

## DEIS II PERSONNEL QUALIFICATIONS

This enclosure specifies the minimum qualifications for personnel required by this contract. The personnel categories are:

1. **Program Manager** (Key Person)
2. **Project Manager** (Key Personnel)
3. Quality Assurance Manager
4. Quality Assurance Analyst
5. Project Control Specialist
6. Program Administration Specialist
7. Senior Functional Analyst
8. Functional Analyst
9. **Principal Systems Architect** (Key Personnel)
10. Senior Systems Architect
11. **Principal Information Engineer** (Key Personnel)
12. Senior Information Engineer
13. Senior Computer Systems Analyst
14. Computer Systems Analyst
15. Junior Computer Systems Analyst
16. Senior Application Engineer
17. Applications Engineer
18. Application Programmer
19. Junior Application Programmer
20. Student Application Programmer
21. Senior Data Base Management Specialist
22. Data Base Management Specialist
23. Data Entry Clerk
24. Operations Manager
25. System Administrator
26. System Operator
27. Senior Training Specialist
28. Training Specialist
29. Help Desk Manager
30. Help Desk Specialist
31. Hardware Specialist
32. Senior Hardware Install Technician
33. Hardware Install Technician
34. Hardware Draftsman
35. Senior Network Installation Technician
36. Network Installation Technician
37. Network Draftsman
38. Communications Network Manager
39. Communications Specialist
40. **Principal Business Process Reengineering Specialist** (Key Personnel)
41. Senior Business Process Reengineering Specialist
42. Cost Analyst
43. Data Standardization Specialist
44. Documentation Specialist
45. Technical Writer/Editor
46. Senior Computer Security Systems Specialist
47. Computer Security Systems Specialist
48. Administrative Support and Graphic Specialist
49. Electronic Meeting Technographer
50. Technical Expert/Consultant

## **1. Program Manager (Key Person).**

A. Duties. Serves as the contractor's single contract manager and shall be the contractor's authorized interface with the Government Contracting Officer (KO), the contract level Contracting Officer's Representative (COR), Government management personnel and customer agency representatives. Responsible for formulating and enforcing work standards, assigning contractor schedules, reviewing work discrepancies, supervising contractor personnel and communicating policies, purposes, and goals of the organization to subordinates. Shall be responsible for the overall contract performance and shall not serve in any other capacity under this contract.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of fifteen years experience, of which at least ten years must be specialized. Specialized experience includes: complete engineering project development from inception to deployment, demonstrated ability to provide guidance and direction in the tasks similar to the representative scenarios provided in the RFP, proven expertise in the management and control of funds and resources, demonstrated capability in managing multi-task contracts of this type and complexity. General experience includes increasing responsibilities in information systems design and management.

1. With a Master of Sciences degree (in the fields described in section B above): thirteen years general experience of which at least nine years specialized experience is required.

2. With a PhD (in the fields described in B above): twelve years general experience of which at least eight years must be specialized experience.

## **2. Project Manager (Key Personnel).**

A. Duties. Serves as the project manager for a large, complex task order (or a group of task orders affecting the same common/standard/migration system) and shall assist the Program Manager in working with the Government Contracting Officer (KO), the contract-level Contracting Officer's Representative (COR), the task order-level COR(s), Government management personnel and customer agency representatives. Under the guidance of the Program Manager, responsible for the overall management of the specific task order(s) and insuring that the technical solutions and schedules in the task order are implemented in a timely manner. Performs enterprise wide horizontal integration planning and interfaces to other functional systems.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of twelve years experience, of which at least nine years must be specialized. Specialized experience includes: complete engineering project development from inception to deployment, demonstrated ability to provide guidance and direction in the tasks similar to the representative scenarios provided in the RFP, proven expertise in the management and control of funds and resources, demonstrated capability in managing multi-task contracts of this type and complexity. General experience includes increasing responsibilities in information systems design and management.

1. With a Master's degree (in the fields described in B above): ten years of general experience of which at least seven years specialized experience is required.

2. With a PhD (in the fields described in B above): eight years of general experience of which at least six years specialized experience is required.

3. With fifteen years general experience of which at least twelve years specialized experience, a degree is not required.

### **3. Quality Assurance Manager.**

A. Duties. Establishes and maintains a process for evaluating software and associated documentation. Determines the resources required for quality control. Maintains the level of quality throughout the software life cycle. Conducts formal and informal reviews at pre-determined points throughout the development life cycle. Provides daily supervision and direction to support staff.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of eight years experience, of which at least five years must be specialized. Specialized experience includes: Configuration Management, verification and validation, software testing and integration, software metrics and their application to software quality assessment. General experience includes increasing responsibilities in quality assurance, quality control and team leader responsibilities.

1. With a Master's degree (in the fields described in B above): six years of general experience of which at least four years must be specialized experience.

2. With a PhD (in the fields described in B above): five years of general experience is required of which at least three years must be specialized experience.

3. With thirteen years of general experience of which at least eleven years must be specialized experience, a degree (in the fields described in B above) is not required.

### **4. Quality Assurance Analyst.**

A. Duties. Provides technical and administrative direction for personnel performing software development tasks, including the review of work products for correctness, adherence to the design concept and to user standards, review of program documentation to assure Government standards/requirements are adhered to, and for progress in accordance with schedules. Coordinates with the Project Manager and/or Quality Assurance Manager to ensure problem solution and user satisfaction. Makes recommendations, if needed, for approval of major systems installations. Prepares milestone status reports and deliveries/presentations on the system concept to colleagues, subordinates and end user representatives.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of six years experience, of which at least three years must be specialized. Specialized experience includes: analysis and design of business applications on complex systems for large-scale computers, data base management, use of the programming languages such as Ada, COBOL, 4GL, and/or DBMS. Knowledge of current storage and retrieval methods and demonstrated ability to formulate specifications for computer programmers to use in coding, testing, and debugging of computer programs. General experience includes increasing responsibilities in assignments of a technical nature. Proven understanding and application of Government documentation standards. Proven ability to work independently or under only general direction on complex application problems involving all phases of systems analysis is required.

1. With a Master's degree (in the fields described in B above): five years of general experience of which at least two years must be specialized experience is required.

2. With ten years of general experience of which at least eight years must be specialized experience, a degree is not required.

