



VOLUME I - TECHNICAL SUBMISSION

*Response to Request for Quotes for a Guaranteed Energy Savings Project for the
Commonwealth of Pennsylvania Department of General Services at*

Pennsylvania Fish & Boat Commission

Headquarters and Hatcheries in Pennsylvania

Project No. GESA 2019-3

Contract No. DGS GESA 2019-3

Tony Prelec, Account Executive

Phone: 724.996.7970

April 14, 2020



energy systems group

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Electronic Copy (USB Flash Drive) Includes:

Full Copy of Technical Submission

ESG Financial Reports



April 14, 2020

Becky Tomlinson
403 North Office Building
401 North Street
Harrisburg, Pennsylvania 17120

Subject: Response to Request for Quotes for a Guaranteed Energy Savings Project at Pennsylvania Fish & Boat Commission (PFBC), Project No. GESA 2019-3

Dear Selection Committee Members:

Energy Systems Group, LLC, (ESG) is pleased to provide our response to the above referenced Energy Savings Improvement Program to assist The Department of General Services and the Pennsylvania Fish & Boat Commission (PFBC) Headquarters and Hatcheries in Pennsylvania. Vectren's State of Pennsylvania Vendor Number is **406674**. As a comprehensive and NAESCO accredited Energy Service Provider, ESG designs, develops, implements, operates, maintains and verifies innovative, customer focused energy and operation solutions that enhance our client partners' facilities, productivity, comfort and finances so they can focus on meeting their core mission. ESG possesses all of the resources necessary to implement an energy performance contract project with the PFBC.

The ESG team offers a complete complement of staff members to develop and implement comprehensive energy efficient and guaranteed savings programs to assist various agencies in achieving mandated reductions in energy consumption. To ensure the strongest value and responsiveness, subcontractors such as mechanical, lighting and water conservation will be selected/bid for specific jobs.

The primary point of contact for questions or notification regarding the submitted response is:

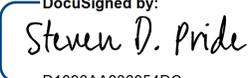
Tony Prelec, Account Executive
tprelec@energysystemsgroup.com
Phone Number: 724-996-7970
Fax Number: 812-492-8541

The primary person(s) authorized to bind the company and conduct contract negotiations:

Steven D. Pride, Senior Vice President or
Dan Shell, VP and General Counsel
Phone Number: 812-471-5000
Fax Number: 812-475-2544

Thank you for your time and consideration. We look forward to your acceptance of our proposal.

Sincerely,

DocuSigned by:

D1096AA836054DC...
Steven D. Pride
Senior Vice President

Appendix A – Quote Signature Page

APPENDIX A
Quote Signature Page

Quote Signature

Offeror's Representations and Authorizations. Offeror by signing on the signature page and submitting its Quote understands, represents, acknowledges and certifies that:

1. All information provided by, and representations made by, the Offeror in the Quote are material and important and will be relied upon by the Issuing Office in awarding the contract(s). Any misstatement shall be treated as fraudulent concealment from the Issuing Office of the true facts relating to the submission of this Quote. A misrepresentation shall be punishable under 18 Pa. C.S. § 4904.
2. No attempt has been made or will be made to induce any firm or person to refrain from submitting a Quote on this contract, or to submit a Quote higher than this Quote, or to submit any intentionally high or noncompetitive Quote or other form of complementary Quote.
3. The Quote is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive Quote.
4. To the best knowledge of the person signing the Quote for the Offeror, the Offeror, its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any governmental agency and have not in the last four (4) years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding or proposing on any public contract, except as disclosed by the Offeror in its Quote.
5. To the best of the knowledge of the person signing the Quote for the Offeror and except as otherwise disclosed by the Offeror in its Quote, the Offeror has no outstanding, delinquent obligations to the Commonwealth including, but not limited to, any state tax liability not being contested on appeal or other obligation of the Offeror that is owed to the Commonwealth.
6. The Offeror is not currently under suspension or debarment by the Commonwealth, or any other state, or the federal government. If the Offeror has received, within three years of the issuance of this RFQ, a Notice of Default from the Commonwealth, other state or the federal government, then the Offeror shall submit, as part of the Technical Submission, seven copies of a written explanation of why such Notice of Default was issued. This written explanation shall not exceed 1 sheet (2 pages) and shall not count towards the sheet and page limit established for the Technical Submission of the Quote.
7. The Offeror has not, under separate contract with the Issuing Office, made any recommendations to the Issuing Office concerning the need for the services described in the Quote or the specifications for the services described in the Quote.
8. Each Offeror, by submitting its Quote, authorizes all Commonwealth agencies to release to the Commonwealth information related to liabilities to the Commonwealth including, but not limited to, taxes, unemployment compensation, and workers' compensation liabilities.

9. Until the awarded GESA Contractor receives a fully executed and approved written contract from the Issuing Office there is no legal and valid contract, in law or in equity, and the GESA Contractor should not begin to perform.
10. The total energy savings projected in the final scope of work will be at least 95% of the savings projected in the Quote and that the project will be self-funded over the financial term of the project (maximum term of 18 years.)
11. Offeror agrees and certifies in accordance with the enclosed Commonwealth of Pennsylvania:
 - o Nondiscrimination/Sexual Harassment Clause
 - o Tax Liability Certification
 - o Americans Disabilities Act
 - o GESA Contractor Integrity Provisions
 - o GESA Contractor Responsibility Provisions
 - o Environmental Statement
 - o Compliance with State and Federal Statutes, Rules and Regulations
 - o Non-Collusion Affidavit

I am authorized to sign this Quote on behalf of the Offeror and I agree and state that Energy Systems Group, LLC (Name of Firm) understands and acknowledges that the above representations are material and important and will be relied upon by the Department of General Services in awarding the contract(s) for which this Quote is submitted. I understand, and my firm understands, that any misstatement shall be treated as fraudulent concealment from the Department of General Services of the true facts relating to the submission of this Quote.



Signature

Steven D. Pride

Print Name Legibly

Senior Vice President

Title

Appendix B - Non-Collusion Affidavit

APPENDIX B

Non-Collusion Affidavit

INSTRUCTIONS FOR NONCOLLUSION AFFIDAVIT

1. This Noncollusion Affidavit is material to any contract awarded pursuant to this Quote. According to §4507 of the Commonwealth Procurement Code, 62 Pa.C.S. §4507, governmental agencies may require Noncollusion Affidavits to be submitted with Quotes.
2. This Noncollusion Affidavit must be executed by the member, officer, or employee of the Offeror who makes the final decision on prices and the amount quoted in the Quote.
3. Bid rigging and other efforts to restrain competition, and the making of false sworn statements in connection with the submission of Quotes are unlawful and may be subject to criminal prosecution. The person who signs the affidavit should examine it carefully before signing and assure himself or herself that each statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the Offeror with responsibilities for the preparation, approval or submission of the Quote.
4. In the case of a Quote submitted by a joint venture, each party to the venture must be identified in the Quote documents and an affidavit must be submitted separately on behalf of each party to the joint venture.
5. The term “complementary Quote” as used in the affidavit has the meaning commonly associated with that term in the Quote process and includes the knowing submission of Quotes higher than the Quote of another firm, any intentionally high or noncompetitive Quote, and any other form of Quote submitted for the purpose of giving a false appearance of competition.
6. Failure to submit an affidavit with the Quote in compliance with these instructions may result in disqualification of the Quote.

NONCOLLUSION AFFIDAVIT

DGS Project Number: GESA 2019-3

State of Indiana _____:

County of Warrick _____: s.s.

I state that I am the Senior Vice President (Title) of Energy Systems Group, LLC (Name of Firm) and that I am authorized to make this affidavit on behalf of my firm, and its owners, directors, and officers. I am the person responsible in my firm for the prices(s) and the amount of this Quote.

I state that:

1. The price(s) and amount of this Quote have been arrived at independently and without consultation, communication or agreement with any other contractor, Offeror, or potential Offeror.
2. Neither the price(s) nor the amount of this Quote, and neither the approximate price(s) nor approximate amount of this Quote, have been disclosed to any other firm or person who is an Offeror or potential Offeror, and they will not be disclosed before the Quote submission date.
3. No attempt has been made or will be made to induce any firm or person to refrain from proposing on this contract, or to submit a Quote higher than this Quote, or to submit any intentionally high or noncompetitive Quote or other form of complementary Quote.
4. The Quote of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive Quote.
5. Energy Systems Group, LLC (Name of Firm) its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by state or federal law in any jurisdiction, involving conspiracy or collusion with respect to proposing and/or bidding on any public contract, except as follows:
Not Applicable

I state that Energy Systems Group, LLC (Name of Firm) understands and acknowledges that the above representations are material and important and will be relied upon by the Department of General Services in awarding the contract(s) for which this Quote is submitted. I understand, and my firm understands, that any misstatement in this affidavit is and shall be treated as fraudulent concealment from the Department of General Services of the true facts relating to the submission of this Quote.

Steve Pride
(Signature)

Steven D. Pride
(Signatory's Printed Name)

Senior Vice President
(Signatory's Title)

SWORN TO AND SUBSCRIBED
BEFORE ME THIS 13th DAY OF
March, 2020.

Angela L. Rawlinson
Notary Public

My Commission Expires 10/04/2022



Executive Summary

Energy Systems Group (ESG) is pleased to submit this proposal in response to the Department of General Services Fish and Boat Commission (PFBC) GESA 2019-3, Request for Quotes issued on Dec. 30, 2019

Since 1994, ESG has implemented over 730 energy efficiency and facility infrastructure improvement projects totaling over \$3.3 Billion for more than 428 Customers in 38 States and the U.S. Virgin Islands.

The information in this proposal will show “why” Energy Systems Group is the leader in customer satisfaction and how we set ourselves apart from all others. Our value is manifested in having the best expertise, financial strength, and long-term dependability; but most importantly, our track record shows our commitment to forming long-term partnerships with our customers, helping them meet infrastructure and environmental goals and standing behind our projects 100%.

For the PA Fish and Boat Commission GESA, our ESG Team was able to include all but four (4) Appendix “S” ECMs in our Preliminary Cash Flow Neutral project and could probably include two of those four with some additional research and input from PFBC. We also developed twenty-four (24) ESG ECMs some of which are included in the Preliminary Cash Flow Neutral project and many more are included in the 2nd Cash-Flow Project utilizing Energy Related Cost Savings.

We have selected CJL Engineering as our Design Consultant for the PA Fish and Boat Commission GESA project, because of their vast experience with MEP designs and GESA projects in general.

The RFQ states, “Interest Rates are to be assumed to be 4.0%, however, assumption of interest rates should also be based on the Offeror’s research of current financial market rates”, therefore, based on our ESG Financing Manager’s market research, we feel the 4% interest rate reflects current market conditions.

STATEMENTS REGARDING RFQ REQUIREMENTS:

- Energy Systems Group (ESG) has received and acknowledged all six (6) bulletins released by PA DGS pertaining to the PA Fish and Boat Commission GESA RFQ.
- ESG has not included any cost information in the PA Fish and Boat Commission GESA Technical Submission.
- With the exception of our Financial Statements ESG has not labeled any portion of our proposal as proprietary or confidential.
- The total energy savings projected in our ESG final scope of work will be at least 95% of the savings projected in the Quote, and the actual ECM costs shall be within 10% of the costs listed in the CEA/IGA and the project will be self-funded from energy savings over the term of the project (maximum 18 years).
- Our sample RFQ Project schedule should not be construed as the final CPM schedule.



Response to Request for Quotes for a Guaranteed Energy Savings Project at Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

- ESG can meet the required insurance coverage limits through a combination of primary and excess policies and will provide evidence of insurance in the form of an industry standard ACORD certificate.
- Energy Consultants service fees are included in our project cash flow.
- Measurement and Verification Services are included in the first three years of the project.
- Construction period interest is included in our project cash flow.

Energy Systems Group (ESG) is very pleased that we were able to develop a very attractive preliminary cash flow neutral project for the PA Fish and Boat Commission and an even more appealing 2nd Cash-Flow Project utilizing Energy Related Savings contributions.

Note: Itemizations for the Energy Related Cost Savings contributions are listed in the Appendix section.

Thank you for this opportunity to, once again, serve the Commonwealth of Pennsylvania, and PA Department of General Services and we are hopeful that ESG will be selected as the ESCO of choice for this high profile project within the PA Fish and Boat Commission.

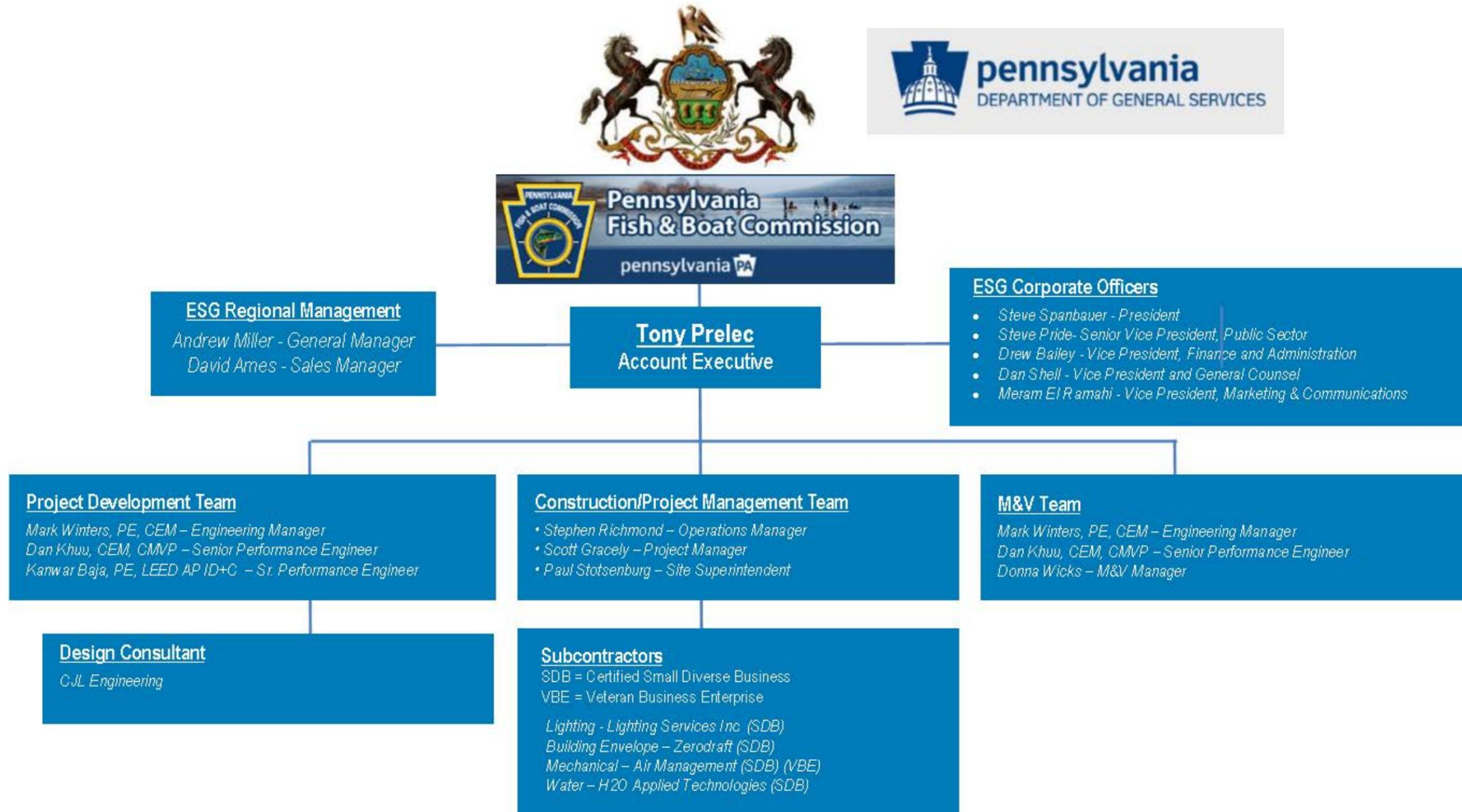
2-5.1 Project Management Team Overview

(Suggested number of sheets/pages: 2 sheets plus a single 11 x17 sheet, front only, for Organization Chart)

- A Provide Project Team Organization Chart that graphically depicts the hierarchy and reporting structure of the Team members, with specific personnel identified.*
- 1. Personnel identified should include, as practical, executives, project managers, etc. down through field supervisors;*
- B Provide a brief description regarding the assignment of responsibilities for major tasks and the interrelationships and management structure of the overall Project Management Team. Describe the reporting hierarchy and the history, if any, of working relationships with other firms on the Project Management Team, including the process utilized in selecting subcontractors.*
- C The Evaluation Committee will consider the degree to which the proposed Management Team will effectively manage this Project. Information considered in this evaluation includes: the proposed management organization, roles and responsibilities, qualifications and experience of key personnel, and quality control of all subcontractors. Quotes should therefore discuss:*
- 1. A clear assignment of responsibility for various Project tasks to specific individuals and assignment of qualified individuals to fulfill designated responsibilities;*
 - 2. The percentage of time that key personnel are assigned to this Project; and*
 - 3. The ability to manage construction, repairs, regular service and emergencies effectively.*
- D If awarded a contract, the GESA Contractor shall not substitute personnel identified on the Project Management Team and shall not alter the structure of the Project Management Team organization chart without prior written authorization by the DGS.*

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 Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

A. Organizational Chart



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B. Offeror described the assignment of responsibilities and special tasks for each team member.

Below is a list of the Energy Systems Group (ESG) Core Team Members that are directly or indirectly responsible for different aspects of Energy Performance Contracting Services for the PA Fish & Boat Commission (PFBC), GESA 2019-3 project. The same Core Team Members recently completed two successful GESA projects for the State of Pennsylvania.

Assignments of Core Members

Account Executive, Tony Prelec: Procurement, Investment Grade Audit (IGA) work reviewer and post construction support.

General Manager, Andrew Miller: Procurement, financing, contracting, project resourcing, and performance team.

Sales Manager, David Ames: Procurement, financing, and contracting.

Engineering Manager, Mark Winters: Engineering work assignment and management during IGA and other project phases, and procurement.

Operations Manager, Stephen Richmond: Overall project management responsibility, construction management, commissioning, and project turnover.

Performance Engineers, Dan Khuu and Kanwar Bajaj: IGA work, design and review, commissioning and diagnostic testing, M&V and warranty services.

Project Manager, Scott Gracely: IGA work, procurement, construction management, training, post-construction support and warranty services.

