

RESOLUTION NO. 2023-560

A RESOLUTION AUTHORIZING PAYMENT OF SIEMENS EXPENSES FOR PARTS AND SERVICE IN ACCORDANCE WITH A LONG TERM SERVICE AGREEMENT FOR UNIT 11 AND CLAYVILLE GENERATING STATIONS.

WHEREAS, the City of Vineland has entered into a Long Term Service Agreement with Siemens Energy, Inc. Houston TX.(Siemens) for parts for parts and service to the Unit 11 and Clayville Generating Stations; and

WHEREAS, Siemens has provided quotations for parts and repairs for Unit 11 and Clayville Generating Stations in accordance with proposals attached hereto in the total amount of \$1,056,439.31; and

WHEREAS, the Vineland Municipal Electric Utility is requesting authorization for the payment of Siemens expenses as attached hereto in accordance with the Long Term Maintenance Agreement; and

WHEREAS, the availability of funds for payment to Siemens in accordance with the Contract have been certified by the Chief Financial Officer; and

NOW THEREFORE BE IT RESOLVED, by the Council of the City of Vineland that payment in the amount of \$1,056,439.31 shall be made in accordance with the Long Term Service Agreement.

Adopted:

President of Council

ATTEST:

City Clerk



**REQUEST FOR RESOLUTION FOR CONTRACT AWARDS
UNDER 40A:11-5 EXCEPTIONS
(PROFESSIONAL SERVICES, EUS, SOFTWARE MAINTENANCE, ETC)**

11/13/2023

(DATE)

1. Service (detailed description): Siemens Parts & Service for Unit 11 & Clayville
Generating Stations provisioned under the Long Term Service Agreement

2. Amount to be Awarded: \$ 1,056,439.31

- Encumber Total Award
- Encumber by Supplemental Release

3. Amount Budgeted: \$ 1,500,000

4. Budgeted: By Ordinance No. _____
Or Grant: Title & Year _____

5. **Account Number to be Charged: 3-05-55-512-9001-52000 E346(X-2 & C-1)

6. Contract Period: Budget Year 2023

7. Date To Be Awarded: 11/28/2023

8. Recommended Vendor and Address: Siemens Energy Inc. 1200 West Sam Houston
Parkway North, Houston TX 77043

9. Justification for Vendor Recommendation:(attach additional information for Council review)
*please see attached proposals for Siemens parts & service provisioned
under the current Long Term Service Agreement

Charges will be split as follows: E346X-2 - 50% / E346C-1 - 50%

- Non-Fair & Open (Pay-to-Play documents required)
- Fair & Open: How was RFP advertised? _____

10. Evaluation Performed by: Steve August x4241

11. Approved by: 

12. Attachments:

- Awarding Proposal
- Other: _____

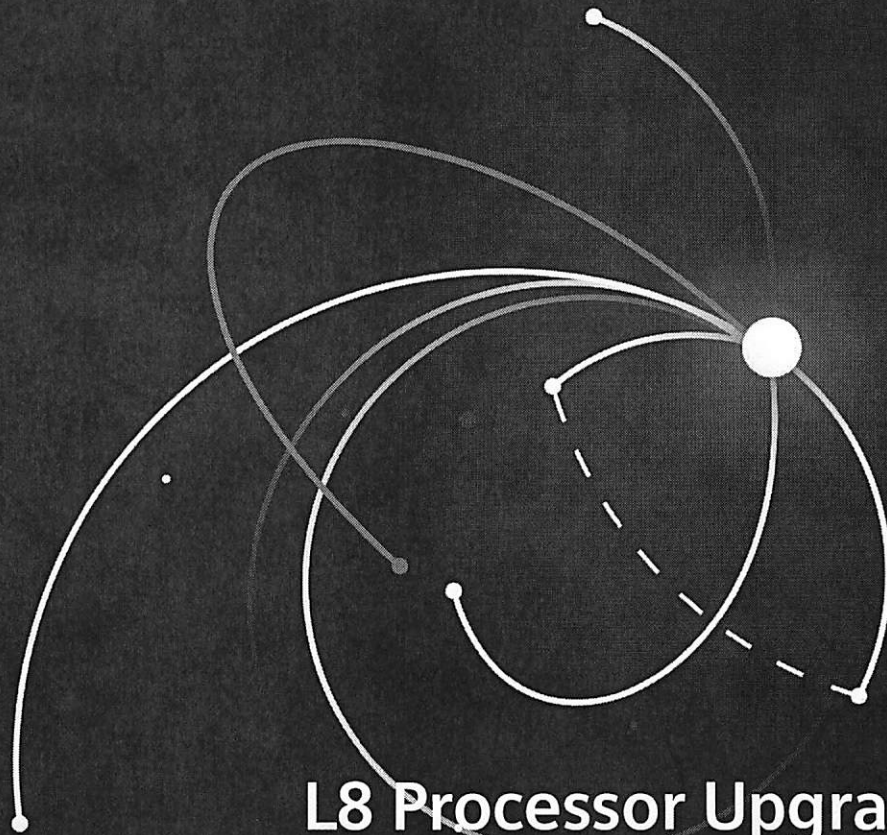
- **Send copies to:**
Purchasing Division
Business Administration