## **5. Project Control Specialist.**

A. Duties. Directs all financial management and administrative activities, such as budgeting, manpower and resource planning, and financial reporting. Performs complex evaluations of existing procedures, processes, techniques, models, and/or systems related to management problems or contractual issues which would require a report and recommend solutions. Develops work breakdown structures, prepare charts, tables, graphs, and diagrams to assist in analyzing problems. Provides daily supervision and direction to staff.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, Accounting, or other related scientific or technical discipline. This position requires a minimum of six years experience, of which at least three years must be specialized. Specialized experience includes: preparation and analysis of financial statements, development of complex project schedules. General experience includes increasing responsibilities in general accounting or management activities. Must demonstrate the ability to work independently or under only general direction.

1. With a Master's degree (in the fields described in B above): four years of general experience of which at least two years must be specialized experience is required.

2. With ten years of general experience of which at least eight years of specialized experience, a degree is not required.

## **6. Program Administration Specialist.**

A. Duties. Assists in the preparation of management plans and reports. Coordinates schedules to facilitate completion of proposals, contract deliverables, task order review, briefings/presentations and IPR preparation. Performs analysis, development and review of program administrative operating procedures.

B. Qualifications. Requires a high school diploma with a minimum of four years experience, of which at least two years must be specialized. Specialized experience in general contract administration. Works with limited supervision and direction. Required to use judgment and initiative in problem solving.

1. With an Associate's degree in Computer Science, Business: two years of general experience of which at least one year must be specialized experience.

2. With A Bachelor's degree in any field, will require one year of general experience and one year of specialized experience.

## **7. Senior Functional Analyst.**

A. Duties. Analyze user needs to determine functional and cross-functional requirements. Performs functional allocation to identify required tasks and their interrelationships. Identifies resources required for each task. Provides daily supervision and direction to support staff.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific, technical, or functional discipline. This position requires a minimum of ten years experience, of which at least eight years must be specialized. Specialized experience includes: superior functional knowledge of task order specific requirements, or developing functional requirements for complex integrated ADP systems. Must demonstrate the ability to work independently or under only general direction.

1. With a Master's degree (in the fields described in B above): eight years of general experience of which at least six years must be specialized experience is required.
2. With thirteen years of general experience of which at least eleven years of specialized experience, a degree is not required.

## **8. Functional Analyst.**

A. Duties. Analyze user needs to determine functional and cross-functional requirements. Performs functional allocation to identify required tasks and their interrelationships. Identifies resources required for each task.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific, functional or technical discipline. This position requires a minimum of six years experience, of which at least three years must be specialized. Specialized experience includes: developing functional requirements for complex integrated ADP systems. Must demonstrate the ability to work independently or under only general direction.

1. With a Master's degree (in the fields described in B above): four years of general experience of which at least two at least years must be specialized experience is required.
2. With ten years of general experience of which at least eight years must be specialized experience, a degree is not required.

## **9. Principal Systems Architect (Key Personnel).**

A. Duties. Establishes system information requirements using analysis of the information engineer(s) in the development of enterprise-wide or large-scale information systems. Designs architecture to include the software, hardware, and communications to support the total requirements as well as provide for present and future cross-functional requirements and interfaces. Ensures these systems are compatible and in compliance with the standards for open systems architectures, the Open Systems Interconnection (OSI) and International Standards Organization (ISO) reference models, and profiles of standards - such as Institute of Electrical and Electronic Engineers (IEEE) Open Systems Environment (OSE) reference model - as they apply to the implementation and specification of Information Management (IM) solution of the application platform, across the application program interface (API), and the external environment/software application. Ensures that the common operating environment is TAFIM compliant. Evaluates analytically and systematically problems of work flows, organization and planning and develops appropriate corrective action. Provides daily supervision and direction to staff.

B. Qualifications. A Master's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of ten years experience, of which at least seven years must be specialized. Specialized experience includes: supervision of system architects, use of structured analysis, design methodologies and design tools (such as IDEF 1x, entity relationship diagrams, and other design techniques), object oriented principles and experience with the logical and physical functional, operational, and technical architecture of large and complex information systems. General experience includes increasing responsibilities in systems engineering.

1. With a PhD (in the fields described in B above): eight years of general experience is required of which at least six years must be specialized experience.

2. With A Bachelor's degree in Computer Science, Information Systems, Engineering, or other related scientific or technical discipline and 12 years general experience of which at least nine years must be specialized experience, a Master's degree is not required.

## **10. Senior Systems Architect.**

A. Duties. Establishes system information requirements using analysis of the information engineer(s) in the development of enterprise-wide or large-scale information systems. Designs architecture to include the software, hardware, and communications to support the total requirements as well as provide for present and future cross-functional requirements and interfaces. Ensures these systems are compatible and in compliance with the standards for open systems architectures, the Open Systems Interconnection (OSI) and International Standards Organization (ISO) reference models, and profiles of standards - such as Institute of Electrical and Electronic Engineers (IEEE) Open Systems Environment (OSE) reference model - as they apply to the implementation and specification of Information Management (IM) solution of the application platform, across the application program interface (API), and the external environment/software application. Ensures that the common operating environment is TAFIM compliant. Evaluates analytically and systematically problems of work flows, organization and planning and develops appropriate corrective action. Provides daily supervision and direction to staff.

B. Qualifications. Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of ten years experience, of which at least eight years must be specialized. Specialized experience includes: supervision of system architects, use of structured analysis, design methodologies and design tools (such as IDEF 1x, entity relationship diagrams), and other design techniques, object oriented principles and experience with the logical and physical functional, operational, and technical architecture of large and complex information systems.

1. With a Master's degree (in the fields described in B above): eight years general experience of which at least six years must be specialized experience is required.

2. With a PhD (in the fields described in B above): six years of general experience is required of which at least five years must be specialized experience.

3. With thirteen years of general experience of which at least eleven years must be specialized experience, a degree is not required.

## **11 Principal Information Engineer (Key Personnel).**

A. Duties. Applies an enterprise-wide set of disciplines for the planning, analysis, design and construction of information systems on an enterprise-wide basis or across a major sector of the enterprise. Develops analytical and computational techniques and methodology for problem solutions. Performs enterprise wide strategic systems planning, business information planning, business and analysis. Performs process and data modeling in support of the planning and analysis efforts using both manual and automated tools; such as Integrated Computer-Aided Software Engineering (I-CASE) tools. Applies reverse engineering and re-engineering disciplines to develop migration strategic and planning documents. Has experience with such methodologies as IDEF 0 process modeling and IDEF 1x data modeling. Provides technical guidance in software engineering techniques and automated support tools.

