b. A brief call to a location within the local commuting area to speak to a spouse or a minor child or those responsible for the child.

c. Brief calls to locations within the local commuting area that can be reached only during working hours, such as local Government agency, bank, or physician.

d. Brief calls to locations within the local commuting area to arrange for emergency repairs to home or car.

3.3.2 **Mail/Postage.** Contractor employees shall not have their personal mail directed to the Government office or use Government-furnished postage, either metered or stamps, for personal benefit.

3.3.3 **Electronic Mail (E-mail).** All e-mail access and use by contractor employees shall be in support of the individual's official duties and task responsibilities. All information created, transmitted, received, obtained, accessed, or in any way captured electronically using FAA e-mail systems is the property of the Government.

3.3.4 **Convenience Copiers.** Convenience copiers are to be used to copy material for official Government business only in performance of the task.

3.3.5 **Fax Machines.** Contractor employees shall not use Fax machines for other than official Government business in support of the task.

3.3.6 **Computers and Internet.** All Internet and electronic media access accomplished by contractor employees (utilizing Government-furnished equipment) shall be for official Government business and in support of task requirements. Use of computer systems for personal use is prohibited.

3.3.7 **Canvassing, Soliciting or Selling.** Contractor employees shall not engage in private activities for personal gain or any other unauthorized purpose while on Government-owned or leased property, nor may Government time or equipment be utilized for these purposes.

SECTION 4 – CONTRACTOR FURNISHED ITEMS AND SERVICES

4.1 **General**. The contractor shall furnish all personnel, services, and supervision to perform the requirements of this PWS.

4.2 **Administrative Support**. The contractor shall provide a local off-site office and the necessary furniture and equipment, at the contractor's expense, to perform administrative and office functions.

4.3 **Task Related Support**. When Government-furnished items are not available or accessible and with approval and authorization from the Government and as identified in a task description, the contractor shall provide the required work space including all utilities, telephone, janitorial services, etc.; workstations, associated hardware and software; office equipment; furnishing(s) and supplies necessary for contractor employees performing on tasks. The contractor shall provide the appropriate telecommunication connectivity, as required for information systems data base access. The Government reserves the right to inspect and approve all purchases. The Government upon inspection and acceptance, and receipt of a proper invoice shall reimburse actual expenses to the contractor. All reimbursable items become the property of the Government.

4.4 **Special Personnel Support Requirements**. When authorized, the contractor shall provide specialty skilled personnel to satisfy unique and specific tasks **for short term or long term efforts** (**e.g.**, feasibility studies, cost analysis, information business plans, systems architectural designs). These tasks may be fixed price or require skill levels not identified under Contract Line Item Number (CLIN) 2. The Government reserves the right to award a tasks(s) to another vendor based on the criticality of the task and/or if it is in the best interest of the Government.

4.5 **Housing**. For tasks being performed in foreign countries and exceeding 60 days in duration, the Government may provide funding for contractor employees to find adequate housing that is equivalent of Government-furnished housing. Each location is different and specifics will be negotiated for each task being accomplished. The Government reserves the right to approve all rental contracts entered into for housing of contractor personnel while in an overseas location.

SECTION 5 – TECHNICAL REQUIREMENTS

5.1 SCOPE OF WORK

5.1.1 **General**. The MMAC is an IT services provider to the Department of Transportation (DOT), the Federal Aviation Administration (FAA), and many other federal agencies. The types of services provided are identified below. Actual requirements and specific details of work assignments, skill levels, expertise, reporting requirements, schedules, and deliverables will be provided in the individual task orders. All work shall be performed in accordance with the FAA Integrated Capability Maturity Model (iCMM), International Standards Organization (ISO) 9000, Software Engineering Institute Capability Maturity Model Process Management or other existing policies, standards, and processes. All deliverables become the sole property of the Government.

As part of the task order, the contractor may be required to obtain commercially available hardware and/or software, which are integral and/or incidental to the support being provided. New labor categories or skill levels may be added **to CLIN 2** during the course of this contract to reflect changes in technology or the Government's needs, provided that the labor category or skill level falls within the general scope of work for this contract, which is for information technology and related support services.