**** If more than one account #, provide break down**

SIEMENS
ENERGY

**Let's energize
society**

LET'S MAKE TOMORROW DIFFERENT TODAY



L8 Processor Upgrade
Vineland Municipal Electric Utility
SF232089997 Rev0
28-Sep-23
Firm

Siemens Energy is a trademark licensed by Siemens AG.

Table of Contents

1. Project Overview 5

 1.1 Project Summary 5

 1.2 Value Proposition..... 5

 1.3 Equipment Summary 5

 1.4 Site Survey 5

2. About Siemens Energy 6

3. Scope of Supply 8

 3.1 Requirements 8

 3.2 Detailed Scope of Supply..... 8

 3.3 Division of Responsibility..... 12

 3.4 Document List 13

 3.5 Project Management..... 16

 3.6 Installation and Commissioning 16

4. Commercial 19

 4.1 Pricing Table..... 19

 4.2 Pricing Basis..... 19

 4.3 Delivery Terms..... 20

 4.4 Payment Terms & Security..... 20

 4.5 Validity 20

 4.6 Purchase Order Address 20

5. Terms and Conditions 21

 5.1 Assignment 21

 5.2 Covid-19..... 21

 5.3 Global Electronic Supply Chain Constraints..... 21

6. Appendix 22

 6.1 Appendix 1 – General Exclusions..... 22

 6.2 Appendix 2 – Project Technical Comments and Exceptions 23

 6.3 Appendix 3 – Siemens Energy Cabling and Grounding requirements and practices..... 24

 6.4 Appendix 4 – General Exceptions to Industry Specifications 25

Proprietary Information

This proposal, including all of its attachments, exhibits, appendices, etc. ("Proposal") is provided "as-is" for your evaluation of SEI ("Siemens Energy") as the provider of work discussed therein and contains information that is confidential to and solely owned by Siemens Energy. Your acceptance, viewing or storage of this Proposal is an acknowledgment of a confidential relationship between you and Siemens Energy. We require that this Proposal be returned or destroyed when no longer required for the purpose identified herein. This Proposal and any information obtained from this Proposal may not be reproduced, transmitted, disclosed, or otherwise used, in whole or in part, without the prior written authorization of Siemens Energy.

Sharma
Abhishek Kumar

Digitally signed by Sharma Abhishek
Kumar
DN: cn=Sharma Abhishek Kumar,
c=DE, ou=Siemens,
email=abhishek.sharma@siemens-
energy.com
Date: 2023.10.04 14:24:00 +0500

Issue	Date	Author	Summary of Changes
Rev0	28-Sep-23	DC/SK	Initial Revision

To:

*Steven M. August
Assistant Superintendent
Vineland Municipal Electric Utility
Generation Division
1740 E. Oak Road
Vineland, NJ 08360*

Dear Steven,

SEI, hereafter referred to as the Supplier, is pleased to provide this proposal to Vineland Municipal Electric Utility, hereafter referred to as the Customer.

Should you have any further requirements or questions, please do not hesitate to contact the undersigned.

Yours Sincerely,

Shahzad Khan

Modernizations & Upgrades – Gas Turbines

Gas Services

Tel: 832-540-6964

Email: Shahzad.khan@siemens-energy.com

1. Project Overview

1.1 Project Summary

This proposal provides upgrade solution to address the obsolescence of PLC components in the control system currently installed on SGT-A65 power generation units installed at both Vineland and Clayville sites.

1.2 Value Proposition

New Unit Control PLC Processors will be installed to the customer's machines to avoid extended downtime in case of a control system malfunction as well as to preserve maintainability of the units.

1.3 Equipment Summary

Customer Name	Vineland Municipal Electric Utility
Location	City of Vineland New Jersey, USA, Onshore
Equipment	SGT-A65 Ph IV
Number of Units	2
Original Project Numbers	M.A442; M.A916; BA00728; BA001158
Berth Identification	N/A

1.4 Site Survey

A site survey is not required at this time. Post award a site survey maybe be deemed necessary and shall be charged separately. If there are delays associated with securing site inputs per agreed date, then associated delays may impact project delivery. Siemens Energy reserves the right to revise the project timeline/offer based on results or delays, if any.

2. About Siemens Energy

Siemens Energy is pleased to present to Vineland Municipal Electric Utility the following proposal for the Modernizations and Upgrades (M & U) Services.