B. Qualifications. A Master of Sciences degree in Computer Science, Information Systems, Engineering, or other related scientific or technical discipline. This position requires a minimum of ten years experience in information systems development, functional and data requirements analysis, systems analysis and design, programming, program design and documentation preparation. Of the ten years general experience, a minimum of seven years specialized experience is required in the following: demonstrated experience in managing the implementation of infor-

mation engineering projects and experience in systems analysis, design and programming using CASE and IE tools and methods, e.g., Oracle CASE, IEF CASE, I-CASE. Demonstrated experience in the client/server environment. Proven managerial and supervisory skills. Demonstrated exceptional written and oral communications skills, including giving formal presentations to different audiences. Must demonstrate the ability to work independently or under only general direction.

1. With a PhD (in the fields described in B above): eight years of general experience is required of which at least six years must be specialized experience is required.
2. With A Bachelor's degree in Computer Science, Information Systems, Engineering, or other related scientific or technical discipline and 12 years general experience of which at least nine years must be specialized experience, a Master's degree is not required.

## **12. Senior Information Engineer.**

A. Duties. Applies business process improvement practices to re-engineer methodologies/principles and business process modernization projects. Applies, as appropriate, activity and data modeling, transaction flow analysis, internal control and risk analysis and modern business methods and performance measurement techniques. Assist in establishing standards for information systems procedures. Develops and applies organization-wide information models for use in designing and building integrated, shared software and database management systems. Constructs sound, logical business improvement opportunities consistent with corporate Information Management guiding principles, cost savings, and open system architecture objectives. Provides daily supervision and direction to staff.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of ten years experience, of which at least eight years must be specialized. Specialized experience, in information systems development, functional and data requirements analysis, systems analysis and design, programming, program design and documentation preparation. The following experience is also required: demonstrated experience in the implementation of information engineering projects; systems analysis, design and programming using CASE and IE tools and methods, systems planning, business information planning and business analysis. Must demonstrate the ability to work independently or under only general direction.

1. With a Master's degree (in the fields described in B above): eight years general experience of which at least six years must be specialized experience is required.
2. With a PhD (in the fields described in B above): six years of general experience is required of which at least five years must be specialized
3. With thirteen years of general experience of which at least eleven years must be specialized experience, a degree is not required.

## **13. Senior Computer Systems Analyst.**

A. Duties. Provides technical and administrative direction for personnel performing software development tasks, including the review of work products for correctness, adherence to the design concept and to user standards, and for progress in accordance with schedules. Coordinates with the Project and/or Program Manager to ensure problem solution and user satisfaction. Makes recommendations, if needed, for approval of major systems installations. Prepares milestone status reports and deliveries/presentations on the system concept to colleagues, subordinates, and end user representatives. Provides daily supervision and direction to support staff.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of ten years experience, of which at least eight years must be specialized. Specialized experience includes: analysis and design of business applications on complex systems for large-scale computers, data base management, use of programming languages such as Ada, COBOL, 4GL and/or DBMS. Knowledge of current storage and retrieval methods and demonstrated ability to formulate specifications for computer programmers to use in coding, testing, and debugging of computer programs. General experience includes increasing responsibilities in assignments of a technical nature. Proven ability to work independently or under only general direction on complex application problems involving all phases of systems analysis is required.

1. With a Master's degree (in the fields described in B above): eight years general experience of which at least six years must be specialized experiences required.

2. With a PhD (in the fields described in B above): a minimum six years of general experience is required of which at least five years must be specialized.

3. With thirteen years of general experience of which at least eleven years must be specialized experience, a degree is not required.

#### **14. Computer Systems Analyst.**

A. Duties. Analyzes and develops computer software possessing a wide range of capabilities, including numerous engineering, business and records management functions. Develops plans for automated information systems from project inception to conclusion. Analyzes user interfaces, maintain hardware and software performance tuning, analyze workload and computer usage, maintain interfaces with outside systems, analyze downtimes, analyze proposed system modifications, upgrades and new COTS. Analyzes the problem and the information to be processed. Defines the problem, and develops system requirements and program specifications, from which programmers prepare detailed flow charts, programs, and tests. Coordinates closely with programmers to ensure proper implementation of program and system specifications. Develops, in conjunction with functional users, system alternative solutions.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of six years experience, of which at least four years must be specialized. Specialized experience includes: analysis and design of business applications on complex systems for large-scale computers, including three years experience in data base management concepts, use of the programming languages such as Ada, COBOL, 4GL and/or DBMS. Knowledge of current storage and retrieval methods, one year of systems analysis experience designing technical applications on computer systems and demonstrated ability to formulate specifications for computer programmers to use in coding, testing and debugging of computer programs. General experience includes increasing responsibilities in information systems design and management. Must demonstrate the ability to work independently or under only general direction on requirements that are moderately complex to analyze, plan, program and implement.

1. With a Master's degree (in the fields described in B above): four years general experience of which at least three years must be specialized experience is required.

2. With ten years of general experience of which at least eight years must be specialized experience, a degree is not required.

## **15. Junior Computer Systems Analyst.**

A. Duties. Analyzes information requirements. Evaluates analytically and systematically problems of workflows, organization, and planning and assists Senior Computer Systems Analyst and Computer Systems Analyst develop appropriate corrective action. Help develop plans for automated information systems from project inception to conclusion. Defines the problem, and develops system requirements and program specifications, from which programmers prepare detailed flow charts, programs and tests. Under the supervision of a Senior Computer Systems Analyst or a Computer Systems Analyst coordinates closely with programmers to ensure proper implementation of program and system specifications. Develops, in conjunction with functional users, system alternative solutions.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position is for recent college graduates and requires no experience.

## **16. Senior Application Engineer.**

A. Duties. Analyzes and studies complex system requirements. Designs software tools and subsystems to support software reuse and domain analyses and manages their implementation. Manages software development and support using formal specifications, data flow diagrams, other accepted design techniques and Computer-Aided Software Engineering (CASE) tools. Estimates software development costs and schedule. Reviews existing programs and assists in making refinements, reducing operating time and improving current techniques. Supervises software configuration management.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of ten years experience managing or performing software engineering activities, of which at least eight years must be specialized. Specialized experience includes: demonstrated experience working with Ada, SQL and third/fourth generation languages in the design and implementation of systems and using database management systems. General experience includes increasing responsibilities in software engineering activities. Knowledgeable of applicable standards.

1. With a Master's degree (in the fields described in B above): eight years general experience of which at least six years must be specialized experience is required.

2. With thirteen years of general experience of which at least eleven years must be specialized experience, a degree is not required.

