

RESOLUTION NO. 2023- 146

A RESOLUTION AUTHORIZING THE EXECUTION OF A PROFESSIONAL SERVICE AGREEMENT BY AND BETWEEN SIEMENS ENERGY, INC., HOUSTON, TEXAS, AND THE CITY OF VINELAND FOR SPRING OUTAGE SUPPORT FOR UNIT 11 AND CLAYVILLE GENERATING STATIONS, IN AN AMOUNT OF \$324,779.64 PURSUANT TO A LONG TERM SERVICE AGREEMENT.

WHEREAS, the City of Vineland has entered into a Long Term Service Agreement with Siemens Energy, Inc. Houston, TX for Siemens Spring Outage Support for Unit 11 and Clayville Generating Stations pursuant to a Long Term Service Agreement; and

WHEREAS, the services to be provided are proprietary in nature and are in furtherance of a Long Term Service Agreement and therefore are exempt from public bidding in accordance with N.J.S.A. 40A:11-5 et seq.; and

WHEREAS, Siemens has provided a quotation for Spring Outage Support for Unit 11 and Clayville Generating Stations in accordance with the Quotation attached hereto and made a part hereof in the amount of \$324,779.64 and

WHEREAS, the Director of the Vineland Municipal Electric Utility has certified that the nature of the service falls within the exceptions of N.J.S.A. 40A:11-5(1)(m) and is requesting authorization for the execution of a contract with Siemens for Spring Outage Support for Unit 11 and Clayville Generating Stations in accordance with the Long Term Service Agreement; and

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

NOW THEREFORE BE IT RESOLVED, by the Council of the City of Vineland that the Mayor and Clerk are authorized to execute an agreement with Siemens Energy, Houston, Texas for Spring Outage Support for Unit 11 and Clayville Generating Stations in the amount of \$324,779.64 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)**

3/23/2023

(DATE)

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

2. Amount to be Awarded: \$ 324,779.64

- Encumber Total Award
 Encumber by Supplemental Release

3. Amount Budgeted: \$ 350,000.00

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



5. **Account Number to be Charged: 3-05-55-502-9001-53353 E553X & E553C

6. Contract Period: Budget Year 2023

7. Date To Be Awarded: 4/11/2023

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 cost breakdown for Siemens services provisioned
under the current Long Term Service Agreement

Charges will be split as follows: E553X - \$234,783.82 / E553C - \$89,995.82

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

10. Evaluation Performed by: Steve August x4241

11. Approved by: *John Lalle*

12. Attachments:

- Awarding Proposal
 Other: Expense Breakdown

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

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

2023 Siemens Spring Outage Expenses revised 3/23/2023

Quote #	Amount	Description
N/A	\$ 138,548.00	Unit 11 Class A Inspection (per LTSA att C)
20294507	\$ 29,833.62	Hydraulic Pump Upgrade Kits
VMEU_040_r1	\$ 28,492.00	Motor/Pump & Valve Counters
Q-13219	\$ 120,000.00	Brush AVR Upgrade (estimate)
20312171	\$ 1,666.02	Flex Hose
VMEU_041_r1	\$ 6,240.00	DC Fan Retrofit Kit
TOTAL	\$ 324,779.64	

ATTACHMENT C: PRICE AND TERMS OF PAYMENT

1. Maintenance Charges

The Customer will pay to Seller the following fees and prices expressed in this Attachment C for the Services described in this Maintenance Contract:

- 1.1 **Fixed Annual Fee.** For the management services, access to technical support and operational service desk, remote diagnostic services and Unscheduled Lease Club Services as described in this Maintenance Contract the following annual charge shall apply: \$544,718 (per Year)
- 1.2 **Inspection Fees.** For Preventative Maintenance of the Covered Equipment in accordance with this Maintenance Contract the following charges shall apply:

Gas Turbine:
A1 Class Inspection: \$41,837 (per unit, per event)
A Class Inspection: \$118,967 (per unit, per event)

AC Generator:
Compensation for AC Generator Services will be in addition to the Maintenance Charges and based on Contractor's invoiced cost plus 15% for third-party services, unless otherwise agreed by the Parties.
- 1.3 **Corrective Maintenance Charges.** Notwithstanding a valid warrant claim, compensation for parts and services for all other Corrective Maintenance shall be based on Contractor's prevailing then current rates and prices; and Contractor's invoiced cost plus 15% for any agreed third-party services. Contractor will provide Customer with a five percent (5%) discount off the then-current field service rates.
- 1.4 **Lease Engine Usage Fee.** For each full week of possession in accordance with Attachment B3 the following charge shall apply: \$36,515 (per week, prorated for partial weeks)

2. Payment and Invoicing Details

- 2.1 All charges in this Attachment C are expressed in US Dollars and will be payable by Customer in US Dollars.
- 2.2 Within thirty (30) Days following the date Customer receives each invoice, Customer shall pay to Contractor the invoice amount.
- 2.3 Beginning on the Effective Date and continuing throughout the Term, Contractor will invoice to Customer for the amount payable as follows:

- a. The Fixed Annual Fee will be invoiced quarterly in advance with the first invoice being issued no earlier than the Effective Date. Subsequent invoices will be issued no earlier than the Effective Date anniversary.
 - b. Inspection Fees will be invoiced upon completion of each event.
 - c. Lease Engine Usage Fee will be invoiced monthly in arrears.
- 2.4 If payment of any Maintenance Charge or part thereof is delayed, Contractor shall be entitled to claim and the Customer shall be liable to pay interest on the amount overdue at a rate of five one hundredths of one per cent (0.05%) per day for each day of delay until payment is received in full.
- 2.5 Should the Customer dispute any part of the amount on an invoice, the Customer shall immediately inform Contractor of the fact and the reasons for the dispute. The Customer and Contractor shall mutually enter into discussions to resolve, at the earliest possible time, such a dispute. The Customer shall not withhold payment in respect of any undisputed amount. Upon settlement of the dispute the resolved amount shall become immediately due for payment.

3. Price Adjustment Formula

Unless otherwise stated, all charges, fees and prices expressed in this Attachment C, including the Fixed Annual Fee, shall be subject to escalation, commencing at the beginning of the second Year and calculated as follows:

$$P_n = P_o \times (0.35(I_n/I_o) + 0.65(m_n/m_o)) \times (1 + (0.005 \times (Y_n - Y_o)))$$

Where P_n is the relevant price or fee for Year in consideration

P_o = is the relevant price or fee for the first Year

I_o = the Producer Price Index number for "Turbine and Turbine Generator Set Units Manufacturing, not seasonally adjusted", Series Id: PCU333611333611, published by the US Bureau of Labor Statistics, as of December 2020

I_n = is the corresponding index to I_o for the month immediately preceding the relevant Year

m_o = the index number of Producer Prices – MM22, table "2811000000: Engines & Turbines, except Aircraft, Vehicle & Cycle Engines", Time Series ID: JV8L (published by the UK Office of National Statistics), as of December 2020

m_n = the corresponding index to m_o for the month immediately preceding the relevant Year

Y_n = the year in consideration

Yo = the year that the Maintenance Contract was entered into

If the United Kingdom or United States ceases to publish any of the indices referred to above or modifies the basis of the calculation then Contractor shall have the right to substitute any officially recognised, proper and substantially equivalent index. In the event of a negative escalation for any Year, the relevant price or fee shall be equal to the price or fee for the preceding Year.

Where any Maintenance Charge is subject to escalation and the relevant indices are not available, the Contractor may submit invoices based upon the most recent published indices, and shall issue a further invoice or credit note to correct the amount due when the applicable indices are published.

2022 Contract Year - Escalation Data

$$P_n = P_o \times (0.35(I_n/I_o) + 0.65(m_n/m_o)) \times (1 + (0.005 \times (Y_n - Y_o)))$$

1) Contract Start Baseline

DESCRIPTION	UNIT OF MEASURE	Po =April 2021 (USD) Contract Values
Annual Maintenance	Each annually	\$544,718
A1 Class Inspection	Per Event	\$41,837
A Class Inspection	Per Event	\$118,967
Lease Engine Usage Fee	Weekly	\$36,515

2) CPI Values (Indices)

CPI Categories	CPI Values	Calculated Values
Io December 2020 (PCU333611333611)	230.9	0.366526851
In March 2022 (PCU333611333611)	241.803	
mo December 2020 (MM22)	116.5	0.792274678
mn March 2022 (MM22)	142	
Sum of the indices Calculated Values	1.15880153	
Yn current Year	2022	1.005
Yo (maintenance contract signed)	2021	
Total of the Calculated Values	1.16459554	

3) New Contract Values 2022

DESCRIPTION	UNIT OF MEASURE	New Contract Values Pn = 2022 Contract Year
Annual Maintenance	Each annually	\$634,376
A1 Class Inspection	Per Event	\$48,723
A Class Inspection	Per Event	\$138,548
Lease Engine Usage Fee	Weekly	\$42,525

Quarterly Charge
\$ 136,179.50

Quarterly Charge
\$ 158,594.04 16.460%



Quotation 20294507

Siemens Energy, Inc. Houston
1200 West Sam Houston Parkway North, Houston, TX 77043, USA

CITY OF VINELAND
640 E WOOD ST
VINELAND NJ 08360
USA

Name: Darla Warfield
Department: SE GP I SV NA LTP OM

Telephone: +1 (999) 999-9999
Fax: +1 (317) 677-1341
E-mail:

Your Inquiry: LTP/Vineland/11/22/22
Inquiry Date: Nov. 22, 2022
Doc. Date: Nov. 22, 2022

Our machine reference:
SPARES31NA AGT Spares DUMMY
NA

Dear Sir or Madam,
We thank you for your enquiry and now have pleasure in quoting as attached.
We trust our offer will be acceptable to you and now look forward to receiving your further instructions.

