

CATALOG FOR BASE CONTRACT
MAY 20TH 2010 – MAY 19TH 2015

MICROCOM DESIGN, INC.

GSA SCHEDULE 871
PROFESSIONAL ENGINEERING SERVICES (PES)

CONTRACT NO: GS-10F-0213W

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CATALOG FOR BASE CONTRACT
MAY 20TH 2010 – MAY 19TH 2015

TABLE OF CONTENTS

Corporate Experience and Qualifications	3
Years of Experience and Evolution	3
Size.....	3
Resources	3
Personnel.....	3
ECAD Software	3
Computer Systems	4
Test Equipment.....	4
Project Accounting and Controls.....	4
SPECIAL ITEM NUMBERS (SIN)	5
871-1 STRATEGIC PLANNING FOR TECHNOLOGY PROGRAMS/ACTIVITIES	5
871-2 CONCEPT DEVELOPMENT AND REQUIREMENTS ANALYSIS	5
871-3 SYSTEM DESIGN, ENGINEERING AND INTEGRATION	5
871-4 TEST AND EVALUATION	5
871-5 INTEGRATED LOGISTICS SUPPORT	6
871-6 ACQUISITION & LIFE CYCLE MANAGEMENT.....	6
PROFESSIONAL ENGINEERING DISCIPLINES (PED).....	6
Electrical Engineering (EE)	6
LABOR RATES	7
LABOR CATEGORIES	7
RF Communications Specialist.....	7
Signal Processing Specialist	8
Computer Network Specialist.....	8
Data Base System Architect / Designer	8
Principal Engineer.....	8
Project Engineer.....	9
Engineer	9
Associate Engineer.....	9
Senior Technician	9
Technician.....	9
Junior Technician.....	10
Senior Draftsman	10
Draftsman.....	10
Production Manager.....	10

Corporate Experience and Qualifications

Years of Experience and Evolution

Microcom Design, Inc. was founded in 1974. We now have 35 years experience.

Microcom started with two electrical engineers and one electronic technician. Areas of expertise are radio communication (satellite to broadcast), microprocessor systems, sensors, medical equipment, electromechanical design (motors), control systems, data base computer systems, computer networks, custom computer software, fiber optics, remote power systems, and instrumentation systems.

Microcom started as a custom engineering design business (1974), added custom production (1988), and in 2002 added an Environmental IT product line. Microcom has retained some of the same clients for 20 years or more.

Prior to 2002 Microcom's customers were private US companies. In 2009 1/4 of our business was US Federal derived and 1/6 was International.

Size

33 Employees with numerous supporting suppliers and 3 subcontractors. 12,750 square feet of leased space. The recently renewed lease (5 years) will add 2000 square feet. Business volume over the last three years has averaged about \$6M per year.

Resources

Personnel

9 Degreed engineers in either electrical or computer science

4 Advanced engineering technicians

8 Electronic test technicians

2 CAD Technicians

4 Financial, administrative and materials support staff

Adding 1 Web-Internet specialist June 2010.

ECAD Software

Solid Works, Mathcad, Visim, Orcad, Integrated Microprocessor Software development Platforms (Keil and others), EZNEC (antenna design) and Eagleware (RF circuit design).

CATALOG FOR BASE CONTRACT
MAY 20TH 2010 – MAY 19TH 2015

Computer Systems

All engineers are equipped with Lap Top Computers and all remaining staff has Desk Tops PCs. All are networked to the Microcom Computer system, which provides backup and repository for document exchange and document control. All project reports and design documentation are stored with backup on this network.

Test Equipment

Each engineer and most of the technicians have in their offices or work stations complete basic electronic test equipment. In addition there are 4 sets of Radio Frequency Test Equipment. Microcom owns four environmental test chambers and one radio frequency screen room.

Two GOES Satellite Direct Receive Systems, three GOES uplink test fixtures, and DOMSAT Ku band receive system at Microcom allow support of satellite communication engineering.

Project Accounting and Controls

Project Accounting is Microcom Office (Which is a Sequel Server Application) that manages the following company project components:

Labor

Materials

Suppliers

Purchase orders

Customer Orders

Documentation

All employees have access to Microcom Office

COMPANY INFORMATION:

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SPECIAL ITEM NUMBERS (SIN)

Contracts under the PES schedule provide engineering solutions through six Special Item Numbers (SINs). These SINs comprise the distinct phases of an engineering project. Microcom's contract includes the following SINs.