5.1.2 **Program Requirements**. The contractor shall respond timely to task order requirements, and shall implement, manage and administer task orders developed in accordance with the task order procedures and contract administration requirements of this contract. The contractor shall ensure that all task order work is performed in accordance with the applicable task order, the task order SOW, and the delivery schedule, including ensuring that task order cost and labor hour estimates are not exceeded during work performance. Task order turn around time frames typically will be tight, allowing minimal time for response and preparation activities and subsequent work start-up. Because of the diversity of technology, technical expertise, performance/skill levels and turn around times associated with the Government's IT requirements, the contractor must have personnel resources readily available with varying levels of expertise and experience. **The contractor shall provide to the COTR on or before the fifth day of each month a Project Tracking Executive Summary in accordance with CDRL A009.**

5.1.3 **Services**. The following, while not all-inclusive, are areas and activities typical of the services provided under this contract. During this contract period, there may be other technology solutions and/or support needed to accommodate unforeseen emerging requirements.

5.1.3.1 **System Development and Integration**. Automated business solutions and development for mainframe, client-server, microcomputer, web enabled mainframe or Internet/intranet WEB applications and system communications/connectivity and support. Automated business services for aviation safety, aviation regulation and certification, asset supply chain management, airman certification and rating, information security, instrument approach procedures automation, facilities management, portal systems, safety management, civilian personnel management, electronic document management, performance management, directives management, automated correspondence, automated directory and simulation.

5.1.3.2 **System Management and Hosting**. Centralized IT hardware and software systems support, telecommunications support, lease management, systems access, security access administration, disaster recovery support, database management, and help desk services for various applications.

5.1.3.3 **Telecommunications**. Planning and development support services for all forms of network, voice & data communications including installing and configuring networks and gateways, troubleshooting connectivity, and setting up video conferencing.

5.1.3.4 **Information System Security**. Support for a wide range of system architectures and platforms. Expertise in National Institute of Standards and Technology security practices such as inventory asset identification, vulnerability/risk assessment, contingency/disaster recovery planning, configuration management, access control, and incident response.

5.1.3.5 **Information Media**. Video production, photography, and graphics services.

5.1.3.6 **Office Automation**. Support services for all forms of office automation including personal computer (PC) help desk operations and support, Local Area Network (LAN) server network administration, office automation desktop support for PC hardware and software, and computer hardware repair, problem resolution and maintenance.

5.1.3.7 **Project Management**. Certified Project Management Professional (PMP) services for IT projects.

5.1.3.8 **IT Training**. Designing, developing and delivering classroom and/or computer-based IT training.

5.2 EMPLOYEE LABOR CATEGORIES AND DESCRIPTIONS:

5.2.1 **General**. The contractor must provide employees proficient in a variety of IT environments for the labor categories identified below. Specific proficiencies will be identified in the SOW for each task order.

Category	Series
I	Programmer and Systems Analyst
II	Web Support
III	Data Base and System Administrator
IV	Information Technology Specialists
V	Help Desk and Office Automation
VI	Functional Analyst
VII	Information Engineer
VIII	Computer Operator
IX	Technical Support
X	Telecommunications

5.3 CATEGORY I – PROGRAMMER AND SYSTEMS ANALYST SERIES

Skill Identifier	Skill Name	Exp Rqmnt (years)	Educ/Trng Sub (months)
A	Programmer, Level III	2	9
B	Programmer, Level II	1	6
C	Programmer, Level I	None	Assoc. Degree
D	Systems Analyst/Programmer, Level V	7	24
E	Systems Analyst/Programmer, Level IV	6	21
F	Systems Analyst/Programmer, Level III	5	18
G	Systems Analyst/Programmer, Level II	4	15
H	Systems Analyst/Programmer, Level I	3	12

5.3.1 Skill A – PROGRAMMER, LEVEL III:

5.3.1.1 **Experience**: At least two years of progressive experience is required involving applications on various IT environments using high level programming languages, and skills as specified in the task SOW. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.3.1.2 **Minimum Education**: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 9 months substitution of education or training for experience.

5.3.1.3 **Duties**: Under general supervision, analyzes systems requirements and design specifications and develops diagrams and logic charts. Translates detailed design into computer programs. Tests, debugs, and refines the computer programs to produce the required products. Prepares required documentation to include both program and user level documentation. Enhances programs to reduce execution time or improve efficiency. Provides technical direction to Level I and II Programmers. Follows guidance established in standards.

Maintains systems, which may be implemented on various IT environments. Establishes and maintains system security. Participates in and conducts structured project reviews (walk through). Provides management with status of projects, problems or other outstanding project related issues.

5.3.2 Skill B – PROGRAMMER, LEVEL II:

5.3.2.1 Experience: At least one year of experience in programming is required. Must possess knowledge of high level programming languages, and skills as specified in the task SOW.