Siemens Energy, Inc. Houston

Siemens Energy, Inc.
1209 Orange st, Wilmington DE 19801 USA
Company Registration: 13-3987280

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Office Address: Tel : +1 (281) 436-6782
1200 West Sam Fax: +1
Houston Parkway North siemens-energy.com
Houston, TX 77043
USA

Item	Designation	Quantity	Price in USD per unit	Total in USD
10	KIT,PUMP Material: RRE093871 Equipment: SPARES31NA HS Code: Current delivery time: 1 working weeks Standard delivery time: 54 working weeks Price: Customer Price: Item being processed, price and delivery time to be confirmed. NJ0836099	2.000 EA	14,916.81	29,833.62
Net value:				29,833.62
Taxes:				
Total (USD):				29,833.62

For your information: For pricing the following items were taken into account:

Siemens Energy shall not be obligated to fulfill this agreement if such fulfillment is prevented by any impediments arising out of national or international foreign trade or customs requirements or any embargoes or other sanctions.

Compliance with Export Control Regulations

1 If Purchaser transfers goods (hardware and/ or software and/ or technology as well as corresponding documentation, regardless of the mode of provision) delivered by Siemens Energy or works and services (including all kinds of technical support) performed by Siemens Energy to a third party worldwide, Purchaser shall comply with all applicable national and international (re-) export control regulations. In any event Purchaser shall comply with the (re-) export control regulations of the Federal Republic of Germany, of the European Union and of the United States of America.
2 If required to conduct export control checks, Purchaser, upon request by Siemens Energy, shall promptly provide Siemens Energy with all information pertaining to particular end customer, destination and intended use of goods, works and services provided by Siemens Energy, as well as any export control restrictions existing.
3 Purchaser shall indemnify and hold harmless Siemens Energy from and against any claim, proceeding, action, fine, loss, cost and damages arising out of or relating to any noncompliance with export control regulations by Purchaser, and Purchaser shall compensate Siemens Energy for all losses and expenses resulting thereof, unless such noncompliance was not caused by fault of the Purchaser. This provision does not imply a change in burden of proof.

Pricing base:

Please note our minimum order value is 250.00 USD

Terms of delivery:

FCA FAST Warehouse Orlando
Incoterms® 2020

Delivery time:

Tax information:

The total sales price does not include taxes, customs duties or similar.

Tax:

Plus the statutory tax obtaining on the day of performance of contract.
Down payments and interim payments shall be remitted to us plus the statutory tax obtaining at the time of invoicing.

Terms of payment:

Within 30 days Due net

Bank details:

Payment by check: Siemens Energy, Inc.
Dept CH 14429
60055-4429 Palatine, IL

Bank: The Bank of New York Mellon, 500 Ross St., Pittsburgh, PA 15262, US
SWIFT: MELNUS3PXXX
Bank code or NSC: 043000261
Account No.: 0009040527

Remittance advice to be sent to:
creditcollections.pg@siemens.com
Siemens Energy, Inc.
4400 N. Alafaya Trail, MC Q2-196
USA

Valid to:

Dec. 22, 2022

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Siemens Energy Inc.
1202 West Sam Houston Pky N.
Houston, TX, 77043
Telephone: +1 713-346-1768
Fax: +1 713-346-1799

Quotation Number

VMEU-040 Rev.1

Please refer to this number on all correspondence or other communications.

Customer Information

Steve August
Vineland Municipal Electric Utility
211 N. West Avenue, P.O. Box 1508
Vineland, NJ 08360
(856) 794-4000 ext.4241

Siemens LTP Project Manager

Name: Viktor De Leon

Phone: 713-346-1740

Mobile: 317-294-7091

E-Mail: viktor.deleon@siemens-energy.com

Notes and Comments

Please note that this estimate is for budgetary purposes only. The final invoice will reflect the actual hours worked or traveled and the expenses per attached ratesheet. Quote assumes a 12 hour work day.

Motor/Pump & Valve Counters

- a. Add / Modify HMI screen that would indicate all motor/pump and critical valve counters
- b. Add capability to manually change and/or reset hours

Note: Quote assumed that work will commence right after the Class A Inspection in Spring 2023.



Siemens Energy Inc.
 1202 West Sam Houston Pky N.
 Houston, TX, 77043
 Telephone: +1 713-346-1669
 Fax: +1 713-346-1799

Quotation Number
VMEU-040 Rev.1
 Please refer to this number on all correspondence or other communications.

Customer Information

Steve August
 Vineland Municipal Electric Utility
 211 N. West Avenue, P.O. Box 1508
 Vineland, NJ 08360
 (856) 794-4000 ext.4241

Siemens LTP Project Manager

Name: Viktor De Leon
 Phone: 713-346-1740
 Mobile: 317-294-7091
 E-Mail: viktor.deleon@siemens-energy.com

Quote Information

Effective: 16-Jan-23 Expires: 15-Feb-23

Time Frame: 2 Days Offsite + 2 Days Onsite	No. & Type of Reqs:	1	Field Service Specialist

Work Scope: Extra Work: Motor/Pump & Valve Counters
 a. Add / Modify HMI screen that would indicate all motor/pump and critical valve counters
 b. Add capability to manually change and/or reset hours

Quotation Detail

Labor

Line No.	Item/Description	Total No. Of Reqs	Total Price \$
10	Regular Time	1	\$6,336.00
20	Over Time	1	\$11,880.00
30	Premium Time	1	\$9,504.00
40			\$0.00
50			\$0.00

Expenses

Line No.	Item/Description	Total No. Of Reqs	Total Price \$
60	Round Trip Airfare	0	\$0.00
70	Accomodation	1	\$378.00
80	Per Diem Meals	1	\$162.00
90	Rental Car	1	\$232.00
100			\$0.00
110			\$0.00
120			\$0.00

*This estimate is for budgetary purposes only. The final invoice will reflect the actual hours worked or traveled and the expenses per attached ratesheet.	Total Estimated Cost:	\$28,492.00
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Siemens Energy Inc.
 1202 West Sam Houston Pky N.
 Houston, TX, 77043
 Telephone: 713-346-1669
 Fax: 713-346 1799

Quotation Number	
VMEU-040 Rev.1	
Please refer to this number on all correspondence or other communications.	

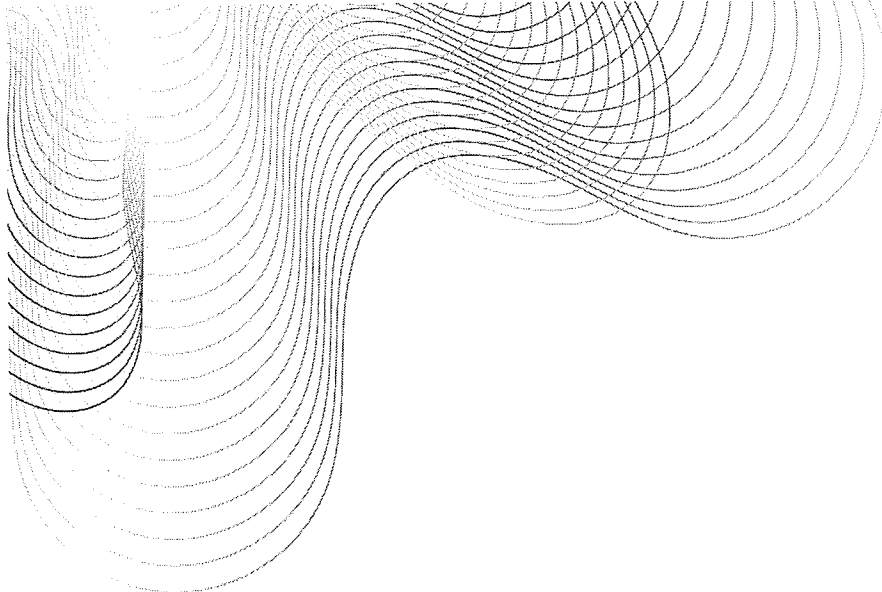
Customer Information	
Steve August Vineland Municipal Electric Utility 211 N. West Avenue, P.O. Box 1508 Vineland, NJ 08360 (856) 794-4000 ext.4241	

Siemens LTP Project Manager	
Name:	Viktor De Leon
Phone:	713-346-1740
Mobile:	317-294-7091
E-Mail:	viktor.deleon@siemens-energy.com

Quote Information			
Effective: 16-Jan-23	Expires:	15-Feb-23	
Time Frame: 2 Days Offsite + 2 Days Onsite	No. & Type of Reps:	1	Field Service Specialist
Work Scope:	Extra Work: Motor/Pump & Valve Counters a. Add / Modify HMI screen that would indicate all motor/pump and critical valve counters b. Add capability to manually change and/or reset hours		