871-1 STRATEGIC PLANNING FOR TECHNOLOGY PROGRAMS/ACTIVITIES

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

871-2 CONCEPT DEVELOPMENT AND REQUIREMENTS ANALYSIS

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

871-3 SYSTEM DESIGN, ENGINEERING AND INTEGRATION

Services required under this SIN involve the translation of a system (or subsystem, program, project, activity) concept into a preliminary and detailed design (engineering plans and specifications), performing risk identification/analysis/mitigation, trace ability, and then integrating the various components to produce a working prototype or model of the system. Typical associated tasks include, but are not limited to computer-aided design, design studies and analysis, high level detailed specification preparation, configuration management and document control, fabrication, assembly and simulation, modeling, training, privatization and outsourcing.

871-4 TEST AND EVALUATION

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

CATALOG FOR BASE CONTRACT
MAY 20TH 2010 – MAY 19TH 2015

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

871-5 INTEGRATED LOGISTICS SUPPORT

Services required under this SIN involve analysis, planning and detailed design of all engineering-specific logistics support including material goods, personnel, operational maintenance and repair of systems throughout their life cycles. Typical associated tasks include but are not limited to ergonomic/human performance analysis, feasibility analysis, logistics planning, requirements determination, policy standards/procedures development, long-term reliability and maintainability, training, privatization and outsourcing.

871-6 ACQUISITION & LIFE CYCLE MANAGEMENT

Services required under this SIN involve all of the planning, budgetary, contract and systems/program management functions required to procure and or/produce, render operational and provide life cycle support (maintenance, repair, supplies, engineering specific logistics) to (technology based) systems, activities, subsystems, projects, etc. Typical associated tasks include, but are not limited to operation and maintenance, program/project management, technology transfer/insertion, training and consulting. Example: During this stage the actual manufacturing, launch, and performance monitoring of the navigation satellite will be assisted through project management, configuration management, reliability analysis, engineering retrofit improvements and similar functions. Contractors are awarded one or more of the following primary engineering disciplines (PEDs) under this Special Item Number: Electrical Engineering (EE).

PROFESSIONAL ENGINEERING DISCIPLINES (PED)

Microcom provides professional engineering services for Electrical Engineering (EE)

Electrical Engineering (EE)

Electrical engineering includes planning, design, development, evaluation, and operation of electrical principals, models and processes. It includes but its not limited to the design, fabrication, measurement and operation of electrical devices, equipment and systems (e.g., signal processing, telecommunications, sensors, microwave and image processing, energy systems and control, satellites, fiber optics and GOES Data Collections Systems.

CATALOG FOR BASE CONTRACT
MAY 20TH 2010 – MAY 19TH 2015

LABOR RATES

Category	GSA PRICE (including IFF)
RF Communications system Specialist	\$132.48
Signal Processing Specialist	\$132.48
Computer Network Specialist	\$122.12
Data Base System Architect / Designer	\$132.48
Principal Engineer	\$93.60
Project Engineer	\$83.28
Engineer	\$70.08
Associate Engineer	\$62.64
Senior Technician**	\$54.48
Technician**	\$44.64
Junior Technician**	\$39.60
Senior Draftsman**	\$60.48
Draftsman**	\$44.16
Production Manager	\$62.40

SCA Matrix		
SCA Eligible Contract Labor Category	SCA Equivalent Code Title	WD Number:
Senior Technician	30086 Engineering Tech V	05-2247
Technician	30084 Engineering Tech III	05-2247
Junior Technician	30081 Engineering Tech I	05-2247
Senior Draftsman	30064 Drafter / CAD Operator IV	05-2247
Draftsman	30062 Drafter / CAD Operator II	05-2247

LABOR CATEGORIES

RF Communications Specialist

Designs and analyzes Radio Frequency communications systems. Frequency ranges covered are HF to Microwave. Uses a range of CAD tools for link budgets, impedance matching, antenna design, modulation, demodulation, frequency synthesis and coding. Independently organizes jobs into tasks that may be assigned to others. Writes and presents documents on work results.

CATALOG FOR BASE CONTRACT
MAY 20TH 2010 – MAY 19TH 2015

Education / Experience required: Minimum BS in engineering with 10 years experience. MS plus 5 years experience may be substituted for 10 years experience.

