise or train and be assisted by lower level technicians, and performs, one or a combination of the following:

- a. Prepares designs and specifications for various complex equipment or systems (e.g., a heating system in an office building, or new electronic components such as solid state devices for instrumentation equipment).
- b. Plans approach to solve design problems; conceives and recommends new design techniques; resolves design problems with contract personnel, and assures compatibility of design with other parts of the system.
- c. Designs and coordinates test set-ups and experiments to prove or disprove the feasibility of preliminary design; uses untried and untested measurement techniques; and improves the performance of the equipment. May advise equipment users on redesign to solve unique operational deficiencies.
- d. Plans approach and conducts various experiments to develop equipment or systems characterized by (a) difficult performance requirements because of conflicting attributes such as versatility, size, and ease of operation; or (b) unusual combination of techniques or components. Arranges for fabrication of pilot models and determines test procedures and design of special test equipment.

### **135. ENVIRONMENTAL TECHNICIAN**

The Environmental Technician conducts tests and field investigations to obtain data for use by environmental, engineering and scientific personnel in determining sources and methods of controlling pollutants in air, water, and soil, utilizing knowledge of agriculture, chemistry, meteorology, and engineering principles and applied technologies. This worker conducts chemical and physical laboratory and field tests according to prescribed standards to determine characteristics or composition of solid, liquid, or gaseous materials and substances, using pH meter, chemicals, autoclaves, centrifuge spectrophotometer, microscope, analytical instrumentation, and chemical laboratory equipment.

This worker collects samples of gases from smokestacks, and collects other air samples and meteorological data to assist in evaluation of atmospheric pollutants; collects water samples from streams and lakes, or raw, semi-processed or processed water, industrial waste water, or water from other sources to assess pollution problem, and collects soil, silt, or mud to determine chemical composition and nature of pollutants. This worker prepares sample for testing, records data, and prepares summaries and charts for review, sets monitoring equipment to provide flow of information, installs, operates, and performs routine maintenance on gas and fluid flow systems, chemical reaction systems, mechanical equipment, and other test instrumentation.

This worker may operate fixed or mobile monitoring or data collection station, may conduct bacteriological or other tests related to research in environmental or pollution control activity, may collect and analyze engine exhaust emissions to determine type and amount of pollutants, and may specialize in one phase or type of environmental pollution or protection and be identified according to specialty.

### **136. LABORATORY TECHNICIAN (Laboratory Tester)**

The Laboratory Technician (Laboratory Tester) performs laboratory tests according to prescribed standards to determine chemical and physical characteristics or composition of solid, liquid, or gaseous materials and substances for purposes such as quality control, process control, product development, or determining conformity to specifications. This incumbent sets up and adjusts laboratory apparatus, and operates grinders, agitators, centrifuges, ovens, condensers, and vibrating screens to prepare material for testing according to established laboratory procedure. This worker performs physical tests on samples of cement or raw materials and controls quality of materials and mix during manufacturing process.

Work involves running tests of the following: raw materials, such as aggregate, limestone, and sand, for such qualities as permeability, load-bearing capacity, or cohesiveness; dry and liquid substances used as ingredients in adhesives, propellants, lubricants, refractories, synthetic rubber, paint, paper, and other compounds for purity, viscosity, density, absorption or burning rate, melting point, or flash point, using viscometer, torsion balance scale, and pH meter; solutions used in processes, such as anodizing, waterproofing, cleaning, bleaching, and pickling, for chemical strength, specific gravity, or other specifications; materials for presence and content of elements or substances, such as hydrocarbons, manganese, natural grease or impurities, tungsten, sulfur, cyanide, ash or dust, and samples of manufactured products, such as cellophane or glassware, to verify conformity with heat resistance, tensile strength, ductibility, and other specifications, and examines materials, using microscope.

The Laboratory Technician (Laboratory Tester) records test results on standard forms, writes test reports describing procedures used, and prepares graphs and charts, cleans and sterilizes laboratory apparatus, may prepare chemical solutions

according to standard formulae, and may add chemicals or raw materials to process solutions or product batches to correct deviations from specifications.

**137. TRUCKDRIVER, LIGHT TRUCK**

Straight truck, less than 1 1/2 tons, usually 4 wheels.

**138. TRUCKDRIVER, MEDIUM TRUCK**

Straight truck, 1 1/2 to 4 tons inclusive, usually 6 wheels.

**139. TRUCKDRIVER, HEAVY TRUCK**

Straight truck, over 4 tons, usually 10 wheels.

**140. TRUCKDRIVER, TRACTOR- Trailer**

A trailer having a set or several sets of wheels at the rear only, with the forward portion being supported by the truck tractor or towing vehicle.

Footnote: It is the business practice of VWI to allow experience substitution for education on the following basis:

2 years of relevant experience can substitute for an Associates degree

4 years of relevant experience can substitute for a Bachelors degree

6 years of relevant experience can substitute for a Masters degree

7 years of relevant experience can substitute for a Ph.D. degree

When making such substitutions, VWI's management will judge each case on an individual basis.