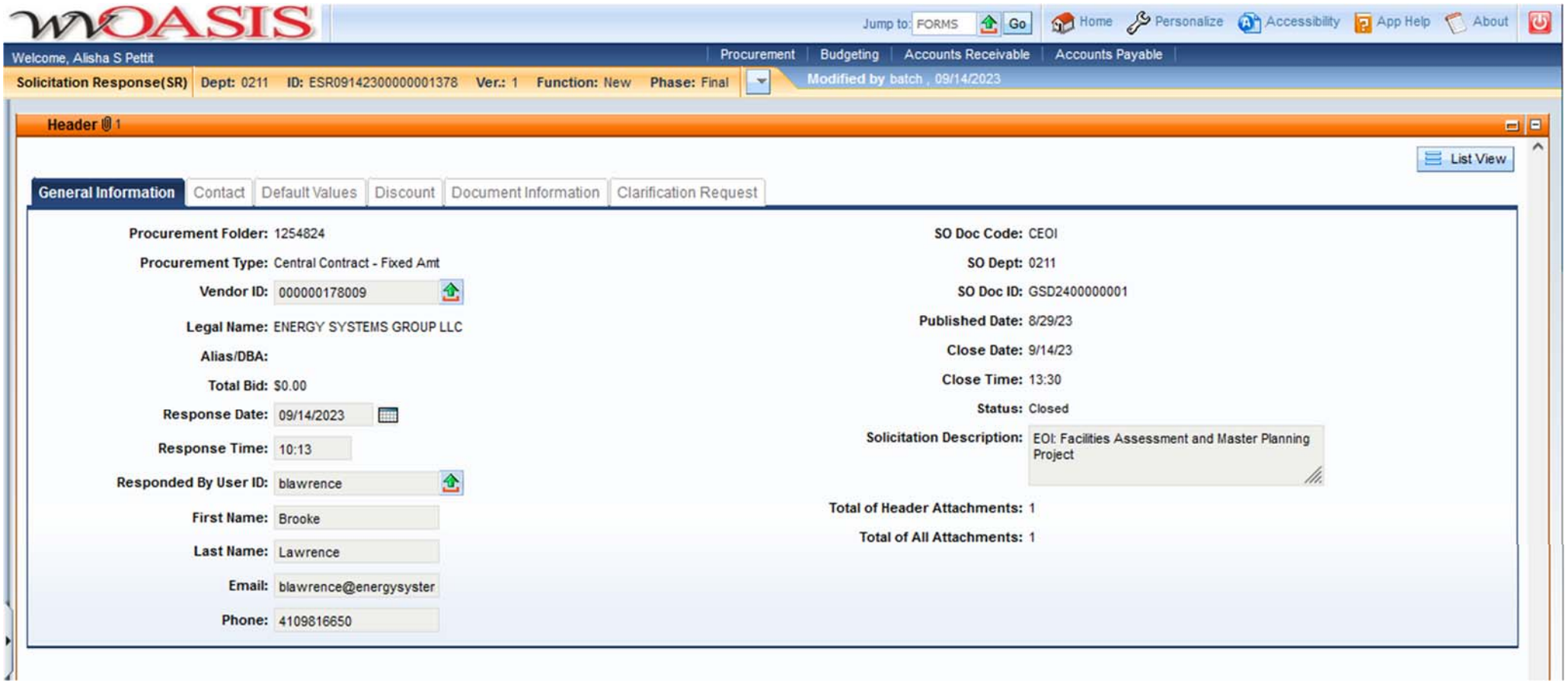
The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at ***WVPurchasing.gov*** with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.


wvOASIS
Jump to: FORMS Go
Home
Personalize
Accessibility
App Help
About
Welcome, Alisha S Pettit
Procurement
Budgeting
Accounts Receivable
Accounts Payable
Solicitation Response(SR) Dept: 0211 ID: ESR09142300000001378 Ver.: 1 Function: New Phase: Final
Modified by batch , 09/14/2023
Header 1
List View
General Information
Contact
Default Values
Discount
Document Information
Clarification Request
Procurement Folder: 1254824
Procurement Type: Central Contract - Fixed Amt
Vendor ID: 000000178009
Legal Name: ENERGY SYSTEMS GROUP LLC
Alias/DBA:
Total Bid: $0.00
Response Date: 09/14/2023
Response Time: 10:13
Responded By User ID: blawrence
First Name: Brooke
Last Name: Lawrence
Email: blawrence@energysyster
Phone: 4109816650
SO Doc Code: CEOI
SO Dept: 0211
SO Doc ID: GSD2400000001
Published Date: 8/29/23
Close Date: 9/14/23
Close Time: 13:30
Status: Closed
Solicitation Description: EOI: Facilities Assessment and Master Planning Project
Total of Header Attachments: 1
Total of All Attachments: 1

Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Solicitation Response

Proc Folder:	1254824
Solicitation Description:	EOI: Facilities Assessment and Master Planning Project
Proc Type:	Central Contract - Fixed Amt

Solicitation Closes	Solicitation Response	Version
2023-09-14 13:30	SR 0211 ESR09142300000001378	1

VENDOR

000000178009
ENERGY SYSTEMS GROUP LLC

Solicitation Number: CEOI 0211 GSD2400000001

Total Bid: 0 **Response Date:** 2023-09-14 **Response Time:** 10:13:31

Comments:

FOR INFORMATION CONTACT THE BUYER
Melissa Pettrey
(304) 558-0094
melissa.k.pettrey@wv.gov

Vendor
Signature X **FEIN#** **DATE**

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	EOI: Facilities Assessment and Master Planning Project				0.00

Comm Code	Manufacturer	Specification	Model #
81101508			

Commodity Line Comments: Expression of Interest EOI: Facilities Assessment and Master Planning Project.
No contract amount associated with EOI.

Extended Description:

EOI: Facilities Assessment and Master Planning Project

Expression of Interest for Architect / Engineer for the

West Virginia Department of Administration, General Services Division

Audra Blackwell
Business Development Manager
ablackwell@energysystemsgroup.com
304.546.9119

Charleston, West Virginia
September 14, 2023

ELECTRONIC TRANSMISSION - WV OASIS

energy systems group

September 14, 2023

Ms. Melissa Pettrey, Senior Buyer
Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

Subject: Response to Expression of Interest (EOI) for feasibility study for Facilities Assessment and Master Planning Services, Solicitation NO.: CEOI GSD2400000001

Dear Ms. Pettrey,

Energy Systems Group, LLC (ESG), is pleased to provide its response to the above referenced Response to Expression of Interest (EOI) for feasibility study for Facilities Assessment and Master Planning services. As a NAESCO-accredited Energy Service Provider, ESG is an Energy Service Company (ESCO) that provides comprehensive solutions including facility-wide audits, feasibility studies for facility assessments and master planning, engineering and design services; construction and project management; operations and maintenance; and measurement and verification of savings. Exceptional delivery and exceeding customer's expectations is the basis for our success – **if there is a better way, ESG will find it.**

Based on the needs presented by the Department of Administration, General Services Division (WV DA GSD), ESG is strongly positioned to provide your facilities with the highest-quality and detailed feasibility study. It is our understanding that WV DA GSD would like reduce operations costs by outsourcing facility maintenance services, if that is the optimal result of the study and perform an assessment of the buildings and their systems to determine necessary repairs and updates to incorporate into a master plan. This plan may be used to privatize these maintenance services for WV DA GSD. ESG will work with WV DA GSD to identify any grants, state or federal funds and market credits to reduce the overall cost of the possibly needed capital improvements for WV DA GSD and ultimately provide the best overall possible project. ESG is looking forward to any opportunity to partner with WV DA GSD determine the best overall optimal mix of repairs, updates and ultimately facility maintenance services to most efficiently and effectively run WV DA GSD facilities. Our ESG team includes certified and licensed professional engineers, project managers, energy and operations specialists that bring exceptional expertise and proven results in developing and implementing comprehensive design, construction, and energy infrastructure projects. We will work in concert with WV DA GSD and any other government agencies needed as mentioned in the EOI that can provide ESG an understanding of current costs and services, so that we can provide the best recommendation moving forward for the facilities in this EOI. ESG is committed to making sure you get the biggest bang for your buck ***and we are ready to start work immediately.***

We are excited about the opportunity to partner with WV DA GSD to address your immediate needs to improve your infrastructure and facilities. Our EOI response aligns with the objectives provided by WV DA GSD.

Should you have any additional questions or need us to provide further information beyond the scope of our EOI, please contact me directly at 304.546.9119 or email at ablackwell@energysystemsgroup.com.

Sincerely,

Audra Blackwell

Audra Blackwell
Business Development Manager

Required Attachments:

Certification & Signature Page

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title)	Audra Blackwell, Business Development Manager
(Address)	2211 Washington Street, East **|** Charleston, WV 25311
(Phone Number) / (Fax Number)	Phone - 304.546.9119 / Fax - 812.492.8418
(Email Address)	ablackwell@energysystemsgroup.com

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below. I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62. which automatically voids certain contract clauses that violate State law: and that pursuant to W. Va. Code 5A-3-63. the entity entering into this contract is prohibited from engaging in a boycott against Israel.

Energy Systems Group, LLC

(Company)

(Signature of Authorized Representative) / (Date)

Dave Jones, General Manager, Northeast Region

(Printed Name and Title of Authorized Representative)

Phone – 518.637.7702 / Fax – 833.834.0324

(Phone Number) / (Fax Number)

djones@energysystemsgroup.com

(Email Address)

Required Attachments:

Final CEOI_0211_GSD2400000001_1 WV_CEOI FORM

Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Centralized Expression of Interest
Architect/Engr

Proc Folder:	1254824	**Reason for Modification:**
Doc Description:	EOI: Facilities Assessment and Master Planning Project	
Proc Type:	Central Contract - Fixed Amt	

Date Issued	Solicitation Closes	Solicitation No	Version
2023-07-12	2023-09-14 13:30	CEOI 0211 GSD2400000001	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Customer Code:

Vendor Name : Energy Systems Group, LLC

Address : 9877

Street : Eastgate Court

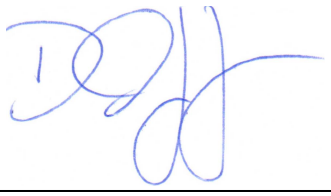
City : Newburgh

State : IN **Country :** USA **Zip :** 47630

Principal Contact : Audra Blackwell, business Development Manager

Vendor Contact Phone: 304.546.9119 **Extension:** Direct Dial - Mobile Number

FOR INFORMATION CONTACT THE BUYER
Melissa Pettrey
(304) 558-0094
melissa.k.pettrey@wv.gov

Vendor Signature X  **FEIN#** 35-2017952 **DATE** 09/13/2023

Dave Jones, Manager, Northeast Region

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

Expression of Interest CEOI

The Acquisitions and Contract Administration Section of the Purchasing Division ("Purchasing Division") is soliciting Expression(s) of Interest ("EOI" or "Bids") for WV Department of Administration, General Services Division ("Agency"), from qualified firms to provide a feasibility study for Facility Assessment and Master Planning services ("Vendors") per the bid requirements, specifications and terms and conditions as attached hereto.

INVOICE TO	SHIP TO
DEPARTMENT OF ADMINISTRATION GENERAL SERVICES DIVISION 103 MICHIGAN AVENUE CHARLESTON WV 25305 US	DEPARTMENT OF ADMINISTRATION GENERAL SERVICES DIVISION BLDG 1 1900 KANAWHA BLVD E CHARLESTON WV 25305 US

Line	Comm Ln Desc	Qty	Unit Issue
1	EOI: Facilities Assessment and Master Planning Project		

Comm Code	Manufacturer	Specification	Model #
81101508			

Extended Description:
EOI: Facilities Assessment and Master Planning Project

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Vendor Question deadline @ 3:00 pm	2023-08-23

Required Attachments:

Addendum Acknowledgement Form

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CEOI GSD2400000001

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

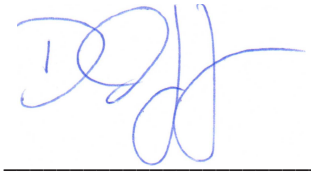
Addendum Numbers Received:
(Check the box next to each addendum received)

- [x] Addendum No. 1
- [ ] Addendum No. 2
- [ ] Addendum No. 3
- [ ] Addendum No. 4
- [ ] Addendum No. 5
- [ ] Addendum No. 6
- [ ] Addendum No. 7
- [ ] Addendum No. 8
- [ ] Addendum No. 9
- [ ] Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Energy Systems Group, LLC

Company



Dave Jones, Manager, Northeast Region

Authorized Signature

September 11, 2023

Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

Required Attachments:

CEOI_0211_GSD2400000001_2
WV_CEOI FORM

Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Centralized Expression of Interest
Architect/Engr

Proc Folder:	1254824
Doc Description:	EOI: Facilities Assessment and Master Planning Project
Proc Type:	Central Contract - Fixed Amt
Reason for Modification:	To publish Add No. 1

Date Issued	Solicitation Closes	Solicitation No	Version
2023-08-29	2023-09-14 13:30	CEOI 0211 GSD2400000001	2

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Customer Code:

Vendor Name :

Address :

Street :

City :

State : **Country :** **Zip :**

Principal Contact :

Vendor Contact Phone: **Extension:**

FOR INFORMATION CONTACT THE BUYER

Melissa Pettrey
(304) 558-0094
melissa.k.pettrey@wv.gov

Vendor Signature X **FEIN#** 35-2017952 **DATE** 09/13/2023

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

Addendum No. 1 is issued to publish and distribute the attached information to the vendor community.
****

Expression of Interest CEOI

The Acquisitions and Contract Administration Section of the Purchasing Division ("Purchasing Division") is soliciting Expression(s) of Interest ("EOI" or "Bids") for WV Department of Administration, General Services Division ("Agency"), from qualified firms to provide a feasibility study for Facility Assessment and Master Planning services ("Vendors") per the bid requirements, specifications and terms and conditions as attached hereto.

INVOICE TO	SHIP TO
DEPARTMENT OF ADMINISTRATION GENERAL SERVICES DIVISION 103 MICHIGAN AVENUE CHARLESTON WV 25305 US	DEPARTMENT OF ADMINISTRATION GENERAL SERVICES DIVISION BLDG 1 1900 KANAWHA BLVD E CHARLESTON WV 25305 US

Line	Comm Ln Desc	Qty	Unit Issue
1	EOI: Facilities Assessment and Master Planning Project		

Comm Code	Manufacturer	Specification	Model #
81101508			

Extended Description:
EOI: Facilities Assessment and Master Planning Project

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Vendor Question deadline @ 3:00 pm	2023-08-23

SOLICITATION NUMBER: CEOI GSD2400000001
Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

[ ] Modify bid opening date and time

[ ] Modify specifications of product or service being sought

[✔] Attachment of vendor questions and responses

[ ] Attachment of pre-bid sign-in sheet

[ ] Correction of error

[ ] Other

Description of Modification to Solicitation:

Addendum is issued to publish and distribute the following information to the Vendor community.

1. To publish Vendor Technical Questions and Responses, per attachment A.

No other changes.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.

2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

CEOI GSD2400000001 EOI: Assessment and Master Planning Project
Technical Questions and Responses

Q 1. Section 6, Bid Submission. Paragraphs 1 (P1) and Paragraph 3 (P3). In P1, it shows that the Vendor can submit either Oasis or hand delivery, with the Purchasing Division (PD) making the final decision. P3, states that the submission of a response is not permitted through Oasis. I'm assuming this is PD telling us that we cannot submit electronically. The EOI does provide information regarding copies, one technical proposal and one cost proposal, but on the following page it provides information on how to fax a response? Then in Section 7, Bid Opening, it states that "for purposes of this solicitation, a bid is considered delivered when confirmation of delivery is provided by Oasis (in the case of electronic submission) or when the bid is stamped by the official purchasing time clock. Will you please clarify which delivery option is the correct option?

A 1. In the "Instructions to Vendors Submitting Bids" section which you have indicated as P1 & P3, provides information about submitting bids to the Purchasing Division. P3 specifically details that electronic submissions for "Request for Proposals" (RFP) are prohibited. As this solicitation is not an RFP, vendors may submit their proposal electronically through *wv*OASIS (attaching an electronic version of their proposal to the submission through *wv*OASIS). Vendors are also permitted to submit bids via fax, with the caveat that the bid must be fully submitted to the Purchasing Division in advance of the specified Bid Opening date and time. Should a faxed submission not be fully received prior to that time, the bid will not be considered as being valid. Section 7 provides further information on when a "Public Bid Opening" will be conducted.

Q 2. Proposal Response Format. There is not a proposal format section in this document. Please verify that we are responding to the Goals/Objectives, numbered 1 to 5, shown under Section Three: Project Specifications?
a. For example, under Goal Objective1. I am assuming our response will be to Paragraph 2 showing our ability, past experience, sample reports of where we have achieved Goal/Objective 1. Please confirm.

A 2. Your assumptions are correct. While we do not provide a sample format to follow, Vendors proposals should address the specific Goals/Objectives, providing the information indicated for each section.

Q 3. Section Four: Vendor Proposal, Evaluation and Award. #1 states that the response sections should be labeled for ease of evaluation. Does that mean we should show them as Goal 1, Goal 2, etc.? If not, please specify.

A 3. Vendors proposals should be prepared simply and economically, providing a straight-forward, concise description of the firm's abilities to satisfy the requirements and goals and objectives of the EOI. Indication of how the Vendors proposal corresponds to the EOI, is helpful in reviewing proposals against the EOI as published.

Q 4. Also in Section Four:#2, the EOI states that bids must not contain price information. It is my understanding that Appendix I is draft specifications for competitive solicitation which

would be used to procure the contractor to perform the Facility Maintenance Services (FMS) possibly a RFP process. Please verify that we are not to provide any cost information for this EOI.

A 4. Your understanding that Appendix 1 is a draft sample of specifications is correct. No cost information shall be included with the Vendor's submitted proposal.

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

2.1 Goal/Objective 1: Vendor will produce a report, limited to no more than 5 pages per building plus 10 pages additional, detailing the current best estimate of monthly/annual FMS costs currently versus what the Vendor believes the potential cost savings over current expenditures the State could realize ITEMS is outsourced. This report must explore multiple scenarios and recommend an optimum mix to consider for outsourcing.

Within their proposals, Vendors should provide documentation regarding their staff and/or team's qualifications and experience on similar projects assessing the feasibility of outsourcing facilities maintenance services (FMS). The Vendor's proposal should include the requisite skills sets within their staff or with whom the Vendor intends to partner, to build a well defended business case recommending the optimal mix of buildings to consider for outsourcing. Vendor's proposal should explain what approach(es) they would use in performing such an assessment; sample reports should be provided, as possible.

QUALIFICATIONS AND EXPERIENCE

Energy Systems Group (ESG) has the experience and qualifications to provide your facilities with the highest-quality and detailed feasibility study to determine the optimal mix of buildings to consider for outsourcing of facility maintenance services and ultimately optimize reducing operations costs. The first step in every project is a feasibility study to determine the savings opportunities for our clients. ESG is strongly positioned to develop a full spectrum of services and improvements across all WV DA GSD's facilities. We are an industry leading Energy Service Provider (ESP) that specializes in efficiency, sustainability, and infrastructure modernizing solutions in government, education, healthcare, and corrections. ESG has worked on private, public and federal contracting opportunities, including Energy Savings Performance Contracts and operations and maintenance recommendations with the U.S. Department of Energy, making us a qualified and trusted partner. Our 29 years' experience provides a strong and solid ***engineering and construction team that customers trust***, with a dedicated focus on building long-lasting relationships and producing superior results that exceed customers' expectations. ESG has completed over $4.1B worth of infrastructure improvement projects that have started with feasibility studies, gone through engineering and design, construction and have reliable operations and maintenance for those projects. As you will see through this Expression of Interest, our reference projects are highly successful and very cost effective.

ESG is also the home to the Engineering Center of Excellence (ECOE) which provides innovative engineering throughout our company, ensuring we stay ahead of the curve. Our in-house experts use their years of engineering and operations to pin-point those day-to-day operational needs and the proper application of feasible energy savings devices, cost reduction measures, and functioning techniques in all facilities.

As a brand and product-neutral energy services provider, we develop projects and install equipment based on providing the best value to our customers. With ESG, you can be confident that our solutions are customer-centric. Our team is comprised of certified and licensed professional engineers, project managers, and energy and operations specialists. This brings proven expertise in the design and construction of innovative energy efficiency and onsite energy generation projects of varying complexity and size, including combined heat & power (CHP) plants, biomass/biogas recovery systems and processing facilities (wastewater, landfill gas, anaerobic digesters, etc.) and diverse renewable energy technologies. ESG's comprehensive solutions include engineering & design-build, project development and implementation, operations & maintenance services, facility audits, facilitating project financing, and measurement and verification of savings.

Our Solutions Help Facilities:

- ✓ Ensure Reliable Systems
- ✓ Provide the Best Value
- ✓ Assure Dependable Operations
- ✓ Improve Comfort & Productivity
- ✓ Increase Security Effectiveness
- ✓ Reduce Operating Costs
- ✓ Maximize Efficiency
- ✓ Maintain Engineering/Structural Compliance
- ✓ Address Emergency/Standby Power Needs

Our goal for our clients is to provide improved comfort for the working environment, ensure reliable systems, dependable operations and increased security and safety while reducing operation costs.

Our team would be honored to be selected as West Virginia Department of Administration, General Services Division's trusted partner to develop and implement needed maintenance and infrastructure modernization/improvements.

STAFF AND TEAM QUALIFICATIONS AND EXPERIENCE

ESG has assembled a well-qualified, dynamic team to work with West Virginia Department of Administration, General Services Division (WV DA GSD) to provide a feasibility study for Facility Assessment and Master Planning Services. ESG can also develop, implement, and monitor the project on behalf of WV DA GSD down the road if they WV DA GSD deems that advantageous. Our team will develop a plan that best meets your short and long-term needs. Our integration of our operations, engineering, and business development teams ensures that a quality plan is delivered to a satisfied customer. Our project management team has over 150 years of experience and will bring forth professionalism, integrity and a communicative team. Customer satisfaction is ESG's goal for every project. Our project managers are onsite through each day of the site surveys to determine feasibility and site conditions in each building. While specific individuals are assigned to this project, any of the 400+ employees at ESG may, at one time or another, work on the project if their expertise adds value. If additional opportunities, competencies, and resources are required, we will promptly and proactively address such needs and have the resources available to procure them.

Audra Blackwell, ESG's Business Development Manager, will be responsible for the entire partnership between ESG and WV DA GSD. She will serve as the primary contact during the feasibility study for the Facility Assessment and Master Planning services and beyond. Audra will be supported by our engineering manager, John Topmiller, Brian Borillo, consulting engineer Dan Khuu, our performance engineer, and Senior Project Manager Jeff Allred. ESG's unique approach of integrating our project development, project management, and business development teams fosters partnership and understanding at all stages of the process and offers a breadth of knowledge and experience in developing and implementing the solutions proposed to WV DA GSD.

PROJECT TEAM ACCOUNTABILITY

ESG has assembled a dedicated, West Virginia-based project team for WV DA GSD. Each member of this team has a diverse background in feasibility studies, master planning, engineering and design, performance contracting, construction, equipment performance and customer satisfaction. This allows us to provide an experienced goal- and process-oriented team committed to delivering quality projects with customer satisfaction as the primary goal.

The following is a list of the key ESG personnel that will either directly or indirectly be responsible for providing the feasibility study and master planning for WV DA GSD.

TEAM MEMBER RESPONSIBILITIES

ESG's *Corporate Officers* will work closely with the Northeast General Manager to ensure the team understands and fulfills the needs and requirements of the WV DA GSD to ensure the best feasibility study and master plan, quality engineering, accurate estimates, and the correct solutions. They are a part of all negotiations and contracts and provide the ultimate point of accountability for customer satisfaction.

Our *Business Development Manager, Audra Blackwell, cell 304.546.9119,* works directly with both technical representatives and contract specialists to further develop a clear understanding of the customers' needs and concerns. In order to translate what the WV DA GSD requests into a feasible, successful installed solution, she is involved in all phases of the business development effort, focusing the team to ensure customer satisfaction. From prior experience, Audra has a uniquely strong customer perspective, as well as an extensive background including technical insight on engineering, energy efficiency and renewable energy measures, public sector financing, and state and municipal business operations.

Our *Northeast General Manager – Dave Jones, cell 518.637.7702,* is involved with direct interaction with the developmental and sales team through the implementation and start-up on all projects. This process ensures a direct link and accountability to deliver on ESG's commitments. Dave will work closely with project and business development to make sure ESG understands and fulfills the needs and requirements of WV DA GSD. He will also work closely with your ESG Project Manager to ensure we provide quality studies, plans and projects that exceed your expectations.

Our *Northeast Sales Manager – David Ames, cell 804.339.2487,* is involved in all phases of the sales effort, focusing the team to ensure customer satisfaction throughout the project studies, plans, development and implementation. Dave will work closely with WV DA GSD to discover and understand your needs and concerns, and he will work closely with the operations team and other internal resources to translate those needs and concerns into feasible, installable solutions. Dave oversees the installation of projects and ensures customer satisfaction.

Our *Northeast Engineering Manager – John Topmiller, cell 443.509.0404,* serves as the technical resource to the business development and operations teams. John reviews the technical solution to ensure that it adequately addresses the mechanical and energy-related challenges within a customer's facility, in a comprehensive and cost-effective manner such that the solution increases the operational efficiency of the site. As required, he serves as a technical consultant for ESG in-house staff, on issues that include Energy Conservation Measurement (ECM) identification and development, equipment selection, and operations and maintenance. John is involved with every customer and their project, from initial involvement with the operations team in the design phase, through the installation phase, and sometimes throughout ongoing services. John also oversees and coordinates engineering resources during the development phase.

Our *Senior Performance Engineers – Brian Borillo, cell 804.516.1545; and, Dan Khuu, cell 484.684.2050; are* responsible for identifying and understanding the mechanical and energy-related improvements within a customer's facility; and taking the site evaluation and other information and developing comprehensive, cost-effective technical solutions that increase the operational efficiency of the site. The Performance Engineers are also responsible for providing ongoing technical consultation to the customer on the current systems and future energy and operating efficiencies. This includes ensuring equipment selection, proper installation, implementation of the measures as they were designed, and troubleshooting construction problems.

