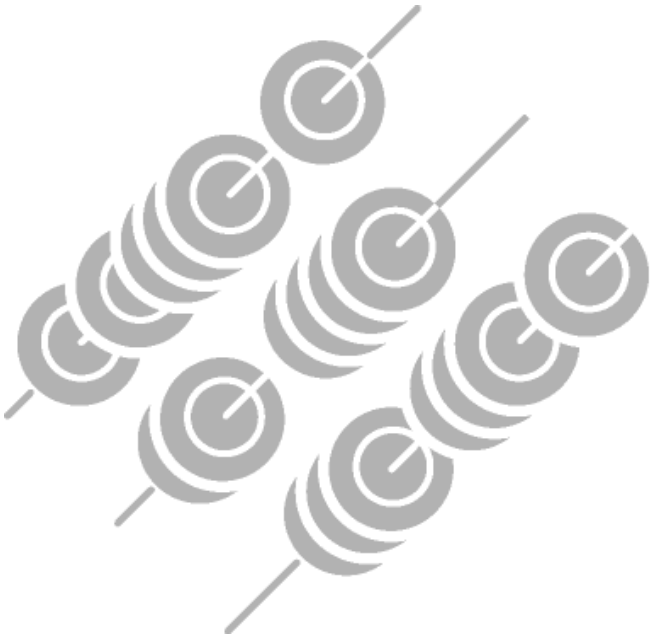
SHARMA & ASSOCIATES, INC.

SERVICES OFFERED

PROFESSIONAL ENGINEERING SERVICES



GSA CONTRACT #: GS10F0027T

SMALL BUSINESS ENTERPRISE
CONTRACT PERIOD: 10/27/2011 TO 10/26/2016

MAY 2011

Sharma & Associates, Inc.

DUNS No.: 884551540

Contact Information:

Sharma & Associates, Inc.
5810 S Grant St
Hinsdale, IL 60521

Tel: 708-588-9871 Fax: 708-588-9874 Web: www.sharma-associates.com

Primary Contact: Dr. Vinaya Sharma, Extension 201
Secondary Contact: Anand Prabhakaran, Extension 202

Company Background:

Sharma & Associates, Inc. (SA) has been providing research and professional engineering consulting services since 1995. Over this period, SA has successfully completed a wide range of projects in mechanical engineering, civil (infrastructure) engineering, and electrical engineering, and has provided solutions that have completely satisfied the expectations of all our customers. Our customers include:

- Federal agencies such as the US Department of Transportation (Federal Railroad Administration (FRA), Volpe National Transportation Systems Center (VNTSC)), Amtrak
- Local governmental agencies such as, Northern Indiana Commuter Transportation District (NICTD), Village of Rockton
- Industry research groups such as the Association of American Railroads (AAR)
- Commercial entities such as railroads, car leasing agencies, car owners, locomotive builders, car builders, and component manufacturers.

SA has successfully completed many projects in the industry ranging from government sponsored R&D to commercial implementations of new technology and thus **offers a unique mix of applied research, and 'on-the-ground' industry experience that is unparalleled**. SA have completed a wide variety of tasks ranging from 'Design of a New Locomotive Underframe' for a locomotive manufacturer to 'Frequency Analysis of Vibration Data from Bearing Adapters' for the FRA, and from 'Impact Testing of Stub-sill Tank Cars' for the FRA to 'Evaluation of Railroad Bridge Inspection Intervals through Fracture Mechanics Analysis' for Alaska Railroad. These projects highlight our ability to work on focused engineering projects, as well as our ability to practically apply research findings to industry problems.

On many projects, SA has successfully **identified and implemented the necessary technology** to get the job done or to answer the question at hand. In addition to applying new technology where appropriate, we have used established and proven technology for various tasks on many projects, including testing, data analysis, product development and safety evaluations.

SA has a project team consisting of people with significant experience in engineering, testing and applied research. In addition to the principal, Dr. Vinaya Sharma, SA has the expertise of a wide range of renowned experts in the industry in varied fields. In addition to an excellent understanding of the subject matter, they also offer a clear understanding of all the rules, regulations, specifications and recommended practices that are pertinent to their field of expertise.