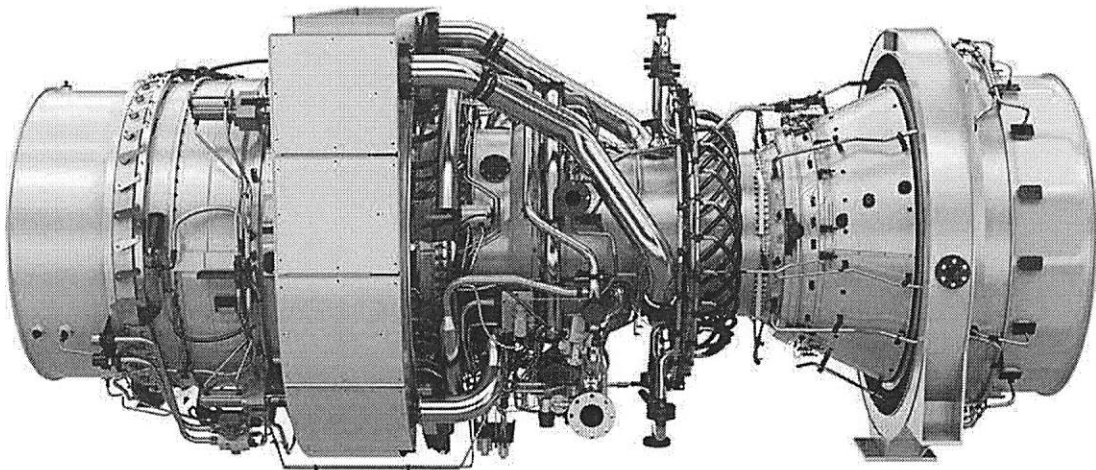
As the Original Equipment Manufacturer (OEM) of the package and maintainer of a large fleet of Gas Turbines, Compressors and Generators, Siemens Energy is uniquely qualified to provide the maintenance services, technical expertise and resources required to successfully deliver the modifications and upgrades for these units.

Siemens Energy Modernizations and Upgrades (M & U) Services solutions utilizes an experienced and dedicated aftermarket services team who will work alongside Vineland Municipal Electric Utility and provide the level of technical services and financial structure best suited to Vineland Municipal Electric Utility operation and coverage request. All Siemens Energy personnel are well trained and skilled to ensure that the Installation and commissioning maintenance work will be carried out on schedule and meets aligned Environment, Health, and Safety (EHS) and quality requirements. This is only applicable if customer has opted for this option.

The M & U Services offers some significant differences to conventional maintenance agreements. Therefore, most operators will find a more attractive option compared to a conventional maintenance agreement.

Siemens Energy main value propositions include:

- Maximized availability.
- Reduced failures and downtimes.
- Reduced lifecycle costs.
- Latest technology improving efficiency.
- Guaranteed performance.



SGT-A65

MyAdvisor

MyAdvisor is an online service that identifies potential improvements applicable to your Siemens Energy rotating equipment.

It's our priority to provide the latest in-service support available to match your operational priorities, from power increase and emissions reduction to reduced operating costs through greater efficiency.

By inputting your equipment data and operating profile, MyAdvisor will recommend the latest technology offerings related to our Modernization and Upgrade products.



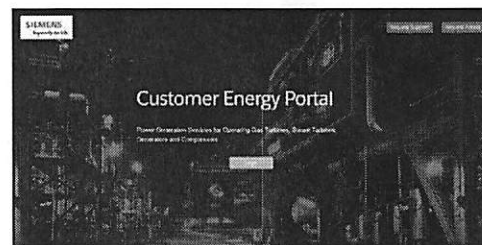
<https://siemens-energy.secure.force.com/myAdvisor/>

Customer Energy Portal

Customer Energy Portal (CEP) is an innovative platform which integrates access to various digital functionalities for Siemens Energy customers.

This collaborative platform provides safety bulletins, product improvements, equipment documentation and the ability to raise tickets against your assets.

In addition, CEP enables access to several unified tools and applications: MyHealth, Personalized MyAdvisor and Training & compliance.



<https://cep.siemens-energy.com/CC/s/>

3. Scope of Supply

3.1 Requirements

3.1.1 Customer Provided Design Inputs

Since Siemens Energy has not received any request to review customer specifications or a formal RFQ for this project, we are basing our proposal on Siemens Energy standards and specifications.

3.1.2 Requested Customer Inputs

For Siemens Energy to adequately execute this project, the following inputs are required:

- A backup copy of the existing ECS, PCS, SIS site software application shall be returned to Siemens Energy Control System Engineering team to update with the necessary changes.

3.2 Detailed Scope of Supply

3.2.1 Base Scope – Processor Upgrade

Control System upgrade to replace the obsolete 1756-L63 Controllers to latest versions.