The Performance Engineer is involved with every customer and their project from initial involvement with the Operations Team in the design phase, through the installation phase, and throughout ongoing services. The Performance Engineers act as the operations team leads ensuring accuracy, quality, and cohesion of all technical and economical engineering decisions. Coordination of the engineering design information is imperative to a quality project.

Our *Northeast Operations Manager – Steve Richmond, cell 862.309.8049,* works as a team coordinator for the project planning and is ultimately responsible for the technical approach and delivery. Steve works closely with team leadership to ensure ESG understands and fulfills the needs and requirements of WV DA GSD. Steve oversees and coordinates all project delivery resources, both internal and external, to ensure quality engineering, accurate estimates, and the correct solutions. In the delivery of your project, he will oversee the Project Manager to ensure ESG exceeds customer expectations, and immediately deals implementation concerns in a timely and professional manner. Steve also oversees all negotiations and contracts with subcontractors and vendors.

Our *Senior Project Manager (PM) – Jeff Allred, cell 304.989.6478,* will work closely with Business Development, and Engineering team, to advise and assist in estimating and managing the account; the Electrical, Mechanical, and Performance Engineers to obtain technical information and advice; the Project Delivery Manager on resource needs; and our management, finance, and accounting support groups. Working closely with our customer, using technical personnel and tools, and keeping managers informed of staffing requirements are all aspects of the project managers job that ensure the customer will receive quality higher than expected. Our PM is committed to staffing the project with a workforce capable of handling the technologies associated with the project, and plans for and assigns personnel to achieve optimum results according to the customer's requirements.

ESG's Project Managers apply technical expertise, project knowledge, people and communication skills, as well as management talent in a proactive manner to ensure that our contract commitments are met on time, within budget, and at the quality expected by the customer. For the WV DA GSD, our Project Manager will be the primary contact and interface during the project implementation.

Please refer to Section 3. *Qualifications, Experience, and Past Performance to see the Team Resumes*.

SERVICE CAPABILITIES

ESG performs ongoing operations and maintenance (O&M) services for many of our customers and can provide such services for WV DA GSD, if desired. Depending on the type of system and level of complexity, well-structured service contracts can provide the best solution for effective and reliable system operation. ESG has an extensive and dedicated O&M organization that has been providing comprehensive O&M services on projects for over 20 years. At some sites ESG staffs and maintains full operational responsibility for utility operations including maintenance. For this application we would anticipate hiring qualified, local vendors to maintain equipment for which specific technical knowledge is needed to ensure equipment performance and longevity. It will ultimately be up to WV DA GSD on how to handle O&M to meet the needs of the organization, but a customized program that compliments in-house efforts has historically served our clients very well.

Some examples of our demonstrated success include:

- *Larger service agreements include U.S Army Picatinny Arsenal (NJ) where we have a support staff of 29 full-time employees dedicated since 2001 to perform comprehensive HVAC replacements, decentralization of the steam system, a cogeneration system, and O&M services for over 350 buildings.*
- *Nashville Airport Authority (TN) – master planning component that resulted in a turnkey improvement project throughout the terminal building and other MNAA-owned buildings, reducing the airport's annual energy usage by more than 3 million kWh.*
- *State Correctional Institute Fayette (PA) - $40M project with the Pennsylvania Department of Corrections where ESG worked with General Services, Penn State Facilities Engineering Institute (PSFEI) and the Owner's third-party engineering firm/energy consultant ENTECH.*
- *Johnson Space Center (TX) - Master Plan during project development for an 11.9 MW combined heat and power plant, ESG assisted NASA Johnson Space Center (JSC) with applying for an AFFECT grant by helping them complete application forms and performing the Building Life Cycle Cost analysis. As a result, NASA JSC was awarded $1 million, which was used as a buy down to principal and in lieu of having to finance this amount. This saved the Government significant interest charges over the project's 22-year financed term. EGS has full O&M responsibility of the CHP Plant.*
- *Naval Base Coronado (CA), we have eight full-time personnel dedicated to comprehensive O&M and Risk & Responsibility (R&R) for decentralized steam, heating, and compressed air systems at Naval Base Coronado. Steam is used both for heating, process-related activities, such as aviation refurbishment and pier steam supply for berthed air craft carriers. We ensure efficiencies of individual steam systems and provide system-wide 24/7/365 outage response services.*
- *Fort Detrick (MD), our full-time staff of 16 provides O&M and R&R responsibility for the central utility plant (CUP) and its equipment. Our O&M and R&R Team provides resilience by guaranteeing 99.999% electricity availability, which equated to only five minutes of allowable downtime per year – one of DoD's most secure microgrids. We also guarantee 99.99% availability for CUP-generated chilled water and steam. We have provided continuous security for Fort Detrick's critical missions during local utility outages. Our staff has maintained zero hours of downtime for the CUP since its operational inception in 2008, which the rest of Fort Detrick has been impacted by 91 grid outages during that same time. This O&M and R&R program has earned the prestigious OSHA Star Voluntary Protection Program award.*
- *At the West Side Energy Center in Chicago (IL), we designed, built, operate, and maintain a full-service energy plant with six full-time ESG employees that provides electricity, steam, and chilled water for the Jesse Brown VA Medical Center and associated facilities.*

- *For McDowell County Schools (WV), In addition to a $2.3M improvement project, ESG wrote the Request for Proposal (RFP) and managed the procurement for certain HVAC and controls ongoing facility maintenance services work on behalf of the school system. We have included a sample of the RFP in the Appendix. We looked at the current needs of McDowell County Schools and their rural location to determine what best fit their situation and their facilities. We worked as a partner to get the best value for McDowell County Schools.*

We will work closely with WV DA GSD to co-author the operations and maintenance (O&M) program that ensures building performance whether WV DA GSD performs the O&M, or you request ESG to provide these services, or ESG bid out the services on behalf of WV DA GSD. ESG can also provide training to WV DA GSD maintenance staff to properly operate and maintain new and existing upgraded systems if that is a need that is determined by the feasibility study. The retrofitted equipment or new equipment that may be determined as needed through the master plan will need to be maintained and operated properly to achieve the maximum efficiency with the minimum amount of repair expenses. Maintaining this new equipment will be part of an overall planning and strategy development process.

REQUESTED SAMPLE DOCUMENTS INCLUDED IN THE APPENDIX

1. Copy of the Request for Proposal used for McDowell County Schools, WV maintenance services.
2. Sample Feasibility Study for SCI Fayette, PA (confidential). ESG only provided the parts of this study that include information regarding operations and maintenance for brevity. This study is a total of 143 pages.

APPROACH(ES)

ESG's feasibility study and master plan will result in a comprehensive facility analysis including costs and savings. Working with WV DA GSD and our local design professionals, ESG will carefully evaluate the most cost-effective solutions in conjunction with any specific facility needs and/or goals to be included in the project.

Service	Positive Impact
 Auditing	The ESG technical engineering study includes all documentation pertaining to equipment identification, current energy usage, potential savings calculations, design information, proposed improvements and the timeframes needed for effective implementation. Our local team is dedicated to the success of this project and providing the best value.
 Renewable Energy	ESG's team of leading solution architects and engineers can integrate renewable energy solutions such as roof top, ground mount, carport, and canopy solar, wind and geothermal systems as part of a comprehensive energy management and infrastructure modernization approach that is focused on cost savings through energy efficiency.
 Engineering Design	Our local engineering team is unmatched in design experience. Because we live and work in West Virginia, we have a thorough understanding of regulatory and governmental issues and are highly equipped to design a program that supports the short- and long-term projects taking place within the State.
 Construction	We provide a single point of contact that will be a consistent local presence for all facets of the construction process. We use local employees and subcontractors who have a vested interest in the State.
 Monitoring & Verification (M&V)	Our robust M&V plan will protect WV DA GSD interests. Continuous monitoring and additional savings opportunities are part of our program. Periodic reports with annual reconciliation confirming savings achievement are provided.
 O&M	The ESG team will assist WV DA GSD and its professionals in completing a public bid operations and maintenance (O&M) specification technicians and mechanics are trained in energy management systems, mechanical equipment, fire alarm systems, security systems, pneumatic systems and electrical systems.
 Training	We have local experience developing financing for projects throughout the Northeast. We guarantee that the savings will be sufficient to cover the cost of the program, resulting in a net zero impact to WV DA GSD's operations budget. We can assist you in whichever financing path you choose. We also have expertise in finding additional funding sources through incentives and rebates.
 Financing	We have local experience developing financing for projects in WV. We have expertise in finding additional funding through incentives, rebates and grants for projects. We can also find savings for inefficiencies in your operations and guarantee that the savings will be sufficient to cover the cost of improvements, resulting in a zero impact to WV DA GSD operating budget.

ESG's systematic approach to project design includes a preliminary site visit to evaluate the facilities and the baseline equipment operation and condition. Following the preliminary survey, a list of deficiencies or upgrades are identified and a measurement / metering plan devised and reviewed with WV DA GSD. Short term measurements, in combination with drawings, manufacturer's data and ESG and our local design professionals' experience, are utilized to develop baseline energy budgeting for various building systems, such as lighting, cooling, heating, pumps and fans. The baseline energy budgeting is a critical step to establishing boundaries for each building's realizable energy savings and the selection of the desired HVAC system. The total building energy use (utility bills or, in the absence of utility bills, energy use calculated from benchmark data for similar facilities or systems) is then compared to the aggregate energy budget number to further validate the baseline values. On more individualize work, ESG measures motors that are rated at 5 horsepower or above, while smaller motors may be estimated based on demand (load). More complex and whole-building projects may involve the use of simulation software to predict the projected utility costs defining the anticipated savings.

ESG will outline energy conservation measures (ECMs), associated cost savings, financial structure, and build a plan that allows for the successful implementation of the program. The study will provide WV DA GSD with guaranteed utility savings, detailed cost analyses for implementation of each ECM, and reductions in energy and water consumption to allow WV DA GSD to implement a program to address some critical facility issues.

The study is a collaborative effort between the parties. Your input and participation is a requirement of the process so we can gain an understanding on how to favorably structure our solutions. The study will include the following key activities:

Benchmarking:	Utility data collection to assess current energy use as well as to benchmark various types of buildings against peer facilities in the same climatic area as applicable;
Site Surveys:	Detailed survey of the facilities to document existing equipment condition and facility operation;
Energy Use Modeling:	In depth energy-use modeling based on equipment manufacturer's data, industry standard references, sample measurements of key parameters, or our experience;
Facility Support Services:	ESG will make an assessment on the manner in which WV DA GSD maintains facilities, budgets for demand maintenance, and its philosophy for supporting or addressing occupant comfort issues.
ECM Development:	Identification of energy conservation measures (ECMs) and detailed scope development in line with WV DA GSD's requirements;
M & V Development:	Detailed measurement-and-verification (M&V) protocol development for the ECMs;
ECM Costs	Turn-key installation costs for the ECMs, including avoided and additional maintenance costs as a result of the ECMs;
Financing:	A financial cash flow which will identify project payback period, not to exceed 15 years and all costs including maintenance and M&V associated with the project;
Staff Interviews:	Detailed discussions with key WV DA GSD staff to determine actual operating conditions, problem areas or concerns, and any equipment specifications particular to the WV DA GSD;
Reports:	A detailed Study report, which will be a key portion of the contract.

Energy Systems Group also intends to integrate and leverage the technical expertise of our selected engineering, consulting, technology, and subcontractor partners in order to provide a thorough and effective program that will be implemented. By using multiple organizations with specialized skill sets, ESG can produce the most effective feasibility study, master plan and implementation plan for WV DA GSD by using these technological leaders and their focused expertise. The study and implementation plan will provide a true working document for WV DA GSD and serve as a master plan for improving facility operations while meeting the minority participation requirements for WV DA GSD.

OPERATIONAL AND MAINTENANCE (O&M) SAVINGS

ESG's approach to projecting O&M savings is a transparent, straightforward, three step process:

1. Identify any potential non-energy financial benefits of each particular measure or improvement.
2. Calculate "recommended" tangible savings based on field observations, input from WV DA GSD, and various industry/manufacturer standards concerning equipment life expectancy and maintenance cycles.
3. Validate recommended savings with actual historical expenses and seek agreement from WV DA GSD on probability of future expenses including imminent replacement costs. Including projected O&M savings in a project should be a co-authored process. *ESG is completely transparent on how we calculate our recommended savings as* WV DA GSD*'s acceptance is essential.* This transparency provides that the calculations can be verified by WV DA GSD. O&M savings generally come from three sources, which are described below with corresponding calculations used for this project.

Reduced Outside / Contracted Services & Material Costs: This is the most common source where service calls on an aging piece of equipment, leaking roofs, or other systems will clearly be reduced once the equipment or system has been rehabilitated or replaced. Material costs refer to items such as roof patching, repairing water damage, lamp costs, ballast costs, etc. incurred by WV DA GSD.

Reduced Internal Labor Costs: These would be costs for the labor to replace a light bulb, for example, given the life of LED lighting bulbs do not need replacement for over ten years or more depending on hours of usage, saving our customers money.

Capital Cost Avoidance: This source is the offsetting of costs (typically equipment replacement) that are currently budgeted or will be required due to imminent failure. The rationale is that the money already budgeted for equipment replacement can simply be applied to helping fund the project since the need will be addressed as part of the project.
ESG will work with WV DA GSD to determine if any of these three (3) O&M costs should be considered in the project.

A key component of ESG's **long-term support** strategy is the assistance provided within our measurement and verification (M&V) services. In order to sustain and improve the savings, ESG provides the technical expertise to keep your energy consumption to its absolute minimum. As part of ESG's energy guarantee and long-term support strategy, M&V services will be provided to validate and maximize savings. ESG, with its staff of certified M&V specialists, certified energy managers, professional engineers and analysts, will work together with WV DA GSD to sustain achieved savings and further reduce energy consumption in your facilities.

OPERATIONS & MAINTENANCE (O&M) PLAN

ESG will mitigate performance period risks by engaging our O&M team early in the project development process to ensure O&M requirements are considered in project engineering and design efforts. Our comprehensive O&M programs include operations, scheduled and unscheduled maintenance, correction of warranty items, water treatment, repair and replacement, and emergency and non-emergency response. ESG will ensure there is a clear delineation of roles and responsibilities between WV DA GSD, and ESG prior to the commencement of the O&M period.

LONG-TERM SERVICING

ESG has an extensive and dedicated O&M organization that has been providing comprehensive O&M and Risk & Responsibility (R&R) services on financed projects for over 20 years. This group has over 80 full-time O&M technical personnel who operate and maintain assets on a 24/7/365 basis. In addition, we supplement this staff with fully trained and qualified contract/vendor personnel to ensure comprehensive O&M support is provided on all assets we install and are asked to maintain. We will work closely with the WV DA GSD staff to co-author an O&M program that ensures ECM performance while safeguarding all critical activities and computer software from disruptions over the contract term.

ESG is responsible for the performance of installed equipment and energy savings throughout the project term. We will communicate with WV DA GSD to determine the proper level of O&M that should be performed and to determine whether the preventative maintenance plan and operations can be implemented by the WV DA GSD staff or if ESG personnel need to augment. ESG employs systems for timely reporting of identified issues through appropriate channels to ensure personnel safety and project quality. Our O&M team will work in conjunction with the WV DA GSD maintenance personnel to perform the following tasks:

- Develop and execute an O&M Plan that identifies preventative maintenance tasks and frequencies, responsible parties, and defines an annual review process to assess conditions.
- Conduct a thorough operator training program incorporating classroom and "hands-on" instruction. Video-record training for later use with new personnel, and provide operator's manuals.
- Use the EMCS to create easily accessible trends and reports for monitoring purposes.

Once ESG is selected as your partner, we will work quickly to help WV DA GSD get your short-term operations and maintenance needs met utilizing local providers, before further developing long-term operations and maintenance solutions. The maintenance services that will be secured by ESG for WV DA GSD can provide repair services available 24 hours a day with a maximum response time of 2 hours for WV DA GSD's critical systems. ESG and WV DA GSD working together to select service providers, will allow WV DA GSD to have a choice on how the maintenance is structured and how much it costs. ESG will work with WV DA GSD to obtain the best services to maintain the ECMs implemented as part of the project. ESG will find the best, most qualified, most cost-effective maintenance providers and bring the results to WV DA GSD so we can work together to choose the needed services. With our experience of doing this for other customers, ESG will bring objectivity to directing WV DA GSD towards the right solution for their situation. This gives WV DA GSD ultimate flexibility in choosing how to handle maintenance throughout WV DA GSD's facilities.

Energy Systems Group has performed over $4.1 billion in savings projects in our 29 years of business. The experience and program success with these valued customers lays the groundwork for our capabilities to WV DA GSD. Our projects reach beyond just renovations to provide innovative and comprehensive solutions. We strive to integrate complex systems that enhance the working environment while maintaining budgets to fund the primary mission of our clients.

We build successful programs with guaranteed results for each and every one of our customers. One of the key reasons we are able to achieve consistent, outstanding results is our customization of our programs. No two customers or two programs are identical. Programs are customized to our building owner's needs with ESG generally assuming responsibility for:

- Identifying Saving Opportunities;
- Engineering and Design Services;
- Project Management;
- Contractor Selection and Equipment Procurement;
- Guaranteed Savings which Funds Improvements;
- Commissioning;
- Maintenance and Operations Services;
- Measurement and Verification Services; and,
- Ongoing Training and Support.

ESG offers the following core competencies:

- ✓ Operations and Maintenance Services
- ✓ Utility Rate Analysis
- ✓ Demand Reduction Measures
- ✓ Steam and Chilled Water Systems
- ✓ Heating and Air-Conditioning Systems
- ✓ Water and Sewer Management
- ✓ Distributed Generation Utilities Plants
- ✓ Doors, Windows, and Roofs
- ✓ Geothermal Systems
- ✓ Building Insulation
- ✓ Heat Recovery
- ✓ Thermal Storage
- ✓ Lighting including Comprehensive LED projects
- ✓ Food Services
- ✓ Communication
- ✓ Integrated Solutions
- ✓ Cogeneration
- ✓ Power Factor Correction
- ✓ Training Programs

Overview

The ESG team has expertise in:

- Identifying operations and maintenance savings opportunities and how to achieve those
- Preparing detailed engineering feasibility studies and master plans
- Identifying energy consumptions and potential conservation measures including alternate designs
- Working with the customer developing preliminary and final plans and specifications
- Site investigation including analysis of:
  - HVAC equipment and systems
  - roof systems
  - building envelope
  - domestic hot water systems
  - Kitchen equipment
  - electrical plug and distribution loads and losses
  - fuel switching
  - operations and utility costs
  - load calculations
  - current system operation practices

- operation and maintenance practices and procedures
- renewables including solar, geothermal and co-gen (as requested by the customer)

- Maximizing energy and cost savings
- Performing "Building Simulation Software" to establish baseline and propose energy savings measures
- Providing definitive cost and savings estimates for the proposed work
- Guaranteeing results

Our project approaches are customer-centric and innovative, and our team takes pride in doing what we promise with a dedicated commitment to exceeding expectations. One key differentiator between ESG and other companies is that we take the time to fully understand the goals our customers are trying to achieve. Our driving philosophy is that when we sit at the same table with our customers, great ideas - the best ideas - are born, and the way is paved for creative solutions to take hold, resulting in costs minimized, schedules streamlined and operational efficiencies realized. ESG provides solutions that maximize benefits through a highly qualified and completely committed team.

SCOPE OF WORK – GENERAL

WV DA GSD Facility Survey: As WV DA GSD presents a unique model for the typical Study and implementation plans, ESG and WV DA GSD will discuss the alternatives that provide the best value while condensing the process so as to expedite the achievement of the financial benefits. ESG and WV DA GSD will further discuss the future proposed renovations, capital improvements and operations and maintenance needs.

Utility Survey: A very important step for a successful and productive Building Survey is having a plan or insight into knowing what to look for while conducting the facilities survey. The Utility Survey provides Energy Systems Group Engineers with that insight. By performing the Utility Survey prior to the Site Survey, ESG engineers gain insight and understanding as to which building systems are using the most energy, how the utility companies are charging for each unit of energy used and what strategies might be developed in order to maximize energy and cost savings. The following bullets outline the major tasks involved in a Utility Survey:

- ✓ Identify meters & locations
- ✓ Identify area served by meters
- ✓ Analyze energy use and demand profiles
- ✓ Establish baseline energy use and unit fuel rates
- ✓ Analyze facility load factor and power factors
- ✓ Analyze rate structures, and billing methods
- ✓ Consult utility/ fuel supply companies
- ✓ Assess electrical, steam, and/or natural gas distribution systems
- ✓ Benchmark, as applicable, building energy use against peer facilities in the same climatic zone
- ✓ Determine total costs associated with energy, water and other utility use
- ✓ Establish current PM schedules and historical operations plans

Site Survey: Once the Utility Survey has been completed, a comprehensive facility site survey will be performed to gain a thorough understanding of the facilities and their systems. The survey is a critical task to our overall engineering process. The survey includes the review of the as-built construction drawings; identification of equipment operation and building occupancy schedules; temperatures, lighting levels, and power demand of equipment and power distribution panels; survey of installed lighting, examination of the condition and actual design of HVAC control systems; and determination of the actual power distribution configuration. Listed below and on the following page are the major categories and tasks associated with each category, which are performed during the facility survey:

General Survey

- ✓ Interview facility coordinators
- ✓ Document areas of concern
- ✓ Obtain facility floor plans, and schedules
- ✓ Study building/facility construction and envelope
- ✓ Document building occupancy levels or facility usage levels

Review Existing Maintenance Functions

- ✓ Identify and quantify deferred maintenance items that qualify as energy cost reduction measures to be included in the project

Lighting Survey

- ✓ Perform individual facility walk-thru
- ✓ Document existing lighting system retrofits
- ✓ Review WV DA GSD lighting requirements/specifications for various applications
- ✓ Document existing light levels via sample measurements, fixture quantities, and conditions in areas to be retrofitted
- ✓ Measure fixture wattage in sample fixtures in areas to be retrofitted
- ✓ Establish occupancy / lighting usage hours through sample measurements by room type or by facility
- ✓ Test sample retrofits in select locations so WV DA GSD has an opportunity to assess the performance of the proposed fixtures
- ✓ Use new LED technology wherever appropriate

HVAC Systems Survey

- ✓ Review existing mechanical plans and specifications
- ✓ Review WV DA GSD requirements
- ✓ Obtain submittals, and equipment schedules
- ✓ Conduct walk-through of building/facility equipment rooms
- ✓ Establish occupancy and conditioning requirements of each area
- ✓ Establish present (baseline) operating schemes and schedule
- ✓ Document baseline condition of equipment in use
- ✓ Review capability of equipment to serve building needs, and the feasibility for performing retrofits

Equipment Metering/Performance Survey

- ✓ Review equipment operation setpoints, test sequence of operations at sample units to establish baseline functioning of controls and their response to the various strategies
- ✓ As required, determine energy input of equipment by taking snap-shot or short-term kW, airflow, water flow or other readings on chillers, pumps, air-handling units, fans, etc.

Facility Control System Survey

- ✓ Review existing control drawings and points list
- ✓ Review system architecture, and layout
- ✓ Conduct building, and equipment specific survey
- ✓ Document condition of control system, and its capability to meet present needs
- ✓ Review the control system's feasibility for meeting future needs or specific requirements of WV DA GSD
- ✓ Establish present controlling capabilities, and review schedules

Cooling System Survey

- ✓ Identify cooling system serving the facility, including auxiliary equipment such as air-cooled condensers, pumps, cooling towers, etc.
- ✓ Identify areas served by each cooling system
- ✓ Review system operation, and condition
- ✓ Review existing logs if available, obtain system run hours
- ✓ Document temperature, and kW readings (sample measurements or readout)
- ✓ Determine effectiveness of cooling system and individual building cooling requirements
- ✓ Determine if modifications can be made to existing cooling equipment so it functions more efficiently
- ✓ Assess cooling system with regard to older refrigerants (e.g., Chloro Fluoro Carbon, CFC)

Heating Plant Survey

- ✓ Document layout of heating plant, and heating system nameplate information
- ✓ Review system operation and document condition of equipment
- ✓ Review log sheets, if available
- ✓ Identify system sequencing schedule, and operating hours
- ✓ Review water treatment and blow down (if steam) process
- ✓ Identify breakdown of gas/fossil use by equipment or process

Water/Sewer Usage Survey

- ✓ Identify locations and use of water meters serving the facility
- ✓ Examine meter size with regard to actual use at the facility
- ✓ Document cold and hot water use points in each facility
- ✓ Review systems in the facility that use water
- ✓ Analyze feasibility of separating meter by end use

Steam Trap Survey (for steam systems)

- ✓ Analyze trap type, size, condition and operation through a trap survey
- ✓ Test trap condition to determine if traps have failed open or closed
- ✓ Calculate energy losses through the traps
- ✓ Propose trap replacement of the defective units

Renewable / Green / Sustainable Technology

- ✓ Evaluate renewable and cutting edge technologies for inclusion in this project. Wind, solar, geothermal as well as other green technologies such as green roofs, rainwater harvesting, and daylight harvesting will be considered for WV DA GSD.

Other Applications

- ✓ Examine facility telephone system for upgrade to newer technology
- ✓ Examine feasibility to power down computers when not in use
- ✓ Examine waste disposal or other special facility-specific applications for cost reduction strategies
- ✓ Examine exhaust and fume hoods for proper airflow and operations
- ✓ As applicable, develop feasible projects for implementation

Financial Survey

- ✓ Analyze plant operation and maintenance budgets
- ✓ Review plant operations & maintenance expenses
- ✓ Discuss current budget expenditures and future budget items
- ✓ Determine approach for financing capital projects
- ✓ Identify and quantify deferred maintenance items

Review Master Plans for Additions/Renovation

- ✓ Review electrical, mechanical, control plans and design
- ✓ Analyze impact of scope on utility cost
- ✓ Analyze impact of scope on operating cost, and ease of use
- ✓ Review the feasibility for meeting long-term goals
- ✓ Provide recommendations to reduce installation costs and utility costs

Utility Baseline Energy Use Modeling: Upon completion of the utility and facility surveys, the collected data is then converted into the format required for input into either a computer model or for use in spreadsheet-based calculations, developed for specific ECMs. In the computer model, each facility's architectural and functional use characteristics are described, including the geographic orientation and thermal properties of the structure. Thermal zones or spaces in the facility having similar external or climatic loading characteristics, and supplied by a common HVAC system are identified; and aggregate schedules and thermal loads for people, lights and equipment are developed. The space heating and cooling system characteristics are described, including the mode of operation and control (e.g., double duct versus variable air volume, supply air temperatures, etc.), as well as air flow rates, operating schedules and assignment of building thermal zones to individual systems. Central equipment such as boilers and chillers that serve space conditioning systems are identified, including the equipment type, efficiencies, method of control, and operating schedules and flow rates. The validity of the model is established by comparing it to actual utility consumption data. Once validated, the model provides a profile of energy use by building function, which is helpful in establishing targets for conservation. The above modeling applies to the facilities.