## **17. Applications Engineer.**

A. Duties. Analyzes functional business applications and design specifications for functional activities. Develops block diagrams and logic flow charts. Translates detailed design into computer software. Tests, debugs and refines the computer software to produce the required product. Prepares required documentation, including both program-level and user-level documentation. Enhances software to reduce operating time or improve efficiency. Provides technical direction to programmers to ensure program deadlines are met.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of six years experience, of which at least four years must be specialized. Specialized experience includes: experience as an applications programmer on large-scale data base management systems, knowledge of computer equipment and ability to develop complex software to satisfy design objectives. Demonstrated ability to work independently or under only general direction.

1. With a Master's degree (in the fields described in B above): four years general experience of which at least three years must be specialized experience is required.
2. With ten years of general experience of which at least eight years must be specialized experience, a degree is not required.

### **18. Applications Programmer.**

A. Duties. Analyzes functional business applications and design specifications for functional activities. Develops block diagrams and logic flow charts. Translates detailed design into computer software. Tests, debugs and refines the computer software to produce the required product. Prepares required documentation, including both program-level and user-level documentation. Enhances software to reduce operating time or improve efficiency. Provides technical direction to programmers to ensure program deadlines are met.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of five years experience, of which at least three years must be specialized. Specialized experience includes: experience as an applications programmer on large-scale data base management systems, knowledge of computer equipment and ability to develop complex software to satisfy design objectives. Demonstrated ability to work independently or under only general direction.

1. With a Master's degree (in the fields described in B above): four years general experience of which at least two years must be specialized experience is required.
2. With nine years of general experience of which at least seven years must be specialized experience, a degree is not required.

### **19. Junior Application Programmer.**

A. Duties. Participates in the design of software tools and subsystems to support reuse and domain analysis. Assists Applications Engineer and Applications Programmer to interpret software requirements and design specifications to code and integrate and test software components.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position is for recent college graduates and requires no experience.

### **20. Student Application Programmer.**

A. Duties. Assists with the analysis of information requirements. Aids in the evaluation of problems with workflow, organization, and planning and helps develop appropriate corrective action.

B. Qualifications. Currently enrolled as a full-time student at a university or college and majoring in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline.

### **21. Senior Data Base Management Specialist.**

A. Duties. Manages the development of data base projects. Plans and budgets staff and data base resources. When necessary, reallocates resources to maximize benefits. Prepares and delivers presentations on data base management systems (DBMS) concepts. Provides daily supervision and direction to support staff.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of ten years experience, of which at least eight years must be specialized. Specialized experience includes: demonstrated experience with DBMS design and system analysis, current operating systems software internals and data manipulation languages. General experience includes increasing responsibilities in the development and maintenance of data base systems.

1. With a Master's degree (in the fields described in B above): eight years general experience of which at least six years must be specialized experience is required.

2. With thirteen years of general experience of which at least eleven years must be specialized experience, a degree is not required.

## **22 Data Base Management Specialist.**

A. Duties. Provides highly technical expertise in the use of DBMS. Evaluates and recommends available DBMS products to support validated user requirements. Defines file organization, indexing methods and security procedures for specific user applications.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of six years experience, of which at least four years must be specialized. Specialized experience includes: demonstrated experience using current DBMS's technologies, application design utilizing various DBMS and experience with DBMS internals. General experience includes increasing responsibilities in DBMS systems analysis and programming. Demonstrated ability to work independently or under only general direction.

1. With a Master's degree (in the fields described in B above): four years general experience of which at least three years must be specialized experience is required.

2. With ten years of general experience of which at least eight years must be specialized experience, a degree is not required.

## **23. Data Entry Clerk.**

A. Duties. Performs data entry via on-line data terminal, key-to-tape, key-to-disk, or similar device. Verifies data entered, where applicable.

B. Qualifications. Requires a high school diploma and one year experience in data entry and verification. Typically required to Works under close supervision and direction.

1. An Associate of Arts (AA) degree in Computer Science or related study will be considered equivalent to one half (½) year of general experience. Formal specialized training may be substituted on the basis of one month of training for one month of experience, not to exceed three months.

## **24. Operations Manager.**

A. Duties. Manages computer operations. Ensures production schedules are met. Ensures computer system resources are used effectively. Coordinates the resolution of production-related problems. Ensures proper relationships are established between customers, teaming partners and vendors to facilitate the delivery of information technology services. Provides users with computer output. Supervises staff operations

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of seven years experience, of which at least five years must be specialized. Specialized experience includes: supervision and operations experience on a large-scale computer system, knowledge of hardware, software and operating systems. General experience includes operations experience on a large-scale computer system or a multi-server local area network.

1. With a Master's degree (in the fields described in B above): five years general experience of which at least three years must be specialized experience is required.

2. With ten years of general experience of which at least eight years must be specialized experience, a degree is not required.

## **25. System Administrator.**

A. Duties. Supervises and manages the daily activities of configuration and operation of business systems which may be mainframe, mini, or client/server based. Optimizes system operation and resource utilization, and performs system capacity analysis and planning. Provides assistance to users in accessing and using business systems.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of four years experience, of which at least three years must be specialized experience in administrating UNIX or open systems-compliant systems. General experience includes operations experience on a large-scale computer system or a multi-server local area network.

1. With a Master's degree (in the fields described in B above): three years general experience of which at least two years must be specialized experience is required.

2. With eight years general experience of which six years is specialized, a degree is not required.

## **26. System Operator.**

A. Duties. Monitors and supports computer processing. Coordinates input, output and file media. Distributes output and controls computer operation which may be mainframe, mini, or client/server based.

B. Qualifications. An Associate's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline is required. This position requires a minimum of three years experience, of which at least two years must be specialized experience operating a large-scale computer system or a multi-server local area network. Must demonstrate sufficient knowledge of programming to understand how programs use computer hardware.

1. With a Bachelor's degree (in the fields described in B above): two years general experience of which at least one year must be specialized experience is required.

2. With seven years general experience of which at least five years is specialized, a degree is not required.

## **27. Senior Training Specialist.**

A. Duties. Conducts the research necessary to develop and revise training courses and prepares appropriate training catalogs. Develops all instructor materials (course outline, background material, and training aids). Develops all student materials (course manuals, workbooks, handouts, completion certificates, and course critique forms).

Trains personnel by conducting formal classroom courses, workshops, seminars and/or computer based/computer aided training. Provides daily supervision and direction to staff.