5.3.2.2 Minimum Education: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 6 months substitution of education or training for experience.

5.3.2.3 Duties: Develops, tests, and documents simple to moderately complex computer programs. Under close supervision, develops diagrams, logic charts, and coding structures to solve relatively simple problems. Makes changes in established systems to adapt them to new requirements. Systems may be implemented on various IT environments. Establishes and maintains system security. Prepares program documentation as required. Follows guidance established in standards. Participates in structured project reviews (walk through). Provides management with status of projects, problems or other outstanding project related issues.

5.3.3 Skill C – PROGRAMMER, LEVEL I:

5.3.3.1 Experience: No experience is required.

5.3.3.2 Minimum Education: An Associate's degree in computer science, information systems, or other related discipline is required with a grade point average of 3.5. Individual must have completed relevant programming courses.

5.3.3.3 Duties: Works under close supervision in assisting Level I and II Programmers in accomplishing the duties assigned to them.

5.3.4 Skill D - SYSTEMS ANALYST/PROGRAMMER, LEVEL V:

5.3.4.1 Experience: At least seven years of progressive experience is required in computer programming and analysis in broad based IT environments, including contemporary computer hardware and programming languages. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.3.4.2 Minimum Education: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 24 months substitution of education or training for experience.

5.3.4.3 Duties: Performs high-level systems analysis, design, programming, documentation, and implementation of very complex applications, which are administrative, business, or technically oriented in nature. This work will principally involve one or all of the following: modifying existing applications,

configuring commercial-off-the-shelf applications, and/or developing new applications. Directs and participates in all phases of software development with emphasis on requirements development, planning, analysis and design, and testing and acceptance phases. Applies higher-level business and data manipulation principles and methods to very difficult technical problems to arrive at automated solutions. Designs charts and graphs to record results. Prepares and delivers presentations and briefings as required by the task on a highly complex combination of one or more task orders. Provides management with status of projects, problems or other outstanding project related issues. Establishes and maintains system security.

5.3.5 Skill E - SYSTEMS ANALYST/PROGRAMMER, LEVEL IV:

5.3.5.1 Experience: At least six years of progressive experience is required in computer programming and analysis in broad based IT settings, including contemporary computer hardware and programming languages. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.3.5.2 Minimum Education: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 21 months substitution of education or training for experience.

5.3.5.3 Duties: Supports a Level V Systems Analyst/Programmer on highly complex and diverse tasks. Performs systems analysis, design, programming, documentation, and implementation of applications, which are administrative, business, or technically oriented in nature. This work will principally involve one or all of the following: modifying existing applications, configuring commercial-off-the-shelf applications, and/or developing new applications. Directs and participates in all phases of software development with emphasis on requirements development, planning, analysis and design, and testing and acceptance phases. Applies standard business and data manipulation principles and methods to technical problems to arrive at automated solutions. Designs and prepares technical reports and related documentation, and charts and graphs to record results. Prepares and delivers presentations and briefings as required by the task on a complex combination of one or more task orders. Provides management with status of projects, problems or other outstanding project related issues. Establishes and maintains system security.

5.3.6 Skill F – SYSTEMS ANALYST/PROGRAMMER, LEVEL III:

5.3.6.1 Experience: At least five years of progressive experience is required in computer programming and analysis in broad based IT settings, including contemporary computer hardware and programming languages. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.3.6.2 Minimum Education: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 18 months substitution of education or training for experience.

5.3.6.3 Duties: Supports a Level IV Systems Analyst/Programmer on highly complex and diverse tasks. Performs systems analysis, design, programming, documentation, and implementation of applications, which are administrative, business, or technically oriented in nature. This work will principally involve one or all of the

following: modifying existing applications, configuring commercial-off-the-shelf applications, and/or developing new applications. Directs and participates in all phases of software development with emphasis on requirements development, planning, analysis and design, and testing and acceptance phases. Applies standard business and data manipulation principles and methods to technical problems to arrive at automated solutions. Designs and prepares technical reports and related documentation, and charts and graphs to record results. Prepares and delivers presentations and briefings as required by the task order. Provides management with status of projects, problems or other outstanding project related issues. Establishes and maintains system security.

5.3.7 Skill G – SYSTEMS ANALYST/PROGRAMMER, LEVEL II:

5.3.7.1 Experience: At least four years of progressive experience is required in computer programming and analysis in broad based IT settings, including contemporary computer hardware and programming languages. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.3.7.2 Minimum Education: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 15 months substitution of education or training for experience.