In the spreadsheet models, specific input variables are provided to estimate the energy savings, to which the appropriate utility tariff is applied to yield cost savings.

ESG utilizes a variety of computer modeling programs such as eQUEST, or spreadsheet calculations. Furthermore, we encourage WV DA GSD to be active participants in the modeling process to affirm its validity.

ENGINEERING PHASE

Energy Savings Calculations: With budgets established, energy retrofit options are evaluated against the energy cost savings that they produce. Initially, all potential ECMs/improvements are considered separately with their individual economic attractiveness determined by calculating simple paybacks. However, attractive ECMs are selected from the original list and simulated together in order to determine their aggregate energy savings. ESG will consult with WV DA GSD to combine the maximum number of longer payback improvements with shorter payback improvements to achieve the overall desired payback term as well as satisfying the overall requirements of the facilities.

Operations and maintenance costs are evaluated. Maintenance Savings are a result of reduced repair and replacement costs for current equipment that is being replaced. The savings value is the difference between the estimated repair costs (material costs) for existing systems versus new. These savings are engineering estimates based on the American Society of Heating Refrigerating and Air-Conditioning Engineers (ASHRAE) guidelines (average equipment life) and RS Means cost data handbook. ESG will summarize the operations and maintenance savings for each ECM that is considered and WV DA GSD will be able to see the financial impact of each.

Utility consumption for the individual energy consuming systems (lighting, fans, pumps, chillers, etc.) will be measured using various instantaneous and data logging instruments. Building modeling may also be used to simulate baseline operation and compute building heating, cooling, air distribution and pumping costs.

In order to verify the accuracy of the engineering analysis and calculation procedures, the computed energy use for each building will be tabulated by energy type and compared with metered consumption. If several buildings share a single utility meter they will be grouped during the meter analysis for comparison to the metered consumption.

The combination of the data collected during the detailed building survey, utility meter analysis, building simulation process, and instantaneous and long term data metering will clearly identify the most advantageous energy conservation opportunities. Anticipated energy and cost savings will be computed by editing the computer simulation program or by using a detailed spreadsheet analysis, as appropriate.

ECM Selector Tool ECM Selection & Financial Modeling: Once a final list (package) of ECM(s)/improvements is selected as discussed above. Detailed pricing is then obtained for the ECMs. A Cost Analysis is then performed on selected ECM(s) manufacturers' to determine which products and services yield the highest value to WV DA GSD at the lowest life-cycle cost (LCC) over the term of the agreement. This information of savings and costs, coupled with achievable financial rates are then utilized in a financial model to compute the projects overall financial benefit.

ABC County Schools
WEST VIRGINIA

ENERGY CONSERVATION MEASURES (ECMs) SELECTION

Toggle (1 = in 0 = out)	ITEMIZED ENERGY CONSERVATION MEASURES (ECMs)	SIMPLE PAYBACK	Project Savings
	A PRIMARY SCHOOL		
0	ECM-1A LIGHTING	4.8	$0
1	ECM-2 PIPING INSULATION (BOILER ROOM)	8.1	$405
1	ECM-3 THERMOSTATIC VALVE REPLACEMENT	4.5	$1,057
1	ECM-5 VENDING MISER	2.5	$132
1	ECM-6 RETRO-COMMISSIONING	5.1	$425
0	ECM-7 BOILER INSTALLATION-FUEL OIL BOILER	282	$0
	BUS GARAGE		
0	ECM-1 LIGHTING	6.8	$0
1	ECM-2 WATER CONSERVATION	3.9	$292
	B PRIMARY/MIDDLE		
0	ECM-1A LIGHTING	6.6	$0
1	ECM-2 PIPING INSULATION (BOILER ROOM)	3.4	$7,693
1	ECM-3 VENDING MISER	2.5	$132
1	ECM-4 RETRO-COMMISSIONING	3.4	$436
1	ECM-5 WATER CONSERVATION	3.7	$144

Financial Summary	
Total Project Cost	$1,021,924
Buydown	$0
Financed Investment Cost	$1,021,924
Rate of Financing	4.00%
Term of Financing (years)	10
Annual Utility Rate Increase	3.50%
Annual Operational Savings Increase	3.50%
Annual Support Services Increase	3.50%
RESULTS	
10 Year Cumulative Project Savings	$1,359,034
10 Year Cumulative Project Cost	$1,271,423
10 Year Cumulative Cashflow	$87,611
15 Year Cumulative Cashflow	$886,932

For Financial Summary Notes see Cashflow Summary Sheet

ESG ECM Selector Tool

Final Computer Utility Baseline Model: Once the final project has been modeled for its performance and financial benefit, the energy baseline may be established. The energy baseline represents a facilities annual utility consumption during twelve (12) calendar months which are designated as the baseline period. For each month of the guarantee period, the baseline is adjusted to reflect variances in weather, occupancy patterns or building equipment. The net energy savings is the difference between the post-retrofit consumption and the adjusted baseline consumption.

It is desirable to create the building energy baselines using metered utility consumption for each individual building. However, since this is rarely possible, the following procedure maximizes the use of measured data in establishing accurate and equitable baselines.

During the initial phase of the Project we will summarize two years of utility company bills. We will then analyze the local utility meters which service smaller WV DA GSD facility areas or groups of buildings throughout the facility. Finally, all reliable individual building sub-meters will be analyzed. In each of these phases, consumption will be compared with square footage served in order to spot check the meters. The baseline will be established and agreed upon prior to commencement of the guarantee.

Design Build Engineering: Energy Systems Group makes a substantial investment in the ECM and capital improvement design during the proposal/project plan development. Engineering concept drawings are completed for complex ECMs and capital improvements which would include installation of major equipment such as boilers, chillers, and distribution equipment. These engineering calculations, drawings, and specifications are biddable at 35% complete. ESG works with various trade partners, and consulting engineering partners, as well as the client, to develop an acceptable scope of work and firm fixed price.

Final Report: The final report will summarize all the above information by presenting all ECM's to be included in the project and a final cash flow to demonstrate that energy savings equal or exceed loan repayments plus other maintenance, monitoring and verification costs. Each ECM will be explained in detail, including relevant design drawings, detailed capital cost estimates, commissioning methodology/schedule for all ECM's, as well as detailed calculations and explanation of savings. A schedule will also be provided for the implementation phase. The report will serve as the base contract document for the implementation portion of the project. Many aspects of the report are negotiated between WV DA GSD and ESG to ensure a successful project that meets and exceeds expectations.

2.2 Goal/Objective 2: Vendor will produce an Executive summary, limited to no more than 5 pages of discussion plus no more than 10 slides for presentation purposes, describing the effort undertaken in Goal. Objective 1 and the results. Results would be portrayed as a recommended course of action with estimated cost savings. This executive summary is intended to communicate effectively to senior governmental officials: a. the optimal mix of buildings to consider outsourcing, b. the combined expected savings to the State if the optimal mix were to be outsourced over a short- (1- 2 years), mid- (3-5 years), long-term (6-10 years) basis.

Within their proposal, Vendors should provide documentation regarding their team's experience with integrating the various elements of facility maintenance services (FMS) into a cost-effective effort with verifiable costing data which can be used to document overall savings. Vendor's proposal should explain various successful approaches used to accomplish this type of goal while maintaining at least the current level of service provided by the WV DA GSD to the optimal mix of outsourcing candidate buildings.

MEASUREMENT & VERIFICATION (M&V) OF OVERALL SAVINGS

We believe a cornerstone for project success is the degree to which cost savings guarantees are met, exceeded, or to which shortfalls are identified and resolved. ESG guarantees the verifiable cost savings for our projects.

Our guarantee is built upon a well-established process of ESG assuming the risk. ESG has established a track record of "real and measurable" savings guarantees. We will help WV DA GSD to reduce long-term financial risk throughout the guarantee term through our proven and verifiable Measurement & Verification approach.

ESG's M&V Team reviews utility and operational parameters with our customers on a monthly basis in their first year, and then as needed, per their preference and comfort level in the following year of the guarantee.

ESG typically uses an industry standard approach, International Performance Measurement and Verification Protocol (IPMVP), approved for use by the U.S. Department of Energy. The measurement has four measurement options (A, B, C or D), with each option having advantages and disadvantages based on site-specific factors and the needs and expectations of each of our customers. Our approach provides complete flexibility – WV DA GSD will be the ultimate decision maker in determining which M&V protocol it prefers that ESG use.

ESG stands behind our over $2 billion in first-party active savings guarantees. One of the keys to ensuring that expected savings are met is proper baseline development. ESG will confirm usage observations, utility bill/rate analysis, and consumption trends. At the end of each yearly guarantee period, ESG will reconcile savings with WV DA GSD. The WV DA GSD will benefit from any excess savings, and **ESG will recompense any annual shortfalls**.

Regarding Operations and Maintenance (O&M): ESG will collect historical data from actual operation and maintenance expenses to determine the accurate level of operational savings. ESG will collect data through a detailed study/audit with a focus on specific areas identified and will deploy data logging devices.

The first key to accurately determining potential savings is to establish an accurate baseline of current costs by facility. This is typically done with a comprehensive analysis of bills. Beyond that, it is vital to understand how the cost/expenses are being used and spent by systems/equipment within the facility. This data is obtained in a variety of ways including:

- Analyzing annual reports, budgets and cost accounting data associated with the facilities
- Operation and Maintenance research
- Understanding the uses/needs of each facility

- Understanding any challenges and issues with any buildings
- Understanding the organizations business plan
- Analyzing any available data to make a plan that fits and meets the goals of the business plan
- Analyzing and understanding the physical aspects of each building and the space and utilization needs for each
- Analyzing and understanding future current construction projects and future plans for those facilities
- Collecting nameplate data on energy consuming equipment and establishing run times;
- Auditing lighting fixtures to determine wattage and possibly using data loggers to establish burn hours;
- Auditing plumbing fixtures to determine flow and applying industry accepted human practices to determine frequency of use
- Performing combustion or other testing on equipment to determine current levels of efficiency;
- Measuring amperage draws on motors to determine actual loads;
- Employing sensors to data log equipment run times and/or consumption; and,
- Other analytical measurements that will serve to validate the efficiency of existing equipment.

Once this is clearly understood ESG also gets an understanding of how consumption of energy and resources is occurring within the facility our engineers evaluate options to minimize this consumption. This could be merely making adjustments to existing systems, retrofitting existing equipment, or actual replacement of components and/or systems. Equally important to reducing consumption is finding a way to do it cost effectively and in a manner that the savings can be maintained over time.

Once a preliminary plan has been established by the engineering team, ASHRAE or other industry standard calculations are used to determine the impact on consumption by implementing the intended change. This could be as simple as calculating the reduced wattage on a light fixture replacement times the annual burn hours to a full software modeling of the facility with and without the improvements. This is where ESG shines.

Our team of professional engineers pride themselves on accurate and realistic calculating of savings based on real data to the extent possible or educated assumptions where data is not available. Manufacturer provided data for new equipment is cautiously used to determine post-retrofit performance. Ultimately the realization of the projected savings is verified with the Measurement and Verification strategy that is employed after implementation of the improvements. This proves the savings are there after the improvements are made.

Further, one key component to ensuring long term results is to maintain equipment and systems as intended. That is to say that equipment must be maintained in accordance with manufacturer's recommendations and systems must be operated as installed and commissioned by ESG. Following space temperature and ventilation guidelines instituted to optimize efficiency can also be important in maintaining energy savings for the long term.

If ESG is to expect the WV DA GSD to maintain their systems as intended, then it is incumbent upon us to make sure personnel are trained on operation of the systems and provided the tools necessary to do so, or for us to develop an operations and maintenance services plan and execute it. ESG could procure the appropriate services for the best value on behalf of the WV DA GSD or ESG could provide the services. There will be a Measurement and Verification (M&V) strategy associated with this project where the performance of the facility will be monitored in terms of utility consumption. In other words, ESG will be helping the WV DA GSD "watch the store", so to speak. The intent of a robust M&V program is to monitor performance in near real-time and raise a flag if operational parameters (indicated by utility consumption) are not tracking as expected. ESG can deploy engineering resources to investigate and determine what might have changed such that the WV DA GSD is not seeing the benefit they are expecting. Sometimes these are simple tweaks of something that was inadvertently changed or discovery of a change in operation that is impacting utility consumption. Either way, the change is either addressed or agreed upon that it is a necessary operational change and a new expectation of benefits is established.

It's no surprise that any facility operator spends more money reacting to unexpected failures of old equipment than following preventive maintenance practices on new equipment. By virtue of replacing as much equipment as feasible in this project, maintenance costs will be reduced. Our engineering team will develop an ECM strategy to optimize both energy consumption and life cycle operational cost. These project savings will be quantified, discussed with WV DA GSD, and included in the cash flow to develop a mix of cost effective ECMs and infrastructure renewal ECMs.

Some specific impacts we believe this project will have on the facility's ability to reduce overall maintenance costs include:

- Replacement of aged HVAC equipment or components resulting in a reduction in reactive maintenance;
- Retrofitting or replacement of controls that will enhance occupant comfort and reduce the amount of time reacting to complaints;
- Ensuring proper operation of controls that will increase efficiency;
- Strategic replacements of leaking plumbing systems preventing reactive maintenance and potential damage to interior finishes;
- Conditioning of water or other means to minimize corrosion on plumbing systems;
- Upgrade of plumbing fixtures to minimize breakage;
- Conversion of ballast laden fluorescent and high intensity discharge (HID) lighting with no ballast LED systems significantly reducing time and material costs associated with re-lamping, replacing ballasts, and disposal; and,
- Replacement of aged roofing systems to eliminate patching costs and potential damage to interior finishes;
- And other improvements that ESG finds a benefit to WV DA GSD

The ESG team will be a resource for WV DA GSD to help ensure its systems are properly maintained whether or not it is contracted by WV DA GSD to provide this service. Regardless, the most important thing is that the equipment is maintained properly.

2.3 Goal/Objective 3: The selected Vendor will be expected to work closely with the WV DA GSD and other governmental agencies which have costing data for current expenditures on WV DA GSD facilities (such as Department of Administration, Chief Financial Officer, Finance Division, the WV Real Estate Division, and possibly the Purchasing Division). The Vendor will also work closely with the WV DA GSD's internal operations and administrative staff to understand what services are provided currently and how they are provided. The outcome of this work will inform efforts in Goals/Objectives 1 and 2 as well as will result in an evaluation of the attached notional scope of work for Facility Maintenance Services. The final result of this evaluation will be a proposed FMS scope of work which will most effectively and efficiently be able to be contracted for the outsourcing of the proposed optimal mix of buildings to be outsourced.

Within their proposal, Vendors should provide documentation of past projects in which they have worked with Owners and third-party jurisdictional authorities within large governmental entities in order to achieve consensus approval on projects' scopes of work.

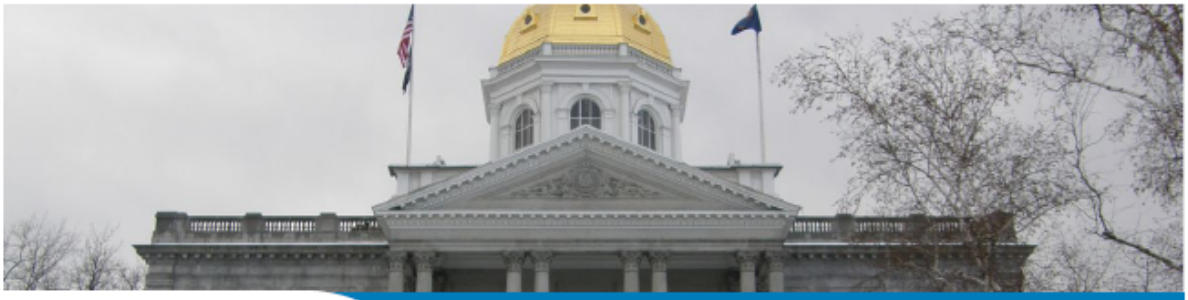
The following are some examples of projects we have completed or are currently working on. These projects demonstrate our ability to provide a feasibility study or facility assessment and master planning services in order to determine what work needs to be done. And ultimately what services are needed to maintain these facilities for the long term effectively and efficiently. More information can be found on the included case studies for these project, as well as others, following this chart.

CUSTOMER	PROJECT INFORMATION
State of New Hampshire, NH – Department of Administrative Services	ESG performed a feasibility study and implemented a project for the State of New Hampshire. ESG worked with NH DAS to develop and deliver a $4M project that paid for itself through the savings. The project was comprised of eight facilities and over 450,000 sq. ft.. We assessed the facilities, equipment, useful life, life cycle costs and determined what needed to be replaced, the cost of the replacement, the energy and operational savings associated with that replacement to determine the optimal project for these facilities. We designed and provided engineering for the project, procured the pre-qualified subcontractors to complete the work on the project and managed the construction and associated paperwork on behalf of the NH DAS for the completed turnkey project. ESG also facilitated funding and financing for the project working with adjacent government agencies and banking institutions. ESG worked as a partner to NH DAS to align the needs with the business plan and financials to best meet the highest priorities for these facilities. ESG worked as a partner to determine the level of operations and maintenance that is needed to maintain these facilities at a practical level to meet their needs. ESG's brings many parties together all working towards one common goal including: the Cabinet Secretary, the Financial Officer, Procurement, Legal including the offices internal legal counsel and the Attorney General's Office, the facilities, construction and engineering departments.
Glenville State University, WV	ESG worked with GSU, President, Chief Financial Officer, Procurement, Facilities Director, Board of Governors, Attorney General's Office, Higher Education Policy Commission, National Lending Institution, and the Joint Committee on Government and Finance. The project details are in the project profile on the following pages.

CUSTOMER	PROJECT INFORMATION
McDowell County Schools, WV	(while under State control) – WV State Department of Education: General Counsel, Chief Financial Officer, Superintendent, State Board of Education, Bowels Rice LLP, and the Attorney General's Office. The project details are in the project profile on the following pages.
Cabell County Schools, WV	ESG worked with senior leadership in the organization to get project alignment, including the Superintendent, Assistant Superintendent over facilities, Chief School Business Official, Energy Manager, Board of Education, WV School Building Authority, Financial Advisor and the federal funding agent. On the architectural side ESG developed and collaborated on the design for new offices, bathrooms and secure entrances as a small part of the overall $11M project. ESG assessed the 8 facilities that were included in this project to determine the optimum mix of facility improvements and operations and maintenance to allow the county school system to fund a project that was a paid for through a mix of energy and operations savings, local, state and federal funds to implement over $11M worth of improvements. ESG then developed an operations and maintenance plan to maintain the ECMs through their own maintenance staff that will be trained by ESG as those improvements are installed. The project details are in the project profile on the following pages.

Included on the following pages are case studies that we feel demonstrate our ability to partner with West Virginia Department of Administration, Department of General Services to provide a successful plan resulting in exceptional projects.

1. State of New Hampshire Department of Administrative Services
2. McDowell County Schools
3. Cabell County Schools
4. Picatinny Arsenal
5. Detroit Arsenal
6. Naval Base Coronado
7. Gilmer County Schools
8. Kentucky State Capitol Complex



STATE OF NEW HAMPSHIRE DEPT. OF ADMIN. SERVICES

CONCORD, NH

SAFETY RECORD
ZERO Recordable Events

PROJECT SIZE
8 buildings
450,000 sq. ft.
$4M

PROJECT SCHEDULE
6/30/22-11/01/23

CONTRACT METHOD
ESPC

SAVINGS INFORMATION
$5.3M over a 20 year contract term

energy systems group

The New Hampshire Department of Administrative Services (DAS) houses over 1,000 state employees. The buildings include laboratory testing facilities, office and courtroom spaces, mechanical services garages, and a 24/7 emergency service center including the 911 call center. The New Hampshire DAS wanted to implement an energy and infrastructure program that would met the stringent requirements of the State's energy performance contracting statute. NH DAS partnered with ESG who provided auditing and engineering, design, project management, measurement and verification of energy savings, and supported the state in securing financing. NH DAS also required the project to meet the guidelines under NH's ESPC program, the investment in ECM's implemented in buildings within individual administrative groups must be cash-flow neutral.

SOLUTION

The following energy conservation measures were installed:

- Interior and Exterior LED Lighting
- Optimizing Building Automated Control Systems
- Upgrading HVAC equipment
- Variable Frequency Drives
- Building Envelope Weatherization
- Water Conservation (and Irrigation Sewer Credits)
- Efficient Domestic Hot Water Systems
- Compressed Air System Improvements
- Transformer Replacements
- Renewable Energy Generation – Solar PV
- Pipe, Valve, and Fitting Insulation

RESULTS

From their partnership with ESG, NH DAS achieved greater than 50% savings in the Department of Transportation administrative group that included three buildings comprised of office space, service garages, and laboratory facilities. This was done by substantially reducing outside airflows in consultation with an industrial hygienist and optimizing the use of infrared heaters in service bays. Per NH statute, this project will use utility incentives received for both electric and natural gas savings for supplemental measures beyond the ESPC.

GLENVILLE STATE COLLEGE

GLENVILLE, WV

SAFETY RECORD
ZERO Recordable Events

PROJECT SIZE
13 buildings

Including President's House and community center

608,500 sq. ft.

$4.2M

CONTRACT METHOD
ESPC (15 year period)

SAVINGS INFORMATION
$2.6M in total energy savings over 15-year contract

energy systems group

Underscoring its commitment to advancing education, economic growth, and community development, Glenville State College (GSC) partnered with ESG to implement comprehensive energy efficiency and building improvements at its facilities. ESG created a project plan that reduced energy costs, modernized building systems and technologies, and enhanced the environment.

SOLUTION

Energy Conservation Measures implemented:

- Lighting - Indoor and outdoor
- Controls – Installed and/or upgraded
- HVAC system improvements and replacements
- Steam trap survey/repairs
- Fire suppression system installation
- Pool efficiency and operations upgrades
- Demand response program implemented
- Conversion of gas wells to feed GSC facilities directly
- Energy policy implementation
- Computer power management
- Retro-commissioning

ESCO Services Provided

- Energy Systems Group provided engineering, design, and project management. Subcontractors were involved in the installation of equipment. ESG facilitated project financing, and ESG will monitor, measure, and verify savings.

RESULTS

Glenville State College has been able to reduce their energy costs drastically and provide sustainable infrastructure for their students from their partnership with ESG. Not only will Glenville State College saving $2.6M in energy savings they will also save 1.4M kWh in electricity and 130K therms in natural gas. The installed building improvements and energy efficient infrastructure provides a more comfortable and attractive campus for current and potential students coming to Glenville State College.

MCDOWELL COUNTY SCHOOLS

WELCH, WV

SAFETY RECORD
ZERO Recordable Events

PROJECT SIZE
10 buildings
763,856 sq. ft.
$2.3M

PROJECT SCHEDULE
12/1/11-12/31/12

CONTRACT METHOD
ESPC

SAVINGS INFORMATION
$2.3M in savings over a 10 year term

energy systems group

McDowell County Schools (MCS) was looking for a partner to provide a turnkey comprehensive energy management and conservation program in compliance with WV performance contracting legislation 18-5-9a. MCS partnered with ESG who will provide auditing, design, engineering, labor, materials, project management, commissioning, measurement and verification services/savings guarantee, ongoing training, operations services, preventative maintenance, technical support and financing of an integrated program.

SOLUTION

- Lighting improvements
- Building automation system upgrades including demand control ventilation, boiler control reset and conversion of constant to variable flow pumping (on CHW)
- Retrofit select roof top units with Enerfit™ Controllers (a system that dynamically matches the capacity of a traditional single-speed unit to meet the load at any given time)
- Retro-commissioning
- Electric meter monitoring
- Select HVAC replacement
- Minor insulation and water conservation

> "ESG's project management from the front end of the project through the construction phase was over the top. The thoroughness of their planning and attention to even the most minuscule details made the project go extremely smooth. They resolved operational and comfort issues with an HVAC system that other companies have been working to mend for over ten years. The construction phase was hands off for me and was performed so efficiently most people didn't even realize that construction was ongoing in their building. For McDowell County Schools there is no other energy management company"
>
> - **Will Chapman**, Director of Maintenance and Safety

RESULTS

MCS has met their project goal of reducing costs of operating facilities while improving the quality of the learning environment.

energysystemsgroup.com

CABELL COUNTY SCHOOLS

HUNTINGTON, WV

SAFETY RECORD
ZERO Recordable Events

PROJECT SIZE
8 buildings
500,000+ sq. ft.

PROJECT SCHEDULE
September 2022-present

CONTRACT METHOD
Energy Savings Performance Contract (ESPC)

SAVINGS INFORMATION
$5.0M+ in energy and operational savings over the 15 year term

energy systems group

Cabell County Schools (CCS) serve nearly 12,000 students across 26 schools including areas such as the City of Huntington. CCS chose ESG as a partner to design and implement a comprehensive project to upgrade eight facilities that were not included in their bond projects. CCS used the ESSER funds strategically by pushing their dollars further by combining federal funds with local funds and energy and operations savings to create an over $11M project. This project gives the students of Cabell County the benefits of the improvements now and for years to come. Ultimately, this project helped CCS make most of the needed energy infrastructure improvements that were planned in their most recent 10-Year Comprehensive Educational Facilities Plan to improve the learning and working environment in Cabell County Schools.

