C&S Engineers, Inc.

Contract Information

Contract Number:	GS-06F-0014T
Schedule:	03FAC—Facilities Maintenance and Management Energy Management, Water Conservation and Support Services
Categories:	SIN 871 206—Building Commissioning Service SIN 871 207—Energy Audit Services SIN 871 208—Resource Efficiency Management SIN 871 209—Innovations in Energy
Term of Contract:	Through 11/28/2011
Company Contact:	499 Col. Eileen Collins Blvd. Syracuse, New York 13212 (877) CS-SOLVE www.cscos.com
Contact Person:	Jeffrey Palin, P.E., Service Group Manager jpalin@cscos.com
Geographic Coverage:	Nationwide
DUNS:	80-228-3622
CCR:	Registered and current
Point of Production:	Syracuse, New York
Time of Delivery:	Negotiated with each delivery/task order
Minimum Order:	N/A
Maximum Order:	$1,000,000
Business Size:	Large
Pricing:	Prices shown herein are net (discount deducted)
Purchase Card:	Accepted below the micro-purchase threshold of $2500

On line access to contract ordering information, terms and conditions, up to date pricing, and the option to create an electronic delivery order are available through GSA Advantage!, a menu driven database system. The INTERNET address GSA Advantage! is: GSAAdvantage.gov. For more information on ordering from Federal Supply Schedules click on the FSS Schedules button at fss.gsa.gov.

Firm Overview

Since 1968, the C&S Engineers have earned a solid reputation for quality engineering, architectural, and construction services. Clients across the country trust C&S to deliver successful projects time and time again. Our diverse group of professionals specializes in meeting multi-disciplined challenges, working together to seamlessly complete both routine and complex projects.

Our staff of more than 400 professionals has the expertise to handle almost any engineering challenge. The engineers, architects, geologists, scientists, planners, designers, construction specialists, and other experts at C&S talk to each other, making sure that your needs and concerns are always at the forefront. They are supported by a full administrative staff, state-of-the-art field equipment, and the latest in computer hardware and software.

C&S Engineers, Inc., Headquarters
Syracuse, New York

C&S focuses on unifying our diverse services. Our experts support each other by collaborating on projects, combining their knowledge to reach a more well-rounded solution. This internal partnership means that we are as proficient at handling complex, multimillion-dollar projects that require myriad services as we are at small projects involving only one specialty. Project management and production groups coordinate projects from inception through construction, enabling the firm to provide a continuity of service that our clients rely on.

Building Commissioning and Retro-Commissioning Services

In order to ensure optimal performance of a new building or substantial renovation, the building's systems must be systematically tested to verify that they work as intended. During this process, the test results are documented for traceability. C&S commissioning specialists provide comprehensive building commissioning services for new construction and renovation. C&S specialists review the client's proposed, and/or existing, systems to ensure that all system equipment operates in an integrated manner, which improves reliability and efficiency. Commissioning work will typically include, but is not limited to, review of design intent, development of the commissioning plan, input on operations and maintenance performance, development and execution of pre-functional and functional performance tests, and system start-up and TAB verification. In addition, C&S can review O&M Manuals to ensure that maintenance personnel are properly trained to operate, maintain, and monitor vital systems. Finally, C&S provides the client with a complete commissioning report that documents the entire process.

Why Commission?
The initial cost of commissioning is paid back many times over the life of the facility by operational cost savings.

- When the facility is new, building systems that work properly and efficiently from day one of the facility's life.

- As the facility ages, cost effective maintenance and diagnosis of building systems issues due to the availability of the ESTABLISHED BASELINE FOR BUILDING SYSTEM PERFORMANCE provided by the commissioning documentation.
- During the entire life of the facility, building systems that continue to use energy efficiently over the life of the facility because they started life properly and have been maintained and diagnosed effectively.
- During the entire life of the facility, building system components that live longer and need replacement less often because they started life properly and have been maintained and diagnosed effectively.