5.3.7.3 Duties: Under general supervision, performs assigned portions of system analysis, design, programming, documentation, and implementation of applications, which are administrative, business, or technically oriented in nature. This work will principally involve one or all of the following: modifying existing applications, configuring commercial-off-the-shelf applications, and/or developing new applications. Participates in all phases of software development with emphasis on requirements development, planning, analysis and design, and testing and acceptance phases. Applies standard business and data manipulation principles and methods to technical problems to arrive at automated solutions. Designs and prepares technical reports and related documentation, and charts and graphs to record results. Provides assistance in preparing and delivering presentations and briefings as required in the task. Provides management with status of projects, problems or other outstanding project related issues. Establishes and maintains system security.

5.3.8 Skill H - SYSTEMS ANALYST/PROGRAMMER, LEVEL I:

5.3.8.1 Experience: At least three years of progressive experience is required in computer programming and analysis in broad based IT settings, including contemporary computer hardware and programming languages. Must demonstrate good communication skills.

5.3.8.2 Minimum Education: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 12 months substitution of education or training for experience.

5.3.8.3 Duties: Under close supervision, performs assigned portions of system analysis, design, programming, documentation, and implementation of applications, which are administrative, business, or technically oriented in nature. This work will principally involve one or all of the following: modifying existing applications, configuring commercial-off-the-shelf applications, and/or developing new applications. Participates in all phases of software development with emphasis on requirements development, planning, analysis and design, and testing

and acceptance phases. Applies standard business and data manipulation principles and methods to technical problems to arrive at automated solutions. Designs and prepares technical reports and related documentation, and charts and graphs to record results. Provides management with status of projects, problems or other outstanding project related issues. Establishes and maintains system security.

5.4 CATEGORY II – WEB SUPPORT SERIES

Skill Identifier	Skill Name	Exp Rqmnt (years)	Educ/Trng Sub (months)
I	Web Developer, Level III	5	18
J	Web Developer, Level II	3	12
K	Web Developer, Level I	1	6
L	Web Technical Administrator	5	18

5.4.1 Skill I – WEB DEVELOPER, LEVEL III:

5.4.1.1 Experience: At least five years of progressive experience is required in development, creation and maintenance of web-based applications. Must demonstrate good communication skills and the ability to work independently or under general direction only. Experience must include some or all of the below, as described in the task SOW:

a) Developing web applications with Java, JavaScript, Java Applets, or Java Beans;
b) HTML, an HTML editor (UltraDev, HomeSite, GoLive, etc);
c) Active Server Pages (ASP), Visual Basic Script, Lotus, Cold Fusion, or Sapphire/Web;
d) Working knowledge of SQL and Oracle, Sybase, or MS SQL Server;
e) Understanding of Component Object Model (COM+), ADO, RDO, DAO, ODBC, JAVA, XML; or
f) Graphics Editor (PhotoShop, Paint Shop Pro, etc.); and/or
g) Other tools for web development specified in the task SOW..

5.4.1.2 Minimum Education: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 18 months substitution of education or training for experience.

5.4.1.3 Duties: Involves the complete life cycle of web applications development. Directs and participates in all phases of web development with emphasis on the planning, analysis, testing and acceptance phases. Develops and implements large-scale, database-driven web applications using standards-based methodologies and tools. Ensures optimal operation of Intranet and Internet applications. Participates in discussions and meetings regarding functional and technical specifications of web-related projects. Translates functional requirements to technical specifications with the support of IT staff and management. Recommends and implements web technologies and software for utilization in assigned projects. Designs and codes web pages and associated web applications utilizing the approved software/development platform. Comply with accessibility (Section 508), security, privacy and organizational standards. Provides management with status of projects, problems or other outstanding project related issues. Produces technical documentation and site maps for web sites. Prepares and delivers presentations and briefings as required by the task on a highly complex combination of one or more task orders.

5.4.2 Skill J – WEB DEVELOPER, LEVEL II:

5.4.2.1 **Experience**: At least three years of progressive experience is required in development, creation and maintenance of web-based applications. Must demonstrate good communication skills and the ability to work independently or under general direction only. Experience must include some or all of the below, as described in the task SOW:

a) Developing web applications with Java, JavaScript, Java Applets, Java Beans;
b) HTML, an HTML editor (UltraDev, HomeSite, GoLive, etc;)
c) Active Server Pages (ASP), Visual Basic Script, Lotus, Cold Fusion, or Sapphire/Web;
d) Working knowledge of SQL and Oracle, Sybase, MS SQL Server;
e) Component Object Model (COM+), ADO, RDO, DAO, ODBC, JAVA, XML; or
f) Graphics Editor (PhotoShop, Paint Shop Pro, etc.); and or
g) Other tools for web development specified in the task SOW.