In addition to experienced personnel, SA also uses state-of-the-art software and hardware tools to perform all engineering, research, testing, and analysis tasks, including product development, crash-worthiness analysis, testing, data analysis and simulations, just to name a few. SA personnel are experienced in the application of these tools, and objective interpretation of results.

Offered SIN/PED combinations:

SA offers services for the Special Item Numbers (SIN) and Professional Engineering Discipline (PED) combinations presented in the table below.

SIN ID	SIN	PEDs		
		Mechanical	Civil	Electrical
871-1	Strategic Planning for Technology Programs/Activities	Yes	Yes	Yes
871-2	Concept Development & Requirements Analysis	Yes	Yes	Yes
871-3	System Design, Engineering & Integration	Yes	Yes	Yes
871-4	Test & Evaluation	Yes	Yes	Yes
871-5	Integrated Logistics Support	Yes	Yes	Yes
871-6	Acquisition & Life Cycle Management	Yes	Yes	Yes

Outline of Services Provided:

SA provides engineering and research studies related to:

- Structures (Vehicles & Infrastructure)
- Static & Dynamic Finite Element Evaluations
- Crashworthiness Simulations
- Vehicle Dynamics & Ride Quality
- Engineering design of Mechanical, Civil, & Electrical systems, sub-systems & components
- Strategic technology initiatives and evaluations
- Concept/Product Development
- Systems engineering & Systems development
- Structural & Safety Monitoring, including remote, wireless systems
- Circuit design & development
- Fatigue/Fracture/Damage Tolerance Analyses
- Remaining Life Analysis & Evaluation of inspection/maintenance intervals
- Failure/Incident investigations
- Reliability engineering/analyses, including Weibull/Probabilistic Evaluations
- Design, planning & execution of laboratory & field tests, including instrumentation
- Full scale testing of infrastructure & vehicles
- Non-destructive Testing & Evaluation (NDE/NDT)
- Failure Modes, Effects & Criticality Analysis (FMECA)
- Engineering, Logistics & Test support
- Evaluation of engineering & operational risk
- Hazardous material transport
- Wired/Wireless communication/data transfer systems
- Design validation/Design review of mechanical, civil, electrical systems
- Data Analysis including test data (continuous or discrete data), defect/failure data, inventory data
- Simulations of mechanical & structural systems

Previous Experience:

The following passages offer a very brief outline of SA's experience. For more information regarding our capabilities & experience, please contact us or visit our website.

- Structural evaluations (including crash-worthiness) on road and rail vehicles including highway trailers, locomotives, tank cars, hopper cars, etc.
- Design, evaluation and reliability analyses of brake systems & brake assemblies
- Mechanical design of vehicles, including placement/mounting of prime-movers, alternators, radiators, electrical cabinets, etc.; Cooling requirements/airflow analysis of traction motors, DC choppers, rectifiers, etc.
- Development of systems to improve the safety of hazardous material (Hazmat) transport
- Damage tolerance, crack growth & fatigue/fracture evaluations of rail vehicles, road vehicles & infrastructure
- Development and implementation of advanced components on vehicles such as Tri-couplers, advanced cushion units, coupler force overload detectors, remote uncoupling mechanisms, remote angle cocks, etc.
- Field testing of many bridges, including the measurement of strains, displacements, and accelerations (vibrations)
- Remote monitoring of railroad bridge systems
- Static & dynamic evaluations of bridges, including capacity evaluations
- Static, Dynamic, Impact & Vibration/modal testing
- Setup and operation of hydraulic test equipment (MTS or similar) including open loop and closed loop control
- Testing of vehicles (trucks, locomotives, components)
- Instrumentation and measurement of locomotive emissions
- Non destructive evaluations for flaw detection, including ultrasonic testing, dye-penetrant testing, and magnetic particle inspections.
- Metallographic examinations for failure/fracture analysis
- Modeling of rail vehicle dynamics, including train dynamics
- Modeling of rail operations, including stopping distance studies and blocks, energy efficiency, fuel consumption, etc.

Labor Categories & Rates:

The following labor categories and labor rates are specified in the contract for the first 5 years.