Siemens Energy will provide material for Control System upgrade, that will include the following:
For each Unit:

- 1 pcs of Allen Bradley 1756-L73 Controller



Figure 1: Allen Bradley 1756-L73 Controller

- 3 pcs of Allen Bradley 1756-L83E Processor



Figure 2: Allen Bradley Controller 1756-L83E

- 1 pcs Workstation with the necessary software & hardware

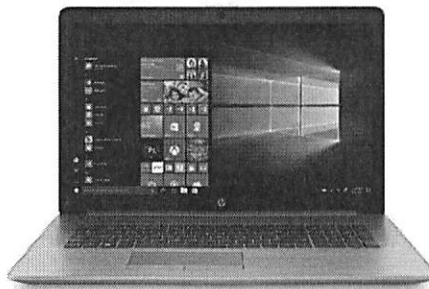


Figure 3: Workstation with the necessary software

3.2.2 Optional Scope – Ethernet Communications

Communication System upgrade from ControlNet to Ethernet System, and will include the following:
For each Unit:

- 3 pcs. of Allen Bradley 1756-EN2TR Ethernet Modules

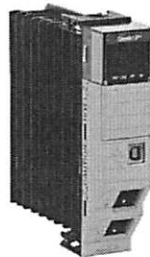


Figure 4: Allen Bradley Ethernet Module 1756-EN2TR

- 9 pcs. of 1794-AENTR Flex Ethernet/IP Adapter

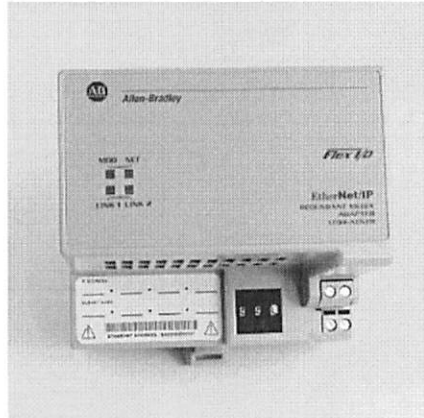


Figure 5: Allen Bradley Flex Ethernet/IP Adapter 1794-AENTR

- 3 pcs. of 1794-AENTRXT Flex Ethernet/IP Adapter

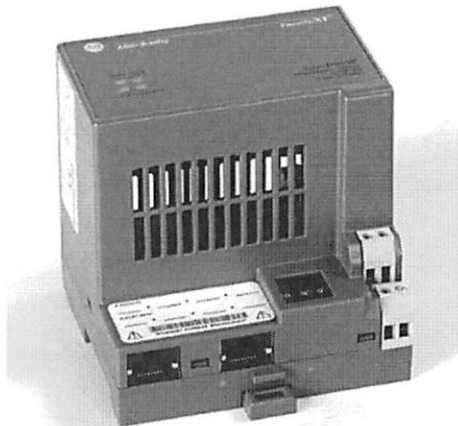


Figure 6: Allen Bradley Flex Ethernet/IP Adapter 1794-AENTRXT

- 1 pcs of Det-Troncs Eagle Quantum Premier EQ3001DDET EQP Controller

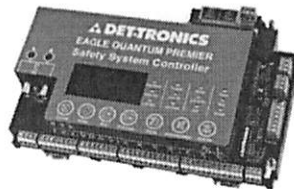


Figure 7: Det-Troncs Eagle Quantum Premier Safety System Controller

The Figures are just illustrations. The actual product may vary from it.

3.2.3 Optional Scope – Spare Parts

Siemens Energy recommends purchasing the following spares:

- 1 pc. of Allen Bradley 1756-L73 Controller
- 1 pc. of Allen Bradley 1756-L83E Processor
- 1 pc. of Allen Bradley 1756-EN2TR Ethernet Modules
- 1 pc. of 1794-AENTR Flex Ethernet/IP Adapter
- 1 pc. of 1794-AENTRXT Flex Ethernet/IP Adapter
- 1 pc of Det-Troncs Eagle Quantum Premier EQ3001DDET EQP Controller

3.3 Division of Responsibility

Division of Responsibility / I&C Guide									
Description	Customer				Siemens Energy				
	Software	Hardware	Engineering	I&C Labor	Software	Hardware	Engineering	I&C Labor	I&C Supervision
Provide the Actual Control Software	x								
Update and provide new Software					x	x	x		
Provide New Processors, Communication Cards & Modules						x	x		
Installation of the New Hardware								*	*
Commissioning of the new software								*	*
* FSR Quoted by Day Rates (Excluded from this proposal unless stated otherwise)									