5.4.2.2 **Minimum Education**: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 12 months substitution of education or training for experience.

5.4.2.3 **Duties**: Supports a Level III Web Developer on complete life cycle of web applications development. Participates in all phases of web development with emphasis on the planning, analysis, testing and acceptance phases. Develops and implements large-scale, database-driven web applications using standards-based methodologies and tools. Ensures optimal operation of Intranet and Internet applications. Participates in discussions and meetings regarding functional and technical specifications of web related projects. Translates functional requirements to technical specifications with the support of IT staff and management. Recommends and implements web technologies and software for utilization in assigned projects. Designs and codes web pages and associated web applications utilizing the approved software/development platform. Comply with accessibility (Section 508), security, privacy and organizational standards. Provides management with status of projects, problems or other outstanding project related issues. Produces technical documentation and site maps for web sites.

5.4.3 **Skill K - WEB DEVELOPER, LEVEL I**:

5.4.3.1 **Experience**: At least one year of progressive experience is required in development, creation and maintenance of web-based applications. Must demonstrate good communication skills. Experience must include some or all of the below, as described in the task SOW:

a) Developing web applications with Java, JavaScript, Java Applets, or Java Beans;
b) HTML, an HTML editor (UltraDev, HomeSite, GoLive, etc);
c) Active Server Pages (ASP), Visual Basic Script, Lotus, Cold Fusion, or Sapphire/Web;
d) Working knowledge of SQL and Oracle, Sybase, MS SQL Server;
e) Component Object Model (COM+), ADO, RDO, DAO, ODBC, JAVA, XML; or
f) Graphics Editor (PhotoShop, Paint Shop Pro etc.); and/or
g) Other tools for web development specified in the task SOW.

5.4.3.2 **Minimum Education**: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 6 months substitution of education or training for experience.

5.4.3.3 **Duties**: Under close supervision, assists a Level II and/or III Web Developer on complete life cycle of web applications development. Participates in all phases of web development with emphasis on the planning, analysis, testing and acceptance phases. Works with a Level II and/or III Web Developer to develop and implement large-scale, database-driven web applications using standards-based methodologies and tools. Participates in discussions and meetings regarding functional and technical specifications of web related projects. Recommends web technologies and software for utilization in assigned projects. Codes web pages and associated web applications utilizing the approved software/development platform. Comply with accessibility (Section 508), security, privacy and organizational standards. Provides management with status of projects, problems or other outstanding project related issues. Produces technical documentation and site maps for web sites.

5.4.4 Skill L - WEB TECHNICAL ADMINISTRATOR:

5.4.4.1 **Experience**: At least five years of experience as a website administrator. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.4.4.2 **Minimum Education**: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 24 months substitution of education or training for experience.

5.4.4.3 **Duties**: Responsible for achieving the overall technical integrity of the website. Maintains and upgrades hardware and software including website technical architecture related to hardware and telecommunication connectivity. Communicates router configuration changes and troubleshoots system errors and bugs. Maintains servers, creates monitoring reports and logs, and ensures functionality of links. Monitors site for acceptable performance and user accessibility. Establishes backups and monitors site security. Provides management with status of projects, problems or other outstanding project related issues.

5.5 CATEGORY III – DATA BASE AND SYSTEM ADMINISTRATOR SERIES

Skill Identifier	Skill Name	Exp Rqmnts (years)	Educ/Trng Sub (months)
M	Data Base Administrator, Level III	7	24
N	Data Base Administrator, Level II	5	18
O	Data Base Administrator, Level I	3	12
P	System Administrator, Level IV	7	24
Q	System Administrator, Level III	5	18
R	System Administrator, Level II	3	12
S	System Administrator, Level I	1	6

5.5.1 Skill M – DATA BASE ADMINISTRATOR, LEVEL III.

5.5.1.1 **Experience**: At least seven years of progressive experience is required in providing or supporting installation, maintenance, and administration of system software and/or databases in a mainframe, client-server, and/or web-based environment. A minimum of 4 years experience must be directly related to database management. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.5.1.2 **Minimum Education**: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 24 months substitution of education or training for experience.