Quotation Detail					
Labor					
Line No.	Item/Description	No. Of Reps	Price \$	Hours	Total Price \$
10	Regular Time	1	\$396.00	16	\$6,336.00
20	Over Time	1	\$594.00	20	\$11,880.00
30	Premium Time	1	\$792.00	12	\$9,504.00
40					
50					
Expenses					
Line No.	Item/Description	No. Of Reps	Price \$	Qty.	Total Price \$
60	Round Trip Airfare	0	\$1,000.00	0	\$0.00
70	Accomodation	1	\$189.00	2	\$378.00
80	Per Diem Meals	1	\$81.00	2	\$162.00
90	Rental Car	1	\$116.00	2	\$232.00
100					
110					
120					

*This estimate is for budgetary purposes only. The final invoice will reflect the actual hours worked or traveled and the expenses per attached ratesheet.	Total Estimated Cost:	\$28,492.00
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QUOTATION (TIME & MATERIALS)/(FIRM)

TITLE A12T to A12N-T AVR Upgrade, Investigate/Replace A12T AVR Power Supply

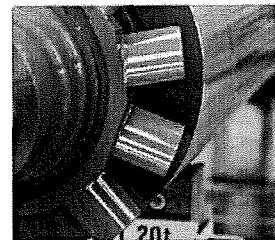
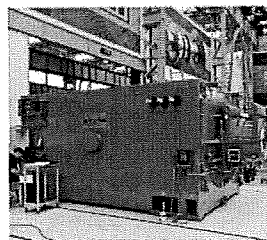
CUSTOMER Siemens Energy Inc

CUSTOMER REFERENCE Viktor De Leon

BRUSH REFERENCE Q-13219

REVISION 2

DATE 20/March/2023





EXECUTIVE SUMMARY

TITLE	A12T to A12N-T AVR Upgrade, Investigate/Replace A12T AVR Power Supply	
CUSTOMER & REFERENCE	Siemens Energy Inc	
	Viktor De Leon	
CUSTOMER CONTACT	Viktor De Leon Project Manager Office: +1 713-346-1740 Email: viktor.deleon@siemens-energy.com	
VENDOR	BRUSH Americas	
	601 Braddock Avenue Turtle Creek Pittsburgh Pennsylvania 15145 United States of America	Tel: +1 412 829 7500 Web Site ISO 9001:2015
REGIONAL SALES	Enrique Gonzalez +1-412-553-9207 Enrique.Gonzalez@brushpowergen.com	
CUSTOMER SUPPORT	Derek Damianos +1-412-829-7500 Ext. 205 Derek.Damianos@brushpowergen.com	
24/7 TECHNICAL SUPPORT	<p>SERVICE 24 provides a Technical Support Service 24/7/365, operated by highly experienced BRUSH Engineers with wide-ranging experience covering both mechanical and electrical disciplines.</p> <p>To access the service, simply provide the model and serial number of your equipment, plant name and your technical question. SERVICE 24 will provide answers with suggested next steps.</p> <p><u>Contact</u></p> <p>For immediate 24/7 Technical Support:</p> <p>+44 1509 612 612</p> <p>+1 888 723 2975 (Americas)</p> <p>Service24@Brush.eu</p>	
<p>BRUSH AVR's are designed drawing upon many decades of experiences from across the globe, different applications, and a wide range of design standards for power generation and distribution networks.</p> <p>Our latest AVR designs enhance system functionality including negative forcing, data communications, and hot standby operation. Deploying the latest BRUSH excitation controller maximises the reliability of your mission critical power generation equipment while safeguarding against costly service interruptions and unplanned outages.</p> <p>For AVR upgrades, our engineering and project staff work with you to develop an upgrade project plan, organised to have minimal site-work and interruption to your production enabling maximum operational reliability during the upgrade.</p>		
CONFIDENTIALITY	The information contained within this Quotation is deemed to be commercially sensitive and confidential in nature and as such shall not be reproduced in whole or in part for whatever reason (except for internal administrative purposes) or be disclosed to any third parties without the prior written consent of BRUSH Americas.	

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COMMERCIAL PROPOSAL

PRICE SCHEDULE

ITEM	REFERENCE	DESCRIPTION	QTY	UNIT	UNIT PRICE	EXTENDED PRICE
1	7040000771 (B006048)	Supply BRUSH PRISMIC® A12N-T Twin Excitation system - With output terminal relays. - Plate Mounted System, Complete & Tested. - Includes transport packing.	1.00	Each	\$35,525.00	\$35,525.00 * (Firm Price)
2	FP10617	Freight – DDP (Shipping of AVR from BRUSH Czech Republic Facility to Clayville Switch Power Station)	1.00	Each	Costs+15%	Costs+15%
3	FS10176	Installation & Commissioning of A12N-T AVR	1.00	Service(s)	\$15,825.00	\$15,825.00 ** (Time & Materials Price)
Estimated Total:						\$51,350.00
<p>* Note: Shipping costs are excluded from the price(s) listed and will be invoiced to the customer at Costs +15% (based on the actual costs at time of shipment). Incoterms delivery for the AVR will be DDP – Clayville Switch Power Station.</p> <p>** Price(s) are ESTIMATES only and relate to the work scope detailed. Any additional work required will be charged using the Field Service Engineer Rates listed on Page 6.</p> <p>** Airfare costs for the engineer to travel to & from the customer's site are excluded from this offer and will be invoiced at Costs +15%.</p> <p style="text-align: center;">BRUSH will not be responsible for any delays caused by Customs clearance.</p>						



OPTIONS AVAILABLE (FOR NEW A12N-T AVR)

ITEM	REFERENCE	DESCRIPTION	QTY	UNIT	UNIT PRICE	EXTENDED PRICE
4	FP10790	Enabling PSS Function	1.00	Each	\$9,897.00	\$9,897.00 * (Firm Price)
5	FS10184	Study of Power System Stabilizer (PSS) Configuration	1.00	Service(s)	\$25,726.00	\$25,726.00 ** (Time & Materials Price)

* Price(s) listed above are for the creation of the modified Q48 document required to configure the PSS Function within the A12N-T AVR supplied in Item 1. A modified Q48 document will be provided to the Customer. Incoterms are Electronic Transfer.

* Site work required for configuration and testing of the PSS Function is **not included** in the price(s) listed above.

** Note: Lead time for PSS Study is at minimum 65 days from the time that BRUSH receives both the Purchase Order and the completed PSS Data Collection Form (sections 4 through 7 required). If the PSS Study is needed in less time than 65 days, additional expedited fees will be applied and invoiced to the Customer.

** Price(s) listed assumes the PSS Study would be executed after the installation and commissioning of the AVR is complete and during the same mobilization/demobilization. If more than one mobilization/demobilization is required, additional charges will be incurred using the Field Service Engineer Rates listed on Page 6.

Option prices are only valid at the time of order and maybe subject to change after order placement.

OPTIONS AVAILABLE (FOR OLD A12T AVR)

ITEM	REFERENCE	DESCRIPTION	QTY	UNIT	UNIT PRICE	EXTENDED PRICE
<u>Inspect & Test Faulty A12T Power Supply at BRUSH Facility</u>						
6	FR10001	Inspect, Test & Report for PRISMIC® Thyristor Rectifier w/faulty power supply	1.00	Each	\$1,500.00	\$1,500.00 * (Firm Price)
<u>Supply replacement Thyristor Rectifier (includes new A12T power supply)</u>						
7	7040000002 (B002383)	Thyristor rectifier B6C/B2C 20A	1.00	Each	\$13,214.20	\$13,214.20 (Firm Price)

* The price(s) listed are FIRM and relate to the work scope detailed. Any additional work required and associated pricing would be discussed and mutually agreed upon between BRUSH and the customer prior to carrying out further services.

* Price(s) listed are based on Incoterms FCA only. The customer is responsible for arrangement of roundtrip shipping of the Thyristor Rectifier to/from the BRUSH Czech Republic facility and the associated costs. If the customer is unable to coordinate shipment, BRUSH US can coordinate shipment to/from the BRUSH Czech Republic facility, which would be invoiced to the customer at Costs +15%.

BRUSH will not be responsible for any delays caused by Customs clearance.

Option prices are only valid at the time of order and maybe subject to change after order placement.



FIELD SERVICE ENGINEER RATES

DISCIPLINE	STANDARD RATE	OVERTIME	EXPENSES	
	PER HOUR	PER HOUR	PER DIEM	OTHER
Electrical/Commissioning Engineer x1 Installation & Commissioning of A12N-T AVR Study of Power System Stabilizer (PSS) Configuration – Optional	\$300.00	\$450.00	\$275.00	Cost plus 15%
PRICING	Prices are ESTIMATES only. These services will be invoiced using the above rates. The price(s) in the schedule relates to the work scope detailed. Any additional work will be charged at the Field Service Engineer Rates listed above. This offer excludes any taxes, fees, or any other regional specific costs.			
TOOLING	A weekly hire fee will be invoiced from despatch until receipt of tooling back at the BRUSH facility. Transportation will be charged at costs + 15%. The duration of use is an estimated value only.			
STANDARD RATES	Standard rates applicable for works carried out in 2023 on an Onshore site located in U.S.A. Standard rates apply for every day of the week and per engineer. The duration of a standard day is 10 hours . Days partially worked are charged as a full day.			
OVERTIME	Overtime rates apply to all hours worked more than a standard day and is charged at standard rate +50%.			
TRAVEL TIME	Mobilisation/Demobilisation travel time is charged for all time, door to door using the travel rate (no overtime). Local travel from hotel to site and site to hotel is charged using the standard rate.			
STANDBY TIME	Standby time (at site) is charged using the standard rate or the overtime rate depending on the number of hours worked. Standby time (offsite awaiting customer recall) is charged using the standard rates with a maximum of 10 hours per day.			
EXPENSES	Expenses per diem Rate includes accommodation, food, and all minor expenses. Rate will be charged for all induction and training, working, and waiting days. Exclusions It is not charged for travel days (unless our engineers must stay over in a hotel on their way to site) or offshore working. It does NOT include local transport, domestic and international air travel charges and visas which will be charged at the cost-plus stated margin.			
ENGINEER'S ESTIMATED DURATION ON SITE	Estimated duration on site is dependent on the unit being standard with no modifications, alterations and no site obstructions. Any repair work may result in additional time on site. In case the work takes longer to complete than estimated, BRUSH will advise the customer before reaching the scheduled demobilization date and confirm the additional estimated duration required to complete the work. The associated purchase order must be amended to reflect the additional costs and received by BRUSH prior to the scheduled demobilization date for the BRUSH Engineer(s) to remain on site.			