3.4 Document List

Description	Information Only	Preliminary	Approval	Certified	As Built	As Installed
Control & Quality Documents						
System Control Schematic			X	X	As required	As required
Generator Control Panel Interface (GCPI)			X	X	As required	As required
Generator Monitoring Panel (GMP)			X	X	As required	As required
MODULE - GTI-1 WIRING			X	X	As required	As required
MODULE - GTI-2 WIRING			X	X	As required	As required
MODULE - GTI-3 WIRING			X	X	As required	As required
Motor Control Center Interface (MCCI)			X	X	As required	As required
Topology Diagram			X	X	As required	As required

3.4.1 Documents List Comments

- "Information Only" drawings shall be transmitted electronically to provide reference information only. Such drawings are not expected to be returned to Siemens Energy.
- "Preliminary" drawings shall be transmitted electronically and are issued only as necessary and expire upon submittal of higher release status. These drawings are used to convey a general configuration as early as possible for preliminary planning by the customer to develop arrangements and rough size envelopes. Such drawings can be returned to Siemens Energy for consideration.
- "Approval" drawings shall be transmitted electronically and are contractual drawings presenting Siemens Energy official engineering design to the customer for their comment and approval. Such drawings shall be returned to Siemens Energy within 14 calendar days after the date of the transmittal letter to maintain the overall delivery schedule.
 - "Approval" drawings are requested to be returned in one of three categories: "Approved", "Approved as noted", "Not Approved – Resubmit as noted".
 - Drawing returned as "Approved" or "Approved as noted" will be reissued as "Final Certified" once comments are addressed.
 - Drawings returned as "Not Approved – resubmit as noted" will be corrected and reissued for "Approval".
 - Note: Drawings submitted as "Approved as noted" or "Not Approved – Resubmit as noted" may require a commercial contract variation prior to proceeding.
 - "Approval" drawings shall be submitted only once to the customer during the engineering cycle with exception of approval drawings returned as "Not Approved – resubmit as noted".
- "Certified" drawings shall be transmitted electronically and are contractual drawings presenting Siemens Energy official engineering design as agreed to by the customer. Such drawings are not expected to be returned to Siemens Energy.
 - Note: Revisions of "Certified" drawings shall only be issued as a result of a Customer contract variation. This contract variation shall include cost and delivery impact.
- "As Built" drawings shall not be provided unless a design change that affects fit, form, or function has occurred during the manufacturing and assembly cycle. Such drawings are not expected to be returned to Siemens Energy.
- "As Installed" drawings shall not be provided unless a design change that affects fit, form, or function has occurred during the installation and commissioning cycle. Such drawings are not expected to be returned to Siemens Energy.
 - "As Installed" drawings are excluded unless installation and commissioning (I&C) has been included in the quoted scope of work and if the I&C is conducted within the project schedule.
- Only affected drawings of the upgrade/retrofit are included. Siemens Energy reserves the right to modify the identified SDRL in the proposal if drawings have been identified that are not affected. This excludes identified drawings requested by customer in specifications/tender/RFQ.
- Additional drawing transmittals not defined above are excluded from Siemens Energy commitments. Additional drawing transmittals shall require a contract variation and shall include cost and delivery impact.
- Siemens Energy reserves the right to provide "Appendix" drawings when modifying existing installations.

- “Appendix” drawings are updates to specific sheets of an existing drawing and/or new sheets added to an existing drawing. The existing drawing shall be retained and reused and only the appendix sheets issued.
- “Appendix” drawings follow the same transmittal process as outlined above.
- All documentation and graphics will be supplied in the English language unless otherwise specified.
- Drawings will only be updated to include work related to the proposed upgrade. Any changes unrelated, or corrections to existing site drawings that are found to be wrong, will be charged as extra.
- Siemens Energy takes exception to utilizing third party title blocks (Including third party title pages) - Siemens Energy shall utilize a customer title block identifier on the first page of documents if required and customer provides Native Identifier block in ACAD format for use by Siemens Energy

3.5 Project Management

Siemens Energy will nominate a Project Manager for execution and completion of the project. The Project Manager will act as the primary liaison for all activities during execution phase. It is expected that the customer will supply a single point of contact for the project manager to interface with.

No off-site meetings are included in the price and will be charged on a time and material basis should such be required.

3.6 Installation and Commissioning

Installation and commissioning quotation is not included in this proposal, nonetheless, the following outlines Siemens Energy's scope & responsibilities and price estimate for budgeting purposes.

3.6.1 Work Estimation

The estimated shutdown time for each turbine is approximately 2 days.

3.6.1.1 Stage 1 – Description

- Replacement of the PLC processors
- Replacement of the communication cards and modules
- Upload the new PLC software and tune for the machine.

3.6.2 Siemens Energy Personnel Requirements

Siemens Energy estimates personnel as shown in table below.