5.5.1.3 **Duties**: Provides database support for IT systems in a mainframe, client-server, and/or web-based environment. Plans and coordinates new requirements with application development staff and advise project teams on the design of complex hierarchical or relational databases. Creates, modifies, deletes, reorganizes, and performs back up and restoration of database files, as required. Monitors database performance, resolves problems, performs fine-tuning, and recommends changes to improve efficiency. Establishes and maintains database security. Provides management with status of projects, problems or other outstanding project related issues.

5.5.2 **Skill N – DATA BASE ADMINISTRATOR, LEVEL II.**

5.5.2.1 **Experience**: At least five years of progressive experience is required in providing or supporting installation, maintenance, and administration of system software and/or databases in a mainframe, client-server, and/or web-based environment. A minimum of 3 years experience must be directly related to database management. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.5.2.2 **Minimum Education**: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 18 months substitution of education or training for experience.

5.5.2.3 **Duties**: Provides database support for IT systems in a mainframe, client-server, and/or web-based environment. Plans and coordinates new requirements with application development staff and advise project teams on the design of complex hierarchical or relational databases. Creates, modifies, deletes, reorganizes, and performs back up and restoration of database files, as required. Monitors database performance, resolves problems, performs fine-tuning, and recommends changes to improve efficiency. Establishes and maintains database security. Provides management with status of projects, problems or other outstanding project related issues.

5.5.3 **Skill O – DATA BASE ADMINISTRATOR, LEVEL I.**

5.5.3.1 **Experience**: At least three years of progressive experience is required in providing or supporting installation, maintenance, and administration of system software and/or databases in a mainframe, client-server, and/or web-based environment. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.5.3.2 **Minimum Education**: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 12 months substitution of education or training for experience.

5.5.3.3 **Duties**: Under general supervision, provides database support for IT systems in a mainframe, client-server, and/or web-based environment. Plans and coordinates new requirements with application development staff and advise project teams on the design of complex hierarchical or relational databases. Creates, modifies, deletes, reorganizes, and performs back up and restoration of database files, as required. Monitors database performance, resolves problems, performs fine-tuning, and recommends changes to improve efficiency. Establishes and maintains database security. Provides management with status of projects, problems or other outstanding project related issues.

5.5.4 **Skill P – SYSTEM ADMINISTRATOR, LEVEL IV.**

5.5.4.1 **Experience**: At least seven years of progressive experience providing or supporting the installation, maintenance, and administration of system software in either a mainframe, client-server, and/or web-based environment as described in the task order (e.g., system administration of UNIX systems, Microsoft Windows, web servers, etc.) is required. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.5.4.2 **Minimum Education**: A Bachelor's degree in computer science, information systems, engineering, or other related discipline is required. Directly related education or training can be substituted for software experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 24 months substitution of education or training for experience.

5.5.4.3 **Duties**: Monitors system performance to ensure adequate resources (hardware, software and communications) are available to meet customer requirements. Coordinates problem resolution with customers, teaming partners and vendors. Evaluates new and existing system software and recommends changes to improve efficiency and/or functionality. Tunes system software and performs workload analysis and load balancing to optimize system efficiency. Performs authorized maintenance of a highly specialized nature on system software, compilers, assemblers, and utility systems. Establishes and maintains system security. Provides management with status of projects, problems or other outstanding project related issues.

5.5.5 **Skill Q – SYSTEM ADMINISTRATOR, LEVEL III.**

5.5.5.1 **Experience**: At least five years of progressive experience providing or supporting the installation, maintenance, and administration of system software in either a mainframe, client-server, and/or web-based environment as described in the task order (e.g., system administration of UNIX systems, Microsoft Windows, web servers, etc.) is required. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.5.5.2 **Minimum Education**: A Bachelor's degree in computer science, information systems, engineering, or other related discipline is required. Directly related education or training can be substituted for software experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 18 months substitution of education or training for experience.

5.5.5.3 **Duties**: Monitors system performance to ensure adequate resources (hardware, software and communications) are available to meet customer requirements. Coordinates problem resolution with customers, teaming partners and vendors. Evaluates new and existing system software and recommends changes to improve efficiency and/or functionality. Tunes system software and performs workload analysis and load balancing to optimize system efficiency. Performs authorized maintenance of a highly specialized nature on system software,

compilers, assemblers, and utility systems. Establishes and maintains system security. Provides management with status of projects, problems or other outstanding project related issues.