SOLUTIONS

The following energy conservation measures were implemented:

- LED Lighting Upgrades in 7 facilities
- Building Weatherization in 6 facilities
- Water Conservation in 6 facilities
- Destratification Fans in 2 facilities
- Window Film in 4 facilities and Window Replacements
- Boiler, Chiller, Door, and HVAC System Replacements
- Refrigeration Controls in 5 facilities
- Building Management System (BMS) upgrades in 8 facilities
- HVAC Armor in 3 facilities
- Pipe Insulation on DHW system at 1 facility
- Two Energy Saving Safe School Vestibule Entrances

RESULTS

From Cabell County Schools partnership with ESG, they are in the process of implementing these energy infrastructure improvements. Cabell County Schools will be saving over $5.0M in energy and operational savings during the life of their contract.

PICATINNY ARSENAL

PICATINNY, NJ

AWARDS

2001 - 23rd Annual Secretary of the Army Energy and Water Management Award

2002 - AMC 2nd Place Energy Award Winner in Energy Efficiency/ Energy Management

2003 - 25th Annual Secretary of the Army Energy and Water Management Award

2006 - 28th Annual Secretary of the Army Energy and Water Management Award

2009 - 31st Annual Secretary of the Army Energy and Water Management Award

2010 - 32nd Annual Secretary of the Army Energy and Water Management Award

2013 - 35th Annual Secretary of the Army Energy and Water Management Award

PROJECT SIZE

$100M

CONTRACT METHOD

ESPC

energy systems group

Picatinny Arsenal is one of the oldest military installations in the U.S. The U.S. Army teams at Picatinny Arsenal oversee the research, development, and implementation of advanced weapons systems and explosives. The Arsenal was seeking to reduce maintenance and operating costs and create a sustainable arsenal.

SOLUTION

Project 1: HVAC Modifications and Controls

- Installed a new EMCS., upgraded motors, installed variable frequency drives (VFDs), replaced air-handing units (AHUs), retrofitted variable air volume (VAV) dampers, and upgraded economizers

Project 2: HVAC Modifications and Controls

- Installed a new EMCS for 13 buildings, replaced steam traps and AHUs, installed VFDs, and retrofitted VAV dampers

Project 3: Heating Decentralization, Co-generation, & HVAC

- Installed over 400 pieces of HVAC equipment serving over 260 buildings to decentralize the failing central steam system; eliminated over 12 miles of steam piping; major upgrade to the EMCS, connecting 121 buildings; five satellite boiler plants supplying over 64,000 lb./hr. of steam; 2 MW co-generation plant; several whole building HVAC renovations

Project 4: HVAC Renovations and Compressed Air Decentralization

- Reconfigured centralized compressed air system by installing new air compressors, dryers and ancillary equipment in 27 buildings; installed HVAC controls components in 18 buildings; converted existing constant-volume HVAC system to VAV

RESULTS

Through their partnership, ESG and Picatinny Arsenal have developed a relationship lasting over 20 years. ESG's work has significantly improved Picatinny Arsenal's reliability and performance. None of the buildings being serviced by ESG have been without heating or cooling for more than eight hours over the last 20 years. Moreover, none of the primary satellite steam systems have lost steam pressure due to a boiler plant failure. Including all of the ESPCs over the past 20 years, the Arsenal will achieve over $130M in energy and operational savings.

DETROIT ARSENAL

WARREN, MI

Detroit Arsenal is home to the Department of Defense's Tank and Automotive Command (TACOM) headquarters and is responsible for 70% of the Army's major systems. With the Arsenal responsible for housing these systems, they needed a reliable ESCO partner to replace much of their over 25-year-old, off-site heating and cooling equipment with energy-efficient, secure, and cost-effective infrastructure. ESG solved these issues over two phases of ESPC projects.

SOLUTION

The following ECMs were installed in Phases I and II:

- Removed three 200-ton chillers, and installed one 400-ton absorption chiller and one 200-ton centrifugal chiller
- Demolished a cooling tower and replaced with a new, larger unit
- Installed nearly 50 VAV box control units to retrofit central fan equipment
- Repaired or replaced over 700 steam traps
- Replaced inefficient motors and pumps with optimally-sized equipment
- Retrofitted over lighting 17,000 fixtures
- Installed four satellite boiler plants totaling 69,000 lbs. per hour to supply steam to seven buildings
- Converted seven buildings to natural gas heating
- Installed a standby generator to supply two of the new boiler plants
- Installed an air-cooled chiller and associated chilled water pumps
- Added a heat recovery unit to the standby generator
- Installed natural gas-fired, low-temperature infrared heating

RESULTS

From their partnership with ESG, the Arsenal has realized an annual reduction of 25,000 MMBtu, which is approximately 8% of its annual energy use. ESG was also able to assist the Arsenal in achieving energy consumption reduction mandates in Executive Order 13514 and the Energy Independence and Security Act of 2007. Now, the Arsenal has reduced costs and energy efficient infrastructure in place that meet the demanding needs of the facility.

AWARDS

31st Annual Secretary of the Army Energy and Water Management Award

PROJECT SIZE

Phase I: $7.3M

Completion: 2006

Phase II: $13M

Completion: 2011

CONTRACT METHOD

ESPC

SAVINGS INFORMATION

Total Energy and Operational Savings over $78.9M

energy systems group

NAVAL BASE CORONADO

SAN DIEGO, CALIFORNIA

AWARDS
2018 Secretary of the Navy Energy Excellence Gold Level Achievement

SAFETY RECORD
ZERO OSHA Recordable Events

PROJECT SIZE
96 buildings/3.3 million sq. ft
$70 million

CONTRACT METHOD
ESPC

SAVINGS INFORMATION
Annual cost savings of $5+M
Annual energy savings of more than 321,555 MMBtu

energy systems group

Naval Base Coronado wanted to implement improvements at Naval Air Station North Island (NASNI) to reduce energy and water use and enhance resiliency, enabling NASNI to continue carrying out its core missions. ESG's primary focus for this project was the decentralization of NASNI's centralized steam system.

SOLUTIONS

In order to eliminate much of the central steam distribution system that served 75 buildings, ESG installed eight high-pressure steam boiler-in-a-box systems for ships and industrial processes. ESG also installed hot water boilers, heat pumps, and gas-fired equipment. Types of buildings in this project include offices, workshops, storage facilities, maintenance operations, hangars, piers, classrooms, paint complexes, training facilities, and industrial buildings, totaling over 3.3 million square feet.

The following scope of work:

- Installed hot water boilers, heat pumps, and gas fired equipment
- Installed high-pressure steam boiler-in-a-box systems for ships and industrial processes
- Installed point-of-use air compressors
- Provided industrial compressed air optimization
- Installed volatile organic compound (VOC) oxidizer

RESULTS

Through this project ESG was awarded the 2018 Secretary of the Navy Energy Excellence Gold Level Achievement.

This project increases renewable energy production to the maximum that is economically viable under new Net Energy Metering; reduces energy use and demand by converting and replacing existing interior and exterior light fixtures with LEDs; and improves air quality and energy efficiency through HVAC controls upgrades.

The project results in annual cost savings of more than $5 million.

GILMER COUNTY SCHOOLS

GLENVILLE, WV

SAFETY RECORD
ZERO Recordable Events

PROJECT SIZE
3 buildings
164,612 sq. ft.
$3.1M

PROJECT SCHEDULE
1/22-3/23

CONTRACT METHOD
Energy Savings Performance Contract (ESPC)

SAVINGS INFORMATION
Energy, operational, and maintenance savings of 660K+ over the 15 year term

energy systems group

Gilmer County Schools (GCS) were battling with constant repairs and aging infrastructure amongst the school districts three main facilities- elementary school, high school, and school board office. GCS wanted to partner with a company that would provide long lasting solutions that are cost effective. GCS partnered with ESG to implement these improvements. A portion of the total scope is funded through ESSER funding (Elementary and Secondary School Emergency Relief funds), and the other portion through their energy, operations, and maintenance savings.

SOLUTIONS

The following energy conservation measures were implemented:

- LED lighting upgrades
- HVAC upgrades and replacements
- Controls upgrades and wifi thermostats
- Needle Point Bipolar Ionization System

RESULTS

From their partnership with ESG, Gilmer County Schools is now implementing energy efficient infrastructure solutions. To date, this is the largest project the county has been able to implement in over 20 years without state funding.

KENTUCKY STATE CAPITOL CAMPUS

FRANKFORT, KY

SAFETY RECORD
ZERO Recordable Events

PROJECT SIZE
$2.6M

CONTRACT METHOD
ESPC

SAVINGS INFORMATION
Energy and Operational savings over $3.7M

energy systems group

In a proactive effort to reduce energy use in government buildings, Governor Steve Beshear set forth aggressive goals in his plan, *Intelligent Energy Choices for Kentucky's Future*. Demonstrating his commitment to this plan and to a reduced carbon footprint for the Commonwealth, Governor Beshear, in coordination with the Finance and Administration Cabinet, issued a solicitation for an Energy Savings Performance Contract (ESPC) to complete a project at the Kentucky State Capitol, Capitol Annex, Governor's Mansion, and other facilities on the Capitol Campus. ESG was selected to design and implement the comprehensive energy and infrastructure improvements based on its past partnerships and demonstrated success with ESPC in the Commonwealth.

SOLUTION

ESG, in partnership with the Commonwealth, developed a $2.6 million comprehensive energy conservation measure project. Specific attention was provided to the historic nature of several buildings while also achieving the energy saving targets.

- Lighting Upgrades
- Water Conservation
- Control Upgrades
- Vending Machine Controls
- Chiller Plant Optimization
- Dishwasher Booster Heater Removal
- Steam System Improvements
- Negative Air Pressure Improvements
- Chemical Free Water Treatment
- UV Germicidal Lighting
- Transformer Improvements

RESULTS

The Kentucky State Capitol Campus has now aligned themselves with the state's commitment to a reduced carbon footprint and now has energy efficient infrastructure in place to provide cost savings. This sustainable project will also lower the State's carbon footprint by approximately 2,500 metric tons of carbon dioxide which equates to the removal of emissions from approximately 560 passenger vehicles.

2.4 Goal/Objective 4: The selected Vendor will be expected to perform an architectural/engineering assessment of the buildings and their systems to determine necessary repairs and recommended updates in order to incorporate these needs and objectives into a "master plan." A plan of this nature would be used to determine what scopes of capital improvement would be incorporated into any future contract to privatize maintenance services, and to potentially dictate the period basis (i.e. the aforementioned short-, mid-, or long-term) of such a contract.

Within their proposal, Vendors should provide documentation of past projects in which they have assessed buildings and their systems in order to prepare master plans, and indicate how they would approach incorporating master planning for capital improvements as part of facility maintenance programs and/or contracts.

ESG will work with WV DA GSD to review the feasibility study and master plan to determine prioritized capital improvements and to determine funding sources. To aid this activity, ESG determines life expectancy of all major equipment and systems and age of each. We also evaluate the equipment that is at the end of its useful life and look at the maintenance cost and the replacement costs. Considering all buildings, WV DA GSD and ESG determine what you can afford to replace with all available funding sources. We then consider how much additional funding may be needed to complete the entire desired project by preparing a financial model attached to the ESG Proprietary ECM Selector Tool to make the final scope decisions. **The ESG ECM Selector Tool is discussed in further detail in Section 2.1.** This tool is pivotal in the master planning to determine financial impacts for differing scenarios of capital improvements. This helps WV DA GSD look at the facility stock at one time and prioritize the needs at one glance. Once ESG and WV DA GSD decide the optimal project, working together, we can determine the final scope of upgrades and the proper level of operations and maintenance needed to best meet the needs of the WV DA GSD. ESG always works as a partner to WV DA GSD.

THE REQUESTED SAMPLE DOCUMENTS INCLUDED IN THE APPENDIX

1. Master Plan – NASA Johnson Space Center
2. Master Plan – Nashville Airport Authority

We did not include the entire documents for the sake of brevity, however both documents demonstrate our capabilities.

The projects shown in the list below show the past projects wherein we have assessed the buildings and their systems in order to provide the same feasibility study / master planning approach that was discussed in 2.1. This list includes all projects awarded to the ESG Northeast Region.

Full List of Projects Awarded to the Northeast Region since 1997

Contract Signing Year	Customer	Customer Classification	State	Project Total
2022	West Babylon Union Free School District	K-12 School	NY	$ 10,797,579
2022	Cabell County Schools	K-12 School	WV	$ 5,421,301
2022	Kingston City School District	K-12 School	NY	$ 3,914,214
2022	New Hampshire, Department of Administrative Services	State Govt.	NH	$ 3,952,932
2022	Redeemer Village, Department of Housing	State Govt.	PA	$ 3,632,743
2022	North Babylon Union Free School District	K-12 School	NY	$ 17,148,457
2022	Morris Hills Board of Education – Phase 1	K-12 School	NJ	$ 2.089.870
2022	Paterson School District – Phase 2	K-12 School	NJ	$ 3,085,986
2022	Mountainview School District – Phase 3	K-12 School	PA	$ 995,000
2022	SCI Fayette (State Correctional Institution) – Department of Corrections	State Govt.	PA	$ 38,888,719
2022	Bristol School District – ESSER Project	K-12 School	VA	$ 1,667,000
2022	Bristol School District – Non-ESSER Project	K-12 School	VA	$ 1,956,961
2022	PA DGS – PA Fish & Boat Commission GESA 2019-3	State Govt.	PA	$ 5,958,921
2021	Gilmer County Schools (WV) - ESSER Project	K-12 School	WV	$ 1,715,127
2021	Gilmer County Schools (WV) - Non-ESSER Project	K-12 School	WV	$ 1,429,426
2021	Town / Schools New Milford CT - EPC Services	Local Govt. - Town/Schools	CT	$ 14,931,026
2021	Buena Vista City Schools, VA - Indoor Air Quality (IAQ)	K-12 School	VA	$ 224,856
2021	Pearl River School District NY	K-12 School	NY	$ 2,478,534
2021	Oceanside Union Free School District NY	K-12 School	NY	$ 17,729,029
2021	Pawling Central School District NY	K-12 School	NY	$ 2,237,259
2021	Southampton Union Free School District	K-12 School	NY	$ 3,183,071
2020	Marlboro Central School District NY Phase 1	K-12 School	NY	$ 7,647,038
2020	City of Oneida	Local Govt. - City	NY	$ 47,327,302
2020	Teaneck Public Schools Board of Education NJ - ESIP Phase 1CO	K-12 School	NJ	$ 200,000
2020	Central Islip Union Free School District (CISD)	K-12 School	NY	$ 7,423,335
2020	Altoona Water Authority PA, Westerly WW Treatment Facility, GESA	Local Govt. - City	PA	$ 35,871,539
2020	Paterson Public Schools NJ - Standard Solar Inc.	K-12 School	NJ	$ 550,000
2020	Teaneck Public Schools Board of Education NJ - ESIP - Phase 1	K-12 School	NJ	$ 7,186,678
2020	Paterson Public Schools NJ - Phase 2 - ESIP	K-12 School	NJ	$ 13,502,397
2020	Regional School Unit No. 87 (RSU-87), ME School Administrative District	K-12 School	ME	$ 6,797,981
2020	Florida Union Free School District NY – EPC	K-12 School	NY	$ 3,308,443
2020	SCI Muncy (State Correctional Institution) - Dept. of Corrections, PA	State Govt.	PA	$ 18,358,791
2020	Central Regional School District NJ ESIP - Phase 1	K-12 School	NJ	$ 2,472,189
2020	Springfield Township PA - Phase 1	Local Govt. - City	PA	$ 799,710
2019	Lower Merion Township PA	Local Govt. - City	PA	$ 3,728,695
2019	Hempstead Union Free School District NY - EPC	K-12 Schools	NY	$ 11,950,645
2019	Hanover Fire & Rescue Commission PA - Fire Stations	Local Govt. - City	PA	$ 212,238
2019	West Milford Township Public Schools	K-12 Schools	NJ	$ 175,000
2019	Marlboro Township Public Schools NJ, Board of Education - Phase 1	K-12 School	NJ	$ 19,545,428
2019	Marlboro School District NJ, BOE - Solar PPA	K-12 School	NJ	$ 450,000
2019	Wyoming County Board of Education - Phase III	K-12 School	WV	$ 4,033,074
2019	West Milford Township Public Schools - ESIP Phase 1	K-12 Schools	NJ	$ 7,179,721
2019	Kings Park Central School District NY	K-12 School	NY	$ 8,325,643
2019	Morris Hills Regional School District, NJ - ESIP P1 PPA	K-12 School	NJ	$ 450,000
2018	Baltimore MD DOT, City of - Phase 2	Local Govt. - City	MD	$ 2,422,000

Contract Signing Year	Customer	Customer Classification	State	Project Total
2018	Montpelier, VT - W Resource Recovery Facility (WRRF)	Local Govt. - City	VT	$ 16,783,409
2018	Long Branch Public Schools Board of Education NJ - ESIP Phase 1	K-12 School	NJ	$ 9,376,083
2018	Harrison County Board of Education, West Virginia - Phase 4	K-12 School	WV	$ 5,746,335
2018	Montgomery County MD - Phase 2 MOD B	Local Govt. - County	MD	$ 8,262,924
2018	Morris Hills Regional School District, NJ - Phase 1	K-12 School	NJ	$ 7,199,316
2018	Freeport Union Free School District NY	K-12 School	NY	$ 6,283,913
2018	PA Dept. of Conservation & Natural Resources (DCNR) (PA GESA 4)	State Govt.	PA	$ 5,570,033
2018	Mountain View School District (MVSD), PA - Phase 1	K-12 School	PA	$ 9,521,422
2018	Harrison County Board of Education, West Virginia - Phase 3	K-12 School	WV	$ 3,832,177
2018	Paterson Public Schools NJ - Solar - HESP	K-12 School	NJ	$ 582,000
2018	Town of Niskayuna NY - Phase 3 - WWTP	Local Govt. - City	NY	$ 14,065,000
2018	Washington Suburban Sanitary Commission (WSSC) MD - Phase IIF	Local Govt. - County	MD	$ 8,560,401
2016	Town of Niskayuna NY - Phase 1 – WWTP	Local Govt. - City	NY	$ 8,993,396
2017	Paterson Public Schools NJ - Phase 1	K-12 School	NJ	$ 12,230,834
2017	Regional School Unit No. 57 (RSU-57)	K-12 School	ME	$ 12,926,274
2017	Sayville Public Schools	K-12 School	NY	$ 6,151,771
2017	Beckley WV, City of - Beckley Sanitary Board (BSB)	Local Govt. - City	WV	$ 13,475,930
2017	Town of Niskayuna NY - Phase 2 - WWTP	Local Govt. - City	NY	$ 8,175,787
2017	Putnam County Board of Education	K-12 School	WV	$ 5,329,753
2017	Harrison County Board of Education, West Virginia - Phase 2	K-12 School	WV	$ 3,256,207
2017	Butler Public Schools, *BOE of the Borough of Butler in the County of Morris*	K-12 School	NJ	$ 1,619,518
2016	Scope Educational Services *(Non-Profit Supporting Long Island School Districts)*	K-12 School	NY	$ 33,973
2016	Middletown New York, City of	Local Govt. - City	NY	$ 12,459,630
2016	Nicholas County Schools PC	K-12 School	WV	$ 4,309,556
2016	Montgomery County MD - Phase 1	Local Govt. - County	MD	$ 4,229,294
2015	Mercer County Schools	K-12 School	WV	$ 9,481,056
2015	Monongalia Schools in West Virginia, Phase 3	K-12 School	WV	$ 499,965
2015	Ocean City, Maryland, Town of	Local Govt. - City	MD	$ 4,520,884
2015	Regional School Unit No. 74 (RSU-74), ME School Administrative District	K-12 School	ME	$ 2,952,124
2015	SCI Dallas (State Correction Institution) - Department of Corrections	State Govt.	PA	$ 20,434,067
2015	Summers County Board of Education	K-12 School	WV	$ 31,817
2014	Howard County Government - Phase VI	Local Govt. - County	MD	$ 17,735,453
2014	Harrison County Board of Education, West Virginia - Phase 1	K-12 School	WV	$ 6,002,238
2014	Monongalia Schools in West Virginia, Phase 2	K-12 School	WV	$ 1,016,720
2014	Pen Bay Medical Center, Phase 2 – ESPC	Hospital-Private	ME	$ 3,078,535
2014	Woodbridge CT, Town of -- Beecher Road School, Phase 1	K-12 School	CT	$ 12,901,603
2014	Frederick-Winchester Service Authority (FWSA)	State Govt.	VA	$ 47,041,534
2013	Woodbridge CT, Town of -- Beecher Road School, Phase 2	K-12 School	CT	$ 374,799
2013	Pen Bay Medical Center, Phase 1c	Hospital-Private	ME	$ 267,933
2013	Pen Bay Medical Center, Phase 1a	Hospital-Private	ME	$ 1,688,691
2013	Summers County Board of Education	K-12 School	WV	$ 1,910,994
2013	Wyckoff Board of Education & Public School District	K-12 School	NJ	$ 155,000
2013	Jackson County Schools, West Virginia	K-12 School	WV	$ 2,052,438
2013	Howard County Government - Phase V	Local Govt. - County	MD	$ 1,484,339
2013	Clay County Schools	K-12 School	WV	$ 3,598,929
2012	Wyoming County Board of Education - Phase II	K-12 School	WV	$ 3,280,754
2012	Glenville State College	Higher Ed-State	WV	$ 4,225,701

Contract Signing Year	Customer	Customer Classification	State	Project Total
2012	Coppin State University	Higher Ed-State	MD	$ 5,883,461
2012	Elizabeth Seton High School	K-12 School	MD	$ 510,075
2012	Wicomico County Government MD, Phase 2	Local Govt. - County	MD	$ 4,331,374
2011	McDowell County Schools	K-12 School	WV	$ 2,339,141
2011	Howard County Government - Phase IV	Local Govt. - County	MD	$ 310,003
2011	Baltimore MD DGS Energy Division, City of	Local Govt. - City	MD	$ 233,499
2011	Monongalia Schools in West Virginia, Phase 1	K-12 School	WV	$ 2,344,759
2011	Baltimore MD Parking Authority (PABC)	Local Govt. - City	MD	$ 4,552,722
2011	Baltimore MD DOT, City of - Phase 1	Local Govt. - City	MD	$ 19,325,047
2011	Wicomico County Government MD, Phase 1	Local Govt. - County	MD	$ 1,281,463
2010	Washington Suburban Sanitary Commission (WSSC) MD - Phase IF	Local Govt. - County	MD	$ 6,189,782
2010	Maryland State Highway Administration (SHA)	State Govt.	MD	$ 11,071,608
2010	Maryland State Highway Administration (SHA)	State Govt.	MD	$ 12,318,437
2010	Howard County Government - Phase III	Local Govt. - County	MD	$ 89,771
2010	Maryland Transportation Authority (MDTA)	State Govt.	MD	$ 8,135,743
2010	University of Baltimore Phase 2	Higher Ed-State	MD	$ 761,484
2009	Howard County Government - Phase II	Local Govt. - County	MD	$ 1,095,227
2009	Howard County Government - Phase I	Local Govt. - County	MD	$ 4,343,343
2009	City Springs Elementary	K-12 School	MD	$ 87,147
2009	Northern Neck Technical Center, Phase 2	K-12 School	VA	$ 1,413,774
2008	University of Baltimore Phase 1	Higher Ed-State	MD	$ 15,860,732
2008	Northern Neck Technical Center, Phase 1	K-12 School	VA	$ 6,000
2007	Maryland, State of - Maryland Armories Phase 2	State Govt.	MD	$ 157,908
2007	Westmoreland County Public Schools, VA	K-12 School	VA	$ 2,486,665
2007	Wyoming County Board of Education - Phase I	K-12 School	WV	$ 1,377,254
2007	Baltimore MD Schools, City of - Phase 2	K-12 School	MD	$ 4,211,543
2006	Baltimore MD Schools, City of - Phase 1	K-12 School	MD	$ 44,047,947
2006	Baltimore MD, City of - LED Project, Phase 1	Local Govt. - City	MD	$ 6,487,655
2005	Southwest Virginia Mental Health Institute	Hospital-State	VA	$ 1,628,725
2005	Woodrow Wilson Rehabilitation Center	Hospital-State	VA	$ 2,603,658
2005	Norfolk State University - Phase 2	Higher Ed-State	VA	$ 12,900,249
2004	Emory and Henry College	Higher Ed-Private	VA	$ 4,534,740
2004	Virginia Intermont College	Higher Ed-Private	VA	$ 792,508
2003	Norfolk State University - Phase 1	Higher Ed-State	VA	$ 3,228,705
2003	Virginia School for the Deaf and Blind	State Govt.	VA	$ 1,907,583
1997	York County Schools, VA	K-12 School	VA	$ 970,079

2.5 Goal/Objective 5: The selected Vendor will be expected to begin coordinating a schedule with the WV DA GSD by which the aforementioned goals and objectives would be achieved, as part of the final scope negotiations in preparation of awarding the contract resulting from this solicitation. The General Conditions of the CEOI express a Contract Term of One (1) Year, with Three (3) possible 1-year renewals terms. However, the intent of the WV DA GSD is to begin and complete the work covered by this contract as soon as possible after award.

Within their proposal, Vendors should provide documentation to indicate their readiness to dedicate resources to this contract as soon as possible after award, and their willingness to coordinate and abide by an expeditious schedule to achieve the deliverables manifesting in the final negotiated scope of work. Organizational charts, indicating what Vendor resources would be applied to this project (and what areas of responsibility they might have) are preferred to be included in the proposal.

