Request for Information (RFI)

Title: Development of Technology Readiness Level (TRL) 9 Frequency Inverter-Converter for the 3 kW Tactical Quiet Generator (TQG)

Agency: Department of the Army, Army Contracting Command – Aberdeen Proving Ground (ACC-APG), Belvoir Division

RFI Number: W909MY-26-R-FIC

NAICS Code: **335999** – All Other Miscellaneous Electrical Equipment and Component Manufacturing

Response Deadline: 11 July 2026, 3:00 p.m. Eastern Standard Time

Contact for Questions & Submissions: Contracting Officer; Rosetta Wisdom-Russell (rosetta.wisdom-russell.civ@army.mil) and Contract Specialist: Keane Sablon (keane.s.sablon.civ@army.mil)

1. INTRODUCTION AND PURPOSE

The Department of the Army is conducting market research in accordance with Federal Acquisition Regulation (FAR) Part 10 to identify sources capable of developing a Frequency Inverter-Converter based on the furnished Government drawing, 98-19604. Note: reference attached drawings (98-19521, 98-19524, 98-19525, 98-19780, 98-19781, and 98-19782), appendices, and Purchase Description for additional information. The Government owns the competitive Technical Data Package (TDP) for this integration. The TDP will not be provided during the RFI phase. The TDP will be provided as Government Furnished Information (GFI) under subsequent competitive actions. Vendors must base their responses and rough estimates solely on the drawings and appendices attached to the RFI.

This RFI is solely for information and planning purposes and does not commit the Government to contract for any supply or service. The Government is not at this time seeking proposals and will not accept unsolicited proposals. Telephone inquiries will not be accepted or acknowledged, and no feedback or evaluation will be provided. The Government will retain all responses, which will be protected as business sensitive and will not be released outside of the Government and the Government's program support contractor(s). The information provided may be used by the Government in developing its Acquisition Strategy, Performance Based Specifications, and/or related Acquisition Requirement documentation. Respondents are advised that the Government will not pay for any information provided, or administrative costs incurred, in response to this RFI; all costs associated with responding to this RFI will be solely at the Respondent's expense.

Defense and commercial contractors, including small businesses, veteran-owned businesses, service-disabled veteran-owned businesses, HUB Zone small businesses, and woman-owned small businesses are encouraged to participate. Not responding to this RFI does not preclude participation in any future Request for Proposal(s) (RFP), if any is issued. It is the responsibility of the potential offerors to monitor additional information pertaining to any future requirement.

2. INSTRUCTIONS FOR RESPONDENTS

Interested parties are invited to submit a capability statement that addresses the questions in Section 3.

- Format: Responses should be submitted electronically in Microsoft Word or Adobe PDF format.
- Page Limits: The "Company Overview" section (3.1) is limited to two pages. The total page limit for this RFI is 15 pages.
- Proprietary Information: Respondents are advised not to include proprietary or classified information. However, if a response contains information that is considered proprietary, it must be clearly marked on a page-by-page basis. The Government will handle any marked proprietary information appropriately, though its submission is at the respondent's own risk.
- If your submission contains confidential or proprietary information, please submit it securely through DoD SAFE (https://safe.apps.mil/) rather than standard email. Ensure all sensitive documents are marked page-by-page. Please email Rosetta Wisdom-Russell and Keane Sablon to request a "Drop-off Request" link before uploading. When uploading your files, select the option to encrypt them, and send the decryption passphrase to the Government points of contact in a separate email to allow secure retrieval.

3. INFORMATION REQUESTED

Please provide detailed responses to the following inquiries.