Discipline	Personnel	Number of Days	Number of Mobilizations	No. of Home Leaves	of Travel Days
Total	1	2	1	2	2

3.6.3 Installation and Commissioning Division of Responsibility

Area of Responsibility	Siemens Energy	Purchaser
Management		
Operations		X
Maintenance		X
Spare Parts Inventory Management		X
Plant Management and Administration		X
Health, Safety and Environment	X	X
Quality Certification (ISO)	X	
Lead person at site		X
Operations		
Procedures and Manuals	X	

Develop Operating Procedures		X
Develop Site Health and Safety Plans		X
24hour Operations		X
Operations Support by telephone	X	
Manual data acquisition from pumps, motors, fans, etc.		X

Removal/Installation Work

Logistics / Movement of Siemens 'scope' to Site / Platform		X
Personnel and equipment for off-loading and lifting operations at site		X
Locating the 'scope' in its desired area		X
Civil / Structural Engineering		X
Dismantling and removal of previous scope as applicable		X
Installation / Supervision of new scope Supplied by Siemens Energy	X	
Supply & Installation of off-package cabling		X
Supply & Installation of off package interconnecting piping		X
Pipe fitting and welding		X
Hook up of interfaces	X	
Update of Controls / Software mods	X	

Commissioning and Startup

Pre-commissioning Checks	X	
First Fire	X	
Review parameters	X	

Reporting

Visit Reports	X	
Environmental and Safety Monitoring and Reports	X	X

Consumable and Expendable Operating Parts

Operating Spares & Consumables		X
Package Parts		X

Tools and Consumables

Installation tools and equipment		X
----------------------------------	--	---

Replacement Tools (due to wear and tear)		X
Test Equipment (to be made available for use on site)		X
Consumables (Chemicals, Fuel, Lube Oil, Water, etc.)		X
Waste Disposal (Oil, Sewage, etc.)		X
Equipment spares and special tooling		X
Temporary support structures such as scaffolding		X
Mobile Crane		X

Capital Costs

Initial Spare Parts and Consumables Inventory		X
Fully Equipped Cabin / Office including WiFi etc.		X
Workshop area		X
Lay down / Storage area		X
Utilities Infrastructure – electrical, water, sewerage, telephone etc.		X

Other

Utilities Fees – electrical, telephone, etc.		X
Other Fees		X
Prepare the necessary sub-contractors required to facilitate the installation.		X

Accommodation, Transportation and Security

Accommodation (Siemens Energy standard)		X
Transportation between port/residential accommodation and offshore site		X
Security on site and during any journeys between residential accommodation and site.		X
Food and Water		X
Laundry facilities		X
Site Permits		X

Commercial and Legal

Customs and Import Duties		X
Freight		X
Government Permits		X

4. Commercial

4.1 Pricing Table

Item	Description	Quantity	Total Price (USD)
1	Base Scope – Processor Upgrade Section 3.2.1	2	\$348,727.00
2	Optional Scope – Ethernet Communications Section 3.2.2	2	\$105,939.00
3	Optional Scope – Spare Parts Section 3.2.3	Lot	\$63,337.00
	LTP Discount 5%		(\$25,900.00)
	Total		\$492,103.00
3	Installation & Commissioning estimate Section 3.6	Per unit	\$25,000.00*

4.2 Pricing Basis

Firm Proposal:

- Prices are firm based on the pricing basis notes provided below.
- Price is provided assuming all scope proposed is ordered together. Siemens Energy reserves the right to re-issue pricing if scope is not ordered together.
- Siemens Energy reserves the right to make any changes and re-issue pricing should the scope change or the validity date lapses.
- Price is based on the requirements and scope outlined in section 3, project deviations will be treated as a chargeable change variance.
- *Site Services Price estimate only. Actual time required for execution of site services will be charged at standard daily rates and invoiced based on a time and material basis.
- The prices quoted do not include foreign taxes, tolls, government imports, VAT, Customs duties, port handling charges, clearance costs, local transport to site and other mandatory charges levied in the country of import.
- Siemens Energy shall not be obligated to fulfil this agreement if such fulfilment is prevented by any impediments arising out of national or international foreign trade or customs requirements or any embargoes or other sanctions.
- Unless otherwise explicitly provided, Price is inclusive of all discounts

4.3 Delivery Terms

Firm Proposal

The following delivery terms are applicable:

- Delivery is DAP, Vineland Municipal Electric Utility, New Jersey, USA, Incoterms® 2020.
- Delivery lead time is 43 weeks from the Purchase Order acceptance & completion of site Survey.
- Delivery lead times are subject to prior sales.

4.4 Payment Terms & Security

All payments shall be net 30 days from the date of the invoice.

The following payment milestones are applicable,

- 60% of contract price upon PO acceptance.
- 40% of contract price upon readiness to ship.

If requested by Siemens Energy at any time prior to acceptance of the Purchase order for this proposal, Customer will demonstrate its financial capability to continue to carry out its obligations under this Contract. This demonstration may require that Customer furnish adequate payment security (which may include a confirmed irrevocable letter of credit, parent guarantee or surety bond in a form and amount reasonably acceptable to Siemens Energy).