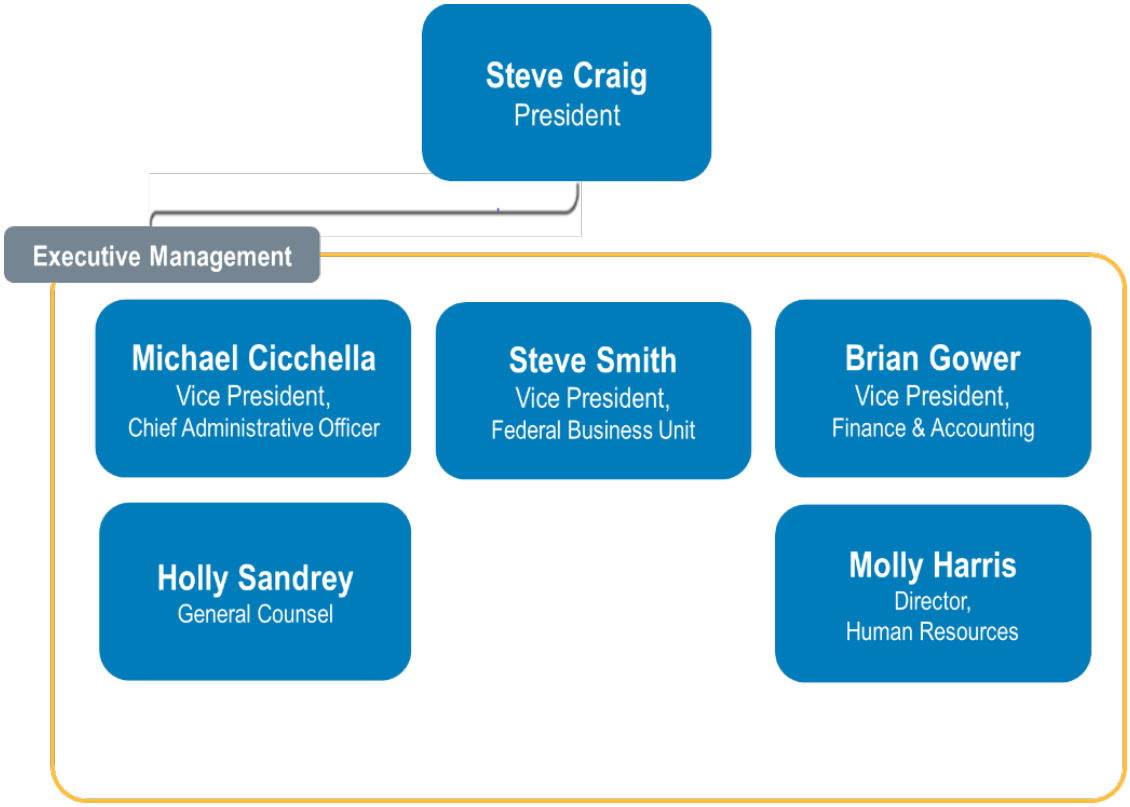
STATEMENT OF COMMITMENT

Once ESG is selected as your partner ESG is ready to dedicate the necessary resources to work on the feasibility study and master plan of the WV DA GSD facilities. ESG is also willing to coordinate and abide by and expeditious schedule to achieve the deliverables manifesting in the final negotiated scope of work. ESG has the capabilities and resources to partner with WV DA GSD to provide coordination, planning and implementation of numerous projects with the assistance of local subcontractors. ESG will work diligently to meet the needs and achieve the deliverables needed by WV DA GSD. As can be seen on ESG's references in section 2.3 the studies, design and turnkey construction of our projects is done in short order.

ESG will also work quickly to help WV DA GSD get your short-term operations and maintenance needs met utilizing local providers, before further developing long term operations and maintenance solutions. The maintenance services that will be secured by ESG for WV DA GSD can provide repair services available 24 hours a day with a maximum response time of 2 hours for WV DA GSD critical systems. ESG and WV DA GSD working together to select service providers, will allow WV DA GSD to have a choice on how the maintenance is structured and how much it costs. ESG will work with WV DA GSD to obtain the best-value services. ESG will find the best, most qualified, most cost-effective maintenance providers and bring the results to WV DA GSD so we can work together to choose the needed services. With our experience of doing this for other customers, ESG will bring objectivity to directing WV DA GSD towards the right solution for their situation. This gives WV DA GSD ultimate flexibility in choosing how to handle maintenance throughout WV DA GSD facilities.

Shown on the following page, is our Executive Management Organizational Chart, as well as, an Organizational Chart depicting the project team assigned to the WV DA GSD.

EXECUTIVE MANAGEMENT ORGANIZATIONAL CHART



STAFFING PLAN ORGANIZATIONAL CHART

The ESG Project Team for
West Virginia Department of Administrative Services

3. *Qualifications, Experience, and Past Performance: Vendors shall provide information regarding its employees, such as staff qualifications and experience in completing similar projects; references; copies of any staff certifications or degrees applicable to this project; proposed staffing plan; descriptions of past projects completed entailing the locations of the projects, project manager name and contact information, type of project, and the project goals and objectives and how they were met.*

COMPANY – DEGREES, LICENSES AND CERTIFICATIONS

ESG STAFF DEGREES, LICENSES AND CERTIFICATIONS	NUMBER OF EMPLOYEES
Doctorate Degree	5
Master's Degree	51
Batchelor's Degree	179
Associates' Degree	29
BEMP: Cert Building Energy Modeling Prof	1
BEP: Certified Business Energy Professional	1
CAPM: Cert Associate in Project Management	1
CBCP: Cert Building Commissioning Professional	4
CCTOE1: CCCT Plant Operating Engineer 1st Class	1
CDSM: Certified Demand Side Manager	3
CEA: Certified Energy Auditor	8
CEAIT: Certified Energy Auditor In Training	1
CEM: Certified Energy Manager	47
CEP: Cert Energy Procurement Professional	1
CIAQP: Cert Indoor Air Quality Professional	1
CISM: Certified Information Security Manager	1
CLCP: Certified Lighting Controls Professional	2
CLEP: Certified Lighting Efficiency Profession	7
CMRP: Cert Maintenance & Reliability Prof	1
CMVP: Certified M&V Professional	19
CMVP-IT: Certified M&V Professional In Training	1
COMPTIAS+: CompTIA Security+	1
CPA: Certified Public Accountant	4
CPC: Certified Professional Constructor	1
CPP: Certified Payroll Professional	1
CQM: Certified Quality Manager	5
CSB: Communication Skills for Business	1
CSM: Certified Safety Manager	1
CSP: Certified Safety Professional	1
DBIA: Certified Design-Build Professional	1
EIT: Certified Engineer in Training	2
ELE: Licensed Electrician	4
EMIT: Energy Manager In Training	5

ESG STAFF DEGREES, LICENSES AND CERTIFICATIONS	NUMBER OF EMPLOYEES
GBE: Certified Green Building Engineer	3
HVAC: HVAC License	5
ITSM: IT Service Management	1
LC: Lighting Certified	1
LEED GA: Certified LEED Green Associate	3
LEEDAPBD+C: LEED AP Building Design + Construction	4
LEEDAPO+M: LEED AP Operations + Maintenance	1
LSSYB: Lean Six Sigma Yellow Belt	1
NIULPE: National Inst Uniform Licensing Power Engineer	1
PBA: Professional in Business Analysis	1
PE: Professional Engineer	33
PENG: Cert Power Engineer	5
PMP: Project Management Professional	8
PMVA: Performance M&V Analyst	1
PPOE1: Power Plant Operating Engineer 1st Class	1
QCXP: Qualified Commissioning Process Provider	1
REP: Renewable Energy Professional	1
SHRM SCP: SHRM Senior Certified Professional	1
SPHR: Sr. Professional in Human Resources	1
SSHO: Site Safety & Health Officer	1
STENG: Cert Stationary Engineer	15

PROPOSED STAFFING PLAN

Shown below is ESG's internal team that we have assembled as primary project development and implementation for WV DA GSD. Resumes for our team members can be found immediately following this chart. Additional ESG team members may be added based on specific project needs. This team not only bring diverse experiences, but a perspective on best practices.

Project Responsibilities	Key Personnel
Business Development Manager / Key Contact	Audra Blackwell
General Manager	Dave Jones
Sales Manager and Electrical Engineer	David Ames
Engineering Manager	John Topmiller
Senior Performance Engineers	Brian Borillo and Dan Khuu
Operations Manager	Steve Richmond
Senior Project Manager	Jeff Allred
Site Auditor	Dan Khuu
Senior Director, Projects & Financing	Dan Harsh
Monitoring & Verification Specialist	Brian Borillo
Company Officer with Negotiation Rights and Signing Authority	Steven Craig, President

TEAM RESUMES

Audra Blackwell, MBA, Business Development Manager / Project Leader / Key Contact

Audra joined ESG in 2008 and brought with her a background in working with state and government agencies in a variety of areas including engineering, construction, project development, financial and capital management. Prior to joining ESG, Audra was the Marketing Director for the West Virginia State Treasurer's Office, and she has also previously worked for West Virginia's Public Service Commission Engineering Division. In her current role with ESG, Audra helps clients identify areas at their facilities where targeted improvements can bring about substantial energy and operational cost savings and then leads the development and implementation of these improvements. Audra holds a B.A. in Chemistry and a B.S. in Chemical Engineering from West Virginia University. She also received her MBA from Marshall University. She is a member of ASHRAE. She is very active with WV K-12 Schools organizations including WV Association of School Administrators, WV School Boards Association and WV Association of School Business Officials. She is currently serving on the Executive Committee for the WV Association of School Facility Administrators and has for the past 12 years. She is also serving as a Board Member for the WV Association of Physical Plant Administrators for Higher Education. She is a member of the WV Chamber of Commerce. Governor Jim Justice appointed her to his Energy and Environment Committee. In her free time she volunteers to work on community improvement projects as Board Member for the Mullens Community Development Council, and the President of the Bedford Road Neighborhood Garden Club in Charleston, WV.

Recent Similar Projects

- Cabell County Schools, WV | $11 M
- Gilmer County Schools, WV, ESSER | $1.7 M
- Gilmer County Schools, WV, Non-ESSER | $1.4 M
- Wyoming County Schools, WV | $4 M
- Harrison County BOE - Phase 2, WV | $3.3 M
- Harrison County BOE - Phase 3, WV | $3.8 M
- Harrison County BOE - Phase 4, WV | $5.7 M
- Putnam County BOE, WV | $5.3 M
- Nicholas County Schools, WV | $4.3 M
- Mercer County Schools, WV | $9.5 M
- Harrison County BOE, WV | $6 M

Dave Jones, Northeast General Manager

As the Northeast Region's General Manager, Dave oversees a large team of accomplished business development staff, engineers, construction managers, project managers, and support staff. Dave's team specializes in developing performance contracting projects for customers in state and local government, K-12 education, corrections, higher education, and healthcare. Dave has over 20 years of experience in the energy sector with a background in operations & engineering management, water and wasterwater management, business development & sales management, and general management. Dave holds a B.S. in Agricultural Engineering Technology from Cornell University and an MBA from Rensselaer Polytechnic Institute.

Recent Similar Projects

- SCI Correctional Facility - Fayette, PA | $39 M
- SCI Correctional Facility – Muncy, PA | $18.3 M
- SCI Correctional Facility - Dallas, PA | $20.5 M
- Bristol VA Public Schools, Phase 2 ESSER | $1.7 M
- Bristol VA Public Schools, Phase 2 PC | $2.0 M
- North Babylon School District, NY | $17.1 M
- PA Fish & Boat Commission, PA | $6 M
- Cabell County Schools, WV | $11 M
- Buena Vista Schools, VA | Indoor Air Quality | $225k

David Ames, Northeast Sales Manager / Electrical Engineer

David oversees sales efforts for ESG's Northeast Region. He manages a team of Account Executives and creates policies and procedures aimed at ensuring customer satisfaction throughout the project development, implementation, and M&V phases. In 17 years at ESG, David has overseen a substantial number of projects for a diverse array of customers in the education, municipal, correctional, and healthcare market segments. David is a past president of the Association of Energy Engineers Central Virginia Chapter, and has previously served on the ASHRAE Committee on Geothermal Heat Pumps. David is an electrical engineering graduate of Virginia Military Institute and has served on VMI's Electrical Engineering Department Advisory Committee. Additionally, David has a Master of Business Administration degree from University of Richmond. David previously served for more than 8 years as a combat engineer officer in the VA Army National Guard.

Recent Similar Projects

- SCI Correctional Facility - Fayette, PA | $39 M
- SCI Correctional Facility – Muncy, PA | $18.3 M
- SCI Correctional Facility - Dallas, PA | $20.5 M
- Bristol VA Public Schools, VA | Phase 2 ESSER | $1.7 M
- Bristol VA Public Schools, Phase 2 PC | $2.0 M
- Buena Vista Schools, VA | IAQ | $225k
- Bristol VA Board of Education, VA | IAQ | $440k
- Cabell County Schools, WV | $11 M
- PA Fish & Boat Commission, PA | $6 M

John Topmiller, PE, CEM, LEED AP, Northeast Engineering Manager

John is a performance-driven engineering and operations leader with over 20 years of experience in the energy sector. In his role he provides guidance and support for all engineering functions, including evaluation of customer needs, development of engineered solutions, accurate construction cost estimates, energy savings estimates and guarantees, selection of consultants, contractors and vendors. He also completes and reviews designs, oversees activities to ensure a smooth transition from the development phase into implementation. Prior to joining ESG, John was an engineering manager for Honeywell International. John holds a B.S. in Mechanical Engineering from the University of Dayton and a M.S. in Energy Management from the New York Institute of Technology.

Recent Similar Projects

- State Correctional Institute at Fayette, PA | $39 M
- Cabell County Schools, WV | $11 M
- Kingston City School District, NY | $3.9 M
- NH Department of Administrative Services | $3.9 M
- North Babylon School District, NY | $17.1 M
- Redeemer Retirement Village - HUD Housing | $3.6 M
- West Babylon UFSD, NY | $10.8 M
- City of Newark, New Jersey | $7 M

Memberships & Certifications: ASHRAE Standard Committee 90.1 - Energy Standard for Buildings Except Low-Rise Residential Buildings, ASHRAE Standard Committee 100 - Energy Efficiency in Existing Buildings, Energy and Sustainability Community of Interest for the Society of American Military Engineers, Professional Engineer Licensed in Pennsylvania, Delaware, New Jersey, and Maryland, Certified Energy Manager, LEED AP | WELL AP

Brian Borillo, CEM, CEA, EIT – Senior Performance Engineer / M&V Specialist

Brian is a Snior Performance Engineer for ESG's Northeast Region. He has more than a decade of engineering experience. He oversees measurement and verification processes on projects, institutes field surveys, creates designs and specifications, provides technical analysis, and assists in the management of construction activities. Brian also prepares preliminary cost estimates and energy savings, working alongside customers to ensure that their needs are met. Additionally, Brian keeps the client up-to-date on the results he gathers from analyses that he conducts. At the completion of the project, Brian verifies operational cost and energy savings. Before joining ESG in 2008, Brian served in the U.S. Navy for seven years, where he supervised the safe operation of nuclear reactors, steam systems, propulsion systems, and electric plants as a Submarine Warfare Officer. Brian holds a B.S. in Mechanical Engineering from Virginia Polytechnic Institute and State University.

Recent Similar Projects

- Bristol VA Public Schools, Phase 2 ESSER | $1.7 M
- Bristol VA Public Schools, Phase 2 PC | $2.0 M
- Cabell County Schools, WV | $10 M
- Buena Vista Schools, VA | Indoor Air Quality | $225k
- Gilmer County Schools, WV, ESSER | $1.7 M
- Gilmer County Schools, WV, Non-ESSER | $1.4 M
- State Correctional Institute at Fayette, PA | $39M
- SCI Correctional Facility – Muncy, PA | $18.3 M
- SCI Correctional Facility - Dallas, PA | $20.5 M

Certifications: Certified Energy Auditor (CEA); Certified Energy Manager (CEM); Engineer in Training (EIT); Nuclear Reactor Supervisor; Qualified Navy Nuclear Engineer

Professional Affiliations:
Association of Energy Engineers (AEE); American Association of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)

Dan Khuu, CEM, Senior Performance Engineer / Mechanical Engineer / Auditor / Commissioning Agent

Dan is an engineering professional with over 25 years of experience in the energy services industry. In his role, Dan completes technical analysis by surveying facilities to determine their energy savings potential, and he creates estimations for equipment and installation costs. He provides guidance and support for all engineering functions, including evaluation of customer needs, development of engineered solutions, accurate construction cost estimates, energy savings estimates and guarantees, selection of consultants, contractors and vendors. He also oversees activities to ensure a smooth transition from the development phase into implementation. Throughout the project, Dan maintains daily communication with subcontractors regarding the installation. He also oversees the overall administrative and technical management of performance-based contracts during all phases of the project. Dan holds a B.S. in Mechanical Engineering from the Rochester Institute of Technology.

Recent Similar Projects

- SCI Correctional Facility - Fayette, PA | $39 M
- SCI Correctional Facility – Muncy, PA | $18.3 M
- SCI Correctional Facility - Dallas, PA | $20.5 M
- North Babylon School District, NY | $17.1 M
- PA Fish & Boat Commission | $6 M
- Central Islip UFSD, NY | $8.6 M
- Florida UFSD, NY | $3.3 M
- Hempstead UFSD, NY | $11.9 M
- Kings Park CSD, NY | $8.3 M

Certifications & Affiliations: Certified Energy Manager (CEM); Certified Measurement and Verification Professional (CMVP); Association of Energy Engineers (AEE)

Stephen Richmond, CEM, LEED GA, Northeast Operations Manager

Steve is a seasoned construction professional with over 30 years of experience, having managed over one hundred projects over the course of his career. As Operations Manager for ESG's Northeast Region, Steve establishes staffing needs for the construction group; arranges for recruitment or assignment of construction personnel; ensures a smooth transition between engineering and project management; manages, directs, coordinates, and mentors the project management group to ensure that project goals are being met from conceptual design to developing scope; and ensures customer satisfaction and delivery of projects on schedule and within budget.. Steve holds a B.S. in Industrial Technology from Kean University with a specialization in Mechanical Contracting.

Recent Similar Projects

- SCI Correctional Facility - Fayette, PA | $39 M
- SCI Correctional Facility – Muncy, PA | $18.3 M
- DCNR West – PA GESA 4 – PA | $5.7 M
- City of Middletown, NY | $13 M
- SCI Correctional Facility – Dallas, PA | $20.4 M
- Bristol VA Public Schools, Phase 2 ESSER | $1.7 M
- Bristol VA Public Schools, Phase 2 PC | $2.0 M
- Morris Hills BOE, NJ | $2.1 M
- North Babylon School District, NY | $17.1 M
- PA Fish & Boat Commission | $6 M

Certifications & Affiliations: Certified Energy Manager (CEM); Leadership in Energy and Environmental Design Green Associate (LEED GA); OSHA 30-hour General Industry Certification; Association of Energy Engineers (AEE)

Jeff Allred, Senior Project Manager | Primary Responsibility for Construction Management

As a Project Construction Manager, Jeff oversees project design and contract negotiations for ESG's projects in the public sector. He creates project specifications catered to the customer's interests and ensures that ESG's partners are fully satisfied with delivered products. Moreover, Jeff organizes on-site personnel and coordinates communications and develops relationships with contractors and subcontractors. He coordinates all aspects of project delivery and is the primary point of contact for all internal personnel, external contractors, subcontractors, and customer agents; he also ensures that each project adheres to OSHA, federal, and state safety regulations and also tracks the financial progress of each project in order to ensure that the project is finished within budget. Jeff holds a B.S. in Industrial Management and an Associate of Science in Electrical Engineering Technology, both from West Virginia Institute of Technology.

Recent Similar Projects

- SCI Correctional Facility – Muncy, PA | $18.3 M
- Bristol VA Public Schools, Phase 2 ESSER | $1.7 M
- Bristol VA Public Schools, Phase 2 PC | $2.0 M
- Cabell County Schools, WV | $11 M
- Buena Vista Schools, VA | Indoor Air Quality | $225k
- Gilmer County Schools, WV, ESSER | $1.7 M
- Gilmer County Schools, WV, Non-ESSER | $1.4 M
- Wyoming County Schools, WV | $4 M
- Harrison County BOE - Phase 4, WV | $5.7 M
- Putnam County BOE, WV | $5.3 M
- Nicholas County Schools, WV | $4.3 M

CORPORATE SUPPORT

Dan Harsh, Senior Director, Projects & Financing

Dan has over 30 years of commercial banking and energy services industry experience. He has developed project financing solutions involving a wide array of financial instruments including tax-exempt leases, commercial leases, loans, installment purchase agreements, energy services agreements, and Tax Credit Bonds such as Qualified Energy Conservation Bonds (QECB), Qualified Zone Academy Bonds (QZAB), Recovery Zone Economic Development bonds (RZEDB), and Build America Bonds (BAB). Dan oversees all aspects of ESG's project financing processes, from assisting with responses to dealing directly with lenders and investors and with customers and their financial advisors to develop and close project financings. Before joining ESG, Dan worked for Honeywell Global Finance as Director of Finance. Dan received his B.A. in Finance and Business Administration from Kent State University.

Steven Craig, President

Steve serves President for Energy Systems Group, LLC. As President of ESG, Steve is responsible for setting the overall strategic direction and vision for the firm as well as maintaining a productive and engaging corporate culture. He oversees the day-to-day management of the company's business units, supporting their growth objectives while driving a culture of innovation, continuous improvement, and customer focus. Steven has been with ESG since 2019, previously serving as Director of Sales and Strategic Initiatives but has over 30 years of industry experience. Prior to joining ESG, Steven worked in various sales management roles at Honeywell. Steven holds his B.S. in Marketing from Texas Christian University.

REQUESTED PROJECT REFERENCE INFORMATION

CUSTOMER	LOCATION OF PROJECT	PROJECT MANAGER & PHONE NUMBER	TYPE OF CONTRACT
State of New Hampshire, NH – Dept. of Administrative Services	Concord, New Hampshire	Mike Evangelis, Sr. Project Manager 973.534.4254	Energy Performance Contract
Glenville State University, WV	Glenville, West Virginia	Jeff Allred, Sr. Project Manager 304.989.6478	Energy Performance Contract
McDowell County Schools, WV	Welch, West Virginia	Jeff Allred, Sr. Project Manager 304.989.6478	Energy Performance Contract
Cabell County Schools, WV	Huntington, West Virginia	Jeff Allred, Sr. Project Manager 304.989.6478	Energy Performance Contract

Please see summary and project case studies in Section 2.3 for more detailed information.

APPENDIX

Appendix:
Section 2.1

Sample
Feasibility Study

(Confidential)

Investment Grade Audit (IGA) for a
Guaranteed Energy Savings Project at

SCI Fayette Project

Project No.: GESA 2020-1

Tony Prelec, Account Executive

724.996.7970

December 2, 2021

Revised: December 28, 2021

energy systems group

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APPENDIX

SECTION 1 – EXECUTIVE SUMMARY

Energy Systems Group (ESG) appreciates the Pennsylvania Department of Corrections (DOC) and Department of General Services (DGS) selecting ESG as the ESCO of choice for this critical SCI Fayette Guaranteed Energy Savings Agreement (GESA) project. Every entity associated with the project - DGS, DOC, SCI Fayette, Entech, PSFEI, and CJL Engineering - has been instrumental in assisting ESG during the Investment Grade Audit (IGA) phase of the process.

From the very beginning, this time-sensitive SCI Fayette project has been a top priority for ESG. Early on, we assembled a comprehensive in-house team of professionals including Dan Khuu, Vipin Goel, Tom Twigg, Jerry Elmblad, Tony Prelec, David Ames, Dave Jones, Phil Neff, Craig Griffin, Scott Hayden, Angelica Wirst, Brooke Lawrence, Brian Borillo, and Steve Richmond, each of which is best in class and has considerable corrections experience. Our team is fully committed to a key goal of the project, having the new Central Utility Plant operational as soon as possible. As a result, with the Investment Grade Audit (IGA) submission, we are including 95% design documentation for the Central Utility Plant (CUP), including an interrelated improvement for new Kitchen Boilers, under Energy Conservation Measure (ECM) #12A. We are very thankful that PA DOC was able to issue ESG a Letter of Intent (LOI) to purchas the critical CUP equipment to help expedite the implementation of the CUP ECM and eliminate the need for steam from Fayette Thermal LLC or a temporary boiler.

PROJECT HIGHLIGHTS

60.1 %
REDUCTION IN ENERGY COSTS

$3.20M
YEAR ONE ANNUAL ENERGY AND OPERATIONAL COST SAVINGS

$38.88M
MILLION IN FACILITY IMPROVEMENTS

15 YR.
TERM OF GESA

The project featured in this IGA will provide solutions for several troublesome problems the facility has been dealing with for quite some time. More importantly, this GESA Project will give PA DOC the ability to provide their own heating and cooling in a significantly more cost-effective manner and eliminate the reliance on a third-party steam provider. The equipment and training provided through this GESA project will give PA DOC future peace of mind ensuring that the institution can continue to run smoothly with new reliable systems and equipment.

Listed below are all the ECMs selected by PA DOC to be included in this GESA project for SCI Fayette.

- ECM #1A Upgrade Interior and Exterior Lighting Replacement to LED, Replace Inverters for Emergency Lighting, Replace Micro-Lite Control System
- ECM #1A-1 Interior and Exterior Lighting Replacement to LED-Warehouse & Autoshop
- ECM #2 Water Conservation Measures
- ECM #3A Kitchen Exhaust Hood Controls
- ECM #3B Replace Six Dietary HVAC Make-up Air Units
- ECM #4 High-Efficiency Transformers
- ECM #5 Walk-In Box Controls and Replacement of Evaporators and Refrigerant Lines
- ECM #6 New Facility-wide Building Automation System (BAS)
- ECM #7 Correct Ventilation Issues in the Dietary Area and "K" Block Bathrooms
- ECM #8 Rooftop HVAC Unit and Air Handling Unit Steam Cleaning and Air Filter Replacement
- ECM #9 Replacement of the Simplex Fire System
- ECM #10 Replace 7 of 19 Domestic Hot Water Generators
- ECM #11 Add Electric Vehicle Charging Stations
- ECM #12A Central Plant Mechanical Upgrades (Steam to High-Temperature Hot Water)
- ECM #12B Install New Emergency Generator and Provide New Generator Controls in the Central Plant
- ECM #12C Replacement of Central Plant Roof
- ECM #12 D Provide Redundant Electrical Feed to Chillers
- ECM #13 Replace Dietary Coolers and Hot Boxes
- ECM #14 Install New Waste Bagging System in the Waste Ladder Building

ESG is looking forward to providing all the ECMs listed above in a timely manner, and we look forward to continuing to work with the SCI Fayette Staff, who has been very positive and helpful during the IGA development process. ESG intends to use CJL Engineering Commissioning Group as the 3rd party commissioning agent for the Central Utility Plant. We appreciate the opportunity to be your ESCO of choice for the SCI Fayette, and we look forward to finalizing the contract expeditiously, so we can implement another very successful project for PA DOC. Thank you again for this excellent opportunity to continue the success of the Pennsylvania GESA program.