The C&S Advantage

C&S has full-time experienced controls professionals on staff that is available specifically to support commissioning projects. The commissioning process thus becomes less dependent on control vendors and contractors. The C&S total systems approach facilitates communication and coordination among all contractors and stakeholders. C&S can also assist the client to obtain LEED certification by providing services for both the LEED fundamental commissioning prerequisite and the LEED enhanced commissioning additional credit.

Whether the project is a new construction, a major renovation, or streamlining/correction of an existing operation, C&S commissioning specialists stand ready to provide their expertise to the client, from planning phases all the way through diagnosing and troubleshooting hardware on-site.

It's Never Too Late: Retro-Commissioning Services

If you've missed the opportunity to commission your facility at construction, or your original commissioning is no longer intact, it's not too late. Where there is no new construction, but rather existing facilities with systems that may not be providing optimal performance, or worse and may not be operating at all as intended, our commissioning experts leverage their analysis and testing expertise to diagnose existing conditions, devise and execute test procedures in order to identify and correct system operational deficiencies, and establish and document a baseline of operation for the existing building.

Energy Auditing

A building energy audit is in the broadest terms a feasibility study. The audit identifies energy utilization in terms of energy and service type, thus revealing cost-benefit for energy conservation opportunities (ECOs), but it is also the first step in establishing an energy management program. An energy management program is a systematic strategy, applied on a sustained basis, for managing a building's energy consumption. The goal of the program is to use only the energy required by the building functionality, space utilization requirements, and climate.

C&S is equipped to provide audits ranging from cursory to comprehensive. Audits will typically include, at a minimum, data collection, data analysis, benchmarking with automated tools such as Trane TRACE and Carrier HAP, and a report of findings and recommendations

for energy improvements. The report may also consider the recommendations' impact upon reliability, constructability, and the environment.

C&S's energy management specialists provide analysis of facility energy usage, evaluate energy conservation measures, alternative energy options, utility rate, and service class adjustments and design facilities using energy efficient and cost-effective technologies. We can provide feasibility studies, design, construction, and operation in support of our recommendations, from replacing lighting to building combined heat and power facilities. With state-of-the-art instrumentation and monitoring equipment, C&S can provide preliminary to investment grade audits for all building types and uses. C&S has all the resources to assist our clients in devising energy management strategies that are **constructible and practically implemented**. C&S can also develop and execute long-term audit plans as a component of more comprehensive operations plans.

Wholistic, Systems Level Assessment and Decision Support

C&S first works with the client to understand the client's operational requirements, constraints, and goals. We then work with the client to develop profiles (whether from measurement of actual profiles, modeling of projected profiles, or both) that realistically represent the client's configuration and utilization of assets, as well as its consumption of resources in order to accomplish their mission. We then employ a total systems approach and leverage our know-how of available technologies and techniques to help the client make decisions that are best suited for their situation.

Whether from direct measurement of actual profiles, modeling of projected profiles, or both, the C&S Energy, Systems & Controls (ES&C) Department applies it's expertise in building energy auditing, system engineering, modeling, measurement, and verification toward the characterization of the client's facilities (building, complex, or campus), and/or industrial processes, and their resource utilization profiles. This can be accomplished at different levels of detail (and accuracy) to best accommodate the client and the client's application. We can monitor, for extended periods, energy utilization at specific targets, or at an entire campus, to generate actual utilization profiles. For new and modified facilities and industrial processes alike, C&S has the tools and experienced professionals to measure, model, and predict energy utilization profiles.

The energy audit will identify, depending upon the client requirements and scope, energy management opportunities such as:

- Reduction of system (or space) operating hours consistent with mission
- Adjustment of space temperature and/or humidity
- Reduction of building envelope gain
- Adjustment of space ventilation rates
- Adjustment/coordination of building pressurization and/or develop a building pressurization scheme

- Adjustment of system air and water distribution
- Adjustment of equipment operating parameters (e.g., chiller water temperatures, pump speed limits)
- Revision of sequences of operation
- Replace, modify, or reconfigure mechanical systems
- Replace, modify, or reconfigure electrical lighting and power systems
- Replace, modify, or reconfigure energy management System (EMS)
- On-site generation
- Renewable energy options
- Options for use of alternative energy usage strategies and sourcing, including:
    - Conversion to use different sources of energy
    - Alternative off-site storage and management
    - Alternative and standby fuel pricing
    - Utility rate and service class adjustments