DELIVERY SCHEDULE

ITEM	REFERENCE	DESCRIPTION	LEAD TIME	INCOTERMS 2020
1	7040000771 (B006048)	Supply BRUSH PRISMIC® A12N-T Twin Excitation system	12 Week(s)* (After acceptance of a Purchase Order)	FCA - BRUSH European Factory Plzen, Czech Republic
2	FP10617	Freight - DDP (Shipping of AVR from BRUSH Czech Republic Facility to Clayville Switch Power Station)	To Be Determined**	DDP - Clayville Switch Power Station
Optional:				
4	FP10790	Enabling PSS Function	4 Week(s)	N/A - Electronic Delivery (Email)
6	FR10001	Inspect, Test & Report for PRISMIC® Thyristor Rectifier w/faulty power supply	1 Week(s)	FCA - BRUSH European Factory Plzen, Czech Republic
7	7040000002 (B002383)	Thyristor rectifier B6C/B2C 20A	12 Week(s)	DDP - Clayville Switch Power Station

* Estimated lead time. Lead time to be confirmed at order placement. Lead time listed does not include shipping time.

** Estimated shipping duration to be provided after acceptance of a Purchase Order.

NOTES FOR DELIVERY SCHEDULE

INCOTERMS 2020 DELIVERY ROUTE

In the event that BRUSH has any responsibility for transport then BRUSH would wish to emphasise that the price and lead time offered for this delivery are based on BRUSH's reasonable assumptions and shipping routes available at the time this proposal is issued. In case such shipping routes are unavailable at the time of dispatch, BRUSH reserves the right to adjust price and delivery time accordingly.

ENGINEER'S SCHEDULE

DESCRIPTION	ESTIMATED START ON SITE	ESTIMATED DURATION ON SITE (10-hour single shifts)
Installation & Commissioning of A12N-T AVR Electrical/Commissioning Engineers x1	To Be Determined – Pending Engineer & AVR availability	3 Days
<u>Optional:</u>		
Study of Power System Stabilizer (PSS) Configuration Electrical/Commissioning Engineers x1	To Be Determined – Pending Engineer & AVR availability	2 Days

NOTES FOR ENGINEER'S SCHEDULE

ENGINEER'S ESTIMATED DURATION ON SITE	<p>Estimated duration on site is based on past experience where the work scope has been completed by an experienced BRUSH Engineer and where no modifications, alterations or site restrictions including access to the equipment are encountered.</p> <p>Any additional work including repairs may result in additional time at site.</p> <p>Where the work scope takes longer to complete than estimated, the BRUSH Project Manager will advise the customer before reaching the scheduled demobilization date and confirm the additional estimated duration required to complete the work.</p> <p>The associated purchase order must be amended to reflect the additional costs and be received by BRUSH prior to the scheduled demobilization date for the BRUSH Engineer to remain on site.</p>
--	--

DOCUMENTATION

This offer does not include the provision of any documentation other than that stated herein, including but not restricted to: Risk Assessment and Method Statement(s).

Requests for additional documentation will be subject to a revised or separate quotation, unless the provision of the requested documentation has been previously agreed with BRUSH or its representative(s).

3rd PARTY INSTALLATION AND COMMISSIONING OF BRUSH PRODUCTS

- BRUSH strongly advises against 3rd party installation and commissioning engineer(s)/company(s), to install and commission the supplied new AVR product(s) or complete modifications for fitment of the new AVR product(s) into an existing installation.
- Installation & Commissioning of new BRUSH supplied AVR product(s) and modifications to existing equipment for the fitment of BRUSH supplied AVR product(s) should be completed by an experienced BRUSH engineer.
- Any failure to operate as designed or damage caused either by the Customer, or person(s) or company(s) engaged by the Customer to complete the installation and commissioning of the supplied new AVR product(s), where that company is not a BRUSH Group company, will be solely the Customers responsibility and liability.
- The Customer is further advised, such action(s) may invalidate any warranty issued.
- Furthermore, any costs and charges incurred by BRUSH Group companies for the correction of any installation and/or commissioning or modification work, including all materials costs, shall be paid for by the Customer.

FINANCIAL TERMS

INVOICE COMPANY & ADDRESS	Siemens Energy Inc. 1200 W Sam Houston Pkwy N Houston Texas 77043 U.S.A.
CURRENCY	United States Dollar
INVOICE TERMS	<u>AVR/Parts (Item #s 1-2, 4, 6-7):</u> 100% invoiced upon Purchase Order acceptance <u>Field Service (Item #s 3, 5):</u> 100% invoiced upon completion of work scope
PAYMENT TERMS	<u>AVR/Parts (Item #s 1-2, 4, 6-7):</u> 100% due upon receipt of invoice at time of Purchase Order (Payment due prior to shipping of AVR/Parts to site and prior to performing the Thyristor Rectifier inspection) <u>Field Service (Item #s 3, 5):</u> 100% net, 45 days after invoice date
BASIS OF PRICE	All prices are exclusive of Value Added Tax (VAT) and any other taxes, duties or similar charges unless otherwise stated in our offer. Field Service - Withholding Tax: For the avoidance of doubt, unless otherwise specifically agreed or stated within this proposal, if the Customer is obliged to withhold tax in relation to the "invoice amount", i.e. a total value that is exclusive of withholding tax, then the customer to advise BRUSH, at order placement, and our invoice(s) will be grossed up accordingly, at the agreed upon rate, such that the net payment received by BRUSH, after deduction of the withholding tax, remains equal to the "invoice amount".
CANCELLATION / POSTPONEMENT	If an agreed mobilisation date is to be postponed or cancelled by the Purchaser, other than for reasons beyond the Purchaser's reasonable control, BRUSH reserves the right to charge a fee.

CONTRACT TERMS & CONDITIONS

VALIDITY	This offer is valid until 18/April/2023.
TERMS & CONDITIONS	BRUSH AMERICAS General Terms and Conditions of Sales Dated December 2022 - Copy available upon request.
LIQUIDATED DAMAGES FOR LATE DELIVERY OF GOODS	Unless stated otherwise in the Terms and Conditions referred to in this tender, and if a fixed time is quoted for delivery and we fail to delivery within that time or within any extension thereof, we undertake to pay for each week of delay liquidated damages at the rate of 0.5 per cent of the value of the delayed goods up to a maximum of 5 per cent of the value of the delayed goods. Such payment shall be in full satisfaction of our liability for delay.
PURCHASE ORDER TO BE ISSUED TO	Generator & Motor Services of PA, LLC (dba BRUSH Americas). Please forward purchase order to BUS.purchaseorder@brushpowergen.com
PURCHASE ORDER DETAIL	Please be aware that, to be valid and processed, a purchase order needs to clearly identify the following information (as a minimum): <ul style="list-style-type: none">• Reference to our quote number and revision.• Works scope.• Quantity and units required.• Price and rates.• Payment terms including currency.• Reference to the agreed terms and conditions.• Delivery date and duration.• Delivery method.• Invoicing address and method.• Any special requirements.
FORCE MAJEURE	Force Majeure means war, hostilities, (whether war be declared or not), acts of terrorism, riots or civil disorder, industrial disputes, acts of God, epidemics or pandemics, or any circumstances beyond the reasonable control of BRUSH Americas. If BRUSH Americas is prevented or delayed in performing its contractual obligations by any Force Majeure event, it shall be excused the non-performance of its contractual obligations until a reasonable period following the cessation of the Force Majeure event.
RESOURCE AVAILABILITY	To ensure the smooth execution of the works, BRUSH requires the Purchase Order, typically, 6-8 weeks prior to the mobilisation date, to allow for planning and allocation of key resources. If the Purchase Order is issued after this period, unless advised or agreed otherwise, the price(s) and/or the availability stated within this quotation are subject to change.

TECHNICAL PROPOSAL

ITEM 1) SUPPLY BRUSH PRISMIC® A12N-T TWIN EXCITATION SYSTEM

Please see the Technical Specification included in this quotation on pages 19-32.