3.1 Company Overview

- Company Name, CAGE Code, and UEI.
- Primary Point of Contact (Name, Title, Phone, Email).
- Please identify your company's business size standard based on the primary North American Industrial Classification System (NAICS) code of 335999. For more

information, refer to http://www.sba.gov/content/tablesmall-business-size-standards:

- Large Business Concern
-Small Business (SB) Concern
-8(a)
-Small Disadvantaged Business (SDB)
-Women Owned Small Business
-Historically Underutilized Business Zone (HUBZone)
-Veteran-Owned Small Business
-Service-Disabled Veteran-Owned Small Business

3.2 Current Status

- Does your company have at least one commercially available frequency inverter-converter that meets the RFI drawing specifications from Government drawing, 98-19604? If yes, please identify the product, specifications, cost, and production timeline.
- Does your company have at least one commercially available frequency inverter-converter that can be modified to meet the RFI drawing specifications from Government drawing, 98-19604? If yes, please identify the product, technical specifications, what modifications are required, cost of current commercially available frequency inverter-converter, cost for modifications, and production timeline for current commercially available frequency inverter-converter.
- Would your company need to develop a new frequency inverter-converter to meet the RFI drawing specifications from Government drawing, 98-19604?
- Does your company have the capability to develop a frequency inverter-converter IAW with Government drawing 98-19604? If yes, please provide timeline for design, development, and production to include ROM.

3.3 Experience

- Describe challenge(s) experienced with design, development, and or production of your power electronics systems and resolution(s) to overcome the challenge(s) relevant to this RFI.

3.4 Design and Engineering

- What experience does your company have with printed circuit boards (PCB) design? Does your company have the ability to design and print PCB in-house? How long has your company been designing and printing PCB in-house? Does your company have a clean room?
- Is design and development outsourced? Does your company outsource design and development of PCB to more than one company? If so, please identify the vendor(s) and the product(s). How is quality managed? Is the vendor(s) ISO certified? Identify commercial standards outsourced vendor(s) are using to comply with quality?
- What experience does your company have designing frequency inverter-converters (for generators) with linear and non-linear loads?
- What experience does your company have designing systems with insulated-gate bipolar transistors (IGBTs) and optocouplers?

3.5 Production and Manufacturing Capabilities

- Is production done in-house or outsourced? Provide the address of the facility where development and production would take place.
- What experience does your company have producing electronic systems? Please identify the type of electronic systems your company has produced, quantity, and timeline to produce that is relevant to this RFI.
- Describe your company's capabilities for coordinating the shipping of the final systems to their destination. What logistics and shipping methods does your company typically use?

3.6 Testing and Validation Capabilities

- What testing capabilities does your company have (i.e. environmental, MIL-STD 810, and etc.)?
- What compliance testing does your company perform?
- Does your company have and use simulation tools in testing and validation? If so, how are they used to develop and manufacture a production ready system?

3.7 Programmatic Information

To enable respondents to develop a Rough Order of Magnitude (ROM), the Government is providing the following component details and baseline assumptions. The ROM shall include all efforts required to design, develop, produce, and test the final system.

- Scope: The vendor will be responsible for integrating the frequency inverter-converter system into a Government Furnished 3 kW TQG IAW the Government drawing, 98-19503.
- Performance Requirement: The final integrated system must be capable of meeting standard military requirements for environmental durability (e.g., resistance to rain, dust, vibration, humidity, etc.) and endurance/reliability.

3.7.1 Component & System Details (Government Furnished Equipment - GFE)

The following GFE will be provided for development and shall be taken into consideration when developing the ROM:

- Generator: 3 kW Tactical Quiet Generator, 60 Hz (MEP-831A), with approximate dimensions of 34.8"L x 27.8"W x 26.5" H and a dry weight of 304 lb.
- Detailed information is available in appendices and the 3 kW TQG purchase description, accompanying this solicitation.

3.7.2 Cost Estimate Instruction

ROM cost estimate for a frequency inverter-converter shall be IAW the specifications identified in Government drawing, 98-19604 (reference attached drawings (98-19521, 98-19524, 98-19525, 98-19780, 98-19781, and 98-19782), appendices, and the 3 kW TQG PD for additional clarifying information). These estimates should be broken-down as follows:

- Non-Recurring Engineering (NRE) Cost (as a delineated cost from total cost, break down as desired for additional information).
- Production cost for initial 10 prototypes.
- Developmental Test Cost: Refer to appendices for list of tests.
- Include a brief Basis of Estimate (BOE) explaining the methodology and assumptions used to derive your figures (e.g., estimated labor hours, material types).