B. Qualifications. A BA or BS degree in any field. This position requires a minimum of seven years experience, of which at least five years must be specialized. Specialized experience includes: experience in developing and providing technical and end-user training on computer hardware and application software. Demonstrated ability to communicate orally and in writing. Demonstrated ability to work independently or under only general direction.

1. With a Master's degree: six years general experience of which at least four years must be specialized experience is required. With a PhD four years general experience of which at least three years must be specialized is required.

2. With ten years general experience of which at least eight years is specialized, a degree is not required.

## **28. Training Specialist.**

A. Duties. Conducts the research necessary to develop and revise training courses. Develops and revises these courses and prepares appropriate training catalogs. Prepares instructor materials (course outline, background material, and training aids). Prepares student materials (course manuals, workbooks, handouts, completion certificates, and course critique forms). Trains personnel by conducting formal classroom courses, workshops and seminars.

B. Qualifications. A BA or BS degree in any field. This position requires a minimum of four years experience, of which at least two years must be specialized. Specialized experience includes: experience in developing and providing technical and end-user training on computer hardware and application software. General experience includes information systems development, training, or related fields. Demonstrated ability to communicate orally and in writing.

1. With a Master's degree: two years general experience of which at least one year must be specialized experience is required.

2. With eight years general experience of which six years is specialized, a degree is not required.

## **29. Help Desk Manager.**

A. Duties. Provides daily supervision and direction to staff who are responsible for phone and in-person support to users in the areas of e-mail, directories, standard Windows desktop applications and applications developed or deployed under this contract. These personnel serve as the first point of contact for troubleshooting hardware/software PC and printer problems.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of seven years experience, of which at least five years must be specialized. Specialized experience includes: management of help desks in a multi-server environment, comprehensive knowledge of PC operating systems, e.g., DOS, Windows, as well as networking and mail standards and supervision of help desk employees. General experience includes information systems development, network and other work in the client/ server field, or related fields. Demonstrated ability to communicate orally and in writing and a positive customer service attitude.

1. With a Master's degree (in the fields described in B above): five years general experience of which at least three years must be specialized experience is required.

2. With ten years general experience of which at least eight years is specialized, a degree is not required.

### **30. Help Desk Specialist.**

A. Duties. Provides phone and in-person support to users in the areas of e-mail, directories, standard Windows desktop applications, and applications developed under this contract or predecessors. Serves as the initial point of contact for troubleshooting hardware/software PC and printer problems.

B. Qualifications. An Associate's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline is required. This position requires a minimum of five years experience, of which at least three years must be specialized. Specialized experience includes: knowledge of PC operating systems, e.g., DOS, Windows, as well as networking and mail standards and work on a help desk. General experience includes information systems development and other work in the client/server field, or related fields. Demonstrated ability to communicate orally and in writing and a positive customer service attitude.

1. With a Bachelor's degree (in the fields described in B above): four years general experience of which at least two years must be specialized experience is required.

2. With eight years general experience of which at least six years is specialized, a degree is not required.

### **31. Hardware Specialist.**

A. Duties. Reviews computer systems in terms of machine capabilities and man-machine interface. Prepares reports and studies concerning hardware. Prepares functional requirements and specifications for hardware acquisitions. Ensures that problems have been properly identified and solutions will satisfy the user's requirements.

B. Qualifications. An Associate's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline is required. This position requires a minimum of six years experience, of which at least four years must be specialized. Specialized experience includes: system analysis and evaluation of hardware capabilities and configurations. General experience includes increasing responsibilities with ADP systems, including systems analysis and programming. Must demonstrate the ability to work independently or under only general direction.

1. With a Bachelor's degree (in the fields described in B above): four years general experience of which at least two years must be specialized experience is required.

2. With nine years general experience of which at least seven years is specialized, a degree is not required.

### **32. Senior Hardware Installation Technician.**

A. Duties. Organizes and directs hardware installations on site surveys. Assesses and documents current site network configuration and user requirements. Designs and optimizes network topologies. Analyzes and develops new hardware requirements and prepares specifications for hardware acquisitions. Directs and leads preparation of engineering plans and site installation Technical Design Packages. Develops hardware installation schedules. Mobilizes installation team. Directs and leads preparation of drawings documenting configuration changes at each site. Prepares site installation and test reports. Coordinates post installation operations and maintenance support.

B. Qualifications. Minimum education requirement is a high school diploma. This position requires a minimum of eight years experience of which at least six years must be specialized. Specialized experience includes: supervision of installation technicians, analysis, design, and installation of computer based systems; analysis, design and

installation of local area nets; and analysis and installation of communication systems. General experience includes increasing responsibilities in technical management.

1. With an Associate's degree: seven years general experience of which at least five years must be specialized experience is required.
2. With a Bachelor's degree: six years general experience of which at least three years must be specialized experience is required.

### **33. Hardware Installation Technician.**

A. Duties. Conducts sites surveys; assesses and documents current site network configuration and user requirements. Designs and optimize network topologies. Analyzes existing requirements and prepares specifications for hardware acquisitions. Prepares engineering plans and site installation Technical Design Packages. Develops hardware installation schedules. Prepares drawings documenting configuration changes at each site. Prepares site installation and test reports. Configures computers, communications devices and peripheral equipment. Installs network hardware. Trains site personnel in proper use of hardware. Builds specialized interconnecting cables.

B. Qualifications. Minimum education requirement is a high school diploma. This position requires a minimum of five years experience of which at least three years must be specialized. Specialized experience includes: analysis and installation of computer based systems; analysis and installation of local area nets; fiber optic cable installation; specialized interconnect cable design and fabrication; and analysis and installation of communications systems. Proven ability to work independently or under only general direction.

1. With an Associate's degree: four years general experience of which at least two years must be specialized experience is required.
2. With a Bachelor's degree: three years general experience of which at least one year must be specialized experience is required.

### **34. Hardware Draftsman.**

A. Duties. Develops engineering drawings, using computer based drawing packages such as Aptitude. Develops engineering drawings for site plans, electrical interconnects and mechanical plans for specialized hardware.

B. Qualifications. Minimum education requirement is a high school diploma. This position requires a minimum of seven years drafting experience. A diversified drafting background is required. A minimum of four years experience shall be in drafting of specialized interconnects drawings, site plans, and mechanical parts typical of custom hardware installations. Must demonstrate the ability to work independently or under only general supervision.

1. With an Associate's degree: six years general experience of which at least three years must be specialized experience is required.
2. With a Bachelor's degree: five years general experience of which at least two years must be specialized experience is required.