ITEM 3) INSTALLATION & COMMISSIONING OF A12N-T AVR

WORK SCOPE	<p><u>Installation:</u></p> <ul style="list-style-type: none"> - Inspect and record condition of the packing case - Produce 'as received' inspection report - Remove all protective covering - Modification of control panel to allow the fitment of the upgrade equipment - Modification of control panel to allow the fitment of additional hardware - Modification of existing wiring looms for new configuration and in accordance with the issued upgrade drawings - Ensure that a speed switch is installed - Test any modified wiring looms (internal) for shorts and earth faults - Ensure that the upgraded equipment has a good earth bond - Ensure that the panel has a good bond to earth <p><u>Commissioning:</u></p> <ul style="list-style-type: none"> - Carry out setpoint adjustments and debugging using the commissioning software using the BRUSH HMI software running on a PC - Apply test steps to Vref - Carry out protection testing of the exciter field current control - Carry out set up and commissioning of parameters - Set commissioning presets - Check operating states - Calibrate exciter field current - Calibrate exciter field voltage sensor - Adjust sensing of the voltage and current terminals - Carry out automatic excitation to 80% terminal voltage - Check voltage reference range-no load - Carry out no load step response testing - Ensure smooth transfer between channels and between operating states - Carry out test on V/f limiter - Conduct test on the terminal voltage limiter - Check reactive power sensing polarity - Conduct test on the over/under excitation limiter - Carry out test on stator current limiter - Carry out test for QCC (Quadrature current compensation) - Carry out reactive load rejection testing - Check VAR and PF (power factor) regulation - Check of PF regulation - Set A12N-T to QC48 settings and record onto the BRUSH database
DIVISION OF RESPONSIBILITIES	<p>THE CUSTOMER WILL BE RESPONSIBLE FOR THE FOLLOWING:</p> <p>Access to ensure that the equipment is readily accessible and available for the commencement of the work and those necessary facilities are provided as and when required, including but not limited to:</p>

- Site safety induction.
 - Equipment service history.
 - Isolation of the equipment electrically and mechanically.
 - All lifting and craneage on site (as required).
 - Office, toilets, parking, potable water.
 - Utility, phone, internet, lighting.
 - Secured, clean storage and lay down space work area.
 - All power supplies (120/240V single phase and 240/480V three phases) as required.
 - Fire protection equipment & HSE management.
 - On-site first aid facilities.
 - All permits, site entries, licenses and letter of invitations (where applicable) including associated costs.
 - BRUSH Engineer site security and safety.
 - Site technician to assist BRUSH Engineer if needed.
 - Any special instrumentation and tooling (if not provided by BRUSH).
 - Suitable protection for the equipment.
 - Competent interpreters will be made available if required by BRUSH.
-
- The siting and fixing down of any panel supplied.
 - All connection to and from the panel including all field wiring interconnections between the panel and their distribution network.
 - Providing a suitable earth point for the equipment.
 - Removal of all packing and packing cases from the area.
 - Providing existing installation drawings including exciter and AVR drawings and interconnection drawings between the existing installation and their distribution network.
 - Purchaser is responsible for the modification of existing site/installation drawings of the existing installation.

All of the above are to be provided by the Purchaser at its own expense to enable work to be expeditiously and continuously carried out. The Purchaser shall protect BRUSH and the Engineer and hold them harmless from any claim of liability whatsoever arising from the use of these facilities.

BRUSH WILL BE RESPONSIBLE FOR THE FOLLOWING:

- Supplying equipment in accordance with the agreed scope of works.
- Providing all installation destruction and construction drawings.
- Providing AVR manuals.
- Providing customer support during and after the installation.

The BRUSH Engineer (on site) is responsible for:

- Attending any safety briefings required by the customer.
- Working to the customer's safety plan and permit to work system.
- Housekeeping in the area of the upgrade.
- Securing any equipment or materials in the area of the work.
- Keeping an accurate record (work book or site report) of the work.
- Marking up of documentation and drawings (red line) of the installation and upgrade or replacement of the AVR.
- Keeping accurate test records.
- Carrying out any test plan agreed with the customer.
- Providing the customer with daily briefings and reports as required by the customer
- Installation of the upgrade and replacement equipment where it is an AVR upgrade only.
- Pre-commissioning or commissioning of the upgrade or replacement equipment in accordance with the documentation issued including any test plan, S.A.T. or method statement.
- Issuing a copy of the preliminary report on completion of site activities.
- Issuing a post installation or commissioning completion certificate.

TOOLING	The BRUSH engineer will be equipped with: Hand Tools Laptop
DOCUMENTATION	<u>Field Engineer Report</u> - An initial results-based field service report will be left by the engineer including an acceptance certificate to be signed by the customer's representative. - A full report with recommendations will be issued with appropriate invoice documentation on completion of all activities.
ENGINEER REQUIREMENTS	Electrical/Commissioning: 1
ADDITIONAL WORK	All additional work which is required to complete the work and/or any waiting or standby time required for reasons outside of our reasonable control or called for by the CUSTOMER or its site representative shall be paid for by the CUSTOMER in accordance with the rates shown in the commercial proposal. Additional materials will be subject to a further quotation as and when requirements are known.

ITEM 4) ENABLING PSS FUNCTION – OPTIONAL

WORK SCOPE

For BRUSH to be able to provide a modified Q48 document to enable the PSS function of the A12N-T AVR:

- The Customer should provide, prior to purchase order placement, evidence that there are 2 x CT inputs available.
- For non-BRUSH supplied panels/cubicles: The Customer is to support their request with drawings clearly showing the 2 x CT inputs in the panel (where the current AVR is located).
- For BRUSH supplied panels: the BRUSH supplied panel and QC48(T) serial numbers are required.
- The information, when provided, will be assessed by BRUSH Controls.
- Where 2 x CT inputs are confirmed available, a modified Q48 document will be created.
- The AVR will be dispatched from BRUSH configured with the modified Q48 document settings and with the PSS Function "Enabled".

Where 2 x CT inputs are **not available:**

- The PSS Functions within the AVRs will be set as "Disabled".

ITEM 5) STUDY OF POWER SYSTEM STABILIZER (PSS) CONFIGURATION – OPTIONAL

<p>WORK SCOPE</p>	<ul style="list-style-type: none"> - An electronic copy of a Synchronous Unit Dynamic Testing and Model Validation test report will be submitted. - The report will contain necessary generator, exciter, and PSS models, model parameters, validation, suitable for inclusion in a report to System Operator. - To be tuned per WECC/ERCOT requirements (standard tuning for North America). - Client responsible for interfacing with digital controllers during testing. - BRUSH to provide Field Engineer support for PSS tuning. - See attached Typical PSS Study Process. <p>Any proposed generator design or data provided to the customer containing power system response information or control system setting information may depend upon data provided to BRUSH by the customer. BRUSH will not be liable if either equipment or settings are unsuitable as a result of either:</p> <ul style="list-style-type: none"> a. Inaccurate data provided to BRUSH. or b. Significant information, which in the sole opinion of BRUSH, having not been provided to BRUSH by the customer. or c. Equipment provided by others, which may include an engine or turbine driving a generator, or turbine or engine control equipment or associated settings, being unsuitable. <p>For study reports: PSS setting data is intended to provide improved damping of local mode oscillations at frequencies not lower than 0.5Hz which may be demonstrated using a 2% AVR voltage reference when the generator is connected to a large power grid through a finite connection impedance. BRUSH does not commit to provide PSS settings to satisfy any other acceptance criteria, other than the aforementioned, unless specifically agreed in advance. Site adjustment of PSS settings and verification of performance of installed equipment will be performed using methods proposed by BRUSH or subcontractors of BRUSH. BRUSH does not commit to use any other methods unless specifically agreed in advance. (This is to avoid any requirements to perform white noise injection testing for any grid code compliance or similar unless specifically agreed.)</p>
<p>DIVISION OF RESPONSIBILITIES</p>	<p>THE CUSTOMER WILL BE RESPONSIBLE FOR THE FOLLOWING:</p> <p>Access to ensure that the equipment is readily accessible and available for the commencement of the work and those necessary facilities are provided as and when required, including but not limited to:</p> <ul style="list-style-type: none"> - Site safety induction. - Interpreters if needed. - Equipment service history. - Office, toilets, parking, potable water. - Utility, phone, internet, lighting. - Secured, clean storage & lay down space work area. - All power supplies (120/240V single phase and 240/480V three phases) as required. - Fire protection equipment & HSE management. - On-site first aid facilities. - All permits, site entries, licenses and letter of invitations (where applicable) including associated costs. - BRUSH Engineer site security and safety. - Site technician to assist BRUSH engineer if needed. - Any special instrumentation and tooling (if not provided by BRUSH).