- Per-Unit Production Cost (assuming 150 systems per year). Note: This per-unit production cost is not mandatory for the ROM; however, providing this recurring cost provides for planning purposes.

3.7.2.1 Assumptions:

- All GFE (generator(s)) will be delivered to the vendor's facility.
- The vendor is responsible for all non-recurring engineering (NRE) associated with designing, developing, producing, and testing of the frequency inverter-converter.
- The ROM should be based on an assumed production quantity of 10 units/systems.
- The vendor is responsible for all labor, materials, and testing (identified in appendices) required for the effort.

3.8 Engineering and Security

- Describe your company's engineering capabilities as they relate to mechanical and electrical integration.
- What quality control and inspection processes do you have in place to ensure compliance with a Government-provided TDP?
- What is your company's current facility security clearance level?

3.9 Additional Information

Please provide any supplemental information that supports your company’s ability to meet the requirements of this RFI. This may include commercial literature or information on human factors, engineering, safety, or other relevant topics.

Appendix 1: 3 kW TQG Characteristics

Below excerpt from MIL-STD-633. Additional details are available in the provided purchase description.

Identification Data		
Model	MEP-831A	MEP-832A Removed
Description	3 kW TQG Set, 60 Hz, DED, Skid Mtd	
NSN	6115-01-285-3012	
LIN	G18358	
SSN	M59400	
Specification		
Trailer Configuration	PP-AN/MJQ-42: FIGURE A-3 PP-AN/MJQ-43A: FIGURE A-4	
Physical Characteristic		
Dimensions LWH (in)	35 x 28 x 27	
Ship Cube (ft^3)	15	
Wet Weight (lbs)	326 (full tank + battery), 272 (1 hr fuel, no battery)	
Engine	Yanmar L70AE-D/DE Diesel, 1 cylinder/4 stroke, 6.7 hp @ 3600 RPM (variable speed), rope and 24 VDC start, air-cooled.	
Instrumentation	Emergency stop, Fuel level, Hour meter, Voltmeter, Load meter, Battle short, AC interrupt, Fault indicators	
Fuels	Diesel DL-1, DL-2; Jet Fuel JP-8	
Fuel Tank Capacity (Gal)	4	
Performance Characteristic		
Power Rating	3 kW, 0.8 pf @ 1000 ft/107°F.	
Environmental Capability	-25°F to 120°F, rain, humidity, altitude, sand/dust, transportation, 9 inch drop, vibration, cold storage, salt spray, fungus, 15° incline.	
Protective Devices	Engine High Temp, Low Oil Pressure, No Fuel, Overvoltage, Overload, Short Circuit	
Fuel consumption	0.33 gal/hour @ rated load	
Human Factors	MIL-STD-1474; 6 soldier portable.	
Noise	72 dBA @ 7 m (23 feet)	
Reliability (MTBF)	500 hr @ 80% Lower Confidence Level (LCL)	
Maintenance Ratio	less than 0.05	
Electrical Characteristic		
Basic Design	Neihoff Permanent Magnet Variable Speed Generator, Technology Research Corp (TRC) Solid State Inverter (60Hz).	
EMI	Meets MIL-STD-461C, Part 9 UM04	
EMP	HAEMP IAW MIL-STD-2169	
Motor load	Not rated	
Voltage Connection	120/240 V, 1ph, 3-wire	120 V, 1ph, 2-wire
Voltage adj. Range	228 – 252 V	114 – 126 V
Freq. adj. Range	± 3%	± 3%

Electrical Performance			
Electric Power Quality		**Frequency**	**AC Voltage**
Regulation		3%	4%
Voltage modulation			2.5%
Short term steady state stability (30 sec)		0.5% bandwidth	1.50% bandwidth
Long term steady state stability (4 hr)		1% bandwidth	3% bandwidth
Application of rated load	transient	4% under	30% dip
	recovery time	2 sec	3 sec
Rejection of rated load	transient	>4% over	>15% rise
	recovery time	2 sec	1 sec
Max waveform deviation factor			7%
Individual waveform harmonic			4%

Appendix 2: Select MIL-STD 633G excerpts

TABLE A-II Characteristic Data for MEP-831A and MEP-832A Continued.