Site Superintendent, Paul Stotsenburg: Procurement, construction management, training, post-construction support and warranty services.

The core project team members assigned to this PA Fish & Boat Commission GESA project have an outstanding track record of implementing Guaranteed Energy Savings Projects together. A recent project completed by this project team was completed on time and the customer is completely satisfied with all Energy Conservation Measures implemented during the construction process. ESG also exceeded our Guaranteed Energy Savings commitment in Years 1 and 2 by a substantial amount.

Our ESG team has worked with some extremely talented subcontractors, several of which we intend to utilize for specific ECMs on the PA Fish & Boat Commission project. ESG has utilized SDB subcontractors such as Lighting Services Inc., Zerodraft, and Air Management Inc., on past projects including DCNR Western Region GESA and we are confident that they will accomplish their assignments in a timely and cost effective fashion and fully stand behind their work. The majority of our subcontractors we have used in the past have their current up-to-date Small Diverse Business and/or their Veteran Owned Business certification from the Commonwealth of Pennsylvania.

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CI. Assignment of responsibilities for various project tasks

Listed below is a more detailed description of specific activities and how each core team member interrelates to other members of the team:

Corporate Officers work closely with the General Manager to ensure ESG understands, and meets the needs and requirements of the customer. Corporate officers ensure the best financing plan, quality engineering, accurate estimates, and best solutions for the project. They are a part of all negotiations and contracts with the customer, and are the ultimate point of accountability.

Account Executive – Tony Prelec deals directly with both technical representatives and contract specialists to develop a clear understanding of the customer's needs and concerns. In order to translate the customer's requests into a feasible, successfully installed solution, he communicates with representatives of the operations group: Performance Engineers, Mechanical Engineer, Electrical Engineer, Operations Manager, and Project Manager. Additionally, Tony has a wide knowledge base ranging from specialized technologies to the business operations of the customer.

Northeast General Manager - Andrew Miller is involved 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 what was sold. The General Manager works closely with Project Development / Account Executives / Sales Managers to make sure ESG understands and fulfills the needs and requirements of the customer. The General Manager also works closely with the Project Managers to ensure ESG provides quality installations, exceeds customer expectations, and immediately deals with any issues inherent with construction in a timely and professional manner.

Northeast Sales Manager – David Ames is involved in all phases of the sales effort, focusing the team to ensure customer satisfaction throughout the project development, implementation, and measurement/verification phases. The Sales Manager works closely with Account Executives to discover and understand customers' needs and concerns and, working closely with the operations team and other internal resources to translate those into feasible, installable solutions. The Sales Manager oversees the installation of contracts and ensures customer satisfaction.

Northeast Engineering Manager – Mark Winters serves as the chief technical resource to the Sales and Operations teams. The engineering manager reviews the technical solutions to ensure they adequately address the mechanical and energy-related challenges within a Customer's facility, in a comprehensive and cost-effective manner such that the solutions increase the operational efficiency of the site throughout the contract term. The Engineering Manager serves as a technical consultant for ESG in-house staff, on issues that include ECM brainstorming, equipment selection, savings calculation, and energy guarantee protocol development. The Engineering Manager 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. The Engineering Manager oversees and coordinates engineering resources during the development phase.

Northeast Operations Manager – Stephen Richmond works as a team coordinator for the project and is ultimately responsible for the technical approach and delivery of the project. The Project Delivery Manager works closely with the Account Executive to ensure ESG understands and fulfills the needs and requirements of the customer. The Project Delivery Manager oversees and coordinates all project delivery resources, both internal and external, to ensure quality engineering, accurate estimates, and the correct solutions for the particular customer.

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In the delivery of a project, the Project Delivery Manager oversees the Project Managers to ensure ESG provides quality installations, exceeds customer expectations, and deals with all problems inherent with construction in a timely and professional manner. The Project Delivery Manager also oversees all negotiations and contracts with subcontractors and vendors.

Senior Performance Engineers – Dan Khuu and Kanwar Bajaj are responsible for identifying and understanding the mechanical and energy-related improvements within a customer's facility; and taking the site evaluation/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. The consultation includes ensuring equipment selection, proper installation, implementation of the measures as they are designed, and troubleshooting construction problems.

The Performance Engineers are 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. The continuous open communication between the Performance Engineer and Account Executive ensures a timely and technically correct solution development for the customer.

Project Manager (PM) – Scott Gracely and Site Superintendent (SS) – Paul Stotsenburg work closely with the Account Executive to advise and assist in estimating and managing the account; the Performance Engineers to obtain technical information and advice; the Project Delivery Manager on resource needs; and, our management, finance, and accounting support groups. Both Scott and Paul have GESA project experience, with Scott being our Project Manager for DCNR Western Region and SCI Dallas GESA project.

The Project Manager and/or Site Superintendent are generally on the project each day working very closely with the customer to ensure that all aspects of the project are running according to plan. Our PM and SS are committed to staffing the project with a workforce capable of handling the challenges associated with the project, and plan for and use these personnel to achieve optimum results according to the customer's requirements.

ESG's PM applies 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. Scott Gracely will be the primary contact and interface during the project implementation and customer acceptance phases.

Measurement and Verification Manager - Donna Wicks has the responsibility of monitoring the guarantee and presenting results to the customer in a format that is clear and concise. In addition to excellent communication skills, Donna has the capability to determine what factors affect energy savings and calculate savings given changing parameters. Some customers may prefer modified baselines showing monthly deviations, while others may prefer to see only savings based on initial verifications and measured equipment operation. Donna is adept at meeting those needs. Maintaining and tracking guaranteed energy savings over the length of a program is the final step of a Performance Contract. Maintaining core competencies is important to the success of an energy services agreement.

ESG is committed to guaranteeing all of the operational and financial benefits the energy services agreement offers. ESG's primary competency is as an energy services provider, not a manufacturer. Therefore, we are committed to selecting the best products and services that will perform on the requirements and goals of our customers.

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C2. Percentage of time key personnel will be assigned to this project

ESG has had great success staffing projects of similar size and scope according to the percentages of time listed below for key individuals:

Percentage Of Time Assigned by Role			
Project Manager (1)	70%	Mechanical and Electrical Engineers (2)	25%
Site Superintendent	100%	Account Executive (1)	35%
Regional Operations Manager (1)	30%	Manager EHS (1)	20%
Mechanical Superintendent (1)	30%	M & V Specialist (1)	10%
Senior Performance Engineers (2)	75%	Subcontractor Superintendents	60%

C3. Offeror described ability to manage construction, repairs, regular service and emergencies effectively

During construction and warranty periods, if an emergency were to occur, the ESG project manager is available 24/7/365 to be on-site and should be contacted by PA Fish & Boat Commission personnel to help facilitate proper handling and coordination of resources to ensure a quick response. At ESG, our project manager provides a single point-of-contact for all contracts, carrying out the responsibility for the implementation phase of the project. Given the projected size and scope of this project, ESG will assign a full-time project manager while the construction phase is under way, and the project manager will work closely with the PA DGS and PA Fish & Boat Commission on-site designated representatives.

ESG will develop a protocol specific to the PA Fish & Boat Commission facility and in conjunction with DGS representatives concerning response to emergencies. ESG, working in conjunction with DGS safety and security personnel, will also develop a contingency plan specific to the PA Fish & Boat Commission facilities, which will address specific types of emergencies that could be encountered during the project. This will allow us to effectively address any situation, which may arise. Utilizing our past state government experience, specifically that with Pennsylvania DOC, we will develop effective emergency response plans. Additionally, to minimize risk, ESG prefers to select local subcontractors that are familiar with PA Fish & Boat Commission facilities and the safety and security related to such projects.

A key to our ability to manage construction, implementation, repairs, and emergencies is our attention to project management. This project will likely have varied and diverse scope and magnitude and may consist of implementing several measures in one building, implementing a variety of measures in many buildings, or applying an individual ECM throughout numerous buildings. Our dedicated project manager and detailed protocols mitigate risk and ensure a safe, on-time delivery of the project.

D. If Awarded Contract, GESA Contractor Shall Not Substitute Personnel identified on the Team

We are aware of this requirement and agree to adhere to the policy as stated.

2-5.2 Work Plan for this Project

(Suggested number of sheets/pages: 4 sheets).

1. Offeror demonstrates a thorough understanding of the design process

Having performed a large GESA project as well as a Small GESA project for the Commonwealth of Pennsylvania, Energy Systems Group is quite familiar with the *GESA Project Design Manual*. A very successful approach to design, which we utilized on the SCI Dallas GESA project, consisted of the following steps: during the IGA phase, ESG will prepare a detailed scope of work, based on energy, facility and PA Fish and Boat Commission needs and performance specification documents for Energy Conservation Measures (ECMs) in the project scope. These will include 35% design documents for measures that warrant design details that follow the *GESA Project Design Manual*. After the Notice to Proceed (NTP), ESG will submit long lead equipment submittals to the DGS Energy Consultant and the Pennsylvania Fish and Boat Commission (PFBC) Hatchery Managers, while continuing to develop the design documents from 35% to 100% construction-ready design documents. Long lead equipment will be procured after the respective Hatchery Manager's approval. Because the PFBC GESA project could incorporate many Energy Related Cost Savings measures requiring detailed design, *ESG has partnered with CJL Engineering as our design consultant for the project*. CJL is an engineering and design firm based in Johnstown, Pennsylvania with an excellent background in mechanical, electrical and plumbing design. ESG will utilize CJL to evaluate 35% design documents and specifications of critical mechanical components, provided as part of the IGA submission to the Commonwealth for review. After the contract execution and the issuance of the Notice to Proceed (NTP), ESG will continue to utilize CJL Engineering to review completed construction-ready design and specification documents. For ECMs requiring like-for-like equipment replacement, ESG's engineers will complete the necessary documents in-house and provide them to DGS and the PFBC for their review and approval. ESG understands that we are responsible for providing 100% design documents, which will be reviewed by DGS and the PFBC Hatchery Managers overseeing the project.

2. Offeror identified potential design issues

Some key design challenges ESG has identified and has prepared creative approaches to mitigate:

1. Age and condition of buildings and infrastructure have to be considered during the design phase;
2. Working within occupied buildings during hatchery activities will have a bearing on the scheduling of certain ECMs;
3. The process water requirements in terms of temperature, dissolved oxygen content and cleanliness that will enable PFBC to accomplish its goals in terms of product;
4. Right-sizing the replacement equipment, especially as it relates to the sizing of proposed gas-fired infrared heating equipment which can be upwards of 70% less than convection systems;
5. Upgrading existing internal lighting to LED (light emitting diode), while meeting adequate light levels will have a bearing on design of lighting used and have a direct impact on cooling loads;
6. Upgrading LED lighting and HVAC systems may also require electrical system wiring to be improved in some areas;
7. Enhancing the overall operation of the hatchery process to assist PFBC in achieving its product goals;
8. Addressing ventilation issues within various buildings while still providing adequate outside air, or future requirements of outside air, and how to properly control and monitor, the various air handling systems;
9. Addressing any building envelope deficiencies and how best to short and long-term correct them;
10. Enhancing the heating and/or air conditioning systems, while reducing the utility and O&M costs;
11. Identifying and enhancing the operational efficiency of other energy-using devices; and,
12. Identifying and fully developing cost savings strategies, such as fuel switching, utility bill auditing, utility rate changes, and distribution upgrades.

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3. Offeror described how the Team would manage and minimize DGS' risk

Clear and on-going communication will be a key component of minimizing DGS and PFBC risk. The communication will start during the IGA process. Through careful and thorough site investigations utilizing highly skilled energy engineers, ESG will identify all visible potential risks and make them known to both DGS and PFBC. The potential risks will be evaluated, and together we will determine how to mitigate the risks.

Once the areas of risk are identified, a risk mitigation plan will be developed and become part of the construction process. As other risks are identified, they will also be evaluated and a mitigation plan developed. Plan steps include:

1. Evaluate the risk causes, interactions (staff safety and security) and probability;
2. Identify the impact of the individual risks and their combined impact;
3. Prioritize the risk items based on their potential impact on schedule and cost; and,
4. Identify risk mitigation steps and costs.

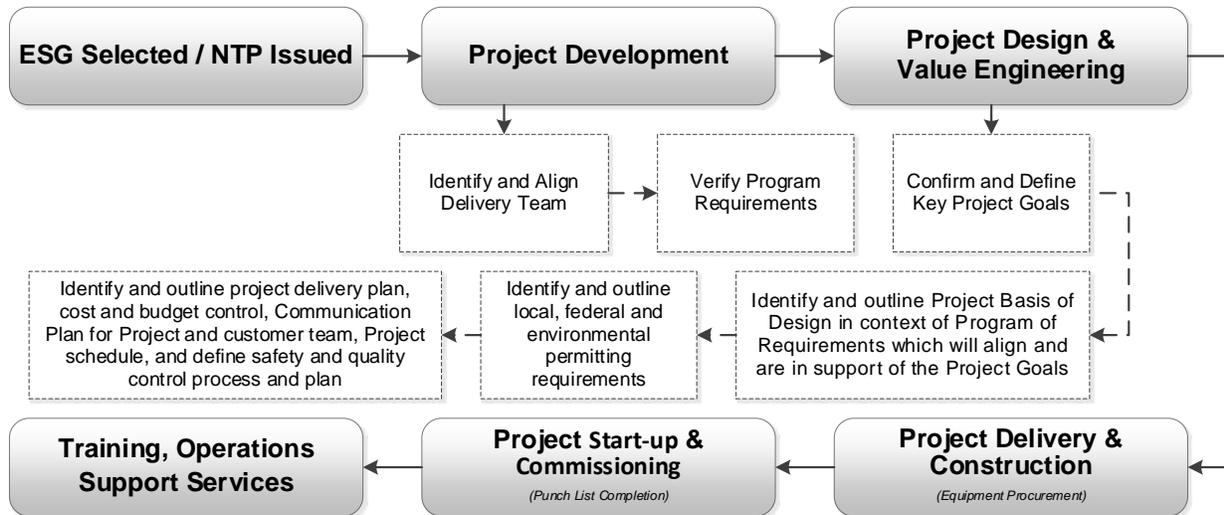
This risk mitigation methodology has proven track record on previous GESA projects. ESG believes that identifying the risks early is key to developing a plan to overcome them.

4. Offeror identified early construction packages, long lead items and phases of construction

For lighting, HVAC/mechanical, building envelope and other similar ECMs, ESG will provide submittals to the PFBC and DGS for review and approval. Long lead items will be identified during the IGA and submittals phase, and 35% design packages will be prepared for PFBC and DGS approval in a timely manner. The construction phase begins after the submittal review and approval process to allow all material and equipment to be ordered. Our basic phases of construction are listed in the graphic below. The timing for each Energy Conservation Measure (ECM) shall be defined within the implementation schedule.

Key construction packages will be identified as those that are weather or process-dependent or requiring long lead-times. For example, the replacement of process heating equipment has long lead-times and the work must be completed prior to the commencement of the respective hatchery's product schedule. This may require the work to be completed during off season and not interfering with the hatchery process. Heating equipment cannot be replaced during the cool to cold fall and winter months. Lead times of boilers and other types of heating equipment extend during the early summer months. While the procurement time of heating equipment early in the year is 4-6 weeks, that lead-time can extend to 8-12 weeks as summer approaches.

ESG Standard Construction Phases



ESG has an excellent track record of developing and completing project schedules in our GESA projects. We focus on both understanding how we are impacting the client’s working environment and completing tasks within the timeframe of the construction period. ESG prides itself on being flexible and innovative to mitigate issues that could potentially impact all phases of the construction and project completion. After the IGA acceptance by DGS and the PFBC Hatchery Managers, as well as the execution of the GESA contract, ESG’s typical construction plan for a GESA project would generally consist of the following steps:

- Issue contracts to our partners
- ESG will order long lead time equipment
- Offer to install mock-up systems where necessary to help determine systems requirements
- Provide ECM design specifications and drawings to the Energy Consultant
- Meet with PFBC Hatchery Managers and their building management teams
- Arrange kick-off meetings with each key subcontractor
- Conduct detailed safety and security meetings with all employees and subcontractors
- Order material storage containers and necessary mobile equipment
- Designate final laydown areas with the PFBC Hatchery Managers
- Discuss the proposed final work schedule with the PFBC Hatchery Managers, staff and security
- Review any hazardous material log books and confirm if any abatement will be necessary
- Acquire approved final ECM design documents and drawings from DGS and PFBC
- Begin implementation of the actual ECMs based on the agreed-upon schedule
- Conduct weekly safety and progress meetings with the PFBC Hatchery Managers and our subcontractors
- Complete all ECMs in a timely fashion
- Complete commissioning of all systems
- Begin detailed staff training for the PFBC Hatchery Managers on all systems and equipment
- Develop final turnover O & M manuals for all systems and equipment
- Review standard manufacturer warranties of all installed equipment
- Turn over the project to the PFBC Hatchery Managers and confirm that all work has been implemented to their satisfaction

5. Offeror demonstrated an understanding of critical material and equipment and why they are critical, timing/lead times for acquisition and how they will be managed

For the proposed ECMs, the critical long-lead items are special order mechanical system components, such as process controls/controllers, boilers, motors and variable frequency drives. We expect the lead times for these components to be 6 - 14 weeks. Any delay in releasing or ordering mechanical equipment could have an impact and possibly extend the overall project schedule.

- Lighting and building envelope materials are generally available in 2 to 6 weeks.
- Remaining ECM equipment that is not seasonal will be ordered after approvals and installed based on the approved implementation schedule.
- Special order equipment with long lead times will be expedited in the submittal process.

Since Energy Systems Group has a vested interest in the complete success of this project, the PA Fish and Boat Commission Hatchery Managers can be assured of the following:

- Materials and equipment will be selected based upon life-cycle costs rather than initial acquisition costs.
- Energy Systems Group will make every effort to standardize the products to reduce the PFBC's operations and maintenance burden.
- Every product or application associated with this project will meet applicable standards, such as ASHRAE's guide for equipment efficiencies and/or Illuminating Engineering Society guidelines to meet lighting standards.

We will leverage *our extensive buying power* along with our ability to aggregate the purchasing requirements of many of our customers. In this way, we can obtain the highest quality grade products and services at the lowest possible price. Again, our goal will be to maximize the impact and value we provide without sacrificing the quality needed for a successful outcome.