Labor Category	Year 6	Year 7	Year 8	Year 9	Year 10
	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Project Lead/Principal Investigator	$ 200.62	$ 207.04	$ 213.67	$ 220.50	$ 227.56
Project Manager	$ 192.86	$ 199.03	$ 205.40	$ 211.97	$ 218.76
Senior Engineer	$ 177.00	$ 182.66	$ 188.51	$ 194.54	$ 200.77
Project Engineer	$ 177.00	$ 182.66	$ 188.51	$ 194.54	$ 200.77
Test Engineer	$ 147.26	$ 151.97	$ 156.84	$ 161.85	$ 167.03
Engineer	$ 126.52	$ 130.57	$ 134.75	$ 139.06	$ 143.51
Computer Science/IT Specialist	$ 168.51	$ 168.51	$ 168.51	$ 168.51	$ 168.51
Test/Instrumentation Specialist	$ 132.48	$ 136.72	$ 141.09	$ 145.61	$ 150.27

The Service Contract Act (SCA) is applicable to this contract and it includes SCA applicable labor categories. The prices for the cited SCA labor categories are based on the U.S. Department of Labor Wage Determination Number(s) identified in the SCA matrix below. The prices offered are based on the preponderance of where work is performed and should the contractor perform in an area with lower SCA rates, resulting in lower wages being paid, the task order prices will be discounted accordingly.

SCA Eligible Contract Labor Category	SCA Equivalent Code - Title	WD Number
Test/Instrumentation Specialist	30083 - Engineering Technician - III	05-2167

1a. Table of awarded special item number(s) with appropriate cross- reference to item descriptions and awarded price(s).

SIN	SIN Description
871-1	Strategic Planning for Technology Programs/Activities
871-2	Concept Development & Requirements Analysis
871-3	System Design, Engineering & Integration
871-4	Test & Evaluation
871-5	Integrated Logistics Support
871-6	Acquisition & Life Cycle Management

1c. If the Contractor is proposing hourly rates, a description of all corresponding commercial job titles, experience, functional responsibility and education for those types of employees or subcontractors who will perform services shall be provided. If hourly rates are not applicable, indicate "Not applicable" for this item.
See table "Detailed Labor Category Description" attached at the end of this document.

2. Maximum order.
$1,000,000.00

3. Minimum order.
$100.00

4. Geographic coverage (delivery area).
Worldwide

5. Point(s) of production (city, county, and State or foreign country).
At our engineering offices at Countryside, Cook County, Illinois.

6. Discount from list, prices or statement of net price.
Prices are listed in "Labor Categories and Rates". These rates are 4-14% lower than our commercial rates.

7. Quantity discounts.
N/A

8. Prompt payment terms.
Net 30. No discount for prompt payment.

9a. Notification that Government purchase cards are accepted at or below the micro-purchase threshold.
No

9b. Notification whether Government purchase cards are accepted or not accepted above the micro-purchase threshold.
Yes

10. Foreign items (list items by country of origin). *N/A*

11a. Time of delivery. (Contractor insert number of days.)
Negotiated per customer need during contracting.

l1b. Expedited Delivery. The Contractor will insert the sentence "Items available for expedited delivery are noted in this price list." Under this heading. The Contractor may use a symbol of its choosing to highlight items in its price lists that have expedited delivery.
N/A

11c. Overnight and 2-day delivery. The Contractor will indicate whether overnight and 2-day delivery are available. Also, the Contractor will indicate that the schedule customer may contact the Contractor for rates for overnight and 2-day delivery.
N/A

11d. Urgent Requirements. The Contractor will note in its price list the Urgent. Requirements" clause of its contract and advice agencies that they can also contact the Contractor's representative to affect a faster delivery.
N/A

12. F.O.B. point(s). *N/A*

13a. Ordering address(es).
5810 S. Grant Street, Hinsdale IL 60521

13b. Ordering procedures:
For supplies and services, the ordering procedures, information on Blanket Purchase Agreements (BPAs), and a sample EPA can be found at the GSA/FSS Schedule homepage (fss.gsa.gov/schedules).