	<p>- Suitable protection for the equipment.</p> <p>All of the above are to be provided by the Purchaser at its own expense to enable work to be expeditiously and continuously carried out. The Purchaser shall protect BRUSH and the Engineer and hold them harmless from any claim of liability whatsoever arising from the use of these facilities.</p> <p>BRUSH WILL BE RESPONSIBLE FOR THE FOLLOWING:</p> <p>The BRUSH Engineer (on site) is responsible for:</p> <ul style="list-style-type: none"> - Attending any safety briefings required by the customer. - Working to the customer's safety plan or permit to work system. - Housekeeping in the area of the work. - Securing any equipment or materials in the area of the work. - Keeping an accurate record (work book or site report) of the work. - Keeping accurate test and inspection records. - Carrying out any test plan agreed with the customer. - Providing the customer with daily briefings and reports as required by the customer. - Issuing a copy of the preliminary report on completion of site activities.
<p>TOOLING</p>	<p>The BRUSH engineer will be equipped with:</p> <p>Hand tools Laptop</p>
<p>DOCUMENTATION</p>	<p><u>Field Engineer Report</u></p> <ul style="list-style-type: none"> - An initial results-based field service report will be left by the engineer including an acceptance certificate to be signed by the customer's representative. - A full report with recommendations will be issued with appropriate invoice documentation on completion of all activities.
<p>ENGINEER REQUIREMENTS</p>	<p>Electrical/Commissioning: 1</p>
<p>ADDITIONAL WORK</p>	<p>All additional work which is required to complete the work and/or any waiting or standby time required for reasons outside of our reasonable control or called for by the CUSTOMER or its site representative shall be paid for by the CUSTOMER in accordance with the rates shown in the commercial proposal. Additional materials will be subject to a further quotation as and when requirements are known.</p>



ITEM 6) INSPECT, TEST & REPORT FOR PRISMIC® THYRISTOR RECTIFIER W/FAULTY POWER SUPPLY - OPTIONAL

WORK SCOPE	<ul style="list-style-type: none">- Receive packing box into repair workshop.- Inspect and record "as received" unopened box condition and take photographs where necessary.- Unpack received equipment.- Inspect and record received equipment condition.- Record serial number, contract number and any other relevant information.- Test equipment in line with BRUSH standards and specifications.- Prepare and issue a report for equipment to be repaired, if deemed feasible to repair.
DOCUMENTATION	<ul style="list-style-type: none">- Inspection report including test results, findings and recommendations.
NOTES	<p>If the Thyristor Rectifier w/faulty power supply is deemed repairable, then BRUSH will provide associated pricing for the repair on a secondary quotation/Extra Work Authorization (EWA) form. Pricing for the repair is not included in this Line Item.</p>



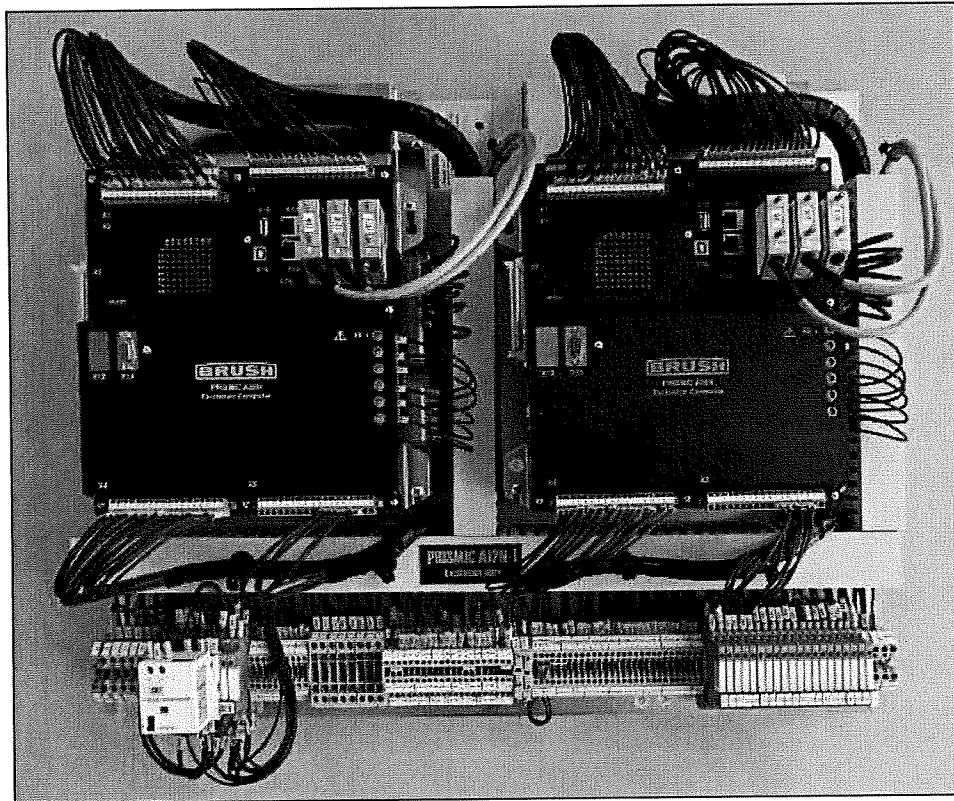
EQUIPMENT & LOCATION

SERIAL NUMBER	FRAME DESIGNATION OR MODEL	CUSTOMER REFERENCE	LOCATION NAME & ADDRESS
922014.010	BDAX 71-290ER (Generator)	Unit #1	Clayville Switch Power Station 4087 South Lincoln Avenue
922014.060 Q48004610	A12T (AVR)		Vineland New Jersey 08360

CUSTOMER TO ADVISE AND CONFIRM SERIAL NUMBERS AND LOCATION OF THE EQUIPMENT (SERIAL NUMBERS LISTED ABOVE ARE WHAT BRUSH CURRENTLY HAS IN OUR RECORDS)

Technical Specification - Brushless Excitation

Product Name: PRISMIC® A12N-T
Release: A
Publication Date: May 2022
Document Number: 1G001994



Product code:

PRISMIC A50

B

1

2

P

Type of excitation controller

Brushless excitation system

Compact B6C thyristor rectifier (Passive cooling)

Twin channels (fully redundant control and power electronics)

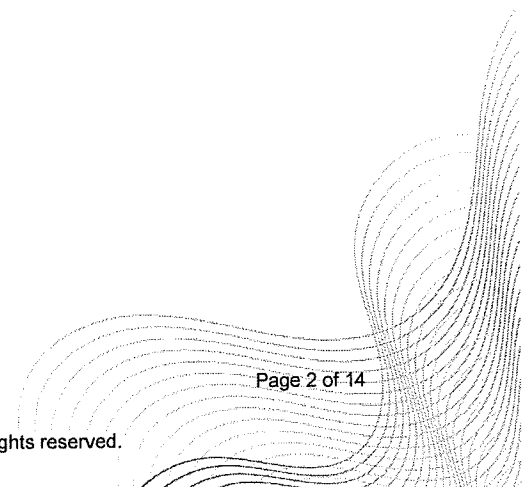
Mounting plate



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1 INTRODUCTION

BRUSH is a renowned manufacturer of synchronous generators and motors, to complement these products BRUSH also has a range of high-performance excitation systems. As a result of long-term experience, the **BRUSH PRISMIC A50** excitation systems have been designed to meet the demands of the various operating characteristics of a wide range of synchronous machines. **The flexibility** of the PRISMIC A50 design makes it equally suitable for generators in Hydroelectric, Steam, Gas and Nuclear power stations. Other applications include synchronous condensers, synchronous motors. **PRISMIC A50** excitation systems are ideally suited for both new machines and for upgrades of existing obsolete systems.

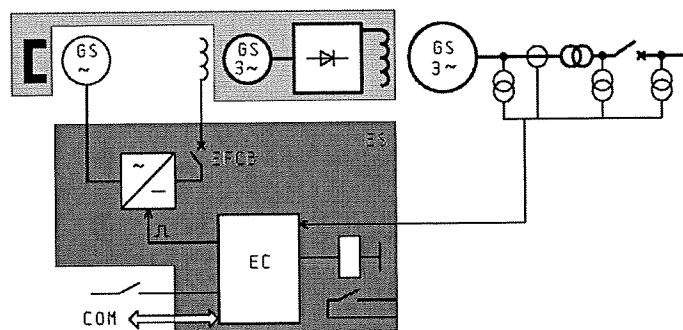
BASIC DESIGN REQUIREMENTS

- Stable and reliable operation of the generator within the full range of the Generator capability diagram.
- Fast-acting voltage regulation with efficient damping of all transient processes.
- De-energizing of synchronous machine field in normal operation and in fault conditions

PRISMIC® A50 EXCITATION SYSTEMS

EXCITATION PRODUCTS FOR GENERATORS WITH BRUSHLESS EXCITERS

Excitation by means of a shaft-mounted brushless exciter is used frequently with turbo-generators or synchronous motors with a wide range of outputs and with small and medium-sized hydrogenerators. Its main advantage is that it allows easy maintenance due to elimination of the slip rings. For application in this excitation, system BRUSH offers standardized PRISMIC A12N excitation plates and bespoke PRISMIC A50 excitation plates or panels that include all necessary equipment for generator regulation.



Explanation:

Yellow field – rotating parts:

GS Synchronous generator
 From left to right: Permanent Magnet Generator Brushless Exciter, Main Generator

Blue field – Excitation Set- ES

COM Communication link
EC Excitation Controller
EFCB Exciter Field Circuit



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2 SCOPE OF SUPPLY

Scope of Supply	BRUSH
EXCITATION SYSTEM	
Excitation Plate	YES
Excitation Plate External Cabling	NO (USE Existing)
ADDITIONAL EQUIPMENTS	
Operator Console – Touchscreen HMI	Upon request
Service Notebook	YES
Spare Parts	Upon request
GENERAL SERVICES	
Internal Factory Acceptance Test (iFAT)	YES
Non-standard Tests	NO
Customer Factory Acceptance Test (cFAT)	NO
Packing and Preservation	YES
Documentation	YES
Installation	YES
Commissioning	YES
Training Course	Upon request
PSS On Site Tuning	YES - As option
PSS Study	YES - As option



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3 BRUSH EXCITATION PLATE DESCRIPTION

Product Name **PRISMIC® A12N-T**

Product Code: **PRISMIC A50-B1.2P**

PRISMIC A50 Type of excitation controller
B Brushless excitation system
1 Compact B6C thyristor rectifier (Passive cooling)
2 Twin channels (fully redundant control and power electronics)
P Mounting Plate

Proposed PRISMIC® A12N-T mounting plate (dual channel) is based on the A50N excitation controllers and is intended to be installed inside generator excitation panel.

