


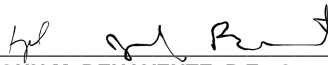



SHIP TO: RECEIVING SECTION: GUAM POWER AUTHORITY P.O. BOX 2977 HAGATNA, GUAM 96932 TELEPHONE: (671) 648-3054/55 Strategic Planning and Operati		PURCHASE ORDER  GUAM POWER AUTHORITY ATURIDÅT ILEKTRESEDÅT GUÅHAN P.O. Box 2977 Hagatna, Guam 96932 TELEPHONE: (671) 648-3054/5 FAX: (671) 648-3165		THIS PURCHASE ORDER NUMBER 34400 MUST APPEAR ON ALL INVOICES. PACKING SLIPS, PACKAGES, B/L, CORRESPONDENCE, ETC.													
SSTAINATON				PO DATE 11/19/2025	JOB ORDER NO./OBJ 100512.107200.102												
<div>V E N D O R</div> <div>Vendor Number: 5935876</div> <div>ALLIANCE FOR SUSTAINABLE ENERGY, LLC NATIONAL RENEWABLE ENERGY LABORATORY (NREL) 15013 DENVER WEST PARKWAY GOLDEN, CO 80401</div> <div>TEL:</div> <div>FAX:</div> <div>EMAIL: trey.christner@nrel.gov</div> <div>AUTHORITY: 3112</div> <div>INVITATION NO.:</div> <div>CONTRACT NO.:</div> <div>TIME FOR DELIVERY:</div> <div>COMPLETION:</div> <div>EXPIRATION: 01/16/2028</div> <div>DISCOUNT TERMS:</div> <div>REQUISITION NO: 40287 OR</div>																	
<table><tr><th>NO.</th><th>DESCRIPTION / SUPPLIER ITEM</th><th>QUANTITY</th><th>UNIT</th><th>UNIT PRICE</th><th>AMOUNT</th></tr><tr><td>1.0</td><td>Sensor Data Analytics / Grid Monitoring and Analytics System (GMAS) Demonstration Project .</td><td></td><td>L</td><td></td><td>\$568,526.00</td></tr></table> <div>Ref.: Award No.: DE-OE0000987 Assistant Agreement Funds-In Agreement No.: FIA-25-32624-0 DE-FOA-0003127 U.S. Department of Energy Letter dated March 15, 2024 Assistant General Manager, Engineering and Technical Services Memo dated October 03, 2025</div> <div>NREL Scope and Federal Cost Share</div> <div>- Federal Cost Share: \$568,526.00</div> <div>- GPA Cost Share: \$17,554.00</div> <div>Total: \$586,080.00</div> <div>This project focuses on real-time monitoring using PMU data and cloud-based analytics with interoperability between control systems:</div> <div>- IEEE 2664-based PMU streaming</div> <div>- Event and oscillation detection tools</div> <div>- CIM-based data structuring via GOSS middleware</div> <div>- Secure web dashboards for visualization and situational awareness</div> <div>Technical Expertise Requirements:</div> <div>- Cloud-based SCADA and PMU data integration platforms</div> <div>- Real-time power system analytics using high-resolution synchrophasor data</div> <div>- Interoperability using IEEE 2664, CIM, and GOSS middleware</div> <div>- Development and deployment of oscillation detection, impedance monitoring, and digital twin simulation</div>						NO.	DESCRIPTION / SUPPLIER ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT	1.0	Sensor Data Analytics / Grid Monitoring and Analytics System (GMAS) Demonstration Project .		L		\$568,526.00
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Page 1 of 4																	
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ACKNOWLEDGED BY:  SIGNATURE OF VENDOR RETURN TO PROCUREMENT DIVISION VIA FACSIMILE AT (671) 648-3165			11/25/2025 DATE:  SIGNATURE: JOHN M. BENAVENTE, P.E., General Manager Date Delegated Authority														

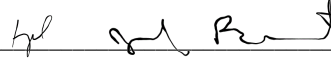
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SSTAINATON					

V E N D O R	Vendor Number: 5935876	AUTHORITY:	3112
	ALLIANCE FOR SUSTAINABLE ENERGY, LLC	INVITATION NO.:	
	NATIONAL RENEWABLE ENERGY	CONTRACT NO.:	
	LABORATORY (NREL)	TIME FOR DELIVERY:	
	15013 DENVER WEST PARKWAY	COMPLETION:	
	GOLDEN, CO 80401	EXPIRATION:	01/16/2028
	TEL:	DISCOUNT TERMS:	
	FAX:	REQUISITION NO:	40287 OR
	EMAIL: trey.christner@nrel.gov		