6. Offeror demonstrated an understanding of construction challenges and proposed solutions

One of the main challenges during this specific time is the COVID19 impact on all businesses and when things may get back to normal. Another challenge of the schedule is estimating the duration of tasks in public areas during peak periods and the coordination of the work so as not to impact the maintenance functions of the in-house staff. Another critical component is the need to ensure that the various facilities maintain heat during the heating season and cooling during the cooling season. Our plan will have any heating system upgrades completed during the summer, when building heat is not required, and any cooling system upgrades during the winter months, when cooling is generally not required.

Our solution is to work closely with the facility staff and maintenance personnel to understand the operational procedures for the individual buildings throughout the hatcheries and then develop an accurate schedule to fully abide by the Hatchery Manager's site requirements.

During the IGA phase, the ESG delivery team shall meet with the DGS and the PFBC Hatchery staff to prepare a preliminary implementation schedule for the project. The development of this schedule will take into account the Hatchery Manager's priorities and goals for this energy savings project. DGS, PFBC Hatchery Managers and ESG shall review the construction challenges and logistics with each individual ECM, to further understand and define the optimum timeline for starting, performing and completing energy improvement work during the course of the project. The objective of this pre-installation administration process is to allow the PFBC Hatchery Managers and ESG to prepare a baseline working construction plan that will be redefined and updated as the project progresses. ESG will also utilize the preliminary implementation schedule to assist subcontractors with addressing and confirming procurement and installation requirements associated with this project.

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7. Offeror thoroughly described a construction plan, including site operations, logistics; lay down area, including a detailed discussion on how the Offeror will accomplish the work within a fully occupied environment.

ESG's delivery team shall hold weekly progress meetings at the ESG Field Office with the PFBC Hatchery Managers, DGS, and subcontractors. Meeting minutes and three (3) week look-ahead schedules will be prepared for every progress meeting. These meetings will be dedicated to reviewing and addressing all coordination and production issues, escort allocation (by ECM) and action items with the current work schedule and that of the future work. In addition, these meetings will facilitate DGS and PFBC Hatchery Managers monthly on site administrative procedures, L&I inspections, future customer training and O&M Manual review meetings.

ESG will provide onsite supervision to oversee and manage the daily project coordination and assure weekly scheduled implementation work is performed per the agreements and time-line commitments summarized within the project progress meeting minutes and look-ahead schedules. ESG's supervision will continually monitor and manage the ECM work-in-progress to coincide with the required security procedures and with assuring minimal disruption to the PFBC hatcheries.

ESG shall utilize exterior secure areas for staging areas or equipment laydown areas selected by the hatchery, to store the majority of the equipment and materials required for this project. Materials will be transported each work week and shall be stored in designated secured areas. Daily cleanup and disposal procedures will be performed by all subcontractors.

ESG utilizes before and after photographs of occupied spaces to document conditions pre- and post-work. Great care is taken to leave occupied spaces in exactly the same condition as before the work took place.

8. Offeror explained how construction coordination & meetings will be carried out with the Funding Agency, DGS and the sites.

On previous GESA projects, ESG coordinated with the Funding Agency, DGS and site personnel to establish a series of weekly or bi-monthly project coordination meetings which would take place at a specific time and day on a regular schedule. ESG project team members would attend the meetings in person at the preferred Funding Agency's location of choice and then establish a conference call line for remote access to the meeting for those who could not attend in person. ESG reports on the current status of the project and addresses any concerns which may have come up during the previous work period. The Funding Agency will then comment on the current status for the project and bring up any additional concerns or comments. The entire meeting is documented in a detailed set of meeting minutes and distributed to everyone who is on the Project Progress Meeting distribution list. The above mentioned format for the construction coordination and progress meetings has worked very well on past GESA projects and all critical project personnel are given the opportunity to attend the meetings in person or by phone.

9. Offeror discussed Project Safety Plan, Management and Monitoring

Safety is not simply a program at ESG—it is a mindset and an expectation of our employees and our subcontractors. Keeping our employees, subcontractors, customer personnel and the public safe while implementing construction projects is our primary concern. There are multiple steps to ensure a safe working environment throughout a project's duration.

Culture – As a part of our safety culture, ESG promotes the following guidelines:

- Before each job, we identify hazards and determine how to avoid them. We review safety details with all employees who will perform the work.
- While working, we watch out for each other and take action if we see unsafe conditions.
- Reporting safety concerns is rewarded and protected to remove any hesitation from employees doing so.

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ESG's recent Recordable Incident Rate (RIR), Experience Modification Rate (EMR), and Days Away Restricted Time Rate (DART) underscore our company's focus on construction site safety.

Year	OSHA Recordable Incident Rate (RIR)	Experience Modification Rate (EMR)	Days Away Restricted Time Rate (DART)
2019	0.52	0.82	0
2018	0.59	0.65	0.30
2017	0.61	0.66	0

Subcontractor Selection – Safeguarding our employees, subcontractors, the PA Fish and Boat Commission staff and the general public is paramount. To help enable this, ESG employs a three-step process to select only the most qualified subcontractors with a proven ability to perform safely. Each of these steps is facilitated by our Project Procurement Manager during the subcontractor bidding process. All safety evaluations are reviewed by ESG's Safety Manager.

- **Step One** – We evaluate each potential subcontractor on a combination of safety metrics, including EMR (<1.0), OSHA statistics (DART), total recordable incidence rate (TRIR), and recorded violations. We thoroughly review potential subcontractor safety records during the vetting process documented through customer references and positive results on the OSHA website.
- **Step Two** – We ask each subcontractor to complete a safety questionnaire that covers numerous potential safety issues that could be encountered during construction. We use these results to help determine if the subcontractor has the necessary understanding of the possible risks that could be encountered on the job site. This questionnaire is also used to give us an indication if the subcontractor is sufficiently prepared to work safely on a customer site.
- **Step Three** – We ask for and review each potential subcontractor's safety programs to ensure they have adequate training and the ability to address and work safely in workplace hazards. For example, if we anticipate the subcontractor will be working in a confined space and will need the necessary permitting, we will ensure they have the proper program and internal support structure to perform the necessary tasks.

Project Development – The Development Engineer and Project Manager complete a comprehensive (20-page) Environmental Health and Safety (EHS) questionnaire. The questionnaire covers any potential hazard that could be an exposure to existing employees, contractors, or the public. It is then vetted by the construction management team. This integration method fosters everyone's ownership of the project.

Safety Plan – ESG creates site-specific Accident Prevention Plans (APP). The APP is strictly adhered to throughout construction and each of our subcontractors must sign off that they are aware of and will follow all of the guidelines. ESG's Project Manager and Construction Manager ensure that daily construction activities are performed in a safe manner at all times.

Implementation – Project safety orientation training, daily safety briefings, and pre-task planning meetings to review the Definable Features of Work comprise the safety effort in the field. These sessions build trust because everyone is involved with safety, not only the Safety Manager. Regular assessments and feedback are captured in site audits, and deficiency logs used to capture both deficiency and positive correction in form of lessons learned at weekly customer/management meetings.

Monitoring Subcontractors – ESG monitors our subcontractors through several means including employing a robust APP, demanding that they abide by all ESG and customer safety requirements, attending and participating in safety meetings, completing safety orientation at the beginning of project construction, and following all safety inspection conclusions.

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Stop Work Notices – All workers have the authority to stop work activities if an imminent danger condition is noted or perceived. These conditions include, but are not limited to, danger of serious injury, fatality, property damage, or environmental release. ESG’s Construction Manager will determine if the condition can be abated or mitigated in the field. As appropriate, a *Stop Work Notice* may be issued to the subcontractor. The *Stop Work Notice* normally stops a specific activity within a project, not the entire project, unless dictated by the situation. If work is stopped, the Construction Manager will notify the Project Manager and the Safety Manager to discuss appropriate actions. All ESG employees and subcontractors have the responsibility to stop and/or prevent work at any time. No worker will face recrimination if they issue a *Stop Work Notice*. Any time a *Stop Work Notice* is issued, an ESG *Near Miss Form* must be completed.

Safety Stand Downs – ESG also holds safety *Stand Downs* that all employees must participate in whenever negative trends are observed in our work force or with our construction partners. Although infrequent, the purpose of the *Stand Down* is to bring the negative trends or near misses to everyone’s attention and to refocus safety in a particular area to stop the downward trend before a serious accident can occur.

The above activities and guidelines will be used by the PFBC Hatchery Managers to help ensure that work is being completed safely from construction kickoff through project acceptance.

10. Offeror discussed an effective QA/QC plan

An ESG quality control plan identifies all site-specific personnel, procedures, controls, instructions, tests, records, and forms. ESG’s Quality Control Program is aggressively administered by a Quality Control Manager with oversight by the Project Manager and supported by project engineering to minimize design and construction deficiencies and to correct any that might occur. The Quality Control Program encompasses the design, construction, and performance period operations, both on- and off-site, including work products of subcontractors, manufacturers, consultants, and ESG project team members.

ESG includes the following items in each project Quality Control Program:

- Quality Control organization
- Quality Control Review Procedures
- Quality Assurance Certification
- Method of documentation of comments, coordination responses and quality assurance records
- Procedures outlining schedule, reviews, certifications, submittals, and changes
- Control, verification, and acceptance testing procedures
- Procedures for tracking design and construction deficiencies from identification through verification of acceptable corrective action

Because quality control planning is critical to successful, on-time completion of projects, ESG incorporates several layers of analysis. Project teams anticipate and discuss every possible scenario and decide how best to mitigate hurdles, or if they are unavoidable, how to address and respond to them. Every team holds a formal “Risk Review Meeting” during the pre-construction phase, where project team members and functional experts discuss potential problems and proposed solutions.

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The table below is ESG’s approach to quality control for a typical project.

Project Phase	Quality Control Check	Methodology
Initial Assessment	Probabilistic Risk Assessment (PRA)	PRA checklist
Schematic Design	Engineering Peer Reviews Environmental Impact Statement	Document Control
Detailed Design & Construction Documents	Engineering Peer Reviews; Constructability Reviews; Compliance Review; Hazards Review	Document Control; Submittal Schedules Management Review
Construction	Inspections; Project specifications Factory tests; Field tests	Construction Meetings; On-Site Supervision; Requests for Information QC Reports; Change Order Management; Daily & Weekly Reports
Commissioning	Pre-Functional and Functional Checklists & Plans; Permit testing Performance testing	Commissioning Reports; Measurement & Verification; Customer Feedback Program
Inspection/Verification	Failure Analysis; 8D Analysis	Performance Measurements; Reliability Measurements; Customer Feedback Program

11. Offeror demonstrated an understanding of the close out process for training of personnel, manuals, Occupancy Permits, commissioning and final closeout

Commissioning is a quality assurance process for the installation of new or renovated systems and equipment in a building. It is used to achieve, verify, and document the performance of each system to meet the operational needs of the building within the capabilities of the documented design and specified equipment capacities. Successful commissioning includes the preparation of manuals and training of operation and maintenance personnel.

The result of commissioning should be fully functional equipment and systems that can be properly operated and maintained throughout the useful life of the building. Commissioning activities and processes will be customized to the specific scope of work for the PFBC Hatchery Managers.

A successful commissioning plan includes well-structured turnover documents (i.e., manuals, as-builts, submittal data, final-sequences-of-operation, etc.) that provide an easy reference for equipment and system operation and maintenance.

The PFBC Hatchery Managers should expect the following results from successful commissioning:

- Improved operator knowledge of how building equipment and systems should operate or be maintained
- Reduced ongoing training requirements
- Performance in accordance with the Engineers’ intent and the contract documents
- Reduced downtime due to easier diagnosis of failures
- Improved ability to provide accurate information to occupants regarding maintenance of environmental conditions in the occupied space throughout the year
- Increased comfort and reduced complaints
- Reduced operating costs due to optimized performance and improved operational techniques

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All participants in the project have a commissioning responsibility. Participants include the PFBC Hatchery Managers and maintenance personnel, ESG project management and engineering personnel, DGS and all applicable subcontractors. The respective building operation and maintenance managers will be brought into the commissioning process early, preferably during the design phase. Their knowledge of occupancy, special lighting, anticipated equipment loads, and other factors should influence the design and set performance objectives. The responsibility of each member of the commissioning team will be documented in the commissioning plan.

The ESG Project Manager has the following roles and responsibilities during the commissioning process:

- Provide management expertise and oversight of on-site vendors and contractors, control schedules, and inform other team members of important events.
- Coordinate all construction activities with facility personnel.
- Perform quality control functions, particularly in areas of pre-commissioning.
- Provide technical expertise in areas of testing and cost review, and resolve disputes and claims.

ESG's subcontractors are responsible for the following:

- Prepare and submit documentation on their respective equipment and systems. Submit shop drawings detailing equipment layout as outlined in the submitted specifications.
- Along with the manufacturer, perform equipment start-up and testing.
- Correct system deficiencies without additional costs to the PFBC and complete a follow-on test.
- As required by any code inspections, document the entire system design and start-up process and include with necessary certifications.
- Prepare record drawings from redline documents, detailing the construction process with changes. These drawings will show the actual work performed, with variations that occurred during construction.
- Obtain manufacturers' warranties and guarantees for placement within the O&M Manuals.

ESG will prepare a commissioning acceptance form, for signature by the PFBC and DGS representatives, detailing the proper functioning of all required systems and equipment.

Once systems have been placed in operation and commissioning is complete, our team will provide final detailed training and detailed documentation (drawings and manuals for all equipment) for building managers to effectively and efficiently operate the upgraded systems. ESG will provide system walk-downs and equipment training to all applicable PFBC Hatchery Managers.

2-5.3 RFQ Project Schedule

(Suggested number of sheets/pages: 2 sheets, plus a maximum of 2 single - sided 11x17 sheets).

This RFQ Project Schedule shall not be construed as the Final CPM Schedule. Do Not Submit a Full and Complete detailed CPM Schedule in the Technical Submission. DGS does not accept the logic or durations of the activities in this RFQ Project Schedule. The purpose of this RFQ Project Schedule is only to allow DGS to evaluate and score the Offeror's scheduling ability. After the GESA Contract is executed, the successful GESA Contractor shall submit a full and complete project schedule per the requirements of the General Conditions and Project Administrative Procedures.

- A. The Evaluation Committee will consider the degree to which the Quote addresses or discusses the following:
1. A narrative for the schedule that discusses the challenges of the schedule and proposed solutions. Address critical aspects of the schedule, associated risks and the Team process to ensure achievement of critical milestone dates.
 2. Submit an executive level graphic schedule commencing at Notice of Selection, showing estimated overall project duration and milestone dates. At a minimum, milestone dates should include: commencement and completion of the IGA and submission of the resulting Report, full execution of the GESA Contract (a minimum of 60 calendar days), submission and approval of all required permits from every entity having jurisdiction, procurement of all major equipment, commencement of on-site work (at least 10 but no more than 20 calendar days from execution of contract), final inspection of all construction, commissioning of the project and training of Funding Agency personnel.
 3. The ability to coordinate project construction with local utilities, subcontractors, equipment suppliers and Funding Agency facility personnel.

1. Critical Aspects of Schedule and Associated Risks

The ESG project delivery team's approach and methodology are to control the project within the schedule by focusing on communication and teamwork within our project. Our approach to construction projects is not the typical "ground-up" approach. GESA projects are largely dependent on outdoor weather conditions and existing site location, and our process relies on our ability to gain access to buildings and equipment with minimal impact placed on the facilities. Some seasonal requirements will affect this project since the project involves production schedules, occupancy in the spaces, and the installation of heating and cooling equipment. We are cognizant that the PFBC must be able to operate their buildings and conduct business with minimal disruptions throughout the entire construction phase. Effective communication between ESG, DGS, and the PFBC is critical and is the basis of seamless implementation.

As with any construction schedule, two of the most common risks are (1) failure to receive materials in a timely fashion, and (2) tasks that run over on time allocations. ESG can overcome these by (1) managing the project correctly by ensuring that materials are ordered well ahead of time, and (2) the time allotted to perform certain tasks is reasonable. A third risk are unexpected circumstances that preclude our efforts to remain on schedule. No one can easily prepare for unexpected circumstances or acts of nature, however, our ability to get back on track in similar circumstances has been stellar on previous projects.

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ESG also has an excellent track record of creating and maintaining project schedules for various types of facilities. We focus on both understanding how we are impacting the client's working environment and completing tasks within the timeframe of the construction period. ESG prides itself on being flexible and innovative to mitigate issues that could potentially impact project completion. Proper schedule management is the practice of our highly capable Project Manager who is focused on the following aspects during the development phase of the project:

- Clear and well-documented communication with the client and their goals and objectives.
- Partnering with the client to resolve issues expeditiously to maintain progress on the project.
- Careful planning - since we are impacting the environment of employees and the public, ESG will aid in notifying all affected and will be eager to evaluate feedback and make any adjustments necessary to minimize disruptions. Some tasks on the proposed schedule can accommodate specific timelines in an effort to minimize occupant disturbances (nights, weekdays, off-peak hours).
- Flexibility in the schedule - we are prepared to encounter unexpected issues that may arise, for example, a client request that changes the scope, change of building use, change in future plans for the building. In every case, ESG has been able to work with the client to understand the issues and resolve them while proactively managing the schedule.

ESG's look ahead schedules are developed and administrated to assure specified milestone dates reflected in the CPM are either achieved or sustained with completing phases of work as required by DGS and the PFBC. The CPM schedule will be updated at the end of each month and distributed to the project team.

2. Project Schedule Graphic

ESG has an excellent record of accomplishment with managing and maintaining project schedules during the Development and Delivery phases of the project. ESG utilizes their "Look Ahead Schedule" format to organize and communicate the status of each ECM. Look-ahead schedules shall be distributed and reviewed during the bi-weekly progress meeting. The main purpose of the look ahead schedule is to assist with summarizing and communicating all completed work, work currently in progress and forecasted work, or ECM completion timelines associated with the project. In addition, ESG will schedule a specific meeting to address a client request or coordination issue with a specific ECM as required.

The Master Site Implementation Schedule shall be updated monthly and included within ESG's Executive Summary Report. The ESG master schedule development process provides the following advantages for the PFBC team approach Energy Savings Project:

- Provides clear and definite milestone timelines and or completion dates required by the client.
- Promotes partnership with the client during the development and implementation phases of the project.
- Ensures careful planning, since we are working in and affecting the environment or security of both staff and the general public. ESG manages its subcontractors to work within pre-determined client timelines, or during off-hour shift work, to assure a specific work or shut down is scheduled to minimizing disruptions with daily operations, and are included within the Master Site Implementation Plan.
- Remains available to address future client requirements and will be updated monthly to document completed ECMs during the entire Delivery Phase duration. At times, we encounter unexpected issues. Such issues may be from client requests that change the scope, building use that has changed since the completion of the IGA, or future plans for the building have changed causing an ECM to be added and/or removed from the project. In every case, ESG shall assist the client and incorporate the ECM change in scope of work with minimal impact or delay with the overall schedule. A Sample Project Schedule has been provided in this section for review.