SECTION 2 – FINANCIALS

This section presents the Project Cash Flow for a 15-Year GESA Project, followed by by-ECM summary of costs, utility savings, rebates and Summary of Project Costs for the facility at SCI Fayette.

Energy Performance Contract Cash Flow

Date:	**11/19/2021**								
Project Cost	$38,888,719	*Includes - Design/Consultant Fees*		*Interest Rate*	**2.35%**				
Year 1 M&V	$127,727	*Include in Project Financed*							
Rebates/ Incentives	$86,137	*Act 129 Rebate*		*Escalation Rate (Energy/Labor/Maintenace)*	1.0%				
Client Contingency	$1,407,004	*Includes - Client & Price Risk Control Contingency*		*Construction Period (Months)*	24		*Savings Term*	*15*	*Years*
Design/Consultant Fee	$1,495,720	*4%*		*Payment Frequency*	Annual		*M&V Term*	*3*	*Years*
Net Project Cost to be Financed	$40,423,451			*Apply Step Payment*	Variable		*Construction Interest Amount*	*$1,899,902*	*Included*
First Year Energy Savings	$3,911,101								

	A	B	C	D	E	F	G	H	I	J	K
	Annual Energy Costs without Improvement	**Annual Energy Costs with Improvement**	**Annual Energy Cost Savings (A-B)**	**O&M Savings**	**Total Savings (C + D)**	**Payments for Financing Equipment**	**Energy Related Cost Savings**	**Payments for Monitoring & Maintenance Services**	**Net Annual Benefits**	**Cumulative Cash Flow**	**Net Present Value of Cash Flow**
Construction	$5,262,822	$4,549,942	$712,881	$0	$712,881	$0	$0	$0	$712,881	$712,881	
1	$5,315,450	$1,404,350	$3,911,101	$39,483	$3,950,584	$3,820,945	$0	$127,727	$1,911	$714,792	
2	$5,368,605	$2,134,924	$3,233,681	$39,878	$3,273,559	$3,142,982	$0	$129,005	$1,572	$716,364	
3	$5,422,291	$2,156,273	$3,266,018	$40,277	$3,306,295	$3,174,412	$0	$130,295	$1,588	$717,952	
4	$5,476,514	$2,177,836	$3,298,678	$40,679	$3,339,357	$3,337,688	$0	$0	$1,670	$719,622	
5	$5,531,279	$2,199,614	$3,331,665	$41,086	$3,372,751	$3,371,065	$0	$0	$1,686	$721,308	
6	$5,586,592	$2,221,610	$3,364,981	$41,497	$3,406,479	$3,404,775	$0	$0	$1,703	$723,012	
7	$5,642,458	$2,243,826	$3,398,631	$41,912	$3,440,543	$3,438,823	$0	$0	$1,720	$724,732	
8	$5,698,882	$2,266,265	$3,432,618	$42,331	$3,474,949	$3,473,211	$0	$0	$1,737	$726,469	
9	$5,755,871	$2,288,927	$3,466,944	$42,754	$3,509,698	$3,507,943	$0	$0	$1,755	$728,224	
10	$5,813,430	$2,311,817	$3,501,613	$43,182	$3,544,795	$3,543,023	$0	$0	$1,772	$729,997	
11	$5,871,564	$2,334,935	$3,536,629	$43,614	$3,580,243	$3,578,453	$0	$0	$1,790	$731,787	
12	$5,930,280	$2,358,284	$3,571,996	$44,050	$3,616,046	$3,614,238	$0	$0	$1,808	$733,595	
13	$5,989,583	$2,381,867	$3,607,716	$44,490	$3,652,206	$3,650,380	$0	$0	$1,826	$735,421	
14	$6,049,478	$2,405,686	$3,643,793	$44,935	$3,688,728	$3,686,884	$0	$0	$1,844	$737,265	
15	$6,109,973	$2,429,742	$3,680,231	$45,385	$3,725,615	$459,671	$0	$0	$3,265,944	$4,003,210	
Total	**$85,562,250**	**$33,315,956**	**$52,246,294**	**$635,554**	**$52,881,848**	**$49,204,492**	**$0**	**$387,027**	**$3,290,329**	**$4,003,210**	**$2,325,632**

ECM Cost and Saving Breakouts

		A	B	C	D	E	F	G Annual Utility Savings			
ECM #	ECM Description	Construction Cost	Utility Rebates	Annual Energy Savings	O&M Savings	Total Energy and O&M Savings	Simple Payback	Natural Gas (therms)	Electric (kwh)	Water Sewer (Kgal)	Steam kLbs
ECM #1A	Interior and Exterior Lighting, Inverters and Micro-Lite	$4,432,381	$51,596	$100,550	$41,665	$142,215	31.2	-	1,733,622	-	-
ECM #1A-1	Interior and Exterior Lighting Replacement to LED - Warehouse & Autoshop	Cost included in ECM #1A	$865	$2,492	$0	$2,492		-	31,154	-	-
ECM #2	Water Conservation Measures	$3,166,746	$0	$214,451	$21,518	$235,969	13.4	21,006	-	24,990	-
ECM #3	Kitchen Exhaust Hood Controls & MUA Replacement	$548,260	$5,583	$12,586	$0	$12,586	43.6	17,569	187,586	-	-
ECM #4	High Efficiency Transformers	$777,519	$7,602	$14,815	$0	$14,815	52.5	-	255,428	-	-
ECM #5	Walk-In Box Controls and Replace Walk-ins Evaporator and Refrigerant Line	$314,239	$5,544	$10,803	$0	$10,803	29.1	-	186,263	-	-
ECM #6	New Facility-Wide Building Automation System (BAS)	$3,966,538	$5,948	$15,936	$86,760	$102,696	38.6	44,748	199,836	-	-
ECM #7	Correct The Ventilation Issues In The Dietary Area And "K" Block Bathrooms	$268,999	$0	$0	$0	$0		-	-	-	-
ECM #8	RTU & AHU - Steam Cleaning and Air Filter Replacement	$476,982	$0	$0	$0	$0		-	-	-	-
ECM #9	Replacement of the Simplex Fire System	$2,711,977	$0	$0	$65,978	$65,978	41.1	-	-	-	-
ECM#10	Replace 7 of 19 Domestic Hot Water Generators	$993,532	$0	$908	$6,731	$7,638	130.1	9,346	-	-	-
ECM#11	Electric Vehicle (EV) Charging Stations	$34,804	$9,000	$0	$0	$0		-	-	-	-
ECM#12	Install & Upgrade CUP Mechanical Equipment	$20,127,718	$0	$2,791,521	-$229,265	$2,562,256	7.9	394,393	(850,673)	-	140,000
ECM#12d	Provide Redundant Electrical Feed to Chillers	$202,500	$0	$0	$0	$0		-	-	-	-
ECM#13	Replace Dietary Coolers and Hot Boxes	$554,917	$0	$0	$0	$0		-	-	-	-
ECM#14	Install New Waste Bagging System in the Waste Ladder Building	$311,608	$0	$0	$46,096	$46,096	6.8	-	-	-	-
	Total Construction Costs	**$38,888,719**									
	Year 1 - M&V	$127,727									
	Client Contingency (2% + Price Risk)	$1,407,004									
	Design/Consultant Fee (4%)	$1,495,720	*Included in Total Construction Costs*								
	Net Project Cost to Financed	**$40,423,451**	**$86,137**	**$3,164,062**	**$39,483**	**$3,203,545**	**12.1**	**487,062**	**1,743,216**	**24,990**	**140,000**

Operational and Maintenance Savings

Year 1 - Operational and Maintenance Savings						
ECM #	**O&M Savings (3-year average) FY 2018 - 2020**	**Existing 3-yr average[1]**	**Proposed new Cost**	**Savings**	**% Reduction**	**Notes**
ECM #1A	Interior and Exterior Lighting, Inverters and Micro-Lite	$92,589	$50,924	$41,665	45%	Reduction in Lamps and Ballasts
ECM #2	Water Conservation Measures	$71,726	$50,208	$21,518	30%	Reduction in Plumbing Materials
ECM #6	New Facility-Wide Building Automation System (BAS)	$157,745	$70,985	$86,760	55%	Reduce Service Contract and Expenses (Siemens&Trane)
ECM #9	Replacement of the Simplex Fire System	$119,960	$53,982	$65,978	55%	Reduce Service Contract and Expenses
ECM#10	Replace 7 of 19 Domestic Hot Water Generators	$67,306	$60,575	$6,731	10%	Est. based on discussion with Mr. Booker
ECM#12	Install & Upgrade CUP Mechanical Equipment	$58,985	$288,249	-$229,265	-389%	Add contract & FTE(s) for new CUP equipment
ECM#14	Install New Waste Bagging System in the Waste Ladder Building	$65,852	$19,755	$46,096	70%	Reduce Service Contract and Hauling Fees
	Sub-total	**$634,163**	**$594,680**	**$39,483**	6%	

Rebates

ESG will work with each participant to maximize and apply for any available rebates. ESG will also work with the SCI Fayette to explore all available markets for utility rebates and incentives. In addition, there are a number of programs available to help incentivize utility customers to reduce their dependence on the grid and move towards more energy-efficient technology.

Utility Rebates and Grant		
Program	**ECM Descriptions**	**Frequency**
Act 129 -Utility Rebates	**$86,140**	**One-Time Payment**
Green-Gov Grant (EV Charging Rebate)	**$9,000**	**One-Time Payment**

- *Utility rebates & Grants - are estimated and are not guaranteed.*
- *Rebates calculated on $0.05/kWh of electrical consumption savings.*

SECTION 3 - UTILITY ANALYSIS

The staff at SCI Fayette provided Energy Systems Group (ESG) access to Electric, Natural Gas, Steam, Water, and Sewer utility information. This utility information, along with the building square footage provided, is the basis for our analysis.

The utility data was used to help establish the baseline energy consumption. The baseline is defined as the monthly and annual usage of each utility used at the facility and specifies usage with current equipment, operating schedules, and operational methodology. A baseline is determined for each utility. When choosing the baseline, ESG analyzes energy usage records for the most recent twelve to twenty-four consecutive months of utility information, taking into account any changes in facility equipment and operations that would alter the usage during the same period. The measurement of energy consumption and cost savings associated with the installed energy conservation measures is a comparison between the energy consumed during the guarantee analysis period and the respective baseline calendar period.

For the purpose of this analysis, SCI Fayette has a Central Utility Plant (CUP) that provides high-temperature hot water and chilled water to most of the facility. Chilled water is produced from absorption chillers (steam-powered). The CUP is located outside of the fence. Fayette Thermal, LLC. (Fayette Thermal), an offsite utility provides steam to the CUP. In addition, there are three (3) Miura boilers that are owned and operated by Fayette Thermal that are located in the CUP. There is a single electric meter (referred to as main) that provides electric power to the CUP and the facilities inside the fence.

The individual steam flow meters on each Miura boiler located in the CUP have not worked accurately for many years. There is a steam totalizer downstream that measures the combined total steam output from all three Miura Boilers at the CUP. There is also a gas sub-meter at the Fayette Thermal and CUP of the main gas meter. All these meters are manually read to track the usage. The accuracy and reliability of these meters are unknown. As per an email dated June 4, 2021, from Steve Jecker to Norm Klinikowski, the gas meter and steam totalizer were calibrated in the last year (2020).

An Auto Shop and Warehouse are located outside the fence near the CUP. This facility has its own electric meter (referred to as Auto Shop & Warehouse). The facility has limited cooling provided by direct exchange (DX) cooling units, and heating is provided via thermal energy from the CUP.

The Correctional Industries (CI) is a portion of the facility located inside the fence and used for industrial production. The heating hot water and cooling chilled water loads in the facility are provided from the CUP and serve rooftop units (RTUs). The CI has a gas submeter that is used to track the usage associated with process loads and gas-fired unit heaters in the storage area. The electric usage is estimated based on the square footage of the main electric meter.

A utility analysis was conducted primarily on the main electric meter. For the baseline period, electric generation is through WGL energy Services and distribution through West Penn Power. The natural gas distribution is through Columbia Gas of PA, and commodity is through Stand Energy. The utility data was used to help establish the baseline energy consumption.

Note: For natural gas MCF conversions to Dth or MMBTU, a value of 1.04Dth/MCF is used and is based on the conversion factor used in spreadsheets provided by SCI Fayette.

Typically, a facility is analyzed in terms of its specific usage per square foot for electric, gas, fuel oil, and water/sewer, as well as operating costs per square foot. Energy units are used to compare efficiencies and to compare the facility against regional and national averages. Energy units are used since they are independent of utility rates. The units/square foot and $/square foot are two of the most commonly used indices to identify facilities' average energy consumption (widely known as Energy Use Intensity (EUI)) and cost per year.

For a proper comparison of the pre and post-energy usage of a facility or an apples-to-apples comparison, baseline adjustments are performed to account for things such as non-operating equipment, equipment not operating per design, or the addition of new equipment that was not present during the baseline. This Utility Analysis Section shows both the Baseline and Adjusted Baseline. The calculations and details of the baseline adjustments are contained in the Appendix Section "Baseline Utility Analysis."

The following provides the energy use intensity (EUI, site) for the SCI Fayette.

BASELINE UTILITY ANALYSIS

For the project baseline period, **SCI Fayette- Main Meter** used **11,580,093 kWh**, with **1,803 kW/month** peak electric demand (based on Aug 2020 bill) and **131,871** MCF of natural gas, and excluded any baseline adjustment. This results in a total site unadjusted energy use intensity (EUI) of **289.0 kBtu/sqft,** which includes the electrical energy and square footage of the Auto Shop/Warehouse.

The **SCI Fayette – Correctional Industries** use is **estimated** by the Owner at **677,299 kWh,** which is calculated based on a square footage ratio to overall kWh usage of the Main Meter. The natural gas for the gas-fired unit heaters located in the storage area and process is **1,493 MCF,** recorded through natural gas submeter read manually. The heating and cooling for the main building is provided through CUP by rooftop units. The electric and natural gas by this building is included in SCI Fayette Main Meters.

The **SCI Fayette – Auto Shop/Warehouse** used **71,687 kWh**, with **37 kW/month** peak electric demand. The heating for this building is provided by CUP via hot water. The building has a separate electric meter and limited direct exchange (DX) cooling.

The residential accounts were excluded from our analysis.

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Preventative Maintenance

ESG's approach to equipment maintenance is designed to meet the specific needs of our customers in a cost-effective, customer-driven manner. The ESG approach to equipment maintenance clearly defines the required service work on all installed equipment, trains our customer's in-house staff as required, and identifies any service programs specifically needed to maintain factory warranties. In the event that our customer desires a full-service maintenance contract, ESG shall, upon request, recommend qualified service providers and assist our customer in developing the scope and parameters of a program. During construction and warranty periods for the first twelve months after substantial completion (by individual Energy Conservation Measure (ECM)), if an emergency were to occur, the ESG project manager and project engineer are available 24/7 and should be contacted to help facilitate proper handling and coordination of resources to ensure a quick response.

ESG will provide training on newly installed assets to ensure that existing staff can provide preventative maintenance to ensure the assets operate effectively and efficiently. Please refer to the Training Section below for further details on types of training.

Based on discussions with SCI Fayette and DGS staff, ESG has not included any preventative maintenance services to be provided by ESG. The maintenance services will be provided for the new assets by SCI Fayette maintenance staff and/or a third-party contractor at SCI Fayette's choosing and direction.

Once the equipment is installed and operational, SCI Fayette will be responsible for the operations, preventive maintenance, and upkeep of the equipment and/or systems.

Timely and proper preventative maintenance, in line with the equipment manufacturer's recommendations, is vital to the sustained performance and life of the installed assets as well as to maintain energy savings. SCI Fayette's maintenance staff will be instructed on proper documentation of maintenance performed on the assets installed under the energy performance contract to ensure that the equipment is operating at higher efficiency levels.

Training

ESG has a successful record of providing valuable technical training in support of GESA projects. ESG utilizes highly-skilled internal and third-party training staff depending on training requirements. Some areas of the training are standardized, though much of the supplied instruction is customized and tailored to be directly associated with the ECMs implemented during construction. ESG works closely with all key facility personnel to deliver educational training and seminars on the proper operation of equipment specific to the GESA Project ECMs as new assets are installed.

This customized and continual training program ensures correct operation and maintenance of equipment, optimal efficiency, and maximum extension of equipment life throughout the term of the agreement. What has worked well for ESG with previous customers is to combine on-site system-specific training with equipment-sponsored classroom training. We find that the on-site training on the specific equipment installed is more meaningful than classroom work.

As a result of the training developed for SCI Fayette, your maintenance staff will be capable of continually improving and sustaining operating efficiency.

ESG's comprehensive training program includes five major components:

1. Customized maintenance staff training and cross-training
2. Energy cost reduction training
3. Manufacturer training
4. On-site training
5. Association of Energy Engineers training center classes, if desired

Program Description

Training on operation/maintenance of newly installed equipment is customized based on the specific needs and skill level of the end-user. ESG will assess the skills of SCI Fayette's maintenance staff with SCI Fayette leadership in determining the exact level of training required. When making an investment of this magnitude, it is critical that an effective training plan is implemented to realize the full benefit of the systems installed. All training is facilitated by the ESG project managers and engineers, with factory representatives brought in to provide additional education and training resources when deemed necessary.

Types of Training

ESG provides customized training on all newly installed equipment based on the specific needs and skill level of the customer. SCI Fayette maintenance staff will be trained to understand the design intent, operating parameters, maintenance requirements, and overall description and configuration of each ECM installed on the project. ESG will design a training program for each ECM installed, as necessary. The program will detail the subjects to be covered, the amount of time expected for completion, and the number of staff recommended attending (typically a minimum of a mechanic, an electrician, and a programmer, plus back-up personnel).

Training materials will be provided, including printed manufacturer literature, control diagrams, O&M manuals, instructions on start-up and shut-down modes of operation, preventative maintenance procedures, and identification of safety requirements. Less-experienced personnel will be given training which will enable them to understand, operate, and maintain the systems and equipment. More experienced personnel may receive additional high-level training allowing them, in many cases, to make system changes without incurring fees for calling in outside contractors.

Location of Training

To keep the training focused on only the new equipment, training is typically held on-site. On-site training allows for maximum exposure to the material while minimizing the impact on the facility's operations. Training may be held in the mechanical space or in a conference room setting, based on the topics being discussed.

Frequency of Training

With a custom-tailored training program, the frequency of training can vary. At SCI Fayette, the intent is to train the maintenance staff when a particular installation is completed, commissioned and punched out ready to turn over for beneficial occupancy by the Institution. Typically during construction, an introductory training session is held with follow-up, question-specific training held soon thereafter with training occurring on a building-by-building and ECM-by-ECM basis. For example, prior to the beneficial occupancy turnover of a proposed domestic hot water system for a particular housing unit, ESG will conduct complete training on all applicable mechanical and electrical systems.

This process will be repeated as desired by the maintenance staff as more and more installations are completed and turned over to the Institution. This allows the maintenance staff to have "hands-on" experience and continually learn all aspects of the respective systems on an ongoing basis instead of trying to recall everything from an individual training session.

As an added learning tool, ESG typically video records all training sessions (both onsite and classroom) so that personnel trained can refer back to the training as many times as necessary. The video records can be utilized for refreshers or for training new employees, addressing any possible turnover of facility personnel.

Types of Training Media

Training media is provided in a variety of formats to accommodate the learning needs and preferences of the audience. Typically, topic-specific handouts are provided, accompanied by hands-on tutorials that are supplemented with a wide range of multimedia tools, including but not limited to PowerPoints, videos, and training simulations. At the end of all training sessions, any nonproprietary media used in training will be SCI Fayette's property and available for future reference.

Appendix:
Section 2.1

Sample
Maintenance Contract

McDowell County Schools

Mr. James G. Brown, Superintendent
30 Central Avenue
Welch, WV 24801
Telephone (304) 436 8441 Fax (304) 436-4041

FROM: MCDOWELL COUNTY SCHOOLS

SUBJECT: REQUEST FOR PROPOSAL: **PROPOSAL NO. PMP 12-13**

TOPIC: TECHNICAL PROPOSAL FOR PREVENTATIVE MAINTENANCE AND FULL SERVICE MAINTENANCE OF AIR CONDITIONING AND HEATING EQUIPMENT, ENERGY MANAGEMENT MAINTENANCE AND BUILDING CONTROLS FOR MCDOWELL COUNTY SCHOOLS' FACILITIES

DATE: February 28, 2012

The MCDOWELL COUNTY SCHOOL BOARD is hereby requesting **TECHNICAL PROPOSALS FOR PREVENTATIVE MAINTENANCE AND SERVICE MAINTENANCE OF AIR CONDITIONING AND HEATING EQUIPMENT, ENERGY MANAGEMENT MAINTENANCE AND BUILDING CONTROLS FOR MCDOWELL COUNTY SCHOOLS FACILITIES.** Attached hereto you will find the necessary documents giving information and instructions pertaining to your proposal.

1. **Request for Proposal:** This sheet provides the basic information concerning receiving the proposal, time factors and proper address for submitting proposals and identifies the authorized representative of the school system who will serve as the point of contact for this Request for Proposal (RFP).

2. **Scope of Work:** This section provides the detailed requirements for the proposed contract.

3. **Conditions of the Contract:** This section contains the terms and conditions of the contract.

4. **Proposal Requirements:** This section contains the information that should be included in a proposal.

5. **Evaluation Criteria:** The method by which the School Board will evaluate proposals and award the contract.

6. **Appendices**: The appendices contain information relevant to the RFP and shall be an integral part of the bid/proposal document.

7. **Offeror:** The company submitting the proposal.

Mr. James G. Brown, Superintendent
McDowell County Schools

REQUEST FOR PROPOSAL

NOTICE PROPOSAL NO. PMP 12-13

Proposals shall be submitted to Mr. James G. Brown, Superintendent, 30 Central Avenue, Welch, WV 24801 not later than 3:30pm, March 29, 2012. All proposals received after the above date and time shall be returned unopened. When submitting your response, ensure that your proposal is sealed and properly marked with your firm's name and reference the RFP number, subject and due date on the outside of your envelope and/or box.

TECHNICAL PROPOSAL FOR PREVENTATIVE MAINTENANCE AND FULL SERVICE MAINTENANCE OF AIR CONDITIONING EQUIPMENT, ENERGY MANAGEMENT MAINTENANCE AND BUILDING CONTROLS FOR MCDOWELL COUNTY SCHOOLS COUNTY SCHOOLS' FACILITIES

The Offeror shall submit four (4) copies marked "**PREVENTATIVE MAINTENANCE AND SERVICE MAINTENANCE OF AIR CONDITIONING AND HEATING EQUIPMENT, ENERGY MANAGEMENT MAINTENANCE AND BUILDING CONTROLS**."

All questions concerning the RFP, prior to the awarding of the contract, shall be presented directed to Lou Sterlacci of Energy Systems Group at lsterlacci@energysystemsgroup.com, (804) 514-2752.

A mandatory pre-bid conference will be held on Tuesday February 28th, at 1:30 p.m. at 30 Central Avenue, Welch, WV 24801 to discuss any bidder questions related to this job.

I. SCOPE OF WORK

I. Introduction

A. Provide complete preventative maintenance and service maintenance repairs of all HVAC equipment for McDowell County Schools.

Monthly inspections of all heating ventilating and air conditioning equipment in each listed facility. This includes changing filters, belts and lubricating necessary components. Test all equipment and provide a check out sheet with equipment model and serial number, as well as to provide and pressure, temperature or amperage readings for the equipment. These should be included on your sample form submitted with the proposal. Any repairs completed or not completed must be identified on this form.

B. Environmental/Direct Digital Control (DDC) Energy Management Controls

At listed facilities, all environmental controls, DDC energy management controls and system controls shall be maintained to insure the continuous and trouble free operation of each system. This will be identified in your monthly Preventative Maintenance (P.M.) schedules.

The following is a list of components in these systems that must be maintained:

1. Environmental controls

   Control valves (valve bodies and control actuators), dampers and damper actuators, relays, switches, variable frequency motor drives, pressure reading devices, filters, thermostats, humidistats and sensor controls.

2. DDC energy management and system controls

   All DDC energy management and system control components from computer server to individual sensors including DDC panels. This includes all field wiring. Also included are programming support and updates.

II. Detailed Requirements

A. Site Visit

Offerors are required to inspect the Facilities where services are to be performed and to satisfy themselves as to: (1) General condition of the equipment; (2) All general and local conditions which may affect the cost of performance of the contract. In no event will a failure to inspect the site constitute grounds for a claim after award.

Site visits may be arranged by contacting Mr. Will Chapman,

Director of Facilities, telephone number (304) 436-6139.

Visits will be scheduled during business hours, 8:00 a.m. to 4:30 p.m., Monday through Friday. 48 hours notice for inspections is requested.

B. The Work

Offeror shall provide full service maintenance and preventative maintenance services to all HVAC equipment to ensure continuous and trouble-free operation of all air conditioning and heating equipment and related components as stipulated herein.

During the term of the contract, the Offeror shall demonstrate and certify to McDowell County Schools that all equipment is maintainable. Offeror shall demonstrate this certification by providing the following report to McDowell County Schools as a minimum.

Initial Equipment Analysis

Offeror shall make initial equipment analysis within the first 60 days of the contract to McDowell County Schools Facilities Department. Sample documentation to be used for the above analysis shall be provided with the bid proposal. Additionally, the Offeror shall submit with the proposal a list of references indicating experience with such analysis services within the regional area.

If the Offeror cannot make the above certifications on specific equipment, McDowell County Schools has the option to repair, replace or remove from the contract any mechanically non-maintainable equipment.

If repairs are required the offerer agrees to provide a quote for additional work and supply a hourly rate and demonstrate a material mark up of no more than twenty (20)%.

III. Winter Shutdown

Prior to severe freezing weather, check all units to ensure that they have been properly secured to prevent damage to the chiller, auxiliary equipment and circulating pumps. Tag and lock out electrical starters to prevent unauthorized operation of the equipment.

IV. Seasonal Maintenance

During the seasonal shutdown, perform all manufacturers' recommended preventative maintenance and all required repairs to maintain air conditioning equipment or heating equipment or any seasonal equipment in

first class operating condition. Provide owner with a written schedule of proposed work. All work must be completed prior to the start of seasonal use.