The Energy, Systems & Controls (ES&C) Department at C&S is staffed with professionals who possess significant practical knowledge as it applies specifically to energy conversion, plant configuration, and energy storage, including advanced and alternative energy conversion and storage systems. This enables us to realistically assess energy conversion and storage options, including advanced and alternative energy system configuration options. Following are representative considerations C&S professionals have explored in detail:

Energy Conversion Options

- Boilers - Ranging from residential to boilers for electric power generation
- Conventional prime movers
    - Steam turbines
    - Combustion turbines
    - Combustion engines (reciprocating)
- Alternative prime movers:
    - Microturbines
    - Fuel cells
- Photovoltaics
- Wind turbines
- Wood and coal gasifiers/combustors

Plant Configuration Options

- Combined heat and power - Cogeneration configuration and blending options
- Integrated combined cycle configurations

- Alternative integrated combined cycle configurations that may include:
  - Organic rankine cycle
  - Kalina cycle

Energy Storage Options

- Ice
- Compressed air
- Compressed gas
- Wood and wood pellet

Impact of the proposed configuration options upon utility rate structure and utility tariffs, as well alternative energy source, and type, acquisition strategies must also be analyzed in order to determine the optimum blend of resources to acquire (and store), where to acquire them from, what terms to acquire them under, and to also determine the optimum capacity of on-site distributed electrical generation.

C&S then combines its knowledge of energy systems, asset and consumable resource utilization profile(s), client operational requirements, and energy acquisition strategies to provide an integrated project solution. The solution is an optimized configuration of energy conversion, storage, utilization, and energy acquisition strategy based upon the client's requirements, constraints, and goals.

In order to support rational design decisions, C&S also provides realistic life cycle cost projections based upon realistic cost analyses, as well as realistic acquisition schedules supported by intimate first hand knowledge of construction requirements and techniques. C&S in-house environmental experts identify and assess environmental impacts and benefits and integrate them into the design, cost, and acquisition schedule.

C&S also offers services to support the entire project delivery process, from study to schematic to final design, from final design through construction phase to system commissioning, measurement and verification, as well as operational support to the client once the systems are in service.

Energy Management Services

C&S offers energy management services to clients that are committed to making an investment in the future. Some measures require little or no capital investment. Diligent and skilled investigation of an existing building's systems may reveal that a simple adjustment of control settings can save up to 20% of annual energy costs. Other measures may be quite capital intensive, such as on-site generation of power from renewable energy sources, but yield substantial return over the life of the system in an environmentally responsible way.

Implementation of energy efficient design and operation results in cleaner, less-expensive, and more productive operations. C&S's energy management engineers specialize in the assessment of existing or proposed facilities and make recommendations to increase operational efficiency, effectiveness, and overall system health. C&S is staffed with professionals who are experienced in all facets of the application of sound energy management principles and provide decision support to develop the energy management strategies that are optimum for the client. This decision support can vary from a study to an analysis to measurement and verification to a report documenting the existing (baseline or benchmark) conditions and recommendation for remedial action.

C&S further assists our clients to devise energy management strategies that rely on state-of-the-art technologies but are **constructible and practically implemented** in both new construction and existing facility retrofits.

Innovations in Energy

Sustainability is no longer just a buzz word, it is rapidly becoming a way of life. Simply stated, our actions today can dramatically affect the future. The design and construction industry is undergoing a transformation, incorporating sustainability into a diverse range of projects. C&S implements sustainable designs and construction processes in a manner that can greatly improve energy efficiency and reduce the burden on the environment while improving the health, well being, and productivity of the end users.

When experienced design professionals incorporate sustainable philosophies early in a project, the initial cost can be kept in balance, and substantial savings over the life of the project can be realized.