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Immediately after the approval of the 100% design documents by DGS, ESG will work with the utility to cancel the metering charges associated with the unused Fairview State Fish Hatchery electric meter. ESG will then commence the work at the various sites. This will allow our subcontractors an opportunity to “get to know” the people and requirements of the PFBC with little risk to the buildings, staff and public.

Work will commence on the lighting and weatherproofing/weatherization improving both lighting and environmental conditions within the buildings further increasing the construction savings.

Construction savings will continue to increase from the HVAC equipment upgrades at various facilities. These efforts will also replace older, less efficient equipment prior to the start of winter, providing an increased reliability at lower operating costs.

The most critical aspect of the work that involves addressing measures within the occupied spaces such as installing new multi-zone heat pumps to replace window AC units in office spaces. This type of work will require close coordination with facility managers and staff for scheduling and planning limited construction related disturbances. ESG team will schedule this work such that existing systems are able to provide heat and/or cooling as needed during construction thereby minimizing staff inconvenience.

ECMs related to the process such as installation of Pump Motors, VFDs and associated controls will need to be coordinated such that backup means of water such as additional well pumps, spring pumps are in operation before any work on affected pumps can begin to ensure no adverse effect on primary function of the Fish Hatcheries. Scheduling and phasing of this work will be accomplished by ESG in close consultation with facility managers.

Lastly, the installation of new transformers to replace end of life transformers will require shutdowns of electricity to areas served by corresponding transformers. The transformer switchovers can be executed quickly, as new transformers will be selected to fit in same footprint as the existing transformers. The limited shutdowns necessary for this work will be scheduled at times when the impact to the facility is minimal.

ESG, with its carefully planned construction and clear concise communication protocols with PFBC and DGS will strive to minimize disruptions to the function of all facilities.

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ID	Task Name	Duration	Start	2020	2021	2022
1	PFBC - GESA 2019-3	477 days	Mon 12/30/19	[Gantt bar from Dec 2019 to Dec 2021]		
2	RFP Phase	107 days	Mon 12/30/19	[Gantt bar from Dec 2019 to Feb 2020]		
3	Notice to Proposers and RFP Issued	1 day	Mon 12/30/19	[Milestone diamond]		
4	Pre Proposal Conference	1 day	Tue 1/14/20	[Milestone diamond]		
5	Proposers Deadline to Submit Questions	1 day	Thu 3/12/20	[Milestone diamond]		
6	DGS Deadline to Issue Bulletin	1 day	Tue 3/17/20	[Milestone diamond]		
7	Proposal Submission Deadline	1 day	Tue 4/14/20	[Milestone diamond]		
8	Anticipated Date for Interviews with Proposers	1 day	Fri 5/15/20	[Milestone diamond]		
9	Anticipated Date for Announcement of Successful Proposer	1 day	Mon 6/1/20	[Milestone diamond]		
10	Contract Procurement	65 days	Fri 6/19/20	[Gantt bar from Jun 2020 to Aug 2020]		
11	DGS Provides Notice of Award	1 day	Fri 6/19/20	[Milestone diamond]		
12	DGS Signs and Executes GESA Contract	1 day	Mon 6/22/20	[Milestone diamond]		
13	Commencement Of Investment Grade Audit	1 day	Tue 6/23/20	[Milestone diamond]		
14	Development of the Investment Grade Audit	45 days	Wed 6/24/20	[Gantt bar from Jun 2020 to Aug 2020]		
15	30% Design Documents	30 days	Wed 7/1/20	[Gantt bar from Jul 2020 to Aug 2020]		
16	Completion Of Investment Grade Audit	1 day	Thu 8/27/20	[Milestone diamond]		
17	Submission of Investment Grade Audit	1 day	Fri 8/28/20	[Milestone diamond]		
18	Full Execution Of Construction Contract	15 days	Mon 8/31/20	[Gantt bar from Sep 2020 to Oct 2020]		
19	Design and Material Submission	71 days	Tue 10/6/20	[Gantt bar from Oct 2020 to Dec 2020]		
20	Commence Of On-Site Work	1 day	Tue 10/6/20	[Milestone diamond]		
21	100% Design Documents	30 days	Thu 10/15/20	[Gantt bar from Oct 2020 to Nov 2020]		
22	DGS Review and Approval	15 days	Tue 12/1/20	[Gantt bar from Dec 2020 to Jan 2021]		
23	Permit Submission	10 days	Tue 12/22/20	[Gantt bar from Dec 2020 to Jan 2021]		

Project: PA Fish & Boat
 Date: April 14, 2020

Task	Inactive Task	Manual Summary Rollup	External Milestone
Split	Inactive Milestone	Manual Summary	Deadline
Milestone	Inactive Summary	Start-only	Progress
Summary	Manual Task	Finish-only	Manual Progress
Project Summary	Duration-only	External Tasks	



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3. Construction Coordination w/Utilities and Subs, Suppliers, DGS

At ESG, we pride ourselves on our ability to manage large complex projects and to adhere to project schedules and milestones. Through a collaborative effort, ESG publishes a project schedule and manages the project following biweekly progress updates. Over the course of construction, ESG bi-monthly schedule updates shall record progress and duration adjustments to current ECMs in progress through to substantial completion, close out and customer training. Prior to construction, we will map out a plan and mobilize the project team as well as all approved subcontractors and facility personnel to implement project operating procedures, safety and security training, identify required permits, submittals and utility coordination.

Communication is critical to the success of all projects, and we will utilize both formal and informal contacts to ensure we are continually apprised of your views. We will first develop a contact list of primary project participants. All reports will then be submitted based on this list. ESG will hold regular job progress meetings with all subcontractors, consultants, DGS and PFBC facility representatives. This will allow all interested parties to monitor our installation and performance. Our PFBC project management process is structured to maintain close control of all tasks involved in implementation. At the same time, the continuous involvement with PFBC facility personnel will ensure that the impact on day-to-day operations is minimized. Our dedicated local project manager and on-site construction supervisors will control the pace and responsibilities of all subcontractors and suppliers.

The ESG Team will be responsible for interfacing with all parties (local utility providers, suppliers, consultants and subcontractors) associated with or impacted by this project. During the Investment Grade Audit (IGA) phase, ESG will work with the PFBC staff and DGS closely to review utility regulations, permits or approval requirements with selected ECMs and shall include any pre-construction procurement timelines within the Master Site Implementation Plan.

As mentioned previously during construction, ESG shall administer bimonthly progress meetings with the overall project team, (DGS, PFBC Facility Managers, ESG, Engineer of Record, utility representatives and subcontractors) to manage short and long term scheduling and coordination issues as they arise and review current ECM progress with realistic updated look ahead schedules. Action items and agreements arising from progress meetings will be documented within ESG's meeting minute format and a look-ahead schedule section included with each set of meeting minutes issued.

ESG will devote a qualified construction management team with expertise to be on-site during all phases of implementation to oversee and ensure seamless project execution. All aspects of the project are directly overseen through ESG's on-site field office. It is our policy to work in concert with our customers to obtain a preferred supplier, vendor, and contractor resources to assemble the most appropriate team. ESG's prequalification and acceptance criteria in our final selection protocol assure that our subcontractors and suppliers conform to our high standards of performance, safety, security, reliability and providing customer satisfaction.

Response to Request for Quotes for a Guaranteed Energy Savings Project at Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

2-5.4 Qualification Forms

(See specific suggested sheets/pages below. Note also that “Entity’s Resource Availability” shall be as of the date of the Technical Submission)

A The Evaluation Committee will consider the degree to which the Quote provides experienced and qualified personnel capable of designing and implementing the scope of work on the project, including training Funding Agency staff once the work is complete.

GESA Contractor (Suggested number of sheets/pages: 10 sheets, or if GESA Contractor is a Joint Venture, no more than 5 sheets per joint partner. Also, one single-sided 11x17 sheet for organization chart plus 1 sheet per person.)

1. Provide clear and concise information that will demonstrate the following qualifications:

a. Management Team Individual Qualifications (6-person limit)

(1). Describe project responsibilities, time with firm, experience with GESA projects, educational or technical training, LEED accredited projects, and any other information relevant to the evaluation of the individual.

b. Offeror’s Financial Ability to Provide Guarantee

(1). Offeror shall provide: most recent available independently audited financial statements for private corporations and/or Form 10-K on file with the Securities and Exchange Commission (SEC); Annual Shareholder’s report for public companies, as applicable, to demonstrate their financial ability to provide guarantees of energy savings of at least \$5,000,000 (no third party insurance will be permitted); and a history of at least five (5) other project guarantees and the dollar amount of those projects. Offeror should not include any ECM or cost information on the Project in this portion of the Technical Submission; if ECMs or costs are included, the Quote will be rejected, and there will be no opportunity to correct the Quote.

c. Offeror’s Resource Availability (Capacity)

(1). As defined by the following equation, reported in US Dollars: (average of the last 3 years gross sales) minus (the average of next 3 years committed backlog). Committed backlog is defined as all committed contract balances for the next 3 years as of the date of the Technical Submission.

(2). If the Offeror is a legally combined entity, the formula shall represent the pro-rata share of each member per the legal agreement.

Example: If A and B are a Joint Venture, A is 60% and B is 40%, then the reported availability should be $0.6 * A's \text{ availability} + 0.4 * B's \text{ availability}$.

Response to Request for Quotes for a Guaranteed Energy Savings Project at Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

d. Offeror's Statement of Readiness and Commitment of Resources

(1). Provide a written statement confirming the persons identified in this RFQ are available and will be committed to the Project for the time period(s) referenced in the above RFQ Project Schedule, and that the Resource Availability reported above will be committed to the Project, as referenced in the RFQ Project Schedule and Work Plan.

e. Offeror's Notification of Default and Debarment.

(1). Provide a listing including owner, project, date, and explanation of any contract default or debarment within the last 5 years.

2-5.4.A.1 GESA Contractor Qualification Forms

Entity's experience with GESA projects

Energy Systems Group has implemented over 730 energy efficiency and facility infrastructure improvement projects totaling over \$3.3 Billion for more than 428 Customers in 38 States and the U.S. Virgin Islands.

Our proposed team for the PA Fish & Boat Commission GESA has worked on numerous Guaranteed Energy Savings Agreement projects and has over 213 combined years of experience. Many of those projects are highlighted on the team's individual qualifications sheets. Energy Systems Group is quite knowledgeable with the PA GESA process. In Pennsylvania, our proposed team completed the \$20M SCI Dallas GESA, which was determined by PA DOC to be a very successful project. The SCI Dallas project took place within a Pennsylvania Correctional Facility and our team was praised by the SCI Dallas staff for implementing a successful, safe, project in adherence with the security guidelines established by the Facility. ESG also was selected to implement the PA Department of Conservation and Natural Resources (DCNR) Western Region Small GESA project encompassing more than 24 DCNR locations throughout Western Pennsylvania. **ESG has one of the best records for meeting or exceeding GESA project savings projections out of all the Energy Service companies operating within Pennsylvania.** At SCI Muncy, ESG was also selected to implement a GESA project; there we have completed the IGA and are awaiting the signed contract to begin construction.

a. Management Team Individual Qualifications

Energy Systems Group's management team's individual qualifications are included on the following pages for your review. Listed below are the number of years of experience developing and implementing GESA type projects for our core team assigned to the PFBC GESA project.

Team Member	Years of Experience
Tony Prelec	23
John Sirc	41
Steve Richmond	32
Mark Winters	33
Scott Gracely	30
Kanwar Bajaj	20
David Ames	34

Tony Prelec

Account Executive



Tony joined Energy Systems Group (ESG) in March 2013, as an Account Executive. As such, Tony oversees all phases of the Performance Contracting process and focuses the team to ensure customer satisfaction throughout the project development, implementation, and measurement and verification.

He is responsible for designing energy management programs, asset management programs, and guaranteed energy savings contracts for municipal, county, and state government.

Tony leads the project engineers and project managers in the developing project solutions, cost and energy savings, and a project plan and schedule.

Employment History

PEPCO Energy Services – Two (2) Years – Responsible for developing and securing Guaranteed Energy Savings and Performance Contracts for K-12, Higher Education, Health Care and Local Government vertical markets throughout the State of Pennsylvania.

Siemens Industry, Inc. – Building Technologies Group – Three (3) Years - Responsible for developing and securing Guaranteed Energy Savings, Performance Contracts for the K-12, High Education, and Local Government vertical markets.

Past Projects Developed

Conewago Valley School District	Educational	\$430,690
Elizabethtown College, PA	Educational	\$2,293,713
Lampeter Strasburg School District	Educational	\$1,634,286
Slippery Rock Area School District	Educational	\$2,404,967
Sun Votech	Educational	\$1,634,286
Carlisle Borough, PA	Municipal	\$754,288
SCI Dallas, Dallas PA	Correctional	\$20,300,000
City of Middletown, NY	Municipal	\$12,500,000
SCI Muncy (in development)	Correctional	\$12,000,000

ESG Tenure

7 years

Years of Experience

23 years

Education

Parkway Technical School
 Pennsylvania State University
 Business Administration – Darden
 Graduate School of Business

Special Courses Attended

- Conceptual Selling
- Miller Heiman Strategic Selling
- Certified Trainer Program
- Influential Selling
- Energy and Environmental Selling
- SPIN Selling
- Siemens Apogee Training
- Profit Specialist Training

Contact

tprelec@esg.email

John Sirc

Senior Performance Engineer



John is a Senior Performance Engineer for Energy Systems Group. He is responsible for creative approach and design to gain maximum energy and operational savings for HVAC systems, electrical systems, pneumatics, and industrial process systems via performance contracting. Knowledgeable about the latest and highest efficiency equipment and control strategies. John surveys facilities to determine energy savings potential and is responsible for estimating equipment and installation cost, as well as daily communication with subcontractors regarding installation.

He is responsible for the overall administrative and technical management of performance-based projects, from preliminary proposal to project completion. Additionally, he is responsible for the preparation and negotiation of purchase orders; and preparation of initial scope of work, contract, bid documents, and contract letters for prospective clients.

Employment History

Johnson Controls - Seven (7) Years - Accountable for promoting operational and capital savings, increasing current business volume and secured margin. Determined profitability of projects, assisted in market planning, and assessed region manning levels. Provided energy, operational cost reduction, and service offering analysis of multiple, complex projects, gathered energy consumption and system efficiency data. Evaluated and developed projects to achieve maximum energy savings and resolve customer issues.

Oversaw the construction of over \$80 m of energy savings project. Assisted in the development of over \$80 m of other energy savings projects throughout the mid-Atlantic region. Government vertical markets.

Past Projects Developed

Kanawha Co Schools, WV - Phase 4	Education	\$ 19,600,000
Frederick Co Public Schools, MD	Education	\$ 15,600,000
Central Westmoreland Career & Technology Center	Education	\$ 6,400,000
Kanawha Co Schools, WV - Phase 5	Education	\$ 5,800,000
Garrett Co Public Schools, MD (2011)	Education	\$ 4,100,000
Garrett Co Public Schools, MD (2015)	Education	\$ 2,300,000
Southmoreland School District, PA	Education	\$ 1,400,000
WV Division Of Corrections	Correctional	\$ 18,600,000
PA State Police Headquarters, PA	State Govt.	\$ 4,900,000
Lawrence Co Govt. Center/Jail	County Govt.	\$ 2,700,000
Mount St. Mary's University	University	\$ 6,900,000

ESG Tenure

1.3 years

Years of Experience

41 years

Education

MBA, University of Pittsburgh
 BS Mechanical Engineering,
 University of Michigan

Certifications

Member, American Society of Heating, Refrigeration and Air Conditioning Engineers

Contact

jsirc@esg.email

Steve Richmond

Operations Manager



Steve is the Operations Manager for the Northeast Region. He manages, directs, coordinates and mentors the project management team to ensure that project goals are being met timely and on budget from conceptual design to customer acceptance. Steve manages labor, material, project modifications, estimate reviews, scope reviews, contractors and suppliers for proposals, and works with the engineering group to develop changes to ensure financial achievement goals. He establishes staffing needs for the construction group as required to meet business plan; arranges for recruitment or assignment of construction personnel; ensures smooth transition between engineering and project manager. He also provides guidance and advice in the selection of the subcontractors and vendors to deliver the project per our requirements and standards. Steve also establishes and coordinates operational procedures and processes related to project management, risk management & reviews, customer satisfaction, and the financial responsibilities of the projects ensuring smooth communications and transitions between the customer, sales and engineering.

Employment History

Johnson Controls – Fourteen (14) Years - Managed the profitable execution of Performance Contracting and Solutions Major Retrofit projects. Ensured that all assigned projects were completed accurately, on-time, within budget and scope of the contract. Maintained profitability goals and positive cash flow.

Honeywell – Five (5) Years - Responsibilities included project development and estimating, sales assistance, planning, implementation, closeout and customer satisfaction. Experience in food processing, hospitals, office buildings, pharmaceutical, education (elementary, secondary and higher education), hotels, telecommunications, automotive, co-generation and local, county and state government.