### **35. Senior Network Installation Technician.**

A. Duties. Organizes and directs network installations on site surveys. Assesses and documents current site network configuration and user requirements. Designs and optimizes network topologies. Directs and leads prepara-

tion of engineering plans and site installation Technical Design Packages. Develops installation schedules. Mobilizes network installation team. Directs and leads preparation of drawings documenting configuration changes at each site. Prepares site installation and test reports. Coordinates post installation operations and maintenance support.

B. Qualifications. Minimum education requirement is a high school diploma. This position requires a minimum of nine years experience of which at least five years must be specialized. Specialized experience includes: supervision of installation technicians; analysis, design and installation of local and wide area nets; and analysis and installation of communication systems. Familiar with engineering documentation, network configurations and topologies, X.25, TCP/IP, Frame Relay, Bridges and Routers. General experience includes increasing responsibilities in technical management.

1. With an Associate's degree: eight years general experience of which at least four years must be specialized experience is required.

2. With a Bachelor's degree: six years general experience of which at least three years must be specialized experience is required.

### **36. Network Installation Technician.**

A. Duties. Conducts site surveys. Assesses and documents current site network configuration and user requirements. Designs and optimizes network topologies. Follows engineering plans and site installation Technical Design Packages. Develops installation schedules. Works with network installation team. Assists in the preparation of drawing and documenting configuration changes at each site. Prepares site installation and test reports.

B. Qualifications. Minimum education requirement is a high school diploma. This position requires a minimum of five years experience of which at least three years must be specialized. Specialized experience includes: analysis, design, and installation of local area networks; and analysis and installation of communications systems. Specialized experience includes use of engineering documentation, network configurations and topologies, X.25, TCP/IP, Frame Relay, Bridges and Routers. General experience includes increasing responsibilities in technical management.

1. With an Associate's degree: four years general experience of which at least two years must be specialized experience is required.

2. With a Bachelor's degree: three years general experience of which at least one years must be specialized experience is required.

### **37. Network Draftsman.**

A. Duties. Develops engineering drawings, using computer based drawing packages such as Aptitude. Develops engineering drawings for site plans, network configuration and design.

B. Qualifications. Minimum education requirement is a high school diploma. This position requires a minimum of seven years drafting experience, of which four years specialized experience shall be in drafting of specialized interconnects drawings, site plans, and mechanical parts typical of network installations. Must demonstrate the ability to work independently or under only general supervision.

1. With an Associate's degree: six years general experience of which at least three years must be specialized experience is required.

2. With a Bachelor's degree: five years general experience of which at least two years specialized experience is required.

### **38. Communications Network Manager.**

A. Duties. Evaluates communication hardware and software, troubleshoots LAN/MAN/WAN and other network related problems, provides technical expertise for performance and configuration of networks. Performs general LAN/MAN/WAN administration, provides technical leadership in the integration and test of complex large-scale computer integrated networks. Schedules conversions and cut-overs. Oversees network control center. Supervises maintenance of systems. Coordinates with all responsible users and sites. Supervises staff.

B. Qualifications. A Bachelor's degree in Computer Science, Information systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of seven years experience of which five years must be specialized. Specialized experience includes protocol analysis, knowledge of OSI protocols particularly TCP/IP, X.25, X.400, X.500. Experience with ATM, frame relay, other knowledge with bridges, routers, gateways, FDDI, detailed knowledge of UNIX operating systems. Experience as a CNE or ECNE desirable. Specialized experience also includes: supervising the operation and maintenance of communication network systems which may be mainframe, mini, or client/server based. General experience includes all aspects of communication networks planning, installation and support.

1. With a Master's degree (in the fields described in B above): five years general experience of which at least three years must be specialized experience is required.

2. With eleven years general experience of which at least nine years is specialized, a degree is not required.

### **39. Communications Specialist.**

A. Duties. Analyzes network characteristics (e.g., traffic, connect time, transmission speeds, packet sizes and throughput) and recommends procurement, removals and modifications to network components. Designs and optimizes network topologies and site configurations. Plans installations, transitions and cut-overs of network components and capabilities. Coordinates requirements with users and suppliers.

B. Qualifications. A Bachelor's degree (in the fields described in this paragraph). This position requires a minimum of six years experience, of which at least four years must be specialized experience in one of the following: communications software, communications hardware or network specialty. General experience includes all aspects of communication networks. Must demonstrate the ability to work independently or under only general direction.

Communications Hardware specialized experience includes: installing, testing and operating network and computer (host) communications equipment (e.g., switches, modems, controllers, terminals, and multiplexers); using and implementing communications hardware and electrical standards, using communications hardware test and monitoring equipment and analyzing the results.

Communications Software specialized experience includes: developing, testing, installing and operating network and computer (host) communications software (e.g. access method and protocol software, application interfaces, transaction processors and emulators); using and implementing communications standards.

Network Specialty specialized experience includes: designing, testing, installing, implementing and maintaining computer networks; using and implementing network standards, particularly those of the International Organization for Standardization (ISO); operating computer networks; identification and solution of problems, restart/recovery,

additions, deletions and modifications of terminals, hosts, etc., optimization of network costs and performance and implementing accounting and charge back systems.

1. With a Master's degree (in the fields described in B above): five years general experience of which at least three years must be specialized experience is required.
2. With ten years general experience of which at least eight years is specialized, a degree is not required.

#### **40. Principal Business Process Reengineering Specialist (Key Personnel).**

A. Duties. Applies process improvement and reengineering methodologies and principles to conduct process modernization projects. Responsible for effective transitioning of existing project teams and the facilitation of project teams in the accomplishment of project activities and objectives. Provides group facilitation, interviewing, training, and provides additional forms of knowledge transfer. Key coordinator between multiple project teams to ensure enterprise-wide integration of reengineering efforts. Provides daily supervision and direction to Business Process Reengineering Specialist.

B. Qualifications. A Master's degree in Computer Science, Information Systems, Engineering, Business, Education, Management Sciences, Psychology, Human Resources Development/Management, or other related scientific or technical discipline. This position requires a minimum of ten years experience, of which at least seven years must be specialized. Specialized experience may include: facilitation, training, methodology development and evaluation, process reengineering across all phases, identifying best practices, change management, business management techniques, organizational development, activity and data modeling, or information system development methods and practices and supervision of Business Process Reengineering Specialist.

1. With a PhD (in the fields described in B above): eight years general experience of which at least six years must be specialized experience is required.
2. With A Bachelor's degree in Computer Science, Information Systems, Engineering, or other related scientific or technical discipline and 12 years general experience of which at least nine must be specialized experience, a Master's degree is not required.