Signal Processing Specialist

Designs and analyzes signal processing systems. Works with a wide range of tools for Digital Signal Processing (DSP) development that are applied to specialized DSP and gate array chips. Constructs digital down conversion, filtering, demodulation, and decoding software. Applies methods of signal combination and noise cancellation to enhance signal to noise ratio and improve the reliability of information recovery.

Education / Experience required: Minimum BS in Engineering with 10 years experience. MS plus 5 years experience may be substituted for 10 years experience.

Computer Network Specialist

This specialist is responsible for the design and operation of large systems based on networked computers. These computers may be on either or both Local Networks (LAN) or Wide Area Networks (WAN). The WAN element maybe private via VPN or may also have public interface elements.

Minimum of a BS in Engineering, Mathematics, and Computer Science with further specialized experience and / or education is required. Five years of experience or more is required. Please note that this is different from other specialist where 10 years of experience is required. The reason is that the types of networks we are using have begun widespread use only 5 or 6 years ago.

Data Base System Architect / Designer

This specialist must be familiar with data base designs using either MSSQL or Oracle. Both real time and archive operational capability is required. Of particular emphasis is knowledge and experience in high reliability multiple node systems. Communications between these nodes may be local or remote. He has substantial capability on all system facets such as data base schemas and replication.

Minimum of a BS degree in Engineering, Mathematics, and Computer Science with further specialized experience and / or education is required. Ten years of experience is required.

Principal Engineer

A principal engineer is responsible for administrative and financial responsibility to projects or groups of related projects. He manages the interaction with customer requirements and expectation. These are interpreted working requirements and performance specifications. He must also be able to perform the duties of a project or senior engineer.

CATALOG FOR BASE CONTRACT
MAY 20TH 2010 – MAY 19TH 2015

Education / Experience required: Minimum BS in Engineering with 10 years experience. MS plus 5 years experience may be substituted for 10 years experience.

Project Engineer

The project engineer manages and performs necessary hardware and software designs required to execute a design based on a written set of requirements and specifications. He designs and executes tests to validate the design performance. Design and production documents are generated to bring a design to production or field application.

Education / Experience required: Minimum BS with 5 years experience. MS may be substituted for 5 years experience.

Engineer

Creates designs and analyses for electronics and computer systems with the assistance of higher-level engineers. Applies a range of CAD and software development tools to create hardware and software designs to meet design requirements and performance specifications.

Education / Experience required: Minimum Technical BS degree.

Associate Engineer

Independently builds designs that are generated by others. Independently determines the functionality of the bread or brass boards. Independently generates test procedures to verify performance. Analyses and devises best methods for production and test. Works with others to evolve designs.

Education / Experience required: Minimum 2 year technical degree or equivalent Military training. Two years experience.

Senior Technician

Independently builds, analyses, and tests engineering designs and production test fixtures. Performs independent on site work. Uses various design verification tools. Supervises others on various tasks. Writes and verifies testing procedures. Verifies QA actions and assure objectives are met.

Education / Experience required: Minimum 2 year technical degree or equivalent Military training. Five years experience.

Technician

Builds and analyses designs of electronic and electrical systems. Works with other engineers and technicians to create reproducible designs. Designs and performs various functional tests.

Education / Experience required: Minimum 2 year experience as junior technician. HS graduation or equivalent required.

CATALOG FOR BASE CONTRACT
MAY 20TH 2010 – MAY 19TH 2015

Junior Technician

Performs final assembly and testing of electronic and electrical products and systems. Maintains QA documentation.

Education / Experience required: Minimum of HS graduation or equivalent. Three months on the job training.

Senior Draftsman

Creates original designs using Solid Works (3D), ORCAD, and or AutoCAD. Works with engineers and technicians to create designs and production documentation. Validates the designs of others. Works with machinist and others to construct designs.

Education / Experience required: Minimum of HS graduation or equivalent. Specialized training and demonstrated proficiency in CAD packages. Minimum of five years experience required.

Draftsman

Creates designs using AutoCAD or ORCAD that may be with the assistance of others. Works with others to build and verify designs and make documentation corrections.

Education / Experience required: Minimum of HS graduation or equivalent. Specialized training and demonstrated proficiency in CAD packages.

Production Manager

Is responsible for managing personnel and material to meet production requirements for electronic equipment. Required to meet testing and quality requirements.

Education / Experience required: Minimum of a BS / BA technical or business degree. Five years experience in technical production operations required.