3.1 Excitation Plate Basic Parameters

Description	Symbol	Value	Unit	Note
Nominal Field Voltage	U_f	Up to 200	V	
Nominal Field Current	I_f	Up to 20	A	
Ceiling Field Voltage	U_{fc}	Up to 200	V	
Ceiling Field Current	I_{fc}	Up to 30	A	
Maximum Ceiling Application Time	t	10	s	
Rectifier Power Supply Voltage	U_n	85 - 300	VAC	
Power Supply Frequency	f	48 - 480	Hz	
Power Supply number of Phases	-	1 or 3	[-]	
Accuracy of Voltage Control	-	±0,2	%	
Control Power Supply (DC)	U_{dc}	24	VDC	
Auxiliary Power Supply (AC)	U_{ac}	N/A	VAC	Not used
Cooling type	-	AN	[-]	
Altitude of operating site	H	1 000	m.a.s.l.	
Maximum Ambient Temperature	T_{a max}	50	°C	



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3.2 Mechanical Design

Excitation plate shall be installed inside excitation panel.

Description	Symbol	Value	Unit
Cooling type	-	AN	[-]
Dimensions – Height	h	570	mm
Dimensions – Width	w	699	mm
Dimensions – Depth	d	185	mm
Weight	m	31	Kg

3.3 Main Sensing Inputs

Terminal Voltage	Three phases or single phase, 100V to 120V, 50Hz or 60Hz
Terminal Current	Three or single phase, nominal CT input 5A or 1A, selectable

3.4 Operation Conditions and Environment

Environment	Clean & Noncorrosive
Seismic Requirement	No Seismic withstand requirements
Location	Safe area – indoors
Mounting	Inside excitation panel with floor anchoring



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3.5 Main Parts of Excitation Plate

System Description	Availability
Main digital automatic voltage regulator - controller Prismic A50N	YES
Redundant (stand-by) digital automatic voltage regulator - controller Prismic A50N	YES
Main three phase compact thyristor rectifier with natural cooling	YES
Redundant (stand-by) three phase compact thyristor rectifier with natural cooling	YES
DC Field Circuit Breaker	YES
Remote Field Circuit Breaker Control via BI/BO	YES
DC De-Excitation equipment (Crowbar)	YES
DC Overvoltage protection	YES
AC Overvoltage protection	YES
Rotor Earth Fault Protection BRUSH R10 Evaluation	YES
23x Digital Input (24VDC feeding provided, dry contacts required)	YES
18x Digital Outputs (dry contacts provided)	YES
4x Analog outputs 4-20mA	YES
2x Analog Inputs 0-10VDC	YES
2x Analog Inputs 4-20mA	YES
Modbus TCP communication interface	YES
Modbus RTU communication interface	YES
Synchroniser functionality	YES



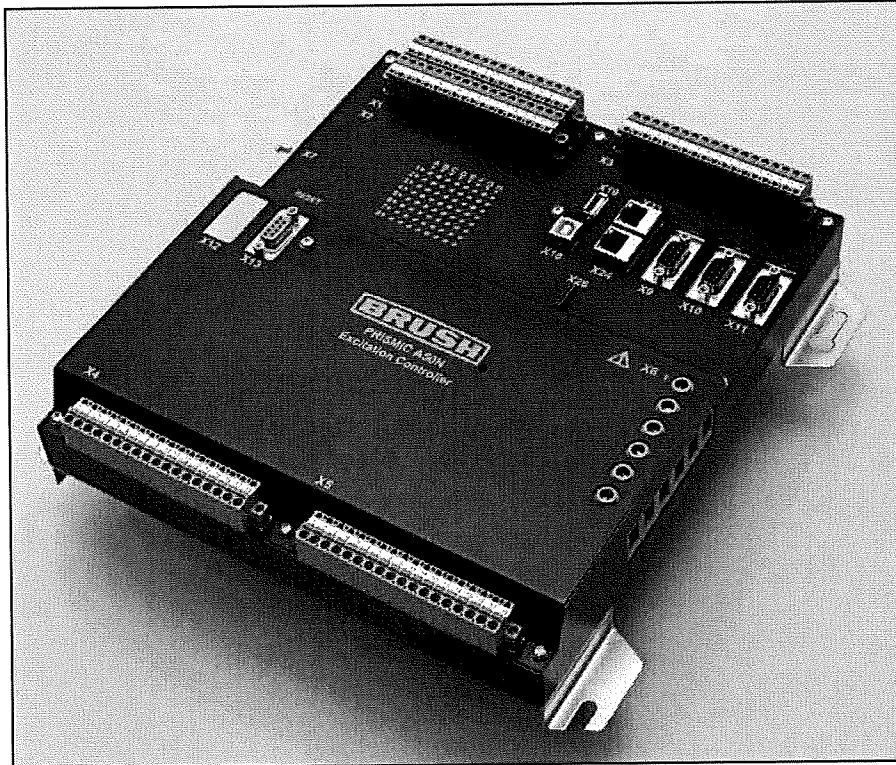
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3.6 Excitation System Basic Functionality

Function Description	Availability
Automatic Voltage Regulation with accuracy $\pm 0.2\%$	YES
Field Current regulation	YES
Manual control mode – regulation of field current for generator commissioning	YES
PF regulation	YES
Reactive power (VAR) regulation	YES
Reactive power (VAR) Shedding function	YES
Terminal Voltage Limiter	YES
V-Hz Limiter	YES
Rotor Current Limiter	YES
Stator Current Limiter (Under excitation and over excitation)	YES
Under Excitation Limiter	YES
Field overcurrent protection	YES
Monitors Functionality	YES
Advanced self-diagnostic system	YES
Automatic transfer of control from hot to standby channel initiated by Monitors	YES
Automatic transition between regulating modes and redundant excitation controllers	YES
Diagnostics of thyristor rectifier	YES
Log of last 2048 changes of logic signals	YES
Oscilloscopic log of analogue values (basic sampling frequency 5ms)	YES
Logic and sequential control	YES
Soft start Function	YES
QCC – quadrature current compensation	YES
PSS – Power System Stabilizer	YES

3.6.1 PRISMIC A50 Excitation Controller

The PRISMIC A50 is the most flexible and most powerful product in our series of digital excitation controllers. The features of controller including Voltage Regulation, Power System Stabiliser, diagnostics, synchronising as well as interfacing capabilities are described in detail in document A50Catalogue 1G001625(A) -alliable upon request.



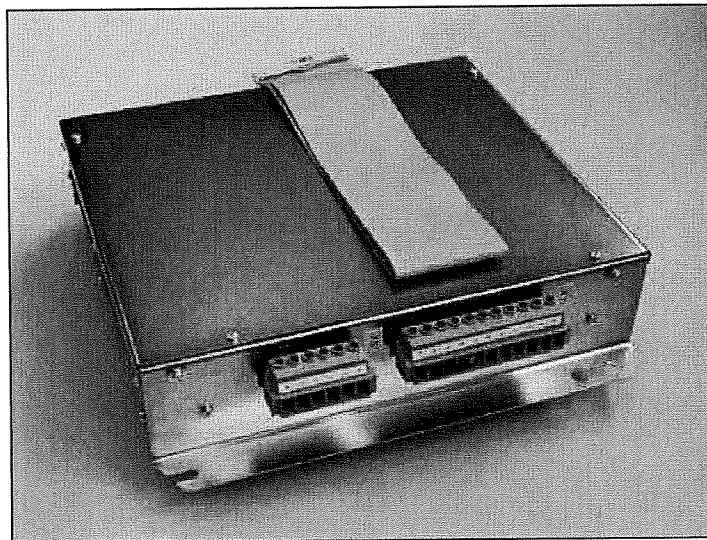
Controller PRISMIC A50N

3.6.2 Thyristor Rectifier

Excitation system supplies generator field winding with nominal excitation voltage and current during steady-state conditions.

Brush Compact rectifier is designed for easy interface with PRISMIC A50N Controller and with emphasis to easy maintenance and replacement.

Thyristor rectifier is capable of supplying generator field winding with ceiling excitation voltage and current for required 10 s without overheating the components of the excitation system.