V. Written Reports

Provide owner with detailed written reports within ten (10) working days of preventative maintenance, repairs and tests. Reports of when and where said work has been performed. Include analysis of data and written plan and schedule of any required repairs or corrective actions. A sample of the report shall be included in proposal.

Within forty-eight (48) hours, fax a copy of all emergency and non-emergency service calls. Service calls shall include date, description of reported condition, description of field condition, facility name, unit number, model number, serial number and corrective action/repair(s) and any additional work required.

VI. Seasonal Start-up

Prior to cooling season, align all equipment to allow automatic start-up when required. Check automatic equipment operation. Provide owner with written schedule to allow assignment of Operational Services personnel to observe start-up, if requested.

VII. Scheduled Preventative Maintenance

Provide Owner with written schedule, by facility, of proposed preventative maintenance on all HVAC equipment. Preventative maintenance shall include all work necessary to ensure trouble free operation of all equipment associated with the cooling/heating process. Offeror is required to supply all preventative maintenance materials as part of the contract.

VIII. Full and Emergency Services

Provide all necessary repairs to maintain all equipment associated with the cooling/heating process in operating condition. All repair parts shall be OEM or equal. Where repair parts are no longer available, replace failed equipment as necessary with current model equipment of the same type. Response time for service calls will be 24 hours or less unless approved by School.

IX. Tube Service

Repair or replace all failed condenser and evaporator tubes. Tubes shall not be plugged as this activity degrades system efficiency and capacity achieved.

X. Water Treatment

Water treatment will be required in **** only and should include monthly testing and chemical adjustment. A sample list of treatment chemicals shall be included in proposal.

XI. Replacement Parts and Components

Provide all replacement parts and components necessary to maintain covered equipment in first class operating condition.

- The company must provide McDowell County Schools with all parts removed or replaced as a result of PM work. All PM parts are included in the contract. Typical parts covered will be belts, relays, starters, control boards, fuses, contactors, transformers and pulleys. Proposals should include a list of any parts included and excluded that are not specifically listed.
- McDowell County Schools will approve all parts purchases greater than $1,000 and has the option to purchase and provide all parts to the company at any time during the contract relationship. Typical parts that require approval are motors, shafts, compressors, pumps over 3/4HP and coils. Labor for above will be covered under the full maintenance contract.

XII. Insulation Repairs, Painting and Roof Damage

Repair insulation and repaint equipment that is damaged due to Offeror's operations. Remove all debris from roof after repairs are made, any resulting damage shall be the repaired by the Offerer.

XIII. Disposal of Refrigerant, Oil and Other Hazardous Materials

Properly and legally dispose of all refrigerant, oil, oil dry, sawdust and other hazardous materials that are generated as a result of this work.

XIV. Special Tools, Parts and Training

Offeror must provide for their use, as part of this proposal, all special tools which meet the minimum requirements of the equipment manufacturer and a list of manufacturers training attended by their personnel.

XV. Award - Single Award for All Items

Due to the interrelationship of the items involved, McDowell County Schools desires to award this work to the single responsible offeror whose total offer is in the best interest of McDowell County Schools. However, McDowell County Schools reserves the right to award multiple contracts if necessary. The bid proposal must be submitted by facility and include all facilities with the “Preventative Maintenance” and “Additional Service” portions listed and quoted separately.

XVI. Operator Manual

Provide a written operator manual for each school. Manual shall include a suggested log sheet and be reviewed and updated annually.

XVII. DDC Energy Management

Provide comprehensive maintenance and repairs to all DDC energy management controls as previously listed. The offerer as part of this response shall show their ability/training to maintain, troubleshoot, purchase, warranty and replace DDC controls. This will include providing and installing any DDC software revision upgrades as part of the full maintenance proposal.

XVIII. Air Filters

All filters for heating and cooling units shall be maintained and changed as needed to maintain efficient airflow and proper filtration, but at least four (4) times per year. Offeror shall be responsible for inspecting filters to insure compliance. **(See Appendix C Filter Requirements)**

XIX. Efficient Operations

All equipment and controls shall be maintained so as to operate at the current energy efficiency levels or higher. No alteration shall be made that will increase energy consumption without the prior written approval of McDowell County Schools.

XX. Ultraviolet Systems

Not applicable at this time.

XXI. Exclusions from Contract

A. Painting except where required after maintenance repairs are made

B. Electrical power wiring to the equipment

C. Piping, other than refrigerant for chiller only or split air conditioning units

D. Repairs to equipment caused by freezing, corrosion, erosion, electrolytic action or for any other reason beyond the control of the Offeror

E. Insulation repairs or replacement unless removed during the process of making repairs

F. Additions, modifications or inspections required for insurance purposes,

governmental authority or others

G. Any service or inspection not recommended by the manufacturer

H. Moving or relocating equipment

I. Removal, replacement or refinishing of building structures which may be required to perform contract service

J. Damage caused by fire, war, sabotage or an act of God

K. Damage caused by improper operation of the equipment other than by the Offeror

L. Damage due to repairs made by other than offeror

M. Abatement of asbestos containing materials

McDowell County Schools will operate the equipment in accordance with the manufacturers' recommended instructions and procedures. Offeror shall be promptly notified of any unusual operating or mechanical conditions. McDowell County Schools' employees shall shut down the equipment if required.

Access shall be provided to the equipment during the normal working hours or at any time it is necessary for offeror repair technician to be on the premises for equipment repairs.

Offeror shall have their employees and/or sub-Offeror's employees' check-in and out with the main office upon their arrival and prior to their departure at the facility in which they will be performing work during regular business hours

SPECIFIC CONTRACT CONDITIONS

I. Term of the Contract

Services to be provided from July 1st, 2012 through June 30th, 2013. Contract shall continue in force thereafter from year to year (July 1 through June 30th), not to exceed nine (9) additional one (1) year periods, unless terminated by either party at the end of the first year or at the end of any subsequent year, by giving the remaining party sixty (60) days prior written notice. Should the contract be continued in force, the contract price shall be adjusted yearly, based on the Producer Price Index for Machinery, except electrical. The percentage change in contract price shall be the same as the percentage change in this index over the 12 month period ending in February preceding the date of the contract renewal. Each contract renewal shall be subject to the availability of funds.

II. Failure to Perform

Should it be found that the standards herein specified are not being satisfactorily maintained, the School Board may immediately demand that the Offeror place the equipment in condition to meet the requirements herein specified. The Offeror's failure to comply with such a demand within a reasonable time will constitute a circumstance to cause the School Board to secure others to perform the services and hold the Offeror responsible for the total cost of securing the necessary maintenance, overhaul, repairs and/or parts.

III. Termination

This agreement may be canceled by the School Board by giving sixty (60) days written notice. In the event of breach of this agreement by the successful Offeror, the School Board shall have the right to immediately rescind, revoke or terminate the agreement. In the alternative, the School Board may give written notice to the successful Offeror specifying the manner in which the agreement has been breached. If a notice of breach is given and the successful Offeror has not substantially corrected the breach within ten (10) days of receipt of the written notice, the School Board shall have the right to terminate this agreement. Any additional costs arising from termination shall be at the expense of the Offeror to include, but not limited to, any corrective measures resulting from breach by the Offeror.

IV. Integration and Modification

This agreement incorporates by reference the Request for Proposal (PMP 12-13), Offerors proposal and any other formal documentation as may be appropriate. The parties agree that this agreement and said Request for Proposal and Proposal constitute the entire agreement between the successful Offeror and the School Board. No alteration, amendment or modification in the provisions of this agreement shall be effective unless reduced to writing, signed by the parties and attached hereto. This agreement, when fully executed, shall supersede any and all prior and existing agreements, both oral or in writing and contains all the covenants and agreements between the parties with respect to the subject matter of this Agreement. This Agreement incorporates all services to be provided by the successful Offeror.

V. Suspension of Work

The Superintendent or authorized agent of the School Board shall have the right to stop and suspend the work at certain points if, in their opinion, public need demands it.

VI. Inspection of Work

The work shall at all times be subject to inspection. Inspection shall not relieve the Offeror from any obligation to perform said work in accordance

with the plans and specifications or any modification thereof. It is the mutual interest of the School Board and the Offeror that such inspection is made promptly.

VII. Time Response and Penalty

The Offeror shall provide a response-time matrix providing the level of service response which the Offeror agrees to provide under his proposal.

The matrix should be structured with the “Severity of Trouble Call” as rows in the matrix and response time in hours and minutes as columns in the matrix. If required, different response times can be provided depending on days of week and times of day (e.g. a call at 2:00 a.m. on Sunday may require a different response time than a call at 8:30 a.m. on Monday.) Response times should be provided for a trouble call made at anytime, 24/7, including holidays. 24 hour response time should be used.

The School Board reserves the right to assess a penalty of $100 per hour for each hour or partial hour over the response time.

VIII. Equipment Downtime

Should the equipment listed in the contract fail during the operating season (unscheduled) the School Board reserves the right to assess a penalty of $1,000.00 per day for every day that the individual school is unable to perform its daily functions. It is understood, however, that "downtime" does not apply to certain time periods necessary to schedule "off season" maintenance (i.e., overhauls, annual inspections, seasonal shutdown, etc.).

IX. Insurance

The Offeror shall meet the requirements as outlined in of Appendix A, Insurance Specification.

X. Special Conditions

Each bidder in preparing the proposal may rely on the assumption that all major pieces of equipment are in operating condition at the commencement of the contract. The successful Offeror shall thoroughly inspect all pieces of equipment and provide, in writing, to the McDowell County Schools specific concerns or equipment repairs required sixty (60) days after contract award.

It shall be the responsibility of the Offeror to make recommendations and to assist the owner in restoring the equipment to operating condition; however, all of the actual restoration costs, including Offeror labor, shall be the responsibility of the owner. After the inspection period, the Offeror shall assume total responsibility for all of the entire systems as set forth under the terms of this contract.

McDowell County Schools shall have the option to decline any repairs recommended by the Offeror, due to budget restraints, and shall accept risk of equipment failure.

PROPOSAL REQUIREMENTS

Each Offeror is required to submit a detailed proposal indicating Offeror's understanding of the Scope of Work and Offeror's ability to perform all tasks contained therein. To provide a fair and equitable evaluation of all proposals at the least expense to the School Board, separate and complete sections relating directly to each of the evaluation and award factors shall be provided in the proposal.

I. Provide a statement of interest and the ability to provide the required services.

This statement of interest should include the non-collusion statement below and must be signed by an individual authorized to conduct business for the firm. "The Offeror expressly warrants that the information submitted herein is not the result of an agreement expressed or implied with any other Offeror or Offerors in an attempt to influence or restrict competition." All employees must have a background check before working on school property and complete the provided Employee Certification form APPENDIX D.

II. Qualifications of Offeror

The Offeror shall demonstrate that they have the ability to perform the contract.

A. Corporate Experience

The Offeror shall provide a summary of corporate experience. The summary shall include specific references to contracts listed in Past Performance below and shall include descriptive qualifications.

B. Past Performance

1. The Offeror shall provide a list of similar contracts performed over the past five-(5) years. The list shall provide customer's name, address, point of contact and telephone number.

2. The Offeror shall describe experience in listed contracts in the following areas:
   a. Relevant engineering capabilities;
   b. Technical capabilities;

c. Knowledge of specifications and standards; and,
d. Knowledge of special test procedures.

3. The Offeror shall describe how they maintained the quality of work in the listed contracts. This shall include methodology by which costs and expenditure rates were controlled, how response time to routine and quick reaction task assignments were controlled and how continuity of personnel was assumed during periods when no work was in progress.

III. Technical Approach to Accomplishing the Scope of Work

The Offeror shall clearly illustrate that they understands the scope of work by providing details of how the work is to be accomplished.

This section shall include the following:

A. Objective of proposal;
B. Methodologies to be used to accomplish the scope of work;
C. Time tables for performance of various tasks;
D. Charts and graphs to support their proposal;
E. Standards that applied to performance; and,
F. Concept or philosophical approach.

IV. Evaluation Criteria

Selection of proposals will be based on the following criteria in descending order.

1. Qualifications of the Offeror
2. Approach to the scope of work
3. Response time
4. Price proposal

V. Price proposal shall be on company letterhead and shall include the information as illustrated below.

TO: THE SCHOOL BOARD OF McDowell County Schools, WV
_____, herein referred to as the Offeror, agrees to furnish service in accordance with the Conditions for Proposal. This agreement shall become valid only upon acceptance by the McDowell County Schools.

SCHOOL NAME & ADDRESS	PREVENTATIVE MAINTENANCE HVAC COSTS	FULL SERVICE HVAC MAINTENANCE COSTS	TOTAL HVAC FOR SCHOOL AND BUILDING
Riverview HS Bradshaw, WV			
Mount View HS/MS Welch, WV			
Anawalt ES Anawalt, WV			
Bradshaw ES Bradshaw, WV			
Career Training Center Welch, WV			
Fall River ES Roderfield, WV			
Kimball ES Kimball, WV			
Iaeger ES Iaeger, WV			
Phoenix Alt Center Welch, WV			
Sandy River MS Avondale, WV			
South Side K-8 War, WV			
Welch ES Welch, WV			
Central Office Welch, WV			
Adult Learning Center Welch, WV			
Bus Garage / Mechanics Garage Welch, WV			
Mt. View Medical Clinic Welch, WV			
Vocational Bus Shop / Heavy Equipment Shop Welch, WV			
Welch Bus Shop Welch, WV			
Iaeger Bus Shop Iaeger, WV			
War Bus Shop Welch, WV			

SCHOOL NAME & ADDRESS	PREVENTATIVE MAINTENANCE DDC COSTS	FULL SERVICE DDC MAINTENANCE COSTS	TOTAL DDC FOR SCHOOL AND BUILDING
Riverview HS Bradshaw, WV			
Mount View HS/MS Welch, WV			
Anawalt ES Anawalt, WV			
Bradshaw ES Bradshaw, WV			
Career Training Center Welch, WV			
Fall River ES Roderfield, WV			
Kimball ES Kimball, WV			
Iaeger ES Iaeger, WV			
Phoenix Alt Center Welch, WV			
Sandy River MS Avondale, WV			
South Side K-8 War, WV			
Welch ES Welch, WV			
Central Office Welch, WV			
Adult Learning Center Welch, WV			
Bus Garage / Mechanics Garage Welch, WV			
Mt. View Medical Clinic Welch, WV			
Vocational Bus Shop / Heavy Equipment Shop Welch, WV			
Welch Bus Shop Welch, WV			
Iaeger Bus Shop Iaeger, WV			
War Bus Shop Welch, WV			

It is acknowledged and understood that replacement parts used to make authorized repairs not covered under this contract shall be billed at the list price less twenty (20) percent. If no list price is available, parts shall be paid at cost plus twenty (20) percent. Material invoices shall be submitted to verify cost. Payment shall be made for repairs only when they are authorized in writing.

Price adjustments after the first year may be required based on industry increases of labor and materials. The Offeror shall give the School Board at least ninety (90) days prior written notice and written justification for same. The School Board may approve the increase or terminate the contract.

The undersigned submits the above proposal for consideration by McDowell

County Schools

_____	_____
Name of Company	Signature
_____	_____
Address	Name & Position (Typed)
_____	_____
City, State, & Zip Code	Date
_____	_____
Telephone Number	Fax Number

_____

Email Address

SELECTION PROCESS AND CONTRACT AWARD

1. All proposals will be received and evaluated in accordance with established criteria.

2. The School Board will use the competitive negotiations process in selecting the source or Offeror to provide this service.

3. The proposals as submitted will be evaluated by the School Board. The School Board reserves the right to award a contract based only on the proposals as submitted. The School Board also reserves the right to request oral presentations and interviews with the Offerors deemed as best suited and qualified based on the established criteria.

4. If the School Board determines that one Offeror is clearly more highly qualified than the others under consideration, a contract may be negotiated and awarded to that Offeror.

5. If a contract is not awarded as described in items 3 or 4 above, then based on the proposals and interviews, if conducted, the School Board shall select Offerors deemed to be fully qualified and best suited.

6. Negotiations shall then be conducted with each of the Offerors so selected. Best and Final Offers shall be requested and the School Board shall award a contract to the Offeror which, in the School Board's opinion, has made the best proposal.

7. In accordance with the West Virginia Legislature Rule, Board of Education 126CSR202, proposals shall be open to public inspection only after award of the contract. Proprietary information will not be disclosed if the Offeror clearly marks applicable portions of the proposal "Proprietary" and states the reasons why protection is necessary. If the School Board disagrees with the Offerors determination of "proprietary", it reserves the right to include this issue in negotiations and its determination of contract acceptability.

APPENDIX A
INSURANCE SPECIFICATIONS

The Offeror shall carry Liability Insurance in the amount specified below, including the contractual liability assumed by the Offeror, and shall deliver Certificate of Insurance from carriers acceptable to the owner specifying such limits. The School Board shall be named as an additional insured on each such certificate of insurance.

1. Workmen's Compensation and Employer's Liability

   Coverage A - Statutory Requirements
   Coverage B - $100,000 Per Occurrence
   Coverage C - $100,000 Accident and/or Disease
   All States Endorsement

2. Automobile Liability, including Owned, Non-Owned and Hired Car Coverage.

Limits of Liability

Bodily Injury $500,000 each person
$500,000 each occurrence
Property Damage $500,000 each occurrence

Including -
A. Completed Operations/Products
B. Contractual Liability for Specified Agreement
C. Personal Injury
D. (XCU) Explosion, Collapse and Underground Coverage
E. Broad Form Property Damage

NOTE 1: To satisfy the requirements of 2-D above, the classification code numbers appearing on the Comprehensive General Liability coverage parts shall not include the symbols "X-C-U".

NOTE 2: Property Insurance. The Offeror shall purchase and maintain property insurance upon the entire work at the site and such materials and equipment as are stored at the site or at an agreed upon location to the full insurable value thereof. This insurance shall include the interests of the Owner, the Offeror and sub-offerors in the work and shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief.

APPENDIX B

GENERAL CONDITIONS
FOR OFFERS MADE IN RESPONSE TO
REQUEST FOR PROPOSALS

The conditions set forth herein apply to all Proposals rendered to the School Board of the City of McDowell County McDowell County, West Virginia, hereinafter known as the School Board. All Offerors are bound by these conditions. Please read these conditions carefully, as they are an integral part of the agreement and contract awarded to the successful Offeror.

Proposal Procedure

1. In the event an Offeror finds any discrepancies or omissions in the Request for Proposal, or has any doubt as to its meaning, they shall notify Mr. James G. Brown, Superintendent of McDowell County Schools 30 Central Avenue, Welch, WV 24801 at once and copy Lou Sterlacci of Energy Systems Group. If it is found necessary, a written addendum will be sent to each Offeror. All addenda so issued shall become a part of the contract document and will be signed and returned with the Proposal. Requests for such interpretation should be in writing, addressed to the Coordinator of Purchasing not later than five (5) days prior to the date fixed for RFP closing. Oral responses, instructions, or questions do not form any part of the Request for Proposal.
2. The Proposal must be:
    a. Sealed and submitted in a plain opaque envelope.
    b. Addressed to Mr. James G. Brown, Superintendent of, McDowell County Schools, 30 Central Avenue, Welch, WV 24801
    c. Clearly marked: The RFP number and closing date stated in the RFP must appear on the envelope.
    d. Separated from packages or envelopes containing Proposal samples.
3. Proposals will be opened at the time and date fixed for RFP closing. The name of each Offeror will be read, recorded and posted. Proposal openings will be at 30 Central Avenue, Welch, WV 24801 In accordance with the West Virginia Legislature Rule, Board of Education 126CSR202, the proposals shall be open to public inspection **only after award** of the contract.
4. Proposals are to be submitted in accordance with the Request for Proposal. All costs incurred for Proposal preparation shall be the responsibility of the Offeror.
5. All information requested in the Request for Proposal must be completed in order to constitute a valid proposal. The School Board reserves the right to require selected Offerors to make an oral presentation of their proposal.
6. Any deviations from the specifications must be set forth in the proposal.
7. Prices and information required, except for the signature of the Offeror, should be typewritten for legibility. Illegible or vague proposals will be rejected. The signature of the person submitting the proposal must be handwritten.
8. The use of a brand name, make or manufacturer within the specifications does not restrict the Offeror solely to that specified. Instead, it serves to convey to the Offeror the style, type, character and quality of the item desired. Any item which the School Board in its sole discretion determines to be equal of that specified, considering quality, workmanship, economy of operation and suitability for the purpose intended, shall be accepted. It shall be the responsibility of the Offeror to submit an exact description of the proposed alternate and, if requested, to provide exact samples of the proposed item prior to contract award.
9. In submitting a proposal, the Offeror signifies that he is fully informed as to the extent and character of the supplies, materials, equipment and services necessary to perform this proposal in accordance with all documents constituting the proposal and will comply satisfactorily with the proposal documents.
10. The Offeror signifies that, when necessary, he has inspected the site on which work shall be done and is aware of all conditions affecting the execution of work contained within the proposal documents.
11. The contractor shall pay all sales, consumer, use and other similar taxes for work or portions thereof provided by the contractor which are legally enacted at the time proposals are received, whether or not yet effective. The contractor shall also obtain and pay for all permits necessary to complete the project as indicated in the proposal documents.
12. Proposals on equipment must be standard new equipment of latest models and in current production.
13. All regular manufactured stock electrical items must meet all federal, state and local codes.
14. All prices in the proposal shall be for all equipment, materials, supplies (including delivery), labor and any incidental expenses incurred by the Offeror. No other charges may be added.
15. The Offeror expressly warrants that the information submitted herein is not the result of an agreement or understanding expressed or implied with any other Offeror or Offerors in an attempt to influence or restrict competition.
16. Withdrawal of Proposal:
    a. Proposals may be withdrawn or modified any time before proposal closing.
    b. The Offeror may withdraw his proposal from consideration after proposal opening if an error in price is due solely to a mistake therein, provided the proposal was submitted in good faith and the mistake was a clerical mistake as opposed to a judgment mistake. A clerical mistake is defined as an unintentional arithmetical error or an unintentional omission of a quantity of work, labor or materials made in the compilation of a proposal. The unintentional arithmetical error or unintentional omission must be clearly shown by objective evidence drawn from inspection of original work papers,

documents and materials used in the preparation of the proposal sought to be withdrawn.

c. The procedures for proposal withdrawal shall be as follows:

(1)The Offeror shall give notice in writing to Mr. James G. Brown, Superintendent of, McDowell County Schools, 30 Central Avenue, Welch, WV 24801 of his claim of right to withdraw their proposal within two business days after the conclusion of the proposal opening procedure and shall submit original work papers with such notice. Such mistakes shall be proved only from the original work papers, documents and materials delivered as required herein.

(2)No proposal may be withdrawn under this section when the result would be the awarding of the contract on another proposal of the same Offeror or of another Offeror in which the ownership of the withdrawing Offeror is more than five percent (5%).

(3)No Offeror who is permitted to withdraw a proposal as allowed in sections 16a. and 16b. of this document shall, for compensation, supply any material or labor to, or perform any subcontract or other work agreement for, the person or firm to whom the contract is awarded or otherwise benefit, directly or indirectly, from the performance of the project for which the withdrawn proposal was submitted.

(4)If the School Board denies the withdrawal of a proposal, it shall notify the Offeror in writing stating the reasons for its decision and award the contract to such Offeror at the proposal price, provided such Offeror is responsible and responsive.

17. Discrimination by contractor:

a. The Offeror will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

b. The Offeror, in all solicitations or advertisements for employees placed by or on behalf of the Offeror, will state that such contractor is an equal opportunity employer.

c. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

d. The contractor will include the provisions of the foregoing paragraphs a, b and c in every subcontract or purchase order of over ten thousand dollars ($10,000), so that the provisions will be binding upon each subcontractor or vendor.

e. Minority Business Enterprise Policy: Minority Business Enterprises (MBE) is defined as those firms which are majority owned by minorities, women and qualified disabled individuals. It is the policy of the School Board to: (1) provide minorities, women and qualified disabled individuals equal opportunity to participate in all aspects of the School Board contracting and purchasing programs, including, but not limited to, participation in procurement contracts for materials, services, construction and repair work activities and lease agreements; (2) prohibit discrimination against any person or business in pursuit of these opportunities on the basis of race, color, sex, age, religion, disability, national origin and (3) to conduct its contracting and purchasing programs so as to prevent any discrimination based on these factors. The School Board does not discriminate against faith-based organizations in the selection for or award of contracts.

18. **Drug-Free Workplace –** During the performance of this contract, the contractor agrees to (1) provide a drug-free workplace for the contractor's employees; (2) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (3) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (4) include the provisions of the foregoing clauses in every subcontract or purchase order of over $10,000, so that the provisions will be binding upon each subcontractor or vendor.

For the purposes of this section, ***"drug-free workplace"*** means a site for the performance of work done in connection with a specific contract awarded to a contractor in accordance with the West Virginia Legislature Rule, Board of Education 126CSR202, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

19. All samples requested in the proposal must be identified with Offeror's name, our proposal number, item number and delivered to Mr. James G. Brown, Superintendent of MCDOWELL COUNTY SCHOOLS prior to proposal opening. Any samples that may be requested after the proposal opening must be delivered to Mr. James G. Brown, Superintendent of MCDOWELL COUNTY SCHOOLS within five (5) working days of the request. All samples are to be supplied at the Offeror's expense. All samples must be reclaimed within fifteen (15) days after notification in writing except those needed to compare with delivered material or used in testing and evaluation. The School Board will not be responsible for samples that have not been reclaimed after fifteen (15) days of notification.

20. Any proposal submitted with corrections must have the corrections initialed by the person who signed the proposal.

Contract

1. The School Board reserves the right to award a contract on the basis of initial proposals received, without discussion, if it determines, in its sole discretion, that only one Offeror is fully qualified or that one Offeror is clearly more highly qualified and suitable than the others under consideration.
2. The School Board reserves the right to reject any or all proposals and to waive any and all technicalities and informalities.
3 If the proposal exceeds funds available, the School Board may reject all proposals or negotiate with the low Offeror.
4. The contract resulting from this RFP is subject to the availability of appropriations for the purpose of the contract. For multi-year contracts or contracts with optional renewals, the possibility exists that funds may not be available. If funds are not appropriated in future years for the purpose of this contract, the School Board reserves the right to cancel the contract without penalty.
5. The School Board reserves the right to negotiate with the contractor for any additional work needed to rebid the additional work or to perform additional work with own in-house staff whichever is most advantageous to the School Board.
6. The School Board reserves the right to make awards within ninety (90) days after the date of the proposal opening during which period proposals may not be withdrawn unless the Offeror distinctly states in his proposal that acceptance thereof must be made within a shorter specified time.