4.5 Validity

The proposal is firm and valid for 60 days from the date of issuance of this proposal.

4.6 Purchase Order Address

Please direct any purchase order to the below address:

Siemens Energy Inc

Dist Gen Service

1251 Lumpkin Rd

Houston TX 77053

United States of America

ORG ID: A1104590

5. Terms and Conditions

The project shall be governed by the Long-Term Service Agreement (LTSA) between Vineland Municipal Electric Utility and Siemens Energy Inc.

5.1 Assignment

- Neither party may assign all or part of this Agreement, or any rights or obligations under this Agreement without the prior written consent of the other; but either party may assign its rights and obligations, without recourse or consent, to any parent, wholly owned subsidiary or affiliate or affiliate's successor organization (whether as a result of reorganization, restructuring or sale of substantially all of a party's assets). However, Buyer shall not assign this Agreement to a competitor of Siemens Energy; an entity in litigation and arbitration with Siemens Energy; or an entity lacking the financial capability to satisfy Buyer's obligations. Any assignee shall expressly assume the performance of any obligation assigned. Upon assignment permitted under this Article, the assignor shall be released from all assigned obligations. Siemens Energy may grant a security interest in this Agreement and/or assign proceeds of this Agreement without Buyer's consent.

5.2 Covid-19

Due to the recent Covid-19 outbreak, the following shall apply.

- The Parties acknowledge the worldwide outbreak of the Corona Virus/Covid-19 Virus disease, which affects or is likely to affect usual business activities and/or the execution of the contract. The Parties agree, that Siemens Energy will be granted reimbursement of costs, extension of time or any other reasonably required adjustment of the contract, all if required to overcome the consequences directly or indirectly caused by the outbreak of the coronavirus disease.

5.3 Global Electronic Supply Chain Constraints

- The Parties acknowledge that there is an uncertain political and security situation in the world, in particular due to the invasion of Ukraine and also 'Global Semiconductor / Electronic Chips shortage' ("Uncertain Situations"), which effects are difficult to foresee at the time of Contract signing and which can directly and indirectly affect the execution of this Contract including but not limited to the availability of certain equipment, commodities, metals, and materials as well as the availability of transportation means and services. In the light of the above, the Parties agree that the Supplier shall be entitled to reasonable adjustments of the delivery term to the extent any delay that are caused directly or indirectly by the above-mentioned Uncertain Situations and any related consequences.

6. Appendix

6.1 Appendix 1 – General Exclusions

Items excluded from the scope of supply include, but are not limited to the following:

- Any additional hardware upgrades & modifications not included in the scope of supply and or items not specifically listed as included are excluded.
- Siemens Energy Engineering complies with internal procedure 015-03382 – Software / Hardware Design Review process which outlines a gated internal peer review and approval process focusing on baseline deviations, integration, and safety. External processes are excluded unless noted otherwise.
- Siemens Energy has excluded customer management of change process and shall use internal processes.
- Siemens Energy has excluded customer internal design review and approval process and shall use internal processes.
- Siemens Energy takes exception to, unless specified in the SDRL list, SPIR document, Loop Diagrams, and Cable schedules.
- Refer to proposal appendix for standard comments and exceptions to Industry Specifications
- Skid edge requirements like, but not limited to, Fuel gas supply and quality.
- Any hot work on platform or onshore facility requiring special work permits.
- Process isolations (lock out – tag out of equipment, process piping blinding and major SDV/BDV valves isolation)
- Control house for unit control system (non-hazardous area)
- Electrical power transformers, switchgear, distribution system, main grounding system and high voltage terminations (anything 480V and above)
- Programming of main plant DCS but will assist in provision of any data for interface, if required.
- Siemens Energy reserves the right to re-quote if the specifications or requirements differ from what was offered.

6.2 Appendix 2 – Project Technical Comments and Exceptions

No comment at this stage assumes general acceptance but does not assume contractual compliance.

Since Siemens Energy has not received any request to review customer specifications or a formal RFQ for this project, we are basing our proposal on Siemens Energy standards and specifications.

6.3 Appendix 3 – Siemens Energy Cabling and Grounding requirements and practices

The customer shall ensure that the Siemens Energy requirements within GER0035, GER0070, GER0018, GER0142 and GER00198 are complied with prior to the installation of the UCP. Some of these requirements are as follows:

GER 0035: Guideline to cable and wire specification

- Customer must ensure all control circuitry and DC voltages are within 5%.
- To minimize radiating noise in the panel:
 - Run it in conduit, fully shielded or armoured cable. Separate it in a ferrous metal box until it reaches the panel.
 - Enter the cabinet close to the point where the power is filtered (no more than a few inches)
 - Keep all other wiring away from the incoming power.