Each of bridge is composed of:

- Six Thyristor units with heat sink (natural cooled)
- Over temperature sensor
- DC overvoltage protection
- AC overvoltage protection
- AUX 24VDC power supply for AVR

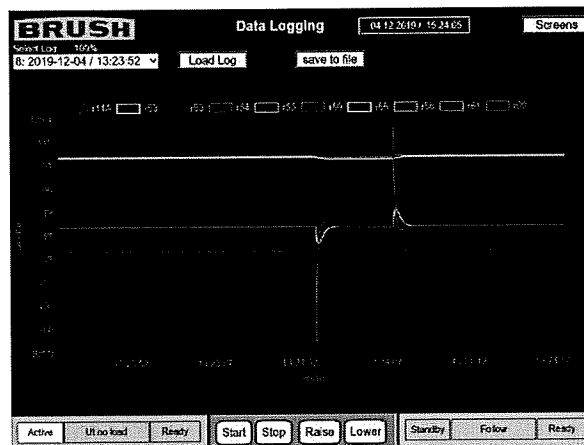
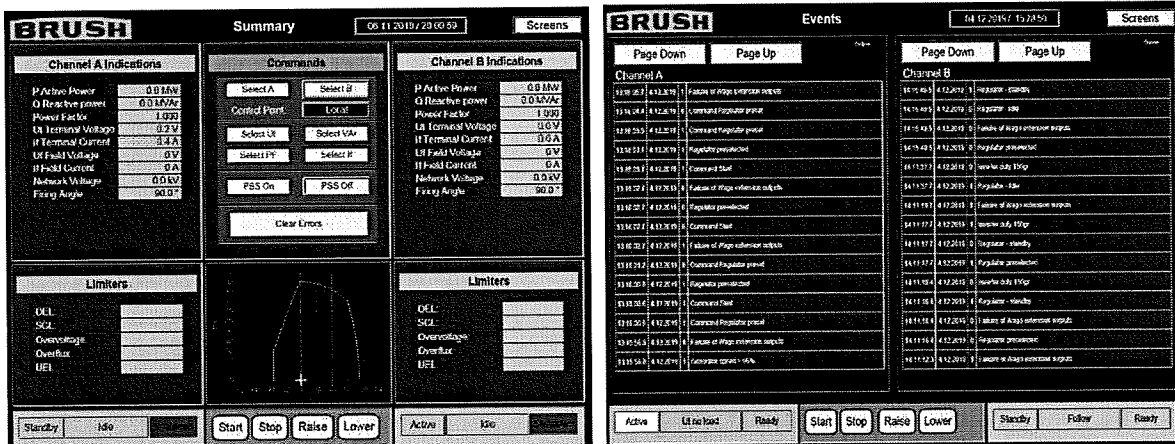


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3.7 Equipment Above Standard (upon request)

3.7.1 Operator Console - Touchscreen HMI

- Operator console is in the form of an industrial touch screen PC with 15" colour display.
- Console enables monitoring of excitation system diagnostic data and control of excitation system.
- Operator console is mounted on the front door of excitation panel control part.
- The main tasks of the operator console are as follows:
 - Monitoring of generator capability diagram with actual operating point
 - Displaying of alarms
 - Event logger: real time clock, time marks
 - Enabling operator initiation of local control commands
 - Displaying oscillography of time responses of electrical values of generator
 - Adjusting excitation system settings (gains, time constants, values of limiters)
 - Monitoring of the rotor winding temperature (option – calculated value)
 - Exporting of events history, analogue data logging (ADL) to external FLASH drive
 - Displaying condition for operation
 - 3 levels of password protected user accounts





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3.8 Training Course (upon request)

On-site training course can be offered as an option (according to our field service engineer daily rates).
Training is usually performed on the site during the commissioning period.

3.9 Installation

Installation shall be offered (according to our field service engineer daily rates).

3.10 Commissioning

Commissioning shall be offered (according to our field service engineer daily rates).

3.11 PSS Study / PSS Tuning

PSS2B Function of AVR is available.

Parametrisation of PSS and regulation loop tuning can be provided upon request.

- a. PSS Study (Theoretical AVR modelling paper) is offered as optional.
- b. On-site regulation loop and PSS tuning (including data analysis, complete parametrisation) is offered as optional. Results will be presented at commissioning report.

3.12 Specifications Comments and Deviations

BRUSH supply will be limited to the Excitation plate output terminals.

BRUSH scope of supply excludes:

- Design, supply and installation of the external excitation system cabling and power connections (including cabling to the generator, protection system, supervisory system, instrumentation etc.)



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4 DOCUMENTATION

Excitation System documentation to be supplied at time of delivery is as follows:

- General Arrangement Drawing
- Circuit Diagram
- Connection Diagram
- Operation & Maintenance Manual
- Test Certificate

All documentation will be provided in the English language.



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5 CHANGES RECORD

Date	Issue	Author	Comments
12/4/2022	A	L.REINDL	1 st Issue



Quotation 20312171

Siemens Energy, Inc. Houston
1200 West Sam Houston Parkway North, Houston, TX 77043, USA

CITY OF VINELAND
640 E WOOD ST
VINELAND NJ 08360
USA

Name: Darla Warfield
Department: SE GP I SV NA LTP OM

Telephone: +1 (999) 999-9999
Fax: +1 (317) 677-1341
E-mail:

Your Inquiry: LTP/Vineland/031423
Inquiry Date: Mar. 14, 2023
Doc. Date: Mar. 14, 2023

Our machine reference:
SPARES31NA AGT Spares DUMMY
NA

Dear Sir or Madam,
We thank you for your enquiry and now have pleasure in quoting as attached.
We trust our offer will be acceptable to you and now look forward to receiving your further instructions.

Siemens Energy, Inc. Houston

Siemens Energy, Inc
1209 Orange st, Wilmington DE 19801 USA
Company Registration: 13-3987280

Siemens Energy is a trademark licensed by Siemens AG.

Office Address: Tel : +1 (281) 436-6782
1200 West Sam Fax: +1
Houston Parkway North siemens-energy.com
Houston, TX 77043
USA

Item	Designation	Quantity	Price in USD per unit	Total in USD
10	Hose - Flex Metal Material: RRE069256 Your Material Number: REPLACES RRE025031 HS Code: 8307103000 Current delivery time: 12 working weeks Standard delivery time: 12 working weeks Price: Customer Price:	1.000 EA	1,666.02	1,666.02
	NJ0836099	0.00%	TAX	0.00
Net value:				1,666.02
Taxes:				1,666.02
Total (USD):				1,666.02

For your information: For pricing the following items were taken into account:

Siemens Energy shall not be obligated to fulfill this agreement if such fulfillment is prevented by any impediments arising out of national or international foreign trade or customs requirements or any embargoes or other sanctions.

Compliance with Export Control Regulations

1 If Purchaser transfers goods (hardware and/ or software and/ or technology as well as corresponding documentation, regardless of the mode of provision) delivered by Siemens Energy or works and services (including all kinds of technical support) performed by Siemens Energy to a third party worldwide, Purchaser shall comply with all applicable national and international (re-) export control regulations. In any event Purchaser shall comply with the (re-) export control regulations of the Federal Republic of Germany, of the European Union and of the United States of America.
2 If required to conduct export control checks, Purchaser, upon request by Siemens Energy, shall promptly provide Siemens Energy with all information pertaining to particular end customer, destination and intended use of goods, works and services provided by Siemens Energy, as well as any export control restrictions existing.
3 Purchaser shall indemnify and hold harmless Siemens Energy from and against any claim, proceeding, action, fine, loss, cost and damages arising out of or relating to any noncompliance with export control regulations by Purchaser, and Purchaser shall compensate Siemens Energy for all losses and expenses resulting thereof, unless such noncompliance was not caused by fault of the Purchaser. This provision does not imply a change in burden of proof.

Pricing base:

Please note our minimum order value is 250.00 USD

Terms of delivery:

FCA FAST Warehouse Orlando
Incoterms® 2020

Delivery time:

Tax information:

The total sales price does not include taxes, customs duties or similar.

Tax:

Plus the statutory tax obtaining on the day of performance of contract.
Down payments and interim payments shall be remitted to us plus the statutory tax obtaining at the time of invoicing.

Terms of payment:
Within 30 days Due net

Bank details:

Payment by check: Siemens Energy, Inc.
Dept CH 14429
60055-4429 Palatine, IL

Bank: The Bank of New York Mellon, 500 Ross St., Pittsburgh, PA 15262, US
SWIFT: MELNUS3PXXX
Bank code or NSC: 043000261
Account No.: 0009040527

Remittance advice to be sent to:
creditcollections.pg@siemens.com
Siemens Energy, Inc.
4400 N. Alafaya Trail, MC Q2-196
USA

Valid to:
Apr. 14, 2023

Notice: Compliance with legal and internal regulations is an integral part of all business processes at Siemens Energy. Possible infringements can be reported to our help desk "Speak Up" at siemens-energy.com.

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Quotation Number:

VMEU_041_r1



Vineland Municipal Electric Utility
211 N. West Avenue
Vineland, NJ 08360
(856) 794-4000

SIEMENS CONTACT:
Viktor De Leon
1202 W. Sam Houston
Houston, TX 77043
Cell: +1-317-294-7091

THIS QUOTE IS VALID TO: 19 February 2023 unless withdrawn

All delivery terms as per LTP Contract

CUSTOMER REFERENCE NUMBER(S): M.A442

Payment Terms: Payment due in 30 days from invoice date

To whom it may concern:

Here is our quotation in response to your inquiry / order detailed below. Please use the quotation number shown at the top of this document in any future correspondence.

Item No.	Description	Qty	UoM	Ultra Reference P/N and Lead Time	Unit Price	Total (USD)
1	DC Fan Retrofit Kit	1	EA	SPR- MEC23729 LT: 16 weeks	\$ 6,240.00	\$ 6,240.00
TOTAL PRICE						\$ 6,240.00

Note:

1. Siemens Energy reserves the right to adjust the selling price on the basis of a change in the invoice of the OEM.
2. Original Equipment Manufacturer warranty applies.
3. Quotation includes shipping and handling of parts to customer site.