7. The contract will become effective on the date the School Board notifies an Offeror in writing, (formal contract, purchase order, letter), of its acceptance of the Offeror's proposal.
8. If the successful Offeror fails to perform within the time specified or fails to perform satisfactorily in accordance with the specifications, the School Board may take appropriate action to satisfy the contract. If the contractor cannot respond within the designated time limit, the School Board reserves the right to contract with another source. Any cost incurred in excess of the contract amount may be backcharged to the original Offeror. Should the difference be less, the successful Offeror shall have no claim to the difference. Additionally, the original Offeror may be removed from the Bid List.
9. The school system may order changes in the work and the contracted sum shall be adjusted accordingly. All such orders and adjustments shall be in writing. Claims by the contractor for extra cost must be submitted in writing and approved by the authorized representative of the school system named in the proposal before executing any work.
10. When materials, equipment or supplies are rejected, they must be removed by the successful Offeror from School Board property within ten (10) days from notification. Materials, equipment or supplies left longer than ten (10) days will be considered abandoned by the successful Offeror and may be disposed of as if it were School Board property.
11. The successful Offeror shall not assign, transfer, convey, sublet or otherwise dispose of the contract or his right, title, or interest therein or his power to execute such contract, to any other person, company or corporation without the prior written consent of the School Board.

Delivery and Installation

1. Equipment and supplies shall be stored at the site only on the approval of the School Board and at the successful Offeror's risk.
2 Work shall progress in such a manner as to cause the least inconvenience to the McDowell County School Board.
3. The successful Offeror shall remove all debris and rubbish resulting from his work.
4. Delivery to Mr. Will Chapman, of McDOWELL COUNTY SCHOOLS McDowell County, WV 24801 (or as required in the specifications) shall be at the Offeror's expense.
5. A delivery receipt fully describing the order shall be furnished at time of delivery. The delivery receipt shall cite the purchase order number. Goods will not be accepted without a delivery receipt which contains the purchase order number.
6. Partial orders will be accepted and payment processed providing the order is identified with a delivery receipt containing the purchase order number.
7. All discrepancies will be clearly marked on the delivery receipt and/or purchase order and the Offeror will be notified of discrepancies.

Invoice/Payment

1. Invoices shall be sent to Mr. James G. Brown, Superintendent of MCDOWELL COUNTY SCHOOLS McDowell County, WV 24801. Invoices shall cite the purchase order number. The School Board reserves the right to return incorrect invoices, including invoices not citing the purchase order number, to the contractor for correction. Payment terms shall be net 30 days from receipt of goods and/or services of invoice, whichever is later.
2. Within seven (7) days after receipt of payment, the contractor will:
    a. Pay any subcontractor for the proportionate share of the total payment received attributable to the work performed by the subcontractor; or
    b. Notify the School Board and subcontractor, in writing, of his intention to withhold all or a part of the subcontractor's payment with the reason for nonpayment.
3. The contractor is obligated to pay interest to any subcontractor on all amounts owed by the contractor that remain unpaid after seven (7) days following receipt by the contractor of payment from the School Board, except for amounts withheld in accordance with paragraph 2.b. above. Unless otherwise provided under the terms of this contract, interest shall accrue at the rate of one percent (1%) per month.
4. The contractor shall include in each of its subcontracts a provision requiring each subcontractor to include or otherwise be subject to the same payment and interest requirements of paragraphs 2 and 3 above with respect to each lower-tier subcontractor.

Guarantee-Warranty

1. The successful Offeror shall supply quality goods to the McDowell County School Board which are guaranteed against defect or faulty material or workmanship for a minimum period of one year or the duration of product warranty, whichever is longer. All goods shall be warranted by the Offeror as appropriate to each item specified.
2. Any merchandise/material provided under the contract which becomes defective during the warranty period shall be corrected or replaced to the satisfaction of the School Board by the successful Offeror free of charge with the specific understanding that all replacements shall carry the same guarantee as the original material. The successful Offeror shall make any such replacement immediately upon receiving notice from the School Board.
3. The successful Offeror guarantees to furnish adequate protection from damage for all work and repair damages of any kind to the building or equipment, to their own work or to the work of other workers for which they or their workers are responsible.

Insurance

1. Prior to undertaking performance of the contract, the contractor shall furnish certification in a form acceptable to the School Board that the contractor possesses a valid liability insurance policy issued by an insurance company licensed to do business in West Virginia with effective dates and limits of liability as required by the School Board. This certification shall insure the contractor's legal liability for injury to or destruction of property (real or personal) and bodily injury or death caused in whole or part by any act of omission of the contractor, the contractor's subcontractors and the agents and employees of either, occasioned directly or indirectly in the performance of the contract. The School Board shall be named as an additional insured on every such policy and proof thereof shall be provided to the School Board.
3. The contractor agrees to indemnify and save harmless the School Board, from and against all claims, damages, losses, judgments and expenses (including attorney's fees) arising out of or resulting from the performance of the work provided that any such claim, damage, loss or expense:

(a) is attributable to bodily injury, sickness, disease or death or to injury or destruction of property (real or personal) including loss of use resulting therefrom, and

(b) is also caused in whole or in part by any act or omission of the contractor, any subcontractor, anyone directly or indirectly employed or controlled by any one of them regardless of whether or not said claims, damage, loss or expense is caused in part by the School Board.

In any or all claims against the School Board or any of its agents or employees by any employee of the contractor or any subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any one or more of them may be liable, the indemnification obligation of the contractor hereunder shall not be limited in any way on the amount or type of damages, compensation or benefits payable by or for the contractor of any subcontractor under the Workman's Compensation Act, or any disability benefit acts or any other employee benefit act of the West Virginia.

Qualifications of Offerors

The School Board may make such reasonable investigations as deemed proper and necessary to determine the ability of the Offeror to perform the services/furnish the goods and the Offeror shall furnish to the School Board all such information and data for this purpose as may be requested. The School Board reserves the right to inspect Offeror's physical facilities prior to award to satisfy questions regarding the Offeror's capabilities. The School Board further reserves the right to reject any proposal if the evidence submitted by, or investigations of, such Offeror fails to satisfy the School Board that such Offeror is properly qualified to carry out the obligations of the contract and to provide the services and/or furnish the goods stated herein.

Licenses and Certification

1. Licenses and Permits
   Each contractor should make himself aware of the McDowell County codes and regulations relevant to required licenses and permits and shall be in compliance with said codes and regulations.
2. The School Board and any consultant acting for the School Board are not responsible for any contractor's licensing or patent infringements.
3. All contractors and subcontractors shall have a valid State Contractor's License, as applicable for the scope and classification of the job to be performed by each contractor or subcontractor. The contractor shall provide his contractor's license number on the proposal form and submit a copy of his license with the proposal form. The contractor shall provide copies of the subcontractors' licenses after proposal opening.

APPENDIX C
Filter Sizes

WDES

Equipment	Model	Qty	Unit #s	Filter Size & Qty	2nd Size & Qty
Air Handler		1	AHU-1	2- 16x25x2	
Air Handler		1	AHU-2	4-16x25x2	
Air Handler		1	AHU-3	6-16x25x2	
Air Handler / w DX Coil		1	AHU-4	6-16x25x2	
Air Handler / w DX Coil		1	AHU-5	4-16x25x2	
Make-Up Air Unit w/ DX coil		1	MAU-1	6-20x25x2	
Roof Top Heat Pumps	B1CH240E07246FDB	3	RTU 7,8,9	4-16x25x2 ea	4-16x20x2 ea
Roof Top Heat Pump		1	RTU-6		
Boilers		2		NA	
Chiller		1		NA	
Wall Mount FCU	FCBB1201	13	fcu 1,2,3,4,5,6,7,16,17,21,22,25,26	1 - 8.875x61.125x1 ea	
Wall Mount FCU	FCBB0801	1	fcu-24	1 - 8.875x41.875x1	
Wall Mount FCU	FCBB0601	3	fcu 23,30,31	1 - 8.875x33.625x1 ea	
Horizontal FCU	FCCB0201	2	fcu 37,40	1 - 8.875x19.125x1 ea	
Horizontal FCU	FCCB0301	4	fcu 36,38,39,42	1 - 8.875x19.125x1 ea	
Horizontal FCU	FCCB0401	2	fcu 18,35	1 - 8.875x24.125x1 ea	
Horizontal FCU	FCCB0601	3	fcu 32,33,34	1 - 8.875x33.625x1 ea	
Horizontal FCU	FCCB1201	5	fcu 19,27,28,29,41	1 - 8.875x61.125x1 ea	

COPLE

Equipment	Model	Qty	Unit #	Filter Size &Qty	2nd Size & Qty	NOTES
Roof Top Heat Pump	BQ240E36P4AB1B	1	1	4-16X20X2	4-16X25X2	
Roof Top Heat Pump	BCCH120A46A	1	2	2-24X24X2	3-18X24X2	
Roof Top Heat Pump	BP120C00N4AAA2A	1	3	4-20X25X2		
Roof Top Heat Pump	B1CH240E05446ECB	1	4	4-16X20X2	4-16X25X2	
Roof Top Heat Pump	B1CH240E05446C	2	5,6	4-16X20X2 EA	4-16X25X2 EA	
Roof Top Heat Pump	BP120C00A4AAA1A	1	7	4-20X25X2		
Roof Top Heat Pump	BP120C00N4AAA3C	1	8	4-20X25X2		
Roof Top Heat Pump	BQ240E54B4AAA1B	1	9	4-16X20X2	4-16X25X2	
Roof Top Heat Pump	B3CH048A46C	5	10,11,12,13,14	2-14X20X2 EA	2-14X25X2 EA	
Split Heat Pump		2	HP-1,HP-2			1-10 TON & 5 TON Cond Unit for each AHU

MONTROSS

Equipment	Model	Qty	Unit #	Filter Size & Qty	2nd Size & Qty
Roof Top Heat Pump	B1CH240E07246ECB	4	A-1,A-2,A-3,A-4	4-16X20X2 EA	4-16X25X2 EA
Roof Top Heat Pump	?	1	D-1	4-16X20X2 EA	4-16X25X2
Roof Top Heat Pump	B3CH048A46EBC	2	D-2,D-4	2-14X20X2 EA	2-14X25X2 EA
Roof Top Heat Pump	B3CH120A46JSA	1	D-3	3-16X24X2	2-18X24X2
Roof Top Heat Pump	B3CH060A46BDC	1	E-1	1-14X25X2	2-14X20X2
Roof Top Heat Pump	B1CH240E07246ECB	6	E-2,E-3,E-4,E-6,E-7,E-8	4-16X20X2 EA	4-16X25X2 EA
Roof Top Heat Pump	BCCH120A46JSA	1	E-5	3-16X24X2	2-18X24X2
Roof Top Heat Pump	B3CH120A46JSA	1	F-1	3-16X24X2	2-18X24X2
Roof Top Heat Pump	B1CH240E07246ECB	3	F-2,F-3,F-4	4-16X20X2 EA	4-16X25X2 EA
Roof Top Heat Pump		1	F-5		
Roof Top Heat Pump		1	G-1		

SUPPORT BLDGS

Equipment	Model	Qty	Unit #	Filter Size &Qty	2nd Size & Qty	NOTES
Roof Top Heat Pump	B1CH240E0B64ECA	1	1	4-16X20X2	4-16X25X2	Adult Learning
Roof Top Heat Pump	50TFQ006-A511	2		2-16x20x2 ea	2-16x25x2ea	School Board Office
Carrier Cond	38TH060300	1				Bus Garage
Bryant Cond	56KJ060-A	1				Bus Garage
Furnace	HBD115	1			1-20x20x1	Bus Garage
Bryant AH	PF1MNA060	1			1-20x24x1	Bus Garage

W&L

Equipment	Model	Qty	Unit #	Filter Size & Qty	2nd Size & Qty	Notes
Roof Top Heat Pump	BP240E36BYAAB1B	1	1	12-12X24X2		
Roof Top Heat Pump	same as unit 1 now	1	2	12-12X24X2		
Roof Top Heat Pump	B1CH240E03646ECA	5	3,4,5,11,12	4-16X25X2 EA	4-16X20X2 EA	
Roof Top Heat Pump	B1CH240E09246 ECC	1	6	4-16X25X2	4-16X20X2	
Roof Top Heat Pump	B1CH240E03625ECA	2	7,8	4-16X25X2 EA	4-16X20X2 EA	
RTAC	D1EB018A06B	1	9			
Roof Top Heat Pump	B1CH240E07246ECC	2	10,13	4-16X25X2 EA	4-16X20X2 EA	
Roof Top Heat Pump		1	21	3-20X20X1		
Roof Top Heat Pump		1		2-22X14X1		New Heat Pump for Office washable filters
Split Heat Pump		1	14	20x20x1		5 Ton Heat Pump
Split Heat Pump		1	15	20x20x1		
Split Heat Pump		1	16	20x20x1		
Split Heat Pump		1	17	4-20X20X1		
Split Heat Pump		2				Computer Room Units

APPENDIX D

MCDOWELL COUNTY SCHOOLS
Preventative Maintenance Agreement Proposal PMP 12-13

EMPLOYEE CERTIFICATION

I, _____certify that I have thoroughly read and that I am in compliance with the Code of West Virginia section on ####, regarding providing certification on employees that will come in direct contact with students, for the provision of services under this contract.

I understand that I wi11 come in direct contact* with students, and I certify that I have (i) never been convicted of a felony or any offense involving the sexual molestation or physical or sexual abuse or rape of a child; nor (ii) convicted of crime of moral turpitude.

Signature _____ Date_____

Printed Name _____

Home Address _____

Company _____

"Direct contact with students" means being in the presence of students during regular school hours or during school sponsored activities (Code of West Virginia section ####).

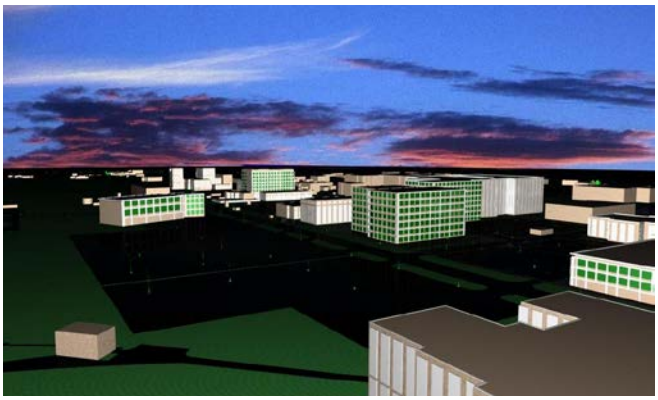
Appendix:
Section 2.4

Sample
Master Plan – Johnson Space Center

(Confidential)

Johnson Space Center Master Plan

Houston, Texas
Project Cost: $358,000



Project Summary:

This funded master planning study examined the National Aeronautical and Space Administration–Johnson Space Center (NASA JSC) campus chilled water and steam generation and associated thermal distribution systems. The team developed various operational, maintenance, and capital recommendations to optimize the efficiency and reliability of the existing campus, including evaluation of adding a natural gas fired combined heat and power (CHP) system and developed a phased master plan for upgrading and or replacing electrical and mechanical infrastructure systems, including adding standby generators with the UPS flywheels for delivery of critical power with reliability level of 99.999% to the Mission Control Facility.

Self Performed:

Assessed the scope of work; collected and verified required data; provided real-time trended information and detailed analysis of utility load profile, concept design, and survey of electrical and mechanical systems; analyzed plant and building flow measuring components; assisted in real-time hydraulic modeling of thermal distribution systems; developed a comprehensive energy model; assessed business and economic ramifications of the recommended systems; examined existing steam and electric infrastructure and various generation alternatives for adding a CHP system; and prepared and presented progress and final reports. (69.5%)

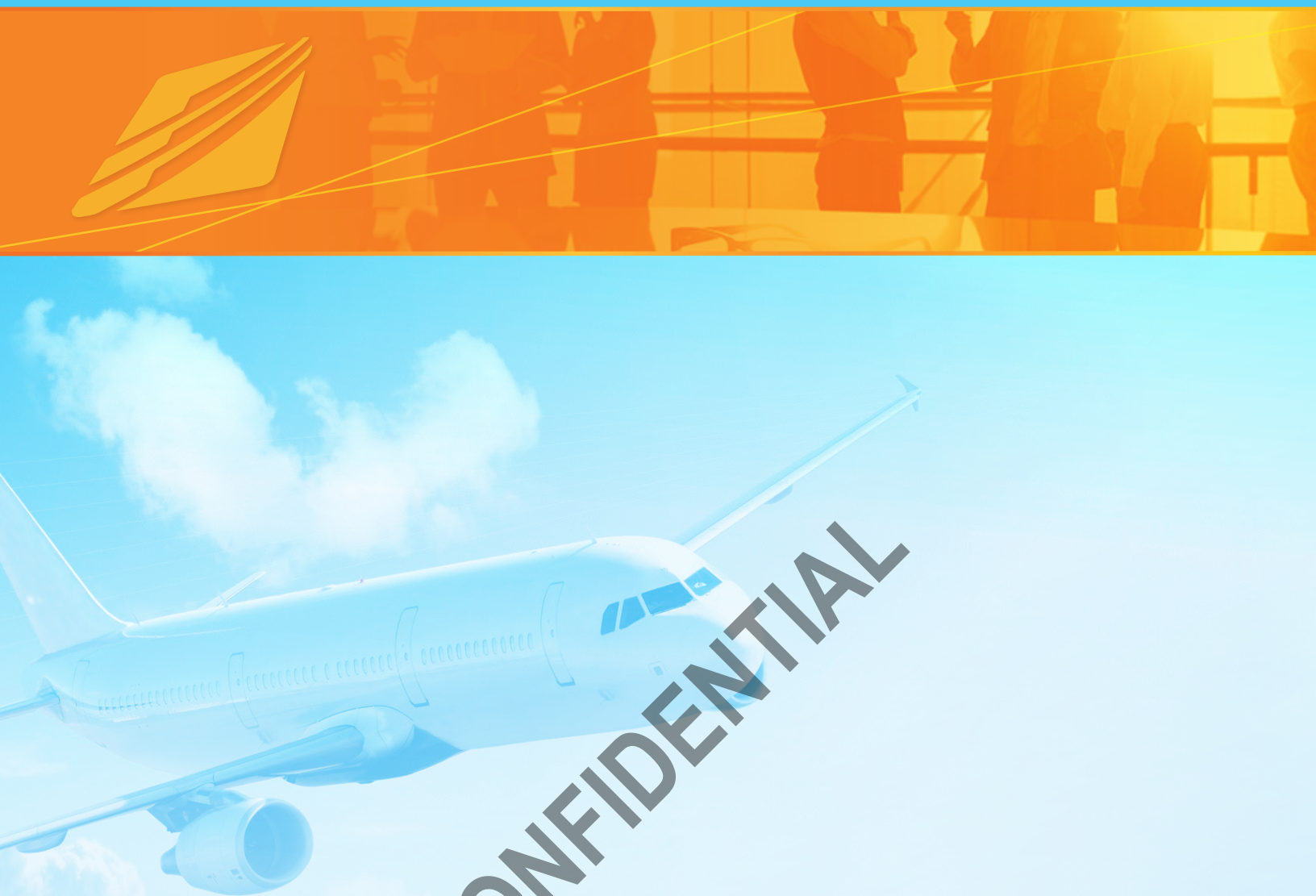
Subcontractor Performed:

Designed and analyzed dynamic, real-time hydraulic modeling of chilled water distribution system; trained NASA JSC engineers and operators on software operation; investigated energy performance of the facility chilled water plants (kW/ton); identified/quantified potential energy savings by converting to an all variable speed Optimum LOOP plant; performed an environmental analysis of plant equipment efficiency; and provided an in-depth peer review of the final study. (30.5%)

Appendix:
Section 2.4

Sample
Master Plan – Nashville Airport Authority

(Confidential)



CONFIDENTIAL

MNAA Energy Strategy & Recommendations

August 2017

ESG ENERGY SYSTEMS GROUP

TABLE OF CONTENTS

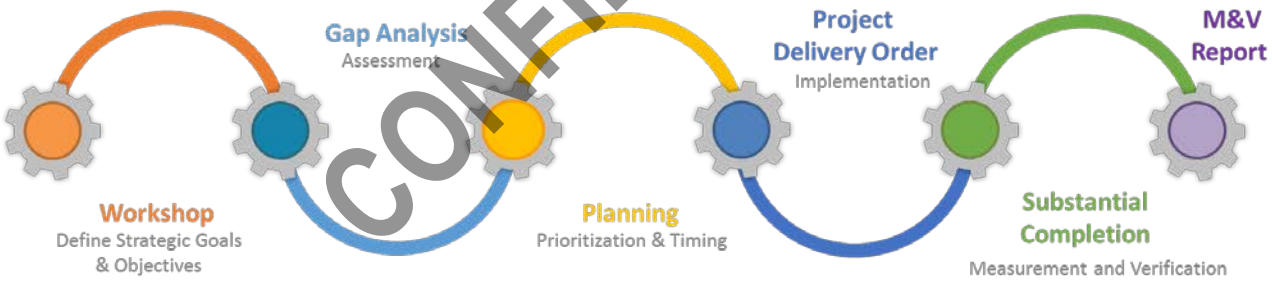
Energy Systems Group, LLC
555 Marriott Drive, Suite 150
Nashville, TN 37214
615-241-8012

EXECUTIVE SUMMARY

Energy Systems Group was selected in December 2016 to assist the Metropolitan Nashville Airport Authority in the formulation of their comprehensive Energy Strategy. This report summarizes the process used to develop the Energy Strategy as well as the resulting strategic objectives identified, and recommended projects that support the Energy Strategy.

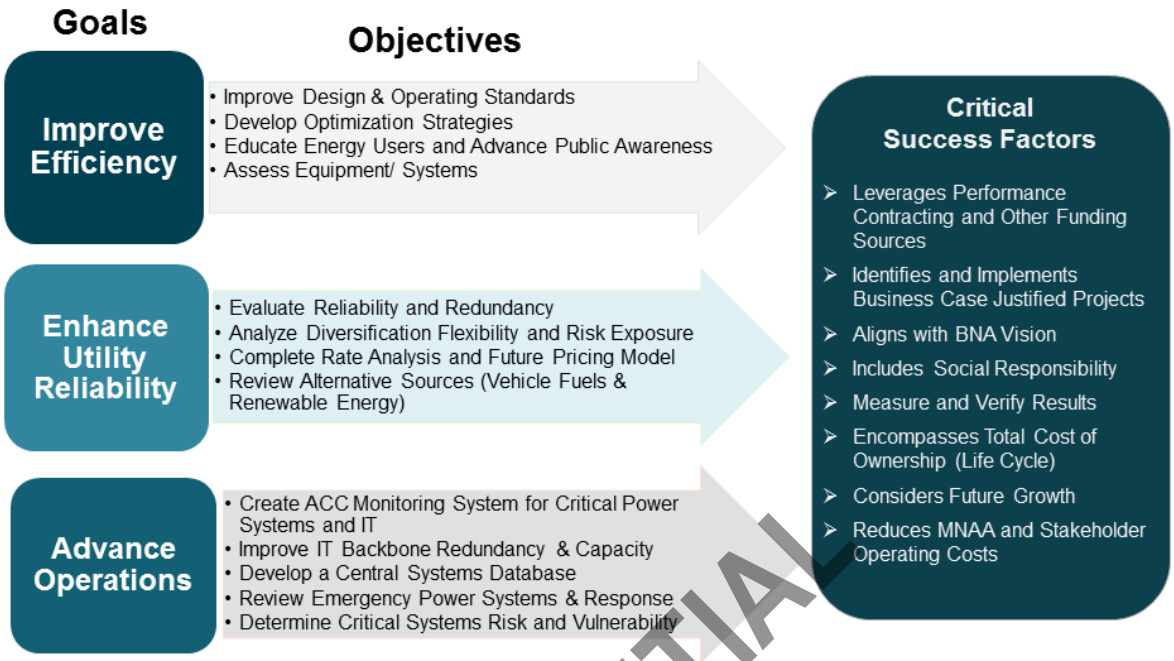
An Energy Strategy identifies opportunities for improvement in areas related to utility supply/use, resiliency, operational efficiencies and provides recommendations for projects with significant impact across multiple departments. Many of these recommended projects have utility and operational savings, a favorable total cost of ownership, and can be implemented as soon as possible.

The six major phases required for the development, implementation, and verification of projects in support of the Energy Strategy are identified in the graphic below. This report summarizes the activities completed during the first three phases: 1) Workshop, 2) Energy Strategy, and 3) Planning. The remaining three phases involve the implementation of the recommended projects.



WORKSHOP

In December 2016, a workshop was held at International Plaza that included representatives from multiple functional groups. Each group was tasked to identify and define the strategic goals and objectives necessary in the formulation of the MNAA's Energy Strategy. The workshop format was chosen because it provides a method to garner support, clearly communicate program goals and objectives, build consensus among departmental groups, establish executive level support, and fosters brainstorming and interactive communication. Thirteen objectives organized within three goal areas along with critical success factors were identified during the workshop. These objectives provided the foundation for the formulation of the Energy Strategy.



Gap Analysis

To further refine the Energy Strategy, a gap analysis was performed. This phase consisted of a series of sessions conducted with each department with the goal of establishing both the importance and gap for each objective. Importance was a measure of the relative value each objective has to the organization and gap was defined as the difference between where the MNAA currently is versus where the MNAA would like to be in the next five years.

Planning

Planning included a facility review (audit) of the equipment and systems as well as an evaluation of the constructability, technical and financial feasibility of potential solutions to address the identified gaps. The planned outcome was to identify and prioritize actionable recommended projects that support the objectives of the Energy Strategy and benefit the organization as a whole. The recommendations presented consist of both “ready to implement” projects in addition to potential projects that require further investigation. Factors in determining prioritization included the level of analysis already performed, resources needed to be contract ready, independence of work from the BNA Vision Program, and the timeliness of implementation.