5.5.6 Skill R – SYSTEM ADMINISTRATOR, LEVEL II.

5.5.6.1 Experience: At least three years of progressive experience providing or supporting the installation, maintenance, and administration of system software in either a mainframe, client-server, and/or web-based environment as described in the task order (e.g., system administration of UNIX systems, Microsoft Windows, web servers, etc.) is required. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.5.6.2 Minimum Education: A Bachelor's degree in computer science, information systems, engineering, or other related discipline is required. Directly related education or training can be substituted for software experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 12 months substitution of education or training for experience.

5.5.6.3 Duties: Under general supervision, monitors performance of system software in both mainframe, client-server, and/or web-based environments and works with appropriate technical personnel to resolve problems. Coordinates problem resolution with customers, teaming partners and vendors. Evaluates new and existing system software and recommends changes to improve efficiency and/or functionality. Develops and maintains repository of data for statistical reporting. Assists Level III System Administrator with installation, maintenance and administration system software. Establishes and maintains system security. Provides management with status of projects, problems or other outstanding project related issues.

5.5.7 Skill S – SYSTEM ADMINISTRATOR, LEVEL I.

5.5.7.1 Experience: At least one year experience providing or supporting installation, maintenance, and administration of system software in either a mainframe, client-server, and/or web-based environment as described in the task (e.g., system administration of UNIX systems, Microsoft Windows, web servers, etc.) is required. Must demonstrate good communication skills.

5.5.7.2 Minimum Education: A Bachelor's degree in computer science, information systems, engineering or other related discipline is required. Directly related education or training can be substituted for software experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 6 months substitution of education or training for experience.

5.5.7.3 Duties: Under close supervision, monitors performance of system software in both mainframe, client-server, and/or web-based environments and works with senior level personnel to troubleshoot and resolve problems. Coordinates problem resolution with customers, teaming partners and vendors. Assists with coordination and testing of new software and software upgrades. Produces and distributes statistical reports. Establishes and maintains system security. Provides management with status of projects, problems or other outstanding project related issues.

5.6 CATEGORY IV – INFORMATION TECHNOLOGY SPECIALTY SERIES

Skill Identifier	Skill Name	Exp Rqmnts (years)	Educ/Trng Sub (months)
T	Information Technology Security Specialist,	7	24

	Level III		
U	**Information Technology Security Specialist, Level II**	5	18
V	**Information Technology Security Specialist, Level I**	3	12
W	**Information Technology Technical Specialist, Level III**	10	24
X	**Information Technology Technical Specialist, Level II**	9	24
Y	**Information Technology Technical Specialist, Level I**	8	24
Z	**Information Technology Training Specialist**	6	24
AA	**Project Manager (PMP Certified)**	7	24

5.6.1 Skill T – INFORMATION TECHNOLOGY SECURITY SPECIALIST, LEVEL III.

5.6.1.1 Experience: At least seven years of progressive experience supporting and/or administering security systems in either a mainframe, client-server, and/or web-based environment is required. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.6.1.2 Minimum Education: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 24 months substitution of education or training for experience.

5.6.1.3 Duties: Keeps abreast of Federal computer security regulations, develops and implements comprehensive computer security programs and maintains detailed documentation of system security procedures. Periodically conducts security reviews, performs risk analysis and vulnerability assessments, and takes corrective action as necessary to correct security weaknesses. Prepares and conducts security awareness training for other employees. Audits daily transactions for accuracy and provides guidance to support personnel in researching and resolving problems. Assists other support personnel in determining and establishing access rights. Provides management with status of projects, problems or other outstanding project related issues.

5.6.2 Skill U – INFORMATION TECHNOLOGY SECURITY SPECIALIST, LEVEL II.

5.6.2.1 Experience: At least five years of progressive experience supporting and/or administering security systems in either a mainframe, client-server, and/or web-based environment is required. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.6.2.2 Minimum Education: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 18 months substitution of education or training for experience.

5.6.2.3 Duties: Under general supervision, processes requests for adding, changing, or removing users' access to the computer system. Researches and resolves problems related to system access. Assists customers in designing security profiles for new applications, removes security for applications being removed from the

system, and maintains related security tables. Works with security system development personnel to automate security functions and assists with testing prior to implementation. Also, provides training and documentation on automated security functions to users. Provides management with status of projects, problems or other outstanding project related issues.

5.6.3 Skill V – INFORMATION TECHNOLOGY SECURITY SPECIALIST, LEVEL I.

5.6.3.1 Experience: At least three years of experience working in information technology of which at least 1 year involved administering or supporting the administration of system security is required. Must demonstrate good communication skills.

