

MEPNN Supplier Scouting Opportunity Synopsis

Section 1: General Information

Scouting Number	2026-330
Item to be Scouted	GNSS-based tide buoys and moorings
Days to be scouted	15
Response Due By	07/16/2026
Description	GNSS-based tide buoys and moorings used to enhance tidal data collection capabilities offshore and in areas that cannot support traditional tidal measurement systems.

Section 2: Technical Information

Type of supplier being sought	Manufacturer
Reason	Virginia BABA
Details	Looking for equivalent items
Describe the manufacturing processes (elaborate to provide as much detail as possible)	The manufacture of GNSS-based tide buoys and moorings involves a combination of precision electronic assembly and heavy-duty marine fabrication. PCB assembly (PCBA) and surface-mount technology (SMT) are used to create the GNSS receivers and data loggers, which are then housed in CNC-machined or injection-molded waterproof enclosures. The buoy hulls are typically constructed using rotational molding for polyethylene or welding and vacuum infusion for fiberglass and reinforced plastics. Mooring components, such as shackles and chains, are produced via forging and galvanizing, while critical structural mounts are often laser-cut and welded from marine-grade stainless steel or aluminum to ensure corrosion resistance in saltwater environments.
Provide dimensions / size / tolerances / performance specifications for the item	unknown The operational requirements for this GNSS buoy system are: 1. The buoy must be deployable and recoverable from a small vessel with minimal overhead lift capability (weight less than 200 lbs in air) and must not require any preexisting infrastructure at the site of deployment. 2. It must have a rugged design, be able to operate continuously for duration of no less than 60 days with no maintenance visits in harsh marine environments, and be capable of surviving brief periods of submersion. 3. The buoy must include a self-sustaining solar rechargeable power system. 4. For positioning, it must utilize a high-performance, multi-frequency, multi-constellation GNSS receiver engineered for high-precision marine applications. 5. It must include a pitch and roll sensor to actively correct antenna positioning data for wave motion. 6. The buoy must be capable of logging the raw GNSS data for post-processing and calculating real-time Precise Point Positioning (PPP) tides utilizing Marinestar G4+. 7. The system should be capable of communicating over Iridium Short Burst Data (SBD) for data collection and system status checks. 8. The system must utilize a Web-based Graphical User Interface (GUI) assessable by wi-fi on a Windows based computer for system configuration and the capability to check and