Past Projects Developed

Elk Lake School District, PA	Educational	\$10,800,000
University of Maryland	Educational	\$20,000,000
Galludet University, DC	Educational	\$12,000,000
RSU—74 (High School in Maine)	Educational	\$ 3,000,000
Port Authority of NY & NJ	Municipal	\$ 6,000,000
West Virginia DOC	Corrections	\$18,000,000
State Correctional Institute—Dallas	Corrections	\$20,300,000
Aberdeen Proving Grounds 1 thru 6	Educational	\$53,000,000
Wernersville State Hospital, PA	Municipal	\$ 9,200,000
Virginia DOC	Corrections	\$52,000,000
Beecher Road Elementary School	Educational	\$12,000,000
Howard County, MD	Municipal	\$13,600,000
Mercer County, WV	Municipal	\$ 9,000,000
Ocean City, MD	Municipal	\$ 4,500,000
Delaware State University	Educational	\$11,200,000
SCI Muncy (in development)	Correctional	\$12,000,000

ESG Tenure

5-years

Years of Experience

32-years

Education

Bachelor's Degree in Industrial Technology with a Specialization in Mechanical Contracting – Kean University

Leadership and Professional Affiliations

Association of Energy Engineers (AEE)
 Certified Manager, (CEM)
 LEED – Green Associate Certification
 OSHA 20 for Construction Industry

Contact

srichmond@esg.email

Mark Winters

Engineering Manager



ESG Tenure

10 years

Years of Experience

25 years

Education

- MBA State University of NY @ Buffalo
- U.S. Navy Nuclear Power School and Prototype
- BS in Mechanical Engineering, Youngstown State University

Certifications

Certified Energy Manager (AEE)
 American Solar Energy Society

Engineering License (P.E.) in:

Connecticut, District of Columbia, Delaware, Massachusetts, Maryland, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Virginia, Vermont and West Virginia

Contact

mwinters@esg.email

In his current role, Mark oversees project development for the company's Northeast Region. He has successfully developed and managed over \$350 million in energy performance contracting projects. He is involved from the beginning stages of project conceptualization and design to the completion of the contract. Mark and his team work with applications in commercial buildings, higher educational facilities, K-12 buildings, state and federal government facilities, water/wastewater plants, hospitals, detention centers, and laboratories. Mark manages the audit process, develops scope of work for projects, estimates project costs, provides technical assistance during construction, and reviews mechanical design. He has supervisory role over audits and engineering and oversees all phases of the Energy Performance Contracting process and focuses the team to ensure customer satisfaction throughout the project development, implementation, and measurement and verification.

Prior to joining Energy Systems Group (ESG), Mark was the Vice President of Premier Energy Services. Before working at Premier, Mark was a Senior Energy Engineer for Wendel Companies. He also served as a Lieutenant in the U.S. Navy.

Past Projects / Markets:

City of Baltimore Street Light Conversion - Phase 2	Local Govt.	\$ 3,000,000
City of Baltimore Street Light Conversion - Phase 1	Local Govt.	\$ 19,100,000
Lower Merion Township	Local Govt.	\$ 11,950,000
West Milford Board of Education	K-12	\$ 7,431,015
Baltimore DOT, City of - Phase 2	Local Govt.	\$ 2,422,000
Howard County Government - Phase VI	Local Govt.	\$ 16,400,000
Montgomery County - Phase 2	Local Govt.	\$ 8,972,000
WSSC - Phase 2	W/WW	\$ 8,680,000
Ocean City, Maryland, Town of	City Govt.	\$ 4,520,884
Montgomery County - Phase 1	Local Govt.	\$ 4,229,294
Virgin Island Street Lighting - USVI	Local Govt.	\$ 10,000,000
Coppin State University	Higher Ed.	\$ 5,883,461
Howard County Government - Phase V	Local Govt.	\$ 1,490,339
Town of Woodbridge, Beecher Road Schools	K-12	\$ 12,800,000
Woodbridge -- Beecher Rd School	K-12	\$ 12,901,603
Baltimore DOT, City of - Phase 1	Local Govt.	\$ 19,325,047
Elizabeth Seton High School	K-12	\$ 510,810
Howard County Government - Phase II	Local Govt.	\$ 1,490,339
Wicomico County Govt. - Phase II	Local Govt.	\$ 4,331,374
Howard County Government - Phase IV	Local Govt.	\$ 310,003
Wicomico County Govt. - Phase I	Local Govt.	\$ 1,200,000
WSSC - Phase I	Local Govt.	\$ 6,189,782
Howard County Government - Phase I	Local Govt.	\$ 4,381,443
Howard County Government - Phase III	Local Govt.	\$ 89,771
State Highway Administration (SHA)	Local Govt.	\$ 24,300,000

David Ames

Sales Manager



ESG Tenure

16 years

Years of Experience

34 years

Education

Master of Business Administration,
University of Richmond

Bachelor of Science in Electrical
Engineering, Virginia Military Institute

Certifications

Association of Energy Engineers (AEE)
{Past President of Central Virginia Chapter}

American Society of Heating,
Refrigeration, and Air-Conditioning
Engineers (ASHRAE)
{Corresponding Member on
Subcommittee for Geothermal Energy}

Engineering Division Advisory
Committee, Virginia Military Institute

Contact

dames@esg.email

In his role as Sales Manager for ESG's Northeast Region, David manages a team of account executives and creates policies and procedures aimed at ensuring customer satisfaction throughout the project development, implementation, and measurement and verification phases. While at ESG, David has overseen a number of projects for an array of customers in the education, municipal, correctional, and healthcare market segments. Included among the extensive list of clients that David has collaborated with are the Sullivan County Schools, the State Correctional Institution (SCI) at Dallas, Johnson City (Tennessee), the Pen Bay Medical Center, and many others. Before joining ESG, David was the Director of Business Development for Abacus Engineered Systems. At Abacus, David opened two new branch offices and led the procurement of \$18.2 million in sales. Prior to working at Abacus, David was a Vice President and the Director of Marketing and Development for Virginia Energy Services, where he managed business operations, sales, and marketing with annual sales of \$5 million. David holds a B.S. in Electrical Engineering from the Virginia Military Institute and an MBA from the University of Richmond.

Employment History

Before joining ESG, David was the Director of Business Development for Abacus Engineered Systems where he opened two new branch offices and led them in the procurement of \$18.2M in sales. Prior to working at Abacus, David was a Vice President and the Director of Marketing and Development for Virginia Energy Services, where he managed business operations, sales, and marketing. David also worked for Virginia Power, where he served in a number of roles, including Senior Engineer for the Energy Efficiency Marketing Group.

Past Projects Developed (Cumulative)

Educational	\$130,000,000
State Government	\$ 12,000,000
Local Municipalities	\$ 33,000,000
Water/Water Filtration Plants	\$ 46,500,000
Corrections	\$ 38,700,000

Scott Gracely

Senior Project Manager



ESG Tenure

4 years

Years of Experience

30 years

Education

Bachelors in Geology – California University of Pennsylvania, PA
 Project Management (completed coursework) – Penn State University

Certifications

LEED Certification

Contact

sgracely@esg.email

Scott joined Energy Systems Group in April 2015 as Project Manager with the initial responsibility for managing the delivery phase of the SCI Dallas project. He is responsible for implementing performance contracts for correctional, educational, government, commercial, and industrial facilities. Scott assists in the design of mechanical systems and calculation of energy savings and is responsible for estimating equipment and installation cost. Scott maintains knowledge of the latest and highest efficiency equipment and control strategies and develops creative approaches through project design to gain maximum energy and operational savings for HVAC systems, electrical systems, pneumatics, and industrial process systems via performance contracting. While at SCI Dallas, Scott was the main point of contact with Department of General Services and Department of Corrections for the Commonwealth of Pennsylvania.

Employment History

Johnson Controls - Seven (7) Years - Solutions Construction Manager - Responsible for all onsite coordination and implementation of Facility Improvement Measures, liaison with customers and subcontractors for administering Energy Service PC Projects, provide administration and documentation support with sustaining all project milestones

IMC Construction Company - Sixteen (16) Years - Senior Project Manager – Responsible for the administration Administered Design Guild, GMP, Lump Sum Construction Management Projects completed successful projects with multiple vertical markets/industries.

Past Projects Developed

Whitehall Coplay ASD Phase III	Educational	\$ 8,000,000
Stroudsburg ASD	Educational	\$ 5,000,000
Greenwich ASD	Educational	\$ 1,000,000
University of Maryland	Educational	\$20,000,000
City of Baltimore	Municipal	\$ 7,000,000
SCI Dallas	Correctional	\$20,300,000
PSHMC Phase I	Hospital	\$ 7,000,000
PSHMC Phase II	Hospital	\$ 3,000,000
Solar Park	Solar	\$64,000,000
Aberdeen Proving Ground IV	Military	\$53,000,000
SCI Muncy (in development)	Correctional	\$ 12,000,000

Response to Request for Quotes for a Guaranteed Energy Savings Project at Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

b. Entity's financial ability to provide guarantee

ESG's audited financial statements, which demonstrate our financial ability to provide savings guarantees, are located on the USB copy of the Technical section due to the size of the report. As indicated in our financial statements, ESG is a profitable and viable company. Beyond our own financial strength, ESG is a subsidiary of CenterPoint Energy, Inc. (NYSE: CNP). Headquartered in Houston, Texas, CenterPoint Energy, Inc. is an energy delivery company with regulated utility businesses in eight states and a competitive energy businesses footprint in nearly 40 states. Through its electric transmission & distribution, power generation and natural gas distribution businesses, the company serves more than 7 million metered customers primarily in Arkansas, Indiana, Louisiana, Minnesota, Mississippi, Ohio, Oklahoma and Texas. CenterPoint Energy's competitive energy businesses include natural gas marketing and energy-related services; energy efficiency, sustainability and infrastructure modernization solutions; and construction and repair services for pipeline systems, primarily natural gas. The company also owns 54.0 percent of the common units representing limited partner interests in Enable Midstream Partners, LP, a publicly traded master limited partnership that owns, operates and develops strategically located natural gas and crude oil infrastructure assets. With approximately 14,000 employees and nearly \$29 billion in assets, CenterPoint Energy and its predecessor companies have been in business for more than 150 years. For more information, visit CenterPointEnergy.com. ESG's business is focused on energy-efficiency and sustainability projects with state and local government customers and the federal government. Our projects are secured by payment and performance bonds from our long-time surety, Liberty Mutual. ESG has bonding capacity of \$500 million, which has been sufficient for all bonding needs to date, but it is not meant to imply a maximum level of capacity. Needs beyond \$500 million will be favorably considered by Liberty Mutual, thereby enhancing our ability to guarantee savings, arrange financing, and obtain bonding – all of which are critical to successful energy performance contracting. Liberty Mutual has rendered an opinion that ESG is financially viable and bondable. This affords our customers the opportunity to partner with ESG at the lowest risk to their operations and reputation. In our history, no bonds have been revoked. Listed below are five ESG projects and their project value and the annual guaranteed savings value requested by the RFQ.

FIVE ESG PROJECTS AND THEIR SAVINGS GUARANTEES		
Project	Project Value	Guaranteed Annual Savings
SCI Dallas, Dallas PA	\$19,957,577	\$2.09M
Department of Conservation and Natural Resources, PA	\$5,533,648	\$303K
Baltimore City Dept. of Transportation, MD	\$14,988,426	\$689K
Howard County, MD	\$8,200,000	\$488K
City of Middletown, NY	\$12,700,000	\$1.05M
Frederick Winchester Service Authority, VA	\$46,500,000	\$2.47M

c. Entity's Resource Availability (Capacity)

Energy Systems Group continues to grow and add additional personnel thus allowing for more capacity on a regular basis. Listed below is the DGS recommended completed Capacity Calculation.

CAPACITY CALCULATION	
3 Year Average Sales	\$292,700,000
3 Year Average Committed Backlog	-\$85,000,000
Capacity	\$207,700,000

*Response to Request for Quotes for a Guaranteed Energy Savings Project at
Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3*

d. Entity's Statement of Readiness and Commitment of Resources per the RFQ Project Schedule

Energy Systems Group, LLC certifies that all personnel assigned to this project as listed on our organizational chart, included in Section 2-5.1 Project Management Team Overview, are fully committed to this project and will be 100% available to fulfill all obligations concerning the implementation of this project as outlined in Section 2-5.3.

e. Entity's Notification of Default or Debarment

This statement is to certify that Energy Systems Group, LLC (ESG) certifies it is not currently under suspension or debarment by the Commonwealth of Pennsylvania, or any other state or federal government. There are no indictments or convictions related to ESG, its officials or any other individuals who have or have had an ownership stake in ESG for the last five years.

2. Design – Consultant

(Suggested number of sheets/pages: 4 sheets, plus 1 sheet per person)

a. *Firm's Experience on GESA projects.*

(1) Include date(s), location, owner, owner contact, project amount, and description. Complete and/or incomplete projects may be submitted. Discuss status of project and if completed as originally scheduled.

b. *Individual Qualifications (4 person limit)*

(1) Describe project responsibilities, time with firm, and experience with GESA projects, educational or technical training, and any other information relevant to the evaluation of the individual.

c. *Firm's Statement of Readiness and Commitment of Resources per the RFQ Project Schedule*

(1) Provide a written statement confirming the person(s) identified in this RFQ are available and will be committed to the Project for the time period(s) as described in the RFQ Project Schedule.

d. *Entity's Notification of Default or Debarment.*

(1) Provide a listing including owner, project, date, and explanation of any contract default or debarment within the last 5 years.

Response to Request for Quotes for a Guaranteed Energy Savings Project at Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

a. Firm's Experience with GESA projects



Design Consultant – CJL Engineering

ESG has chosen CJL Engineering for the GESA 2019-3 PA Fish and Boat Commission project because of their experience working on successful GESA projects. They also have a vast knowledge of multiple site facilities serviced by varied systems and understand critical aspects of ways to reduce energy consumption and enhance the performance of all systems.

CJL Engineering – Firm Profile

Established in 1938, CJL Engineering is a full service, mechanical, electrical, plumbing, fire protection, and civil/structural consulting engineering firm known for mastering the most challenging projects in the region. With offices in western Pennsylvania, eastern Ohio, northern West Virginia, Maryland and a satellite office in Florida, their super-regional focus has enabled them to become one of the preeminent MEP firms in the industry, proudly serving a wide range of specializations and clients.



CJL Engineering – Past GESA Experience

SCI Houtzdale, DGS GESA 2018-1

Date: 2018
Owner: SCI Houtzdale
Contact: Douglas G. Hatcher
Amount: (still to be determined)
Description: Energy Consulting Services by the Department of Corrections, SCI Houtzdale, PA as the Certified Energy Consultant for The State of Pennsylvania, CJL Engineering sits on the Commonwealth's side of the table as the energy expert to review, evaluate, support documentation & ensure that the ESCO contract & energy conservation measures (ECM) are in compliance.
Status: In Progress

SCI Muncy, DGS GESA 2017-2

Date: 2017
Owner: SCI Muncy
Contact: Douglas G. Hatcher
Amount: approximately \$18M
Description: Consulting Services by the Department of Corrections, SCI Muncy, Lycoming County, PA. as the Certified Energy Consultant for The State of Pennsylvania. CJL Engineering sits on the Commonwealth's side of the table as the energy expert to review, evaluate, support documentation and ensure that the ESCO and energy conservation measures are in compliance.
Status: In Progress

Response to Request for Quotes for a Guaranteed Energy Savings Project at Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

The Pennsylvania State University, Energy Savings Program (ESP)

Date: 2016
Owner: The Pennsylvania State University,
Contact: Matt Leah, Energy Program Engineer
Amount: Open-End Contract
Description: The Team of Wayne Crouse, Inc. and CJL Engineering have been selected as a team of pre-approved firms for The Pennsylvania State University's Energy Savings Program to identify and perform design and construction projects on a DB/GMP form-of-agreement for a period up to 5 years. CJL has performed work on the following PSU facilities: Pasquerilla Spiritual Center, Paterno Library, Rackley Building, Chambers Building and East and West Steam Plant.
Status: In Progress

The Culinary Institute of America, Energy Consultant and Master Energy Plan Professional

Date: 2018
Owner: The Culinary Institute of America (CIA)
Contact: Mr. Evin Lederman, Director of Facilities
Amount: Gross Const. Cost: Estimated to be \$10-\$15 million
Description: CJL Engineering (CJL) was contracted to evaluate & provide CIA with a "long term" view of their facilities & to act as the owner's representative to identify the Energy Conservation Measures (ECM's) to develop an RFP for ESCO Contractors to bid. Provide energy modeling calculations & Return On Investment datato help the owner decide on themost effective/efficient path to take to mitigate current & future energy costs.
Status: Completed on schedule

Carnegie Museum of Natural History, Heating/Cooling Plant Energy Master Plan

Date: 2015
Owner: Carnegie Museum of Natural History
Contact: Frank Cardiello
Amount: \$3.8 Million
Description: CJL recommended and designed removal of counter-productive chilled water return by-pass line. Reduction in peak load requirement from 2,000 Tons to 1,550 Tons. Consolidation of primary/secondary/tertiary chilled water pumps (450 HP total) to a variable primary pumping arrangement (250 HP max). 850-Ton Chiller with Variable Speed Drive.1,250-Ton Constant Speed Chiller. Variable Speed Condenser Water Pumps, Variable Speed Cooling Tower Fans, inter "Free-Cooling" Heat Exchanger. Low condenser water temperature sequences to allow for significant reduction in consumed chiller energy. Original Plant Efficiency was 1.5 KW/Ton, New at peak loading confirmed at 0.83 KW/Ton (Chillers, Pumps, Cooling Towers) CJL modeled energy reductions and received approval by 3rd party audit, allowing for the Museum received an Act 129 Energy Rebate from Duquesne Light in the amount of \$124,000. Year to date Energy Savings has exceeded \$750,000.
Status: Completed on schedule

Eastern Virginia Medical School (EVMS), Energy Performance Contract

Date: 2014
Owner: Eastern Virginia Medical School
Contact: Bill Colehower
Amount: \$9.5 Million
Description: CJL was contracted for system design services, along with the procurement and selection of an Energy Performance Contract Provider through an RFP process. The project was to reduce campus building operational costs. A mechanical systems engineering study was also performed for the renovation of Lewis Hall, a 125,000 sf. medical research and teaching facility. HVAC renovations increased energy efficiency, along with improving automatic temperature control & ventilation systems
Status: Completed on schedule

b. Individual Qualifications

James Vizzini, P.E., LEED® AP

Project Responsibilities: Partner-In-Charge, Project Manager

Time with Firm: 27 years

Experienced with GESA projects: Yes

Education or Training: Bachelor of Science, Mechanical Engineering Technology, University of Pittsburgh at Johnstown, 1987

Relevant Information: Jim maintains a close connection to all facets of his projects. His responsibilities continue to include on-site surveys, systems comparisons, scope determination, plan and specifications review as well as construction inspection. Jim also supervises HVAC systems facility evaluation and design for commercial and institutional projects, various schools, and universities.

Cris Harbaugh, P.E., LEED® AP, BD+C, BEAP, CPMP, CHC

Project Responsibilities: Mechanical Engineer

Time with Firm: 2.5 years

Experienced with GESA projects: Yes

Education or Training: Bachelor of Science, Mechanical Engineering Technology, Minor: Physics, University of Pittsburgh at Johnstown, 2008 / Associates Degree, Specialized Technologies, Computer Aided Drafting and Design (CADD), Pittsburgh Technical Institute, 1998

Relevant Information: Cris has provided technical engineering and commissioning services for various public and private institutions. His has extensive experience as a commissioning agent as well as lead Mechanical Engineer and Project Manager for multiple projects and clients in the construction industry with over 18 years of professional experience. In addition, Cris is highly active in professional societies and industry events to remain current on industry advancements.