5.6.3.2 Minimum Education: A Bachelor's degree in computer science, information systems, or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience, not to exceed a total of 12 months substitution of education or training for experience.

5.6.3.3 Duties: Under close supervision, processes requests for adding, changing, or removing users' access to the computer system. Answers users' security-related questions and assists them in resolving problems related to access and use of automated security systems. Provides management with status of projects, problems or other outstanding project related issues.

5.6.4 Skill W – INFORMATION TECHNOLOGY TECHNICAL SPECIALIST, LEVEL III:

5.6.4.1 Experience: At least ten years of progressive experience is required in information technology system analysis, programming, or specialty. At least eight years must be intensive and progressive experience as described in the task including one year covering circumstances similar to the task requirement. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.6.4.2 Minimum Education: A Bachelor's degree in computer science, information systems, engineering or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience not to exceed a total of 24 months substitution of education or training for experience.

5.6.4.3 Duties: Provides unique IT system analysis, design, documentation, and implementation assistance on problems, which require in-depth, state-of-the-art knowledge of a specialized IT discipline for effective implementation. Such specialized knowledge can only be achieved through intensive, extensive, and continuous application of the specialty at a level far exceeding that of the more general and broad based IT requirements of the analyst/programmer. May participate in all phases of software development with emphasis on requirements development, planning, analysis and design, and testing and acceptance phases. Prepares and delivers presentations and briefings as required by the task. Provides management with status of projects, problems or other outstanding project related issues. Establishes and maintains system security.

5.6.5 Skill X – INFORMATION TECHNOLOGY TECHNICAL SPECIALIST, LEVEL II:

5.6.5.1 Experience: At least nine years of progressive experience is required in information technology system analysis, programming, or specialty. At least seven years must be intensive and progressive experience as

described in the task including one year covering circumstances similar to the task requirement. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.6.5.2 **Minimum Education**: A Bachelor's degree in computer science, information systems, engineering or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience not to exceed a total of 24 months substitution of education or training for experience.

5.6.5.3 **Duties**: Provides unique IT system analysis, design, documentation, and implementation assistance on problems, which require in-depth, state-of-the-art knowledge of a specialized IT discipline for effective implementation. Such specialized knowledge can only be achieved through intensive, extensive, and continuous application of the specialty at a level exceeding that of the more general and broad based IT requirements of the analyst/programmer. May participate in all phases of software development with emphasis on requirements development, planning, analysis and design, and testing and acceptance phases. Prepares and delivers presentations and briefings as required by the task. Provides management with status of projects, problems or other outstanding project related issues. Establishes and maintains system security.

5.6.6 Skill Y – INFORMATION TECHNOLOGY TECHNICAL SPECIALIST, LEVEL I:

5.6.6.1 **Experience:** At least eight years of progressive experience is required in IT system analysis, programming, or specialty. At least six years must be intensive and progressive experience as described in the task including one year covering circumstances similar to the task requirement. Must demonstrate good communication skills and the ability to work independently or under general direction only.

5.6.6.2 **Minimum Education:** A Bachelor's degree in computer science, information systems, engineering or other related discipline is required. Directly related education or training can be substituted for experience at the rate of 1 year of formal education equals 9 months of experience not to exceed a total of 24 months substitution of education or training for experience.

5.6.6.3 **Duties**: Provides unique IT system analysis, design, programming, documentation, and implementation assistance on problems, which require in-depth, state-of-the-art knowledge of a specialized IT discipline for effective implementation. Such specialized knowledge can only be achieved through intensive, extensive, and continuous application of the specialty at a level equal to or exceeding that of the more general and broad based IT requirements of the analyst/programmer. Applies higher-level business and data manipulation principles and methods to difficult technical problems to arrive at automated solutions. Designs charts and graphs to record results. May participate in all phases of software development with emphasis on requirements development, planning, analysis and design, and testing and acceptance phases. Prepares and delivers presentations and briefings as required by the task. Provides management with status of projects, problems or other outstanding project related issues. Establishes and maintains system security.

5.6.7 Skill Z – INFORMATION TECHNOLOGY TRAINING SPECIALIST:

5.6.7.1 **Experience:** At least six years of experience analyzing needs, developing and presenting training is required. Three years must be IT specific training and in an adult education environment. Must demonstrate good communication skills and the ability to work independently or under general direction only.