#### **41. Senior Business Process Reengineering Specialist.**

A. Duties. Applies process improvement and reengineering methodologies and principles to conduct process modernization projects. Duties include activity and data modeling, developing modern business methods, identifying best practices and creating and assessing performance measurements. Provides group facilitation, interviewing, training and provides additional forms of knowledge transfer. May be under the supervision and direction of a Principal Business Process Reengineering Specialist or may work independently.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, Education, Management Sciences, Psychology, Human Resources Development/Management, or other related scientific or technical discipline. This position requires a minimum of ten years experience, of which at least eight years must be specialized. Specialized experience may include: facilitation, training, methodology development and evaluation, process reengineering across all phases, identifying best practices, change management, business management techniques, organizational development, activity and data modeling, or information system development methods and practices and supervision of Business Process Reengineers.

1. With a Master's degree (in the fields described in B above): eight years general experience of which at least six years must be specialized experience is required.
2. With a PhD (in the fields described in B above): six years general experience of which at least five years must be specialized experience is required.
3. With thirteen years general experience of which at least eleven years is specialized, a degree is not required.

#### **42. Cost Analyst.**

A. Duties. Performs Functional Economic Analysis (FEA) to evaluate the costs of alternative ways to accomplish functional objectives. The FEA states investment costs, benefits and risks as a net change to the functional baseline cost, the cost of doing business now and in the future. Ensures that cross-functional, security and other integration issues are addressed.

B. Qualifications. A Bachelor's degree in Computer Science, Information Systems, Engineering, Business, Accounting, or other related scientific or technical discipline. This position requires a minimum of six years experience, of which at least four years must be specialized. Specialized experience includes: demonstrated experience in providing technical and financial justifications (obtained by collecting information relevant to the decision and displaying that information in standard formats) in support of computer system selections. General experience includes increasing responsibilities in information systems of a technical and fiscal nature.

1. With a Master's degree (in the fields described in B above): five years general experience of which at least three years must be specialized experience is required.
2. With ten years general experience of which at least eight years is specialized, a degree is not required.

#### **43. Data Standardization Specialist.**

A. Duties. Provides technical support in the evaluation of prime object names, data elements and other objects. Evaluated proposed objects and their attributes. Ensures that proposed object definitions are clear, concise, technically correct and that they represent singular concepts. Ensures that the values of object attributes and domains are accurate and correct. Ensures that the proposed objects are consistent with data and process models.

B. Qualifications. An Associate's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline is required. This position requires a minimum of three years experience, of which at least two years must be specialized. Specialized experience includes: building and/or maintaining data/information repositories for organizations that use information engineering concepts and enterprise, data and process modeling in the identification and development of standardized objects. General experience includes technical writing in enterprise, process and/or data modeling. Demonstrated ability to work independently or under only general direction.

1. With a Bachelor's degree (in the fields described in B above): two years general experience of which at least one year must be specialized experience is required.
2. With six years general experience of which at least four years is specialized, a degree is not required.

#### **44. Documentation Specialist.**

A. Duties. Gathers, analyzes and composes technical information. Conducts research and ensures the use of proper technical terminology. Translates technical information into clear, readable documents to be used by technical and non-technical personnel.

B. Qualifications. An Associate's degree (in the fields described in this paragraph) is required. This position requires a minimum of three years experience, of which at least two years must be specialized. Specialized experience includes: preparing technical documentation, which is to include researching for applicable Government and industry documentation standards. General experience includes technical writing and documentation experience pertaining to all aspects of ADP. Demonstrated ability to work independently or under only general direction.

1. With a Bachelor's degree (in the fields described in B above): two years general experience of which at least one year must be specialized experience is required.
2. With six years general experience of which at least four years is specialized, a degree is not required.

#### **45. Technical Writer/Editor.**

A. Duties. Assists in collecting and organizing information required for preparation of user's manuals, training materials, installation guides, proposals, and reports. Edits functional descriptions, system specifications, user's manuals, special reports, or any other customer deliverables and documents.

B. Qualifications. A Bachelor's degree in English, Literature, or other related discipline. This position requires a minimum of three years experience, of which at least one year must be specialized. Specialized experience includes: demonstrated experience in editing documents, including technical documents. Demonstrated ability to work independently or under only general direction.

1. With a Master's degree (in the fields described in B above): two years general experience of which at least one year must be specialized experience is required.
2. With seven years general experience of which at least five years is specialized, a degree is not required.

#### **46. Senior Computer Security Systems Specialist.**

A. Duties. Analyzes and defines security requirements for Multilevel Security (MLS) issues. Designs, develops, engineers and implements solutions to MLS requirements. Responsible for the implementation and development of the MLS. Gathers and organizes technical information about an organization's mission goals and needs, existing security products, and ongoing programs in the MLS arena. Performs risk analyses which also includes risk assessment. Provides daily supervision and direction to staff.

B. Qualifications. Must have a Bachelor's degree in Electrical Engineering, Information Science, Information Systems, Computer Science, Physics, Math, or other related scientific or technical discipline. This position requires a minimum of ten years experience, of which at least eight years must be specialized experience in defining computer security requirements for high level applications, evaluation of approved security product capabilities and developing solutions to MLS problems.

1. With a Master's degree (in the fields described in B above): eight years general experience of which at least seven years must be specialized experience is required.

2. With a PhD six years general experience of which at least five years must be specialized experience is required.
3. With thirteen years general experience of which at least eleven years is specialized, a degree is not required.

#### **47. Computer Security Systems Specialist.**

A. Duties. Analyzes and defines security requirements for Multilevel Security (MLS) issues. Designs, develops, engineers and implements solutions to MLS requirements. Gathers and organizes technical information about an organization's mission goals and needs, existing security products and ongoing programs in the MLS arena. Performs risk analyses which also includes risk assessment.

B. Qualifications. Must have a Bachelor's degree in Electrical Engineering, Information Science, Information Systems, Computer Science, Physics, Math, or other related scientific or technical discipline. This position requires a minimum of eight years experience, of which at least six years must be specialized experience in defining computer security requirements for high level applications, evaluation of approved security product capabilities, and developing solutions to MLS problems.

1. With a Master's degree (in the fields described in B above) seven years general experience of which at least five years must be specialized experience is required.
2. With twelve years general experience of which at least ten years is specialized, a degree is not required.