Christy Cramer, P.E., LEED® AP, BD+C

Project Responsibilities: Energy Modeling

Time with Firm: 12 years

Experienced with GESA projects: Yes

Education or Training: Bachelor of Science, Mechanical Engineering, Grove City College, 2002

Relevant Information: Over the past twelve years, her focus has branched from design to in-depth energy modeling and analysis for the purposes of LEED® certification, grant applications, plant and system comparison, economic payback analysis and as an aid to architectural design.

c. Statement of Readiness and Commitment of Resources

CJL Engineering confirms the person(s) identified in the RFQ response are available and will be committed to the project for the duration described in the project schedule.

d. Entity's Notification of Default or Debarment

CJL Engineering has not defaulted on any contracts and has not been disbarred within the past five years.

Response to Request for Quotes for a Guaranteed Energy Savings Project at
Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

Name of Project Team Member	James Vizzini, P.E., LEED® AP
Current Job Title	Managing Partner
Job Responsibilities	Jim is responsible for management decisions, overseeing current projects and maintaining relationships with architect and clients. His responsibilities include on-site surveys, systems comparisons, scope determination, plan & specifications review as well as construction inspection. These projects have ranged from large equipment replacement such as chillers, cooling towers, boilers & air handling units, entire HVAC systems design to district heating & cooling plants. Jim has been responsible for over \$2.5 billion of mechanical & electrical construction projects.
Primary Office Location	Johnstown, PA
Employment History Company Name: Primary Job Responsibilities:	CJL Engineering.: Managing Partner (1992 – Present)
Educational Background List all academic degrees, certifications, professional affiliations, relevant publications and technical training.	Bachelor of Science, (B.S.), Mechanical Engineering Technology, University of Pittsburgh, Johnstown, PA ASHRAE Member / U.S. Green Building Council (USGBC) Building Commission / Construction Specifying Engineer October, 2006 Featured in: “Full of Hot Air?” The Chevron Science Center Renovation, University of Pittsburgh Presenter: International Association of Museum Facility Administrators Annual Conference (Carnegie Museum of Natural History, Chilled water plant Upgrade) Pittsburgh, PA - 2019 Energy and Education Conference (Geothermal Design) St. Francis University, Loretto, PA - 2009
Additional energy projects this individual has been involved with other than noted above.	Mt. Lebanon School District, Energy Project \$6M Project: The Mt. Lebanon School District engaged CJL to perform a construction logistics and cost estimate study. CJL was then hired to be the Engineer of Record. The project consisted of adding air conditioning to 9 schools in Mt. Lebanon School District. From the design start date, the project was completed in only ten months with no change orders. City of Chesapeake City Hall Scope: Energy Performance Contract to completely upgrade the HVAC systems to achieve maximum energy savings. Duquesne University Energy Center \$11.5M Scope: The project consisted of a review of the existing Energy Center to house the new condenser water equipment & electrical panels. Project was phased to allow the existing cooling towers to remain operational while the new condenser water system was installed. The chillers are being individually phased over to the new condenser water system. The field fabricated cooling towers were designed to provide the University the flexibility to expand in the future when the cooling load increases. The expansion nearly tripled the capacity of the energy center's boilers while cutting its natural gas consumption.

Response to Request for Quotes for a Guaranteed Energy Savings Project at
Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

Name of Project Team Member	Cristian Harbaugh, P.E., LEED® AP, BD+C, BEAP, CPMP, CHC
Current Job Title	Senior Associate Mechanical Engineer
Job Responsibilities	He has provided technical engineering and commissioning services for various public and private institutions. His extensive experience as a commissioning agent as well as lead Mechanical Engineer and Project Manager for multiple projects and clients in the construction industry with over 18 years of professional experience. In addition, Cris is highly active in professional societies and industry events to remain current on industry advancements.
Primary Office Location	Johnstown, PA
Employment History Company Name: Primary Job Responsibilities:	CJL Engineering: Senior Associate Mechanical Engineer (2017 – Present) NV5: Mechanical / Energy Engineer (2016 – 2017) H.F. Lenz Company: Associate Mechanical Engineer (1999 – 2016)
Educational Background List all academic degrees, certifications, professional affiliations, relevant publications and technical training.	Bachelor of Science, (B.S.), Mechanical Engineering, Minor: Physics, University of Pittsburgh, Johnstown, PA Associates Degree, Specialized Technologies, Computer Aided Drafting and Design, Pittsburgh Technical Institute, Pittsburgh, PA USGBC: LEED® Accredited Professional, Building Design and Construction (LEED® AP BD+C) ASHRAE Certified: Building Energy Assessment Professional (BEAP) ASHRAE Certified: Commissioning Process Management Pro. (CPMP) ASHE: Certified Healthcare Constructor (CHC)
Additional energy projects this individual has been involved with other than noted above.	David L. Lawrence Convention Center, Chiller Plant Load Analysis, Pittsburgh, PA Metropolitan Life Insurance Company, Energy Analysis and Building Automation System upgrade, Johnstown, PA ENERGY STAR Building Label validation and LEED® EB evaluation and documentation services, Columbus, OH
Indicate the total years of relevant energy related experience for this individual.	10 years

Response to Request for Quotes for a Guaranteed Energy Savings Project at
Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

Name of Project Team Member	Christy Cramer, P.E., LEED® AP, BD+C
Current Job Title	Associate Mechanical Engineer
Job Responsibilities	Christy has a background in HVAC system design for a diverse range of projects from universities to laboratories and K-12 schools to hospitals. Over the past eleven years, her focus has branched from design to in-depth energy modeling and analysis for the purposes of LEED® certification, grant applications, plant and system comparison, economic payback analysis and as an aid to architectural design.
Primary Office Location	Pittsburgh, PA
Employment History Company Name: Primary Job Responsibilities:	CJL Engineering: Associate Mechanical Engineer (2007-Present) Burt Hill: Engineer-In-Training (2002-2007)
Educational Background List all academic degrees, certifications, professional affiliations, relevant publications and technical training.	Bachelor of Science (B.S.), Mechanical Engineering, Grove City College, Grove City, PA LEED® Accredited Professional LEED® Building Design + Construction
Additional energy projects this individual has been involved with other than noted above.	Union Trust Building, LEED® Silver, Pittsburgh, PA, LEED®: Administrative and energy modeling services were provided for LEED® Core & Shell v2009 certification Wooster Community Hospital, Wooster, OH: A 350,000 SF hospital campus and 84,000 SF expansion. Provided central chiller plant energy modeling to inform plant upgrade decisions and payback analysis. Modeled the campus plant and new North Expansion building for Act 129 Tax incentives Passavant Hospital, UPMC, Pittsburgh, PA, LEED® Certified: A 300,000 sf hospital expansion and central plant. Energy modeling services and associated LEED® documentation were provide for a LEED® Certified project rating
Describe the specific role and responsibilities this individual had for each listed project.	Christy provided energy modeling services and associated LEED® / Act 129 credit documentation.
Describe any other relevant technical experience.	Building Energy Modeling LEED® Documentation, Energy Audits, HVAC Design and Feasibility Analysis
Indicate the total years of relevant energy related experience for this individual.	10 years

3. Construction – Key Subcontractors, including SDB and VBE subcontractors, if any

(Suggested number of sheets/pages: 8 sheets, plus 1 sheet per person)

a. Offeror shall provide clear and concise information that will demonstrate the following qualifications for any Key Subcontractors that will be used on the Project:

(1) Each Key Subcontractor's Experience on GESA Projects greater than \$5 million.

(a) Include date(s), location, owner, owner contact, project amount, and description. completed as originally scheduled.

(2) Each Key Subcontractor's Superintendent's Qualifications (4-person limit)

(a) Describe project responsibilities, time with firm, and experience with GESA projects, educational or technical training, and any other information relevant to the evaluation of the individual.

(3) Each Key Subcontractor's Statement of Readiness and Commitment of Resources per the Project Master Schedule.

(a) Provide a written statement confirming the person(s) identified in this RFQ are available and will be committed to the Project for the time period(s) referenced in the attached RFQ Project Schedule.

(4) Each Key Subcontractor's Workman's Compensation Experience Modification Rating for the calendar years 2015, 2016, and 2017.

(5) Each Key Subcontractor's Notification of Default or Debarment.

(a) Provide a listing including owner, project, date, and explanation of any contract default or debarment within the last 5 years.

Response to Request for Quotes for a Guaranteed Energy Savings Project at Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

Sub-Contractor: Air Management Technologies Inc.-Mechanical HVAC (PA-SDB and VBE)



ESG selected Air Management systems because of their past successful record of accomplishment and their in depth knowledge of HVAC/Mechanical systems.

1. Experience on GESA Projects over \$5M

Note: As a Subcontractor, we do not always know the total value of the project; therefore, amounts shown may only reflect our portion of the overall GESA project

Scranton and Reading State Office Buildings

Date: August 2009
Owner: State of Pennsylvania
Contact: Subcontractor to ESCO 717-856-7611
Amount: \$102,900.00
Description: Air Balancing
Status: Completed

Pennsylvania State Police Headquarters

Date: March 2017
Owner: State of Pennsylvania
Contact: Subcontract to ESCO 717-856-7611
Amount: \$2,084,297.00
Description: HVAC System and Control Upgrades
Status: To be completed 4/14/18

2. Superintendent Qualifications

Jeffrey S. Houtz

Project Responsibilities: Project Manager/Foreman, supervise field personnel; maintain schedules, inspection of work, insure safety on job sites

Time with Firm: 8 years

Experienced with GESA projects: no

Education or Training: Certified Journeyman Plumber/Pipefitter Local 520

3. Statement of Readiness and Commitment of Resources

Air Management Technologies Inc. stands ready and able to provide work force and expertise to complete the DOT District 8 Project. Air Management Technologies Inc. is a member of Local Union 520 Steam and Pipe Fitters out of Harrisburg as well as National Service Agreement that permits Air Management Technologies Inc. to pull additional manpower as needed to augment our permanent workforce from any Steam and Pipefitter Union Hall throughout the United States. Local Steam and Pipefitters Unions provide manpower from pipe fitters to control and mechanical equipment technicians.

4. *Workmen’s Compensation Experience Modification Rating*

2014 – 0.811
2015 – 0.893
2016 – 0.880
2017 – 0.851
2018 – 0.792

5. *Entity’s Notification of Default or Debarment*

Air Management Technologies Inc. has never been disbarred or had any defaults levied against it or any of its entities.

Response to Request for Quotes for a Guaranteed Energy Savings Project at Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

Sub-Contractor: H2O Applied Technologies LLC (PA-SDB)

ESG selected H2O Applied Technologies because of their past successful record of accomplishment and their in depth knowledge of water conservation.

I. Experience on GESA Projects over \$5M

Note: As a Subcontractor, we do not always know the total value of the project; therefore, amounts shown may only reflect our portion of the overall GESA project

Philadelphia Housing Authority Water Conservation

Date: 2018-19
Owner: Philadelphia Housing Authority
Contact: David Brunner, JCI (Owners rep)
Amount: \$2.2 million
Description: Low flow plumbing fixtures
Status: Completed

Philadelphia Museum of Art Water Conservation and Steam System Upgrades

Date: 2018-19
Owner: Philadelphia Museum of Art
Contact: David Brunner, JCI (Owners rep)
Amount: \$1.3 million
Description: Low flow plumbing fixtures, steam traps, thermostatic radiator valves, mechanical insulation
Status: In progress

Luzerne County Water Conservation and Steam System Upgrades

Date: 2018
Owner: Luzerne County
Contact: Shayne Hohman, McClure (Owners rep)
Amount: \$508K
Description: Low flow plumbing fixtures, penal fixture controls, laundry ozone system, steam traps, cooling tower submeters
Status: Completed

Scranton School District Water Conservation and Steam System Upgrades

Date: 2017-18
Owner: Scranton School District
Contact: John Kowalski, Constellation (Owners rep)
Amount: \$1.2 million
Description: Low flow plumbing fixtures, steam traps, thermostatic radiator valves, mechanical insulation
Status: Completed

2. *Superintendent Qualifications*

Justin Clark, CEM

Project Responsibilities: Senior Project Engineer
Time with Firm: 12 years
GESAs Project Experience: Yes
Education or Training: Bachelor of Science Mechanical Engineering Worcester Polytechnic Institute
Relevant information: Mr. Clark has developed over 75 projects (\$38 Million) of water and energy conservation measures.

Richard Johnson, CEM

Project Responsibilities: Senior Project Manager Development Engineer
Time with Firm: 17 years
GESAs Project Experience: Yes
Education or Training: Bachelor of Science, Mechanical Engineering from the University of MA
Relevant Information: Mr. Johnson has been the Project Manager for over 60 projects (\$30 Million) of water and energy conservation measures.

3. *Statement of Readiness and Commitment of Resources*

H2O Applied Technologies LLC (H2O) team members identified are available and will be committed to the project for the time period referenced in the RFQ Project Schedule

4. *Workmen's Compensation Experience Modification Rating*

2015 – 1.00
2016 – 1.00
2017 – 0.92

5. *Entity's Notification of Default or Debarment*

H2O has not defaulted on any of its contracts and has never been debarred.

Response to Request for Quotes for a Guaranteed Energy Savings Project at Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

Sub-Contractor: Lighting Services, Inc. Lighting (PA-SDB)



ESG selected Lighting Services, Inc. because of their past successful record of accomplishment and their in depth knowledge of lighting and new lighting technology

1. Experience on GESA Projects over \$5M

Note: As a Subcontractor we do not always know the total value of the project, therefore amounts shown reflect our portion of the overall GESA project

Bethel Park School District

Date: 2015
Owner: Bethel Park School District
Contact: Robert Kovalan - Trane
Amount: \$781,503
Description: More than 6,100 interior and exterior fixtures
Status: Completed

Eastern Mennonite University

Date: 2017
Owner: Eastern Mennonite University
Contact: Stan Mashinski - Siemens
Amount: \$388,323
Description: More than 1,154 interior and exterior fixtures
Status: Completed

Georgia World Congress Center

Date: 2017
Owner: Georgia World Congress Center
Contact: Cameron Griffith - Trane
Amount: \$3,399,000
Description: More than 5,000 exterior fixtures
Status: Completed

Woodland Hills School District

Date: 2017
Owner: Woodland Hills School District
Contact: Roshelle Fennell – Reynolds Energy
Description: More than 1,033 exterior fixtures
Status: Completed

2. *Superintendent's Qualifications*

Mike Rohm

Project Responsibilities: Supervisor

Time with Firm: 16 years

Experienced with GESA projects: no

Education or Training: NALMCO CLEP certification, Portland Lakes Career Center, US Army – Sergeant Infantry

Relevant information: Supervise field personnel, handle material and equipment logistics, oversight of installation work, project reporting and project close-out.

Jeffery Kinney

Project Responsibilities: Supervisor

Time with Firm: 3 years

Experienced with GESA projects: no

Education or Training: AEE CLEP certification, State of Tennessee Master Electrician and Contractor, Lenoir Community College

Relevant information: Supervise field personnel, handle material and equipment logistics, oversight if installation work, project reporting and project closeout.

Thomas Petrey

Project Responsibilities: Supervisor

Time with Firm: 9 years

Experienced with GESA projects: no

Education or Training: AEE CLEP certification holds Electrical Contractor licenses in multiple states

Relevant information: Supervise field personnel, handle material and equipment logistics, oversight if installation work, project reporting and project closeout.

Scott Dennison

Project Responsibilities: Supervisor

Time with Firm: 11 years

Experienced with GESA projects: no

Education or Training: AEE CLEP certification, OSHA 30-hour

Relevant information: Supervise field personnel, handle material and equipment logistics, oversight if installation work, project reporting and project closeout.

3. *Statement of Readiness and Commitment of Resources*

All Lighting Services Inc. personnel identified are available and will be committed to the project for the time period referenced in the RFP Project Schedule.

4. *Workman's Compensation Experience Modification Rating*

2014 – 2.29 2017 – 1.69

2015 – 2.20 2018 – 0.99

2016 – 2.20

5. *Entity's Notification of Default or Debarment*

Lighting Services Inc. has not been debarred and is not in default of any contract.

Response to Request for Quotes for a Guaranteed Energy Savings Project at Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

Sub-Contractor: Zerodraft



ESG selected Zerodraft because of their past successful experience on GESA projects and their in depth knowledge of building envelope applications.

1. *Experience on GESA Projects over \$5M*

Note: As a Subcontractor we do not always know the total value of the project, therefore amounts shown reflect our portion of the overall GESA project

Virginia National Guard

Date: 2011
Owner: Virginia National Guard
Contact: Kyle McGrain, Schneider Electric (Owners rep)
Amount: \$700,000+
Description: Multiple site, statewide projects correcting building envelope deficiencies
Status: Completed

PA State Museum & LCB Building, Harrisburg

Date: 2011
Owner: Commonwealth of PA
Contact: Willem Pennings, Schneider Electric (Owners rep)
Amount: \$112,535
Description: Corrected building envelope deficiencies
Status: Completed

Reading Housing Authority

Date: 2012
Owner: Reading Housing Authority
Contact: John Topmiller, Honeywell (Owners rep)
Amount: \$680,000
Description: Multi-story building contract correcting building envelope deficiencies
Status: Completed

2. *Superintendent's Qualifications*

Brian Johnson, Vice President/Superintendent

Project Responsibilities: Surveying, estimating, scheduling, ordering materials & project mgt

Time with Firm: 14 years

Experience with GESA projects: Surveyed, negotiated and managed over 70 GESA contracts for building envelope improvements

Response to Request for Quotes for a Guaranteed Energy Savings Project at Pennsylvania Fish & Boat Commission / Project No. GESA 2019 – 3

Education/Training: Bachelors in Civil Engineering, Associates in Architectural Technology; Formerly a Certified HERS Rater and Building Performance Contractor; Attendee at numerous building science workshops

Cole Johnson, Field Operations Manager

Project Responsibilities: Supervise field crew, quality control, daily timesheets, safety talk instructor

Time with Firm: 9 years

Experience with GESA projects: Field specialist on over two dozen GESA jobs throughout the Mid-Atlantic region performing building envelope improvements

Education/Training: Bachelors in Mechanical Engineering

3. *Statement of Readiness and Commitment of Resources*

Zerodraft confirms that our company can commit the individuals above to this project at such time as services are required.