14. Payment address(es)
5810 S. Grant Street, Hinsdale IL 60521

15. Warranty provision. *N/A*

16. Export packing charges, if applicable.
N/A

17. Terms and conditions of Government purchase card acceptance (any thresholds above the micro-purchase level)
Net 30.

18. Terms and conditions of rental, maintenance, and repair (if applicable)
N/A

19. Terms and conditions of installation (if applicable). *N/A*

20. Terms and conditions of repair parts indicating date of parts price lists and any discounts from list prices (if applicable).
N/A

20a. Terms and conditions for any other services (if applicable)
N/A

21. List of service and distribution points (if applicable). *N/A*

22. List of participating dealers (if applicable). *N/A*

23. Preventive maintenance (if applicable). *N/A*

24a. Special attributes such as environmental attributes (e.g., recycled content, energy efficiency, and/or reduced pollutants)
N/A

24b. If applicable, indicate that Section 508 compliance information is available on Electronic and Information Technology (EIT) supplies and services and show where full details can be found (e.g. contractor's website or other location.) The EIT standards can he found at www.Section5O8.gov/.
N/A

25. Data Universal Number System (DUNS) number.
884551540

26. Notification regarding registration in Central Contractor Registration (CCR) database.
Sharma & Associates, Inc. has a current registration in CCR.

Detailed Labor Category Descriptions

Labor Category No.	Labor Category	Description	Requirements		
			Minimum Education	Minimum Experience	Other Requirements
1	Project Lead or Principal Investigator	Serves as the technical lead for a project, and is responsible for defining overall project direction, scope, tasks, activities, schedules, etc. Duties include defining skill sets needed for a specific project, assigning appropriate engineers for the project, assigning tasks to project members, and tracking the technical progress of the project. Also responsible for interacting with the clients on a regular and as needed basis, and preparing/presenting project reports and briefings on the status of projects.	BS in Engineering	10 years	Experience with Leading Projects & Setting Project Scope/Direction.
2	Project Manager	Responsible and accountable for planning, implementing, and completing projects. Defines objectives, scope, cost, and schedule of projects. Responsible for resource management of multi-program activities, including allocating project funding and authorizing work activities. Prepares and presents project reports and briefings on the status of projects. Serves as point of contact for client contact, and is responsilble for external interactions.	BS in Engineering	15 years	Experience with Managing Projects, including costs, schedules and quality.
3	Senior Engineer	Conduct engineering/analysis/research tasks as per project scope and client requirements. This includes the definition of engineering/analysis methodologies and techniques, identification of appropriate technologies, as well as review, direction, and supervision of engineering/analysis work done by other engineers. Duties include the preparation of project reports, progress reports, technical summaries, etc. as well as drawings, as appropriate. Occassional interactions/meeting with clients may be required.	BS in Engineering	10 years	
4	Project Engineer	Conduct engineering/analysis/research tasks as assigned by project leads and senior engineers. Engineering work includes design, research, analysis & development, including modeling & simulations, as well as review of work done by other engineers. Duties include the preparation of reports, drawings, & related documents using industry leading CAD/CAE application software, as appropriate. Occassional interactions/meetings with clients may be required.	BS in Engineering	10 years	
5	Test Engineer	Responsible for the planning, design and execution of laboratory and field tests, as per customer requirements and under direction from the project lead. Duties include instrumentation, testing, review of test data, supervision of test/instrumentation specialists, preparation of instrumentation plans, test reports, etc. Support other engineers with regard to testing issues. Holds overall responsibility for the maintenance and calibration of instrumentation. May require interaction with clients.	BS in Engineering	5 years	Experience with Testing/Instrumentation Projects
6	Engineer	Conduct engineering tasks under the direction of senior/project engineers involving design, research, analysis & development, including modeling & simulations. Duties include the preparation of design drawings & related documents using industry leading CAD/CAE application software.	BS in Engineering	1 year	
7	Computer Science/IT Specialist	Support the engineering, research, analysis, and management activities of the company with IT issues, including hardware, software, networking, programming, etc. Interact with project leads and other engineers on an as needed basis, including IT trouble-shooting. Duties may include the maintenance and upkeep of computer hardware and software, including technical software such as CAD, FEA, etc.	BS	5 years	Experience with Progamming/ IT Projects
8	Test/Instrumentation Specialist	Duties include the design and execution of laboratory and field tests under direction from the project lead and test engineer. Duties include setting up of instrumentation, data collection, testing, maintenance and calibration of instrumentation, etc. Provide support to other engineers with regard to testing issues.	High School	15 years	Formal training in instrumentation, testing, and data acquisition