#### **48. Administrative Support and Graphics Specialist.**

A. Duties. Directly supports Program Manager or Project Manager by maintaining personnel and other files; prepares correspondence, schedules and coordinates travel. Assists in the preparation of presentation graphics and supports the development of contract deliverables and reports by developing and updating graphic presentations to improve the quality and enhance the usability of these documents. Responsible for integrating the graphics generated with automated tools and the deliverable documents.

B. Qualifications. Requires a high school diploma and a minimum of two years experience in office administration and developing graphic/artistic presentations for publications and documents (preferably technical documentation). At minimum, one year of specialized experience using commercial automated word processing (e.g., WordPerfect, Word), graphics systems (Harvard, Freelance, etc.), and desktop publishing systems. Demonstrated ability to work independently or under only general direction.

1. With an Associate's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline: one year general experience of which at least one year is specialized experience is required.

#### **49. Electronic Meeting Technographer.**

A. Duties. Supports the meeting facilitator or Data Modeler in preparing and conducting meetings, and in meeting follow-up activities. Manipulates on-line electronic meeting software, such as GroupSystems V, for Business Reengineering or Process Improvement sessions. Responsible for the cataloging, maintenance and distribution of customer session data files.

B. Qualifications. Requires a Bachelor's degree in Computer Science, Information Systems, Engineering, Business, Education, Management Sciences, English, communications, Human Resource Development, or other related technical disciplines. This position requires a minimum of three years of experience, of which at least one is specialized.

Specialized experience includes: cross-functional computer skills, knowledge of LAN servers, and knowledge of technical content. General experience includes knowledge of automated environments.

1. With an Associate's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline: five years general experience of which at least two years specialized experience is required.
2. With eight years general experience of which at least six years is specialized, a degree is not required.

## **50. Technical Expert/Consultant.**

A. Qualifications. Bachelor's degree in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. This position requires a minimum of eight years experience, of which at least two years must be specialized (as identified below). Specialized experience includes demonstrated success in developing technical solutions in one of the areas listed below. A Master's degree can substitute for 3 years of general experience. One or more of the following certifications is also desirable:

- MCSE - Microsoft Certified Software Engineer
- CNE - Certified Novell Engineer
- Cisco Certified

B. Specialized Experience. Must be in at least 2 or more of the following areas:

1. Year 2000 Re-Engineering. Be a forward-looking MIS manager. Requires the application of multi-language, multi-platform, and multi-operating system skills. Good problem-solving skills coupled with technical skills are required. Successfully design, development, and management of an implementation of Y2K risk assessment and business contingency planning framework, methodology and tools to ensure business continuity of operations across a large, multi-division, de-centralized organization. Specialized knowledge relating to electronic commerce and Electronic Data Interchange (EDI) is desirable.
2. Emerging Technologies. Enterprise resource planning skills. Recognizes and recommends new or emerging technology or software to satisfy functional requirements and processes. Provides highly technical and/or specialized guidance concerning automation solutions to complex information processing problems related to the subject field. Provides customer support using enterprise solutions software to integrate business areas. Solutions should be consistent with today's technology such as able to operate in an open systems environment and client service architectures.
3. Computer Engineering. Analyze data processing requirements to plan EDP systems to provide system capabilities required for projected workloads. Plan layout and installation of new systems or modification of existing systems. May set up and control analog or hybrid computer systems to solve scientific and engineering problems. Knowledgeable in Oracle, Windows NT, network administration, project management and Unix and Cobol programming.
4. Internet Development/Integration. Internet development consists of developing applications that take advantage of Internet protocols and platforms. Internet developers extend beyond traditional software development disciplines to demonstrate advanced graphical design abilities, familiarity with new media formats, and solid understanding of Internet communications protocols and services. They deploy new applications that utilize Internet standards to enable wide access from the diverse client types found throughout the public Internet. Internet developers must have broad awareness of the basic Internet and World Wide Web (WWW) technologies. They should also have a working knowledge of at least one RDBMs (e.g. Oracle, Sybase, Informix) and experience with database/web connectivity. Internet developers will also benefit from experience with object-oriented programming techniques and electronic

commerce technologies.

5. Networking. Having working knowledge of the following network infrastructure components:

- Routers
- Switches
- Routed Networks
- Frame Relay
- Static and Dynamic Routes Configuration
- Token Ring Topology
- Ethernet Topology
- CISCO
- 3COM
- Network Troubleshooting
- Network Polling
- Network Discovery

## DEIS II Experience and Education Requirements

Labor Cat.	AA		Bachelor's		Master's		PhD		No Degree			
	Gen.	Spec	Gen.	Spec	Gen.	Spec	Gen.	Spec	Gen.	Spec		
1			15	10	13	9	12	8				
2			12	9	10	7	8	6	15	12		
3			8	5	6	4	5	3	13	11		
4			6	3	5	2			10	8		
5			6	3	4	2			10	8		
6	2	1	1	1	HS Diploma Required				4	2		
7			10	8	8	6			13	11		
8			6	3	4	2			10	8		
9			12	9	10	7	8	6				
10			10	8	8	6	6	5	13	11		
11			12	9	10	7	8	6				
12			10	8	8	6	6	5	13	11		
13			10	8	8	6	6	5	13	11		
14			6	4	4	3			10	8		
15			Yes									
16			10	8	8	6			13	11		
17			6	4	4	3			10	8		
18			5	3	4	2			9	7		
19			Yes									
20			Currently enrolled as full-time student									
21			10	8	8	6			13	11		
22			6	4	4	3			10	8		
23	½	0	High school diploma with 1 year experience									
24			7	5	5	3			10	8		
25			4	3	3	2			8	6		
26	3	2	2	1					7	5		
27			7	5	6	4			10	8		
28			4	2	2	1			8	6		
29			7	5	5	3			10	8		
30	5	3	4	2					8	6		
31	6	4	4	2					9	7		
32	7	5	6	3	degree not required				8	6		
33	4	2	3	1	degree not required				5	3		
34	6	3	5	2	degree not required				7	4		
35	8	4	6	3	degree not required				9	5		
36	4	2	3	1	degree not required				5	3		
37	6	3	5	2	degree not required				7	4		
38			7	5	5	3			11	9		
39			6	4	5	3			10	8		
40			12	9	10	7	8	6				
41			10	8	8	6	6	5	13	11		
42			6	4	5	3			10	8		
43	3	2	2	1					6	4		
44	3	2	2	1					6	4		
45			3	1	2	1			7	5		
46			10	8	8	7	6	5	13	11		
47			8	6	7	5			12	10		
48	1	1	No degree required - 2 years experience									
49	5	2	3	1					8	6		
50	8	2	8	2	5	2						