C&S can help you understand opportunities and alternatives for providing energy-efficient and environmentally responsible sustainable designs and construction by our LEED accredited professionals and certified energy managers. Our team has been involved in the design, commissioning, construction management, and LEED certification on sustainable projects for higher education, schools, commercial facilities, and institutional projects. C&S is also a member of the U.S. Green Building Council.

Building Performance Modeling

- Comprehensive energy modeling
- Life cycle costing
- Economic analysis
- HVAC system analysis
- Lighting analysis
- Energy audits

Commissioning

- LEED prerequisite commissioning
- Enhanced commissioning

- Retro-commissioning
- Third party commissioning agent

Alternative Energy

- Photovoltaic
- Wind
- Biomass
- Co-generation

LEED Services

- Certification administration
- Training
- LEED NC consultation
- LEED EB consultation

Leadership in Energy and Environmental Design

New developments in building materials, systems, and strategies can result in significant monetary savings, while also reducing our impact on the environment. This is the driving motivation of the Leadership in Energy and Environmental Design (LEED) initiative. LEED is predicated upon the Green Building Rating System, which was established by the United States Green Building Council as an industry standard for energy-efficient and green design. This ensures that building design and construction are executed in an environmentally responsible, energy efficient manner.

C&S has more than 40 full-time LEED accredited professionals on staff. C&S also possesses the LEED ethics as an organization and is committed to the LEED vision. C&S provides this perspective as we assist the client to assess LEED options in order to determine the LEED configuration that suites the client best.

Rate Schedule

The following rate table is current as of May 2009:
Travel costs will be a direct reimbursement when task orders are awarded. Task orders will include a not to exceed estimate for these costs.

Title	Hourly Rate*
Senior Program Manager	$180.78
Program Manager	$157.20
Managing Engineer/Architect	$132.64
Senior Project Engineer/Architect	$106.11
Project Engineer/Architect	$89.41
Engineer/Architect	$79.58
Staff Engineer/ Architect	$68.78
CADD Designer	$63.86
Technical Typist	$47.16

**Rates shown above are net (discount deducted).*

Labor Category Descriptions

Senior Program Manager
Responsible for directing the entire engineering function, including creation, design, development, and revision of new and existing products in compliance with budgeted costs. Translates marketing requirements into detailed design and development plans, and acts as the primary interface between the company and its contract suppliers. Builds engineering processes and defines metrics to demonstrate productivity improvement. Assesses, upgrades, and builds strong engineering teams based on identified skills and competencies in growth environment. Must have an understanding of the balance between new product development versus sustaining engineering work.

Knowledge of business development strategies, multi-disciplined engineering concepts, the financial impact of engineering decisions, and staff/project supervision abilities are required. Technical leadership skills and risk assessments of project proposals. Must have the ability to propose presentations, develop project management, determine compliance, direct office management, maintain client relations, enrich business development, and supervise staff.

Program Manager
Responsibilities include management and oversight of engineering functions, including creation, design, development, and revision of new and existing products in compliance with budgeted costs. Assists the Senior Program Manager in translating marketing requirements into detailed design and development plans, and acts as an interface between the company

and its contract suppliers. Assists Senior Program Manager with building engineering processes and defines metrics to demonstrate productivity improvement.

Knowledge of business development strategies, multi-disciplined engineering concepts, the financial impact of engineering decisions, and staff/project supervision abilities are required. Must have the ability to propose presentations, develop project management, determine compliance, office management, maintain client relations, enrich business development, and supervise staff. Technical leadership skills, risk assessments of project proposals, and project/verbal presentation skills are required

Managing Engineer/Architect
Responsibilities include management and oversight of technical activities for engineering projects, including quality, schedules, and budgets. Acts as the client liaison and administrator of consultant and sub-consultant agreements. Must also coordinate project staff and maintenance of group utilization, as well as coordination with other disciplines within and outside of the firm. In addition, there must be active participation in marketing activities, including development of technical and cost proposals.

Must have a working knowledge of engineering, as well as strong management, verbal, written, and interpersonal skills. There must also be a demonstrated ability to manage projects and meet schedules and budgets, and effectively lead or participate in public meetings. The ability to work in a professional and interdisciplinary team environment is also required.