4. *Workman's Compensation Experience Modification Rating*

2019 - .863

2018 - .858

2017 - .854

2016 - .845

5. *Entity's Notification of Default or Debarment*

I hereby certify that Home Energy Solutions, Inc. (d/b/a Zerodraft Central Pennsylvania) is not currently under suspension or debarment by the Commonwealth of Pennsylvania, any other state or the Federal Government and has no history of default or debarment.

Zerodraft Central Pennsylvania is a Certified Disadvantage Business Enterprise and Small Diverse, Woman-Owned Business Enterprise

SDB Contact: Laurie Johnson, Owner/President
415 Dunkleberger Road
Mechanicsburg, PA 17055
(717) 241-4201

**Energy Systems Group
Financial Statements
with
Banking and Trade References**

***ENERGY SYSTEMS GROUP, LLC
AND SUBSIDIARIES***

Consolidated Financial Report

December 31, 2019, 2018, and 2017

PROPRIETARY
&
CONFIDENTIAL

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Independent Auditor's Report

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Consolidated Financial Statements:

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PROPRIETARY
&
CONFIDENTIAL

INDEPENDENT AUDITOR'S REPORT



**HARDING, SHYMANSKI
& COMPANY, P.S.C.**

Certified Public Accountants
and Consultants

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An Independently
Owned Member,
RSM US Alliance

Board of Directors
Energy Systems Group, LLC and Subsidiaries

Report on the Financial Statements

We have audited the accompanying consolidated financial statements of Energy Systems Group, LLC and Subsidiaries, which comprise the consolidated balance sheets as of December 31, 2019, 2018, and 2017, the related consolidated statements of operations and member's equity and cash flows for the years then ended, and the related notes to the consolidated financial statements (collectively, the financial statements).

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

INDEPENDENT AUDITOR'S REPORT (CONTINUED)



We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to on the previous page present fairly, in all material respects, the financial position of Energy Systems Group, LLC and Subsidiaries, as of December 31, 2019, 2018, and 2017, and the results of its operations and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Harding, Altmanski & Company, P.S.C.

Evansville, Indiana
February 27, 2020

PROPRIETARY
&
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ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

December 31, 2019, 2018, and 2017

(In thousands)	2019	2018	2017
ASSETS			
Current Assets			
Cash and cash equivalents	\$ 44,191	\$ 42,227	\$ 49,356
Contracts and accounts receivable, less allowance for doubtful accounts \$166, \$58, \$0	30,775	28,042	19,392
Notes receivable	-	48	89
Due from affiliate	2,913	2,713	1,652
Revenues earned in excess of billings on uncompleted contracts	12,782	21,623	17,843
Contract cost assets	19,336	16,349	14,824
Assets held for sale	3,222	4,827	-
Other current assets	2,654	4,381	2,829
Total current assets	115,873	120,210	105,985
Other Assets			
Goodwill	29,740	29,740	29,740
Other intangible assets, net of accumulated amortization of \$4,080, \$3,371, and \$2,660	9,061	9,770	10,481
	38,801	39,510	40,221
Property and Equipment, Net	4,806	5,959	11,235
Operating Lease Right-of-Use Asset	6,598	-	-
	\$ 166,078	\$ 165,679	\$ 157,441

See notes to consolidated financial statements.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS (CONTINUED)

December 31, 2019, 2018, and 2017

(In thousands)	2019	2018	2017
LIABILITIES AND MEMBER'S EQUITY			
Current Liabilities			
Accounts payable, including retainage of \$13,056, \$10,568, and \$10,675	\$ 32,818	\$ 28,699	\$ 38,140
Billings in excess of revenues earned on uncompleted contracts	35,471	45,570	36,195
Accrued expenses and taxes	16,657	16,751	14,545
Current operating lease liability	1,297	-	-
Total current liabilities	86,243	91,020	88,880
Long-Term Operating Lease Liability	5,301	-	-
Other Liabilities	1,460	3,748	2,627
Total liabilities	93,004	94,768	91,507
Member's Equity	73,074	70,911	65,934
	\$ 166,078	\$ 165,679	\$ 157,441

See notes to consolidated financial statements.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIESCONSOLIDATED STATEMENTS OF OPERATIONS AND MEMBER'S EQUITY
December 31, 2019, 2018, and 2017

(In thousands)	2019	2018	2017
Revenues			
Construction revenues	\$ 265,801	\$ 260,801	\$ 254,685
Operations and maintenance and other revenues	<u>36,003</u>	<u>30,532</u>	<u>27,135</u>
Total revenues	301,804	291,333	281,820
Cost of Revenues	<u>224,787</u>	<u>218,155</u>	<u>214,385</u>
Gross profit	77,017	73,178	67,435
Operating Expenses	<u>61,188</u>	<u>58,192</u>	<u>52,445</u>
Operating income	<u>15,829</u>	<u>14,986</u>	<u>14,990</u>
Other Income (Expenses)			
Interest, net	1,345	1,339	256
Other, net	<u>(11)</u>	<u>(18)</u>	<u>35</u>
	<u>1,334</u>	<u>1,321</u>	<u>291</u>
Net income	17,163	16,307	15,281
Member's equity at beginning of year	70,911	65,934	60,653
Cumulative effect adjustment for adoption of ASU 2014-09 as of January 1, 2018	-	(1,330)	-
Member dividend	<u>(15,000)</u>	<u>(10,000)</u>	<u>(10,000)</u>
Member's equity at end of year	<u>\$ 73,074</u>	<u>\$ 70,911</u>	<u>\$ 65,934</u>

See notes to consolidated financial statements.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

December 31, 2019, 2018, and 2017

(In thousands)	2019	2018	2017
Cash Flows from Operating Activities			
Net income	\$ 17,163	\$ 16,307	\$ 15,281
Adjustments to reconcile net income to net cash provided by operating activities			
Depreciation	958	1,181	1,128
Amortization	709	711	709
(Gain) loss on disposal of property and equipment	615	18	(20)
Impairment loss	1,129	855	766
Changes in assets and liabilities:			
Decrease (increase)			
Contracts and accounts receivable	(2,733)	(8,650)	8,215
Revenues earned in excess of billings on uncompleted contracts	8,841	(3,780)	(9,117)
Contract cost assets	(2,987)	4,102	(3,399)
Other current assets	1,727	(1,552)	1,864
Increase (decrease)			
Accounts payable	4,119	(9,441)	13,823
Billings in excess of revenues earned on uncompleted contracts	(10,099)	2,418	(1,427)
Accrued expenses and taxes	(94)	2,206	1,384
Other liabilities	(2,288)	1,121	(230)
Net cash provided by operating activities	17,060	5,496	28,977

See notes to consolidated financial statements.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS (CONTINUED)

Years Ended December 31, 2019, 2018, and 2017

(In thousands)	2019	2018	2017
Cash Flows from Investing Activities			
Proceeds from sales of property and equipment	\$ 500	\$ 1	\$ 37
Purchases of property and equipment	(444)	(1,606)	(3,248)
Payments on note receivable	48	41	17
Net advances to affiliate	(200)	(1,061)	(1,049)
Net cash used in investing activities	(96)	(2,625)	(4,243)
Cash Flows from Financing Activities			
Principal payments on affiliate long-term borrowings	-	-	(45,000)
Member dividend	(15,000)	(10,000)	(10,000)
Net cash used in financing activities	(15,000)	(10,000)	(55,000)
Net increase (decrease) in cash and cash equivalents	1,964	(7,129)	(30,266)
Cash and cash equivalents at beginning of year	42,227	49,356	79,622
Cash and cash equivalents at end of year	\$ 44,191	\$ 42,227	\$ 49,356
Supplemental Disclosure of Cash Flow Information			
Cash payments for:			
Interest	\$ -	\$ -	\$ 885
Supplemental Schedules of Noncash Investing Activities			
Property and equipment transferred to assets held for sale	\$ -	\$ 4,827	\$ -
Right-of-use assets obtained in exchange for operating lease liabilities	\$ 7,540	\$ -	\$ -

See notes to consolidated financial statements.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 1 – Nature of Business and Significant Accounting Policies

Nature of Business

Energy Systems Group, LLC and Subsidiaries (collectively, Company), an Indiana limited liability corporation, is a comprehensive energy services and performance contracting company providing energy, facility, and financial solutions to commercial, industrial, governmental, and institutional customers. In addition, the Company builds, owns, and operates certain renewable energy producing assets. The Company's operations are based throughout the contiguous United States, primarily in the Midwest, Mid-Atlantic, Northeast, and Southern regions, as well as California.

Principles of Consolidation

The consolidated financial statements include the accounts of Energy Systems Group, LLC and its subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation.

Limited Liability Company

Since the Company is a limited liability company, no member is liable for the debts, obligations, or liabilities of the Company, except as otherwise legally obligated. The term of the Company shall be perpetual unless and until it is dissolved pursuant to state law or as provided in the limited liability company agreement.

Concentration of Credit Risk

Financial instruments, which potentially subject the Company to concentrations of credit risk, consist principally of cash and cash equivalents, contracts, and accounts receivable. At times, such cash and cash equivalents in banks may be in excess of the Federal Deposit Insurance Corporation insurance limit.

Cash and Cash Equivalents

For purposes of reporting the consolidated statements of cash flows, the Company considers all cash accounts, which are not subject to withdrawal restrictions or penalties, and all highly liquid debt instruments purchased with a maturity of three months or less to be cash equivalents. The amounts invested with the member's Parent classified as cash and cash equivalents at December 31, 2019, 2018, and 2017 were \$40,957, \$42,227, and \$49,357, respectively.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 1 – Nature of Business and Significant Accounting Policies (Continued)

Revenue Recognition

On January 1, 2018, the Company adopted ASU 2014-09, “*Revenue from Contracts with Customers*” (ASC 606). A majority of the Company’s revenues are from construction contracts and some customer contracts also include operation and maintenance (O&M) services. The consolidated statements of operations and member’s equity disaggregates revenues by two major types of performance obligations: construction revenues and operations and maintenance and other revenues. See Note 2 for required disclosures related to the impact of adopting ASC 606 and a summary of the Company’s updated policies related to revenue recognition disclosed below.

Construction revenues are measured based on the amount of consideration specified in a contract. The Company recognizes revenue from construction contracts over time as performance obligations are satisfied using the cost-based input method, which is based primarily on contract cost incurred to date compared to total estimated contract cost to satisfy the performance obligation. The cost-based input method is the most appropriate depiction of the Company’s performance because it directly measures the value of the services transferred to the customer. Contract costs include subcontract costs, all direct material and labor costs, and those indirect costs related to contract performance. Due to the nature of the work performed, the total estimated contract costs is subject to many variables and requires significant judgment. Therefore, it is reasonably possible that changes to total estimated contract costs may occur and those revisions and revenue estimates are recognized in the period in which the facts that require the revisions become known.

In the process of performing its construction contracts with its customers, the Company considers each contract to be one performance obligation, unless the circumstances dictate otherwise. Some of the Company’s contracts have multiple performance obligations, most commonly due to the contract covering more than one phase of a project (construction and O&M). For contracts with multiple performance obligations, the performance obligations are distinct as the customer can realize benefits from the construction services without the operation and maintenance services. The transaction prices of each performance obligation are specifically stated in the contract and have been developed independently. Contract modifications are routine in the performance of the Company’s contracts. Contracts are often modified to account for changes in the contract specifications or requirements. In most instances, contract modifications are for goods or services that are not distinct, and, therefore, are accounted for as part of the existing contract.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 1 – Nature of Business and Significant Accounting Policies (Continued)

Revenue Recognition (Continued)

If the Company's contracts give rise to variable consideration, the Company would recognize revenue for variable consideration when it is probable that a significant reversal in the amount of cumulative revenue recognized would not occur. Although billing methods can vary, most construction performance obligations require an initial deposit and are either billed monthly for progress completed or according to a contractual draw schedule. Payments are typically required within 30 days of billing. Retainage represents the amounts withheld from billings pursuant to provisions in the contracts and not paid until certain milestones are met or upon completion of the project. The Company's contract assets are presented as "revenues earned in excess of billings on uncompleted contracts" in the consolidated balance sheets and represents revenue recognized in excess of amounts billed. The Company's contract liabilities are presented as "billings in excess of revenue earned on uncompleted contracts" in the consolidated balance sheets and represents billings in excess of revenue recognized.

The Company also provides ongoing O&M services under multi-year contracts including operating, maintaining, and repairing facility energy systems. Because O&M services are typically a distinct series of promises, and those services have the same pattern of transfer to the customer, the Company records the revenue ratably over the life of the contract as the related services are performed.

The Company's construction and O&M contracts may be subject to performance guarantees and product warranties.

Leases

Effective January 1, 2019, upon adoption of ASU 2016-02, *Leases (Topic 842)*, all significant lease arrangements are recognized at lease commencement. Operating lease right-of-use (ROU) assets and lease liabilities are recognized at commencement. An ROU asset and corresponding lease liability are not recorded for leases with an initial term of 12 months or less (short-term leases) as the Company recognizes lease expense for these leases as incurred over the lease term.

ROU assets represent the Company's right to use an underlying asset during the reasonably certain lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. The Company's leases may include options to extend or terminate the lease and when it is reasonably certain the Company will exercise one of those options, the lease term used to calculate the right to use asset and related lease liability is updated accordingly. The Company uses its incremental borrowing rate, which is updated annually or when a significant event occurs that would indicate a significant change in rates, based on the information available at commencement date, in determining the present value of lease payments. The operating lease ROU asset also includes any lease payments related to initial direct cost and prepayments at commencement, if any. Lease expense is recognized on a straight-line basis over the lease term. The Company has lease agreements with lease and non-lease components, which are generally accounted for as a single component. See Note 15 for additional discussion on the Company's leases.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 1 – Nature of Business and Significant Accounting Policies (Continued)

Leases (Continued)

For periods prior to January 1, 2019, leases are presented and disclosed in accordance with legacy lease guidance (ASC 840) in effect for those periods.

Contract Cost Assets

Pre-contract costs are costs incurred to fulfill a contract prior to contract award. The Company records these as contract cost assets when they are probable of recovery under a specific anticipated contract. The pre-contract costs asset is expensed as a job cost upon the award of the anticipated contract, at which time revenue is recognized under the cost based input method. Pre-contract costs assets are expensed as an operating expense when and if it is determined that realization of the related revenue is no longer probable. Pre-contract costs included in “contract cost assets” at December 31, 2019, 2018, and 2017 was \$10,892, \$6,650, and \$10,192, respectively.

Certain contract costs, such as subcontractor costs, incurred to fulfill a contract are capitalized as contract cost assets if the costs incurred do not yet contribute to progress in satisfying the performance obligation and are excluded from the cost input calculation for revenue recognition. The contract cost asset is expensed as a job cost once the subcontract costs incurred are proportionate to progress in satisfying the performance obligation. Contract costs excluded from revenue recognition and included in “contract costs assets” at December 31, 2019, 2018, and 2017 was \$8,445, \$9,699, and \$4,632 respectively.

Contracts and Accounts Receivable

Contracts and accounts receivable are customer obligations due under normal trade terms and represent an unconditional right to payment under terms of the contract. The Company attempts to minimize contracts receivable credit risk by reviewing customer credit history before extending credit and by monitoring customers' credit exposure on a continuing basis.

Retainages, which are included within contracts and accounts receivable, represent amounts due from customers, where payments are withheld contractually until certain construction milestones are met and are considered contract assets until billed and due. Amounts retained typically range from five percent to ten percent of the total invoice.

The Company establishes an allowance for possible losses on contracts and accounts receivable, when necessary, based upon factors surrounding the credit risk of specific customers, historical trends, and other information. Bad debt expense consists of accounts written-off or reserved, net of recoveries.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 1 – Nature of Business and Significant Accounting Policies (Continued)

Property, Equipment, and Depreciation

Property and equipment are stated at cost. Provisions for depreciation of property and equipment have been computed on the straight-line method over the estimated useful life.

Amortization of leasehold improvement assets is computed on the straight-line method over the shorter of the useful life of the asset or the life of the lease.

Long-Lived Assets and Assets Held for Sale

Long-lived assets are reviewed for impairment in accordance with guidance issued by the Financial Accounting Standards Board (FASB). The Company records impairment losses on long-lived assets used in operations when events and circumstances indicate that the assets might be impaired and the undiscounted cash flows estimated to be generated by those assets are less than the carrying amounts of those assets. Impairment losses are measured by comparing the estimated fair value of the assets to their carrying amount.

On November 28, 2018, the Company had signed a purchase agreement to sell its three digesters and expected to close in the first quarter of 2019. The stated purchase price included a down payment at closing and payments over a 60-month period beginning one year after closing. The present value of the expected consideration, less \$100 of selling expenses, totaled \$4,827, which resulted in an impairment loss of \$855 included in operating expenses for the year ended December 31, 2018. In accordance with ASC 360-10, the Company classified these assets as assets held for sale at December 31, 2018 in the consolidated balance sheet. The Company did not end up closing on this agreement during 2019.

On December 20, 2019, the Company sold one of the three digesters noted above to a third party at a purchase price of \$500 and recognized an impairment of \$74 prior to the sale. New purchase agreements were drafted as of January 6, 2020 to sell the other two digesters with an expected close date in the first quarter of 2020. The Company recognized additional impairment losses of \$1,055 for the remaining two digesters. In accordance with ASC 360-10, the Company classified these assets as assets held for sale at December 31, 2019 in the consolidated balance sheet.

During the year ended December 31, 2017, the Company determined that certain assets' carrying value exceeded their net realizable value and thus were written down to zero. Impairment losses for the year ended December 31, 2017 were \$766.

Goodwill and Other Intangible Assets

Goodwill and other intangible assets having an indefinite life are tested for impairment, at least annually, using a fair value based approach. Intangible assets with finite lives are being amortized on the straight-line method over their estimated useful life.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 1 – Nature of Business and Significant Accounting Policies (Continued)

Subsequent Events Evaluation

Since the Company is a subsidiary of a public entity, management has evaluated subsequent events through February 27, 2020, which represents the date the member's Parent's consolidated financial statements were issued.

Use of Estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP) requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

Recent Accounting Standards

Leases

In February 2016, FASB issued ASU 2016-02, *Leases (Topic 842)*. The guidance in this ASU supersedes the leasing guidance in *Topic 840, Leases*. Under the new guidance, the Company is electing to only recognize lease assets and lease liabilities on the balance sheet for all leases with terms longer than 12 months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the consolidated statements of income. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. On January 1, 2019, the Company adopted ASU 2016-02 using the modified retrospective approach of applying the new standard to leases that existed at, or were entered into, after the adoption date. See Note 15 for the impact of the adoption and the new disclosures required by this standard.