GER 0070: Grounding / Earthing Design and Application

Due to ground differences across the installation site, EMC grounds shall be isolated on one end.

All cables with shields must be tied through to the control panel ground.

Grounding/earthing wire has a special colour coding and is used from grounding of equipment, cable trays, junction boxes and individual devices. The colour is given below:

- *Green-Instrumentation (I/S and non-I/S),
- *Green with a yellow stripe-earth grounds

Grounding cables are to be replaced unless certified compliance to SIEMENS ENERGY baseline. Qty 2 each properly sized conductors for Safety, Instrument, and intrinsic circuits PER PANEL routed directly back to platform grounding buss plate.

GER 0198: Signal Separation Requirements for Panels, Packages, and Cross-site Wiring

Incoming power should have no more than 5% drop, or no more than the local standard, or no more than the contract specific requirement, as measured from the power distribution source to the panel.

6.4 Appendix 4 – General Exceptions to Industry Specifications

The below lists Siemens Energy general exceptions to Industry Specifications, the referenced documentation can be provided upon request.

Gas Turbine

Siemens Energy global engineering requirements and specifications pertaining to design, constructability, and product technical integrity including all relevant industry standard exceptions to API 616 latest edition shall take precedence over any other industry standards.

- GER 0022: Engineering comments and exceptions to API 616, Gas Turbines for Petroleum, Chemical and Gas Industry Services for Siemens Energy Industrial Gas Turbines
- GER 0127: Engineering comments and exceptions to ISO 2314, Gas Turbine Acceptance Test.
- GER 0128: Engineering comments and exceptions to ASME, Performance Test PTC-22 on Gas Turbines.
- GER 0130: Engineering comments and exceptions to API (Recommended Practice) 11 PGT, Packaged Combustion Gas Turbines.
- GER 0225: Engineering comments and exceptions to API 616, for 501 / 601 Gas Turbines.
- GER 0269: Engineering comments and exceptions to API 616, for Gas Turbines for Petroleum, Chemical and Gas Industry Services for SIEMENS ENERGY RB211 Industrial Gas Turbines

Fire and Gas

Siemens Energy global engineering requirements and specifications pertaining to design, constructability, and product technical integrity including all relevant industry standard exceptions to NFPA shall take precedence over any other industry standards.

- GER 0011: Engineering comments and exceptions to NFPA 12, Standard on Carbon Dioxide Extinguishing Systems.
- GER 0012: Engineering comments and exceptions to NFPA 750, Water Mist Fire Protection Systems.

Coupling Upgrade

Siemens Energy global engineering requirements and specifications pertaining to design, constructability, and product technical integrity including all relevant industry standard exceptions to API 671 latest edition shall take precedence over any other industry standards.

- GER 0133: Engineering comments and exceptions to API 671, for Special-Purpose Couplings for Centrifugal Compressor and Power Generation Application.

Gearbox Upgrade

Siemens Energy global engineering requirements and specifications pertaining to design, constructability, and product technical integrity including all relevant industry standard exceptions to API 613 latest edition shall take precedence over any other industry standards.

- GER 0137: Engineering comments and exceptions to API 613, for Special-Purpose Gears for Power Transmission Application.
- GER 0190: Engineering comments and exceptions to API 613, for Special-Purpose Gears Units.

Lube Oil Systems

Siemens Energy global engineering requirements and specifications pertaining to design, constructability, and product technical integrity including all relevant industry standard exceptions to API 614 latest edition shall take precedence over any other industry standards.

- GER 0129: Engineering comments and exceptions to API 614, for SIEMENS ENERGY GT Lube Oil Systems, Main Lube Oil System, and the RB211 Gas Generator Lube Oil Console.
- GER 0224: Engineering comments and exceptions to API 614, for The Avon Gas Generator Lube Oil Console.
- GER 0242: Engineering comments and exceptions to API 614, for SIEMENS ENERGY Industrial Trent Gas Turbine Lube Oil System.
- GER 0252: Engineering comments and exceptions to API 614, for SIEMENS ENERGY RB211 Gas Generator Lube Oil Console and Main Lube Oil System.

Miscellaneous

Siemens Energy global engineering requirements and specifications pertaining to design, constructability, and product technical integrity including all relevant industry standard exceptions shall take precedence over any other industry standards.

- GER 0125: Engineering comments and exceptions to ANSI/API 610/ISO 13709, Centrifugal Pumps for General Refinery Services.
- GER 0126: Engineering comments and exceptions to API 670, Machinery Protection Systems.
- GER 0134 & GER 0188: Engineering comments and exceptions to API 661, Air Cooled Heat Exchangers for General Refinery Service.
- GER 0161: Engineering comments and exceptions to API 662, Plate Heat Exchangers for General Refinery Service.