Senior Project Engineer/Architect
Engineers and architects at this level have the ability to make independent decisions on engineering problems and methods. Requires the use of advanced techniques and the modification or extension of theories and practices of the field. Responsible for supervision and guidance related to overall objectives, critical issues, new concepts, and policy matters. Generally becomes involved with the management of smaller projects or phases and tasks within large projects, as well as the supervision, coordination, and review of the work of project engineers and technicians.

Project Engineer/Architect
Responsible for achieving total project management for large scale projects or multiple small scale projects, which includes budgetary, resource alignment, client service, and business development. Assumes a primary role in project coordination, oversight, and client contact activities. Plans and designs engineering programs and assembles project staffs.

Must have a working knowledge of project engineering/construction, as well as company guidelines, procedures, and goals. Must demonstrate a successful track record of providing exceptional client services. Strong communication and negotiation skills are required. The ability to prepare reports for upper management regarding status of the project, contract documents, and construction services is also a must. In addition, the project manager must have the ability to set deadlines, assign responsibilities, monitor, and summarize project progress.

Staff Engineer/Architect
Prepares plans and specifications for a project containing relatively few complex features. Calculates using engineering formulas and skills. Uses catalogs to specify items where original design is not required. Organizes designs and details with the assistance of a technician to produce a completed set of construction drawings. Researches and writes reports/opinions. Utilizes various engineering-related computer software. Identifies specifications for writing special programs that resolve unique engineering assignments. Creates project estimates and quantity takeoffs. Conducts field work/surveys. Prepares drawings using computer or manual drafting. Assists with the coordination of contract documents with other disciplines. Assists in the preparation of contract specifications. Assists in gathering data on all applicable existing utilities/conditions associated with the contract documents.

Engineer/Architect
Under general direction, plans and performs engineering tasks as part of major projects varying in levels of complexity. Applies standard practices and techniques in specific situations, adjusts and correlates data, recognizes discrepancies in results, and follows operations through a series of detailed steps or processes. Assists in the preparation of improvement plans, specifications, supporting documents and permit applications for projects. Assists in the preparation of calculations, cost estimates and other supporting documentation for public and private projects. Performs plan drafting using CADD software.

Applies engineering principles and concepts to area of specialization. Is able to draw solutions from formal experience and training. Must have a working knowledge of company guidelines, procedures, and goals. Strong communication and negotiation skills are required for this position.

CADD Designer
Provides CADD drafting and design support for project engineers during the planning, design and construction of civil and environmental engineering projects. Obtains work assignments or, either specific design elements or CADD drafting with an allocated budget.

Must have a working knowledge of computers to aid in drafting to provide basic support for assigned projects. This position requires the skills to complete detailed drawings from sketches, plans, and specifications using CADD programs, as well as revising or changing drawings by completing simple calculations. Must have the ability to work with the project manager to determine if the scope of work or budget needs to be revised by constructing corporate check sheets set up for quality control on each project.

Technical Typist
Functions as part of multiple technical project teams performing word processing, proof reading, and general organization/coordination of all contract related general conditions and technical specifications on multi-discipline and/or multiple prime contracts. Additional responsibilities include maintenance of standard client contracts/boilerplates and technical specification database (e.g., MASTERSPEC®) within a service group. Also performs general administrative duties as required.

Requires knowledge of basic computer functions and sophisticated word processing equipment to prepare complex typed documents. In addition, must have a working software knowledge associated with Microsoft Office applications. Knowledge of contract related documents and technical specifications associated with contracts and coordination efforts associated with project teams. Skills and abilities needed to perform this job may include communication, oral, organizational, and punctuality skills in addition to the ability to rely on instructions and pre-established guidelines to perform the functions of the job.

Work Order Information

To place an order by mail, send to:
C&S Engineers, Inc.
499 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Attention GSA Contact: Jeffrey Palin, P.E.

To place an order electronically, email to:
Jeffrey Palin, P.E., GSA Contact
jpalin@cscos.com

To place an order by fax, send to:
(315) 455-9667
Attn: Jeffrey Palin, P.E., GSA Contact