Recent Accounting Pronouncements

Test for Goodwill Impairment

In January 2017, FASB issued ASU 2017-04, *Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*. The ASU simplifies the measurement of goodwill impairment by eliminating the requirement that an entity compute the implied fair value of goodwill based on the fair values of its assets and liabilities to measure impairment. Instead, goodwill impairment will be measured as the difference between the fair value of the reporting unit and the carrying value of the reporting unit. The ASU also clarifies the treatment of the income tax effect of tax deductible goodwill when measuring goodwill impairment loss. The Company will be required to adopt ASU 2017-04 as of January 1, 2020. ASU 2017-04 must be applied prospectively with early adoption permitted. The Company is currently evaluating the impact of the adoption of this guidance on its consolidated financial statements.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
December 31, 2019, 2018, and 2017

(In thousands)

Note 2 – New Accounting Guidance Implementations

Revenue Recognition

In May 2014, FASB issued ASC 606 to clarify the principles for recognizing revenue and to develop a common revenue standard for U.S. GAAP. The amendments in this guidance state an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. This new guidance requires enhanced disclosures to help users of financial statements better understand the nature, amount, timing, and uncertainty of revenue that is recognized.

On January 1, 2018, the Company adopted ASC 606 using the modified retrospective method and applied it to those contracts which were not completed as of January 1, 2018. Results for reporting periods beginning January 1, 2018 are presented under ASC 606, while prior period amounts are not adjusted and continue to be reported under the accounting standards in effect for the prior period. The Company recorded an adjustment to reduce member's equity of \$1,330 on January 1, 2018 due to the cumulative impact of adopting ASC 606. The cumulative effect recorded resulted from a change in the accounting for revenue associated with certain uninstalled specialized equipment invoiced to the Company by subcontractors on various projects, where under the new revenue standard, revenue recognition is proportionate to progress in satisfying the performance obligation. Prior to adoption of ASC 606, revenue was recognized when the subcontractor invoiced the procured specialized equipment to the Company. The Company expects ongoing application to be immaterial to the Company's financial condition and net income.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 2 – New Accounting Guidance Implementations (Continued)

Revenue Recognition (Continued)

The cumulative effect of initially applying ASC 606 as an adjustment to member's equity in the consolidated balance sheet as of January 1, 2018 is as follows:

	Balance at December 31, 2017	Adjustments due to adoption of ASC 606	Balance at January 1, 2018
ASSETS			
Contract cost asset	\$ 14,824	\$ 5,627	\$ 20,451
LIABILITIES			
Billings in excess of revenues earned on uncompleted contracts	36,195	6,957	43,152
MEMBER'S EQUITY			
Member's equity	65,934	(1,330)	64,604

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 2 – New Accounting Guidance Implementations (Continued)

Revenue Recognition (Continued)

The modified retrospective method of transition requires disclosure of the effect of applying the new guidance on each item included in the 2018 consolidated financial statements. Following are the line items from the consolidated balance sheet as of December 31, 2018, that were affected:

	<u>As Reported</u>	<u>Adjustments due to adoption of ASC 606</u>	<u>Balances Without Adoption of ASC 606</u>
ASSETS			
Revenues earned in excess of billings on uncompleted contracts	\$ 21,623	\$ 994	\$ 22,617
Contract cost assets	16,349	(856)	15,493
LIABILITIES			
Billings in excess of revenues earned on uncompleted contracts	45,570	(10)	45,560
MEMBER'S EQUITY			
Member's equity	70,911	148	71,059

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 2 – New Accounting Guidance Implementations (Continued)

Revenue Recognition (Continued)

The following are the line items from the consolidated statements of operations and member’s equity and consolidated statements of cash flows for the year ended December 31, 2018, that were affected, the amounts that would have been reported under the former guidance, the effects of applying the new guidance, and the amounts reported under the new guidance:

	As Reported	Adjustments due to adoption of ASC 606	Balances Without Adoption of ASC 606
Revenues	\$ 291,333	\$ (5,953)	\$ 285,380
Cost of Revenues	218,155	(4,771)	213,384
Net Income	16,307	(1,182)	15,125
Cash Flows from Operating Activities			
Net income	16,307	(1,182)	15,125
Revenues earned in excess of billings on uncompleted contracts	(3,780)	(994)	(4,774)
Contract cost assets	4,102	(4,771)	(669)
Billings in excess of revenues earned on uncompleted contracts	2,418	6,947	9,365

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 3 – Contracts and Accounts Receivable

Contracts and accounts receivable at December 31, 2019, 2018, and 2017 consisted of the following:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Contracts and accounts receivable			
Completed contracts	\$ 616	\$ 664	\$ 1,798
Contracts-in-process	19,713	19,098	11,600
Retainages	<u>10,612</u>	<u>8,338</u>	<u>5,994</u>
	30,941	28,100	19,392
Less allowance for doubtful accounts	<u>(166)</u>	<u>(58)</u>	<u>-</u>
	<u>\$ 30,775</u>	<u>\$ 28,042</u>	<u>\$ 19,392</u>

Contracts and accounts receivable are expected to be collected within one year from the consolidated balance sheet dates. The opening balance of contracts and accounts receivables for the year ended December 31, 2017 was \$27,607.

Note 4 – Contract Assets and Liabilities

Contract assets and liabilities at December 31, 2019, 2018, and 2017 consisted of the following:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Contract assets			
Revenues earned in excess of billings on uncompleted contracts	\$ 12,782	\$ 21,623	\$ 17,843
Retainage receivables	<u>10,612</u>	<u>8,338</u>	<u>5,994</u>
	<u>\$ 23,394</u>	<u>\$ 29,961</u>	<u>\$ 23,837</u>
Contract liabilities			
Billings in excess of revenues earned on uncompleted contracts	<u>\$ (35,471)</u>	<u>\$ (45,570)</u>	<u>\$ (36,195)</u>

The opening balances of revenues earned in excess of billings on uncompleted contracts (contract asset), retainage receivables (contract asset), and billings in excess of revenues earned on uncompleted contracts (contract liability) were \$8,726, \$4,651, and \$37,622, respectively, for the year ended December 31, 2017.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 5 – Contracts-in-Progress

Costs and estimated gross profit on uncompleted contracts at December 31, 2019, 2018, and 2017 consisted of the following:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Costs incurred on uncompleted contracts	\$ 298,374	\$ 204,099	\$ 291,519
Estimated gross profit	<u>74,286</u>	<u>60,552</u>	<u>68,235</u>
Contract revenue earned to date	372,660	264,651	359,754
Less billings to date	<u>(395,349)</u>	<u>(288,598)</u>	<u>(378,106)</u>
Excess of billings over revenue earned	<u>\$ (22,689)</u>	<u>\$ (23,947)</u>	<u>\$ (18,352)</u>

Included in the accompanying consolidated balance sheets under the following captions:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Costs and estimated earnings in excess of billings on uncompleted contracts	\$ 12,782	\$ 21,623	\$ 17,843
Billings in excess of costs and estimated earnings on uncompleted contracts	<u>(35,471)</u>	<u>(45,570)</u>	<u>(36,195)</u>
	<u>\$ (22,689)</u>	<u>\$ (23,947)</u>	<u>\$ (18,352)</u>

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 6 – Intangible Assets

Intangible assets at December 31, 2019, 2018, and 2017 consisted of the following:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Intangible assets, subject to amortization:			
Customer relationships	\$ 7,096	\$ 7,096	\$ 7,096
Intangible assets, not subject to amortization:			
ESPC licenses	6,045	6,045	6,045
Goodwill	<u>29,740</u>	<u>29,740</u>	<u>29,740</u>
	42,881	42,881	42,881
Accumulated amortization	<u>(4,080)</u>	<u>(3,371)</u>	<u>(2,660)</u>
	<u>\$ 38,801</u>	<u>\$ 39,510</u>	<u>\$ 40,221</u>

Amortization expense for the three years ended December 31, 2019, 2018, and 2017 was \$710, \$711, and \$709, respectively. The estimated amortization expense expected to be charged to income over each of the next four years is \$709 and \$180 for the fifth year.

Note 7 – Property and Equipment

Property and equipment at December 31, 2019, 2018, and 2017 consisted of the following:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Equipment	\$ 7,591	\$ 4,545	\$ 4,814
Leasehold improvements	1,179	3,404	12,284
Construction-in-progress	<u>104</u>	<u>2,886</u>	<u>2,499</u>
	8,874	10,835	19,597
Accumulated depreciation	<u>(4,068)</u>	<u>(4,876)</u>	<u>(8,362)</u>
	<u>\$ 4,806</u>	<u>\$ 5,959</u>	<u>\$ 11,235</u>

Depreciation expense for the three years ended December 31, 2019, 2018, and 2017 was \$958, \$1,181, and \$1,128, respectively.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 8 – Commitments and Contingencies

At December 31, 2019, 2018, and 2017, the Company had outstanding surety bonds of approximately \$697,000, \$793,000, and \$755,000, respectively, for its performance, payment, and energy savings guarantees. Upon final acceptance, payment and performance bonds are replaced with maintenance bonds at ten percent of the original face value and remain in effect during the one-year warranty period. Energy savings guarantee bonds are for various lengths and are reduced annually based upon the amount of guarantee met. In addition, the Company's member's Parent has outstanding performance guarantees for certain projects related to construction, energy services, and operations. If events arise that indicate required performance under the guarantees, the Company would record a liability.

Generally, guaranteed savings, whereby the Company guarantees that the customer will achieve certain levels of energy savings over a specified number of years and warranty agreements accompany the contracts. The Company has determined based on historical results that an energy guarantee reserve is unnecessary.

Note 9 – Litigation

The Company is involved in lawsuits, claims, investigations, and proceedings, which arise in the ordinary course of business. If management believes that a loss arising from these matters is probable and can be reasonably estimated, a loss is recorded. As additional information becomes available, these matters are assessed and the estimates are revised, if necessary. Based on currently available information, management believes that the ultimate outcome of these matters, individually and in the aggregate, will not have a material adverse effect on the Company's business, financial condition, or results of operation.

Note 10 – Fair Value of Financial Instruments

Certain assets and liabilities are recorded at fair value.

FASB ASC 820, *Fair Value Measurements and Disclosures*, provides the framework for measuring fair value. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

The asset's or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 10 – Fair Value of Financial Instruments (Continued)

For the years ended December 31, 2019, 2018, and 2017, the application of valuation techniques applied to similar assets and liabilities has been consistent. The following is a description of the valuation methodology used for instruments measured at fair value:

Cash, cash equivalents, receivables, accounts payable, accrued expenses, and payables – Carrying amount approximates fair value because of the short maturity of those instruments.

Fair Value on a Nonrecurring Basis

Certain assets and liabilities are measured at fair value on a nonrecurring basis; that is, the instruments are not measured at fair value on an ongoing basis but are subject to fair value adjustments in certain circumstances (for example, when there is evidence of impairment).

During 2019, the same held-for-sale assets from 2018 that incurred impairment charges incurred additional impairment charges. The held-for-sale asset with a carrying amount of \$574 was impaired by \$74 and sold on December 20, 2019 at a transaction price of \$500. The other two held-for-sale assets were impaired by \$1,055 based on the final expected sales price being less than the carrying amount, which was included in operating expenses for the year ended December 31, 2019. The assets were included in assets held for sale at \$3,222 as of December 31, 2019.

During 2018, three long-lived assets with a carrying amount of \$5,682 were reclassified to assets held-for-sale and were partially impaired. The impairment was based on the final expected sales price being less than the carrying amount, resulting in an impairment charge of \$855, which was included in operating expenses for the year ended December 31, 2018. The assets were included in assets held-for-sale at \$4,827 as of December 31, 2018.

During 2017, a long-lived asset with a carrying amount of \$766 was fully impaired using Level 2 measurements, resulting in an impairment charge of \$766, which was included in operating expenses for the year ended December 31, 2017.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 11 – Parent Financial Services and Security Agreement

The Company and its member's Parent have entered into a financial services and security agreement whereby the Parent provides cash management services to the Company in the form of short and long-term loans and investment of excess cash balances.

The Company has a short-term borrowing credit facility with its member's Parent with a borrowing limit of \$35,000. Interest on short-term notes payable are based on the rate per annum equal to the lender's weighted average daily cost of funds, 1.98 percent at December 31, 2019. There were no outstanding borrowings at December 31, 2019, 2018, and 2017. The Company's advances to the member's Parent at December 31, 2019, 2018, and 2017 were \$40,957, \$42,227, and \$49,356, respectively, and meet the criteria for a cash equivalent and have been included as such in the consolidated balance sheets.

The Company also has a long-term borrowing credit facility with its member's Parent with a borrowing limit of \$45,000. Interest on long-term notes payable is based on the rate per annum equal to the lender's weighted average rate of its bonds. There were no outstanding long-term borrowings under this credit facility at December 31, 2019, 2018, and 2017.

Note 12 – Income Taxes

The limited liability companies (LLCs) are not tax-paying entities for income tax purposes. Income from the LLCs is taxed to its member (Vectren Corporation) on its corporate return; therefore, there is no tax provision provided on income for the LLCs.

Management evaluated the Company's uncertain tax positions and concluded that the Company had taken no uncertain tax positions that require adjustment to the consolidated financial statements.

Note 13 – Employee Incentive Plans

The Company has a defined contribution plan with a profit-sharing component for all employees. Discretionary profit-sharing contributions to the plan are made when certain conditions are met. Additionally, employees are auto enrolled in the defined contribution plan at five percent, unless they affirmatively elect not to participate, a portion of which is matched by the Company. The Company's contribution for the three years ended December 31, 2019, 2018, and 2017 was \$4,235, \$4,099, and \$3,684, respectively.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 14 – Related Party Transactions

At December 31, 2019, 2018, and 2017, the Company had a short-term net receivable due from its member's Parent of \$2,913, \$2,713, and \$1,652, respectively.

For the years ended December 31, 2019, 2018, and 2017, the Company had net related-party interest income of \$1,333, \$1,314, and \$225, respectively.

The member's Parent provides certain services for which the Company is not charged.

Note 15 – Leases

On January 1, 2019, the Company adopted ASU 2016-02, *Leases, (Topic 842)* and all related amendments using the modified retrospective transition method and elected not to recast comparative periods in the year of adoption as permitted by the standard. Under this transition method, an entity initially applies the new standard to all leases existing at the adoption date and recognizes a cumulative effect adjustment to the opening balance of member's equity, if any, at that date. As a result, leases for periods prior to adoption will be presented and disclosed in accordance with legacy lease guidance (ASC 840) in effect for those periods. The Company also elected the package of practical expedients permitted under the transition guidance within the new standard, which among other things, allowed it to carry forward the historical lease classification. The Company has also elected the practical expedient to not separate lease and non-lease components for certain classes of leases, such as office buildings.

As a result of the adoption of ASC 842, the Company recognized an increase in lease ROU assets of \$7,466, an increase to current portion of operating lease liabilities of \$942, and an increase to long-term portion of operating lease liabilities of \$6,524. There was no impact to member's equity or the consolidated statements of operations and member's equity related to the adoption of ASC 842.

The Company enters into various operating lease agreements containing equipment and office facility leases. The leases are long-term non-cancelable lease agreements, expiring at various dates through December 2027. The agreements generally provide for fixed minimum rental payments and the payment of utilities, real estate taxes, insurance, and repairs for the office facility leases. Lease expense is recognized on a straight-line basis over the lease term for operating leases.

The Company uses the incremental borrowing rate in determining the present value of the lease payments unless the implicit rate is readily determinable. The incremental borrowing rate is based on the information available at the lease commencement date. When a secured borrowing rate is not readily available, unsecured borrowing rates are adjusted for the effects of collateral to determine the incremental borrowing rate. The Company elected to apply the discount rate using the remaining lease term at the date of adoption.

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 15 – Leases (Continued)

The components of lease cost included in operating expenses on the consolidated statements of operations and member's equity at December 31, 2019, 2018, and 2017 are as follows:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Operating lease costs	\$ 1,931	\$ 1,911	\$ 1,679
Short-term lease cost	<u>113</u>	<u>99</u>	<u>46</u>
Total lease cost	<u>\$ 2,044</u>	<u>\$ 2,010</u>	<u>\$ 1,725</u>

The following table summarized the lease-related assets and liabilities recorded in the consolidated balance sheet at December 31, 2019:

Assets:		
Operating Lease Right-of-Use Asset		<u>\$ 6,598</u>
Total Leased Assets		<u>\$ 6,598</u>
Liabilities:		
Current operating lease liability		\$ 1,297
Long Term Operating Lease Liability		<u>5,301</u>
Total leased liabilities		<u>\$ 6,598</u>
Weighted-average remaining lease term (in years) - leases		6.3 years
Weighted-average discount rate - operating leases		3.6%

Cash paid for amounts included in the measurement of operating lease liabilities for the years ended December 31, 2019, 2018, and 2017 are as follows:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Included in operating cash flows	<u>\$ 1,931</u>	<u>\$ -</u>	<u>\$ -</u>

ENERGY SYSTEMS GROUP, LLC AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 2019, 2018, and 2017

(In thousands)

Note 15 – Leases (Continued)

As of December 31, 2019, the Company's estimated minimum future operating lease obligations are as follows:

<u>Years Ending December 31,</u>	
2020	\$ 1,608
2021	1,206
2022	1,089
2023	980
2024	792
Thereafter	<u>1,873</u>
Total minimum lease payments	7,548
Less: interest	<u>(950)</u>
Present value of operating lease liabilities	6,598
Less current portion	<u>(1,297)</u>
Long-term portion of operating lease obligations	<u>\$ 5,301</u>

Note 16 – Major Customers and Large Contracts and Accounts Receivable

Major customers and large contracts and accounts receivable are those greater than ten percent of the respective total.

During December 31, 2019, the Company had no major customers from which revenues comprised ten percent of the respective total. During the year ended December 31, 2018, the Company had one major customer from which revenues totaled \$39,171. During the year ended December 31, 2017, the Company had two major customers from which revenues totaled \$72,960.

At December 31, 2019, large contracts receivable balances from two customers totaled \$9,002. At December 31, 2018, large contracts receivable balances from one customer totaled \$3,378. At December 31, 2017, large contracts receivable balances from two customers totaled \$5,890.

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&
CONFIDENTIAL

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Fax: (847) 647-2060

I certify all of the information provided herein to be true and accurate. I hereby authorize release of payment and credit history regarding Energy Systems Group, LLC.


Signature

Drew E. Bailey
Name

VP Finance & Acctg
Title