NO.	DESCRIPTION / SUPPLIER ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
-	Digital twin development experience for islanded electrical power systems with substantial penetration of inverter based resources up to 100% instantaneous IBR supplied system generation.				
-	Familiarity with FFT-based signal processing, voltage angle unwrapping, and state estimation				
-	Secure data transfer protocols and cyber-secure architecture for utility grid systems				
-	Collaboration with national laboratories and familiarity with DOE grid modernization tools				
-	Deployment of operator-facing dashboards and PI System interfaces for situational awareness				

Point of Contact:

Maria Aiza Galang, Engineer I, SPORD
Victor Torres, Engineer III, SPORD
Telephone No.: 671-648-3209

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ACKNOWLEDGED BY: <u>Trey Christner</u> 11/25/2025 SIGNATURE OF VENDOR DATE:		SIGNATURE: <u></u> 11/20/2025 JOHN M. BENAVENTE, P.E., General Manager Date Delegated Authority	
RETURN TO PROCUREMENT DIVISION VIA FACSIMILE AT (671) 648-3165			

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Vendor Number: **5935876**

ALLIANCE FOR SUSTAINABLE ENERGY, LLC
NATIONAL RENEWABLE ENERGY
LABORATORY (NREL)
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GOLDEN, CO 80401

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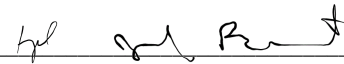
EXPIRATION: 01/16/2028


DISCOUNT TERMS:

REQUISITION NO: 40287 OR

NO.	DESCRIPTION / SUPPLIER ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	RESTRICTION AGAINST SEX OFFENDERS: 5 GCA Section 5253, enacted by P.L 28-24 and amended by P.L. 28-98: The service provider warrants that no person in its employment who has been convicted of a sex offense under the provisions of Chapter 25 of Title 9 of the Guam Code Annotated, or of an offense defined in Article 2 of Chapter 28 of Title 9 of the Guam Code Annotated, or who has been convicted of an offense with the same elements as heretofore defined in any other jurisdiction, or who is listed on the Sex Offender Registry shall provide services on behalf of the service provider while on government of Guam property, with the exception of public highways. If any employee of the service provider is providing services on government property and is convicted subsequent to an award of acontract, then the service provider warrants that it will notify the Government of the conviction within twenty-four (24) hours of the conviction, and will remove immediately such convicted person from providing services on government property. If the service provider is found to be in violation of any of the provisions of this paragraph, then the Government will give notice to the service provider to take corrective action. The service provider shall take corrective action within twenty-four (24) hours of notice from the Government, and the service provider shall notify the Government when action has been taken. If the service provider fails to take corrective steps within twenty-four (24) hours of notice from the Government, then the Government in its sole discretion may suspend temporarily any contract for services until corrective action has been taken.				

Page 3 of 4

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RVendor Number: **5935876**

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ALLIANCE FOR SUSTAINABLE ENERGY, LLC
NATIONAL RENEWABLE ENERGY
LABORATORY (NREL)
15013 DENVER WEST PARKWAY
GOLDEN, CO 80401

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TEL:

FAX:

EMAIL: trey.christner@nrel.gov

NO.	DESCRIPTION / SUPPLIER ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
NOTE TO VENDOR:					
<p>1. Services is no later than the date indicate above.</p> <p>2. All late deliveries and acceptance are subject to the Liquidated Damages Clause in Section 6-101.09.01 of the Guam Procurement Regulations.</p> <p>3. All Requests for Delivery Extensions will be closely scrutinized as all items/services are crucial to new customer installation, maintenance, and on-going projects.</p> <p>4. NOTE: Not withstanding the fact that this contract was written by one (1) party, it will be construed that it was written by two (2) parties.</p>					
<p>PAYMENT TERMS: NET THIRTY (30) DAYS after receipt of ORIGINAL invoice for goods received and/or services rendered.</p>					
<p>REVIEWED BY: <u><i>Jamie Lynn C. Pangelinan</i></u> 11/20/2025 JAMIE LYNN C. PANGELINAN Date <i>Jm</i> Supply Management Administrator</p>					

Page 4 of 4

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