Optional Equipment			
Description	**NSN**	**Weight (lb)**	**Effect on Dimensions (in)**
None			
Technical Manuals			
Army	**Air Force**	**Marine Corps**	**Navy**
TM 9-6115-639-13&P	TO 35C2-3-386-51W/IPB	TM 10155A-OI/1	
TM 9-6115-639-13&P	TO 35C2-3-386-51W/IPB	TM 10155A-OI/1	
TM9-2815-257-24	TO 38G1-128-2	TM 10155A/2815-24/3	
TM9-2815-257-24P	TO 38G1-128-4	TM 10155A/2815-24P/4	

MEP-831A (60 Hz) has convenience outlet and fault protection

Radii: Access door = 25.4", Output Terminal door = 10.0", Control Panel door =8.5"

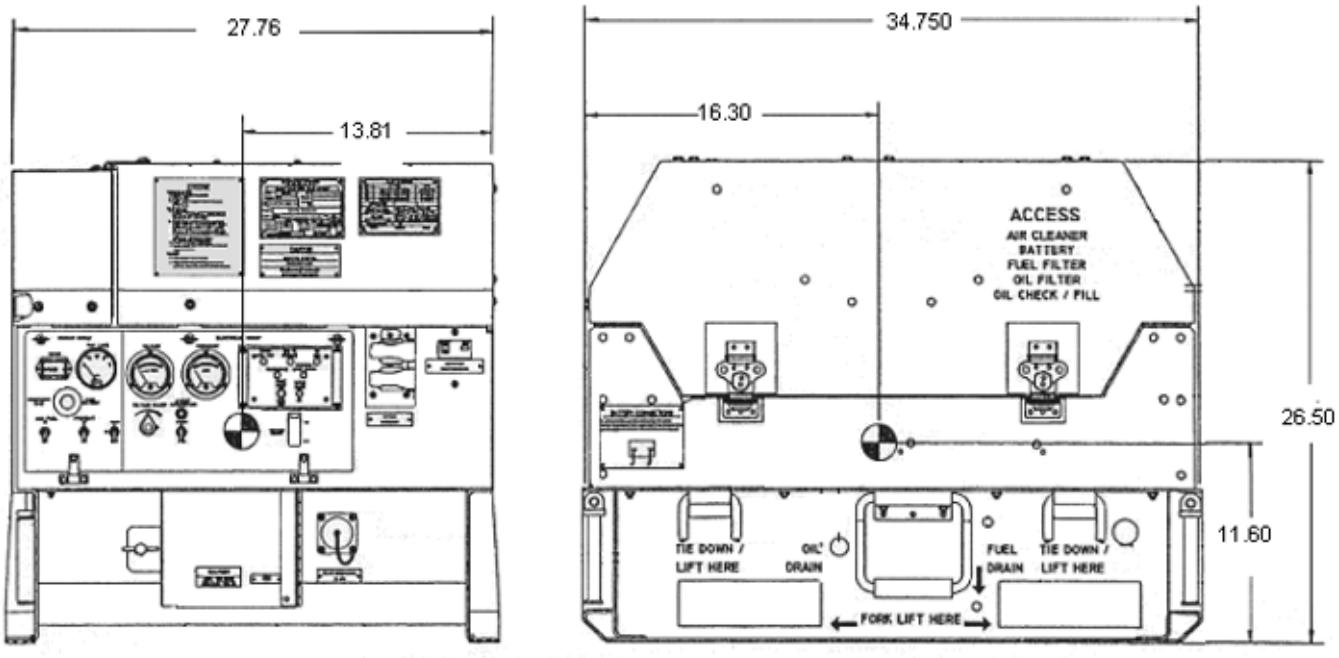

FIGURE A- 2 Tactical Quiet Generator Set, 3 kW

NOTE: 3 kW TQG provided as GFE.

Appendix 3: Developmental Test Activities

Item No.		Test Name		Test Method (MIL-STD-705D)
1		Generator Power Input		TM 415.1 (Sample at rated load only)
2		Short Circuit (Mechanical Strength)		TM 625.1
3		Circuit Interrupter (Overload Current)		TM 512.2
4		Circuit Interrupter (Overvoltage)		TM 512.3
5		Circuit Interrupter (Short Circuit)		TM 512.1
6		Frequency & Voltage Regulation, Stability and Transient Response (Short-Term)		TM 608.1 (See Note 2, PD)
7		Frequency & Voltage Stability (Long Term)		TM 608.2 (See Note 2, PD)
8		Regulator Range		TM 511.1 (See Note 2, PD)
9		Reverse Battery Polarity		TM 516.5
10		Voltage Dip and Rise for Rated Load		TM 619.2
11		Voltage Modulation		TM 602.1 (See Note 2, PD)
12		Voltage Unbalance Test (three wire, single phase)		TM 620.4 (see Note 8, PD)
13		Voltage Waveform (Oscillographic)		TM 601.1
14		Voltage Waveform (Harmonic Analysis)		TM 601.4
15		Extreme Cold Storage (-60 F)		TM 731.1
16		High Temperature at 49 C (120 F)		TM 710.1
17		Starting and Operating (Moderate Cold Battery Start)		TM 701.2 at -32 C (-25 F)
18		Humidity		TM 711.1
19		Endurance - 250 hr		TM 690.1
20		Size and Weight		TM 111.1
21		Ice Glaze and Wind		see PD
22		Rain		see PD
23		Salt Fog		see PD
24		Sand and Dust		see PD
25		Solar Radiation		see PD (Table 2, PD)
26		Electromagnetic Interference (EMI)		see PD (Table 2, PD)
27		Shock Test IAW Method 516, Procedure III of MIL-STD-810		Opt Substitution for Railroad Impact
28		Vibration TM 514, Procedure I, Category 4 (Restrained Cargo) of MIL-STD-810		Opt Substitution for Road Test
29		Electro Static Discharge		IEC 61000-4-2, Level 4

Questions To This Announcement: All questions pertaining to this announcement are due no later than fifteen (15) calendar days after release of the RFI. Telephone requests will not be accepted. Questions regarding this RFI should be submitted via e-mail to Rosetta Wisdom-Russell, Contracting Officer, at rosetta.wisdom-russell.civ@army.mil and to Keane Sablon, Contract Specialist, keane.s.sablon.civ@army.mil, no later than 03:00 PM EST on 24 June 2026. Questions/answers will be non-attribution and be published on the website at https://sam.gov/.

If the Government has additional questions after reviewing your response, you may be contacted and asked to provide additional information. If an industry outreach event is anticipated in the future, details will be published on the website at https://sam.gov/.

The deadline for responses to this request are due no later than 3:00 PM, EDT, 11 July 2026. All responses and any questions related to this RFI must be mailed to the Contracting Officer, Rosetta Wisdom-Russell, rosetta.wisdom-russell.civ@army.mil and Contracts Specialist, Keane Sablon, keane.s.sablon.civ@army.mil. Telephonic inquiries will not be accepted.

This announcement is issued solely for information and planning purposes and does not constitute a solicitation. Proprietary information and trade secrets, if any, must be clearly marked on all materials. All information received that is marked Proprietary will be handled accordingly. Responses will not be returned, nor will the Government confirm receipt. Whatever information is provided will be used to assess tradeoffs and alternatives available for determining how to proceed in the acquisition process. In accordance with FAR 15.201(e), responses are not offers and cannot be accepted by the Government to form a binding contract. All Government and Contractor personnel reviewing responses will have signed non-disclosure agreements and understand their responsibility for proper use and protection from unauthorized disclosure of proprietary information as described in 41 USC §2101-2107. The Government shall not be liable for or suffer any consequential damages for any proprietary information not properly identified. Proprietary information will be safeguarded in accordance with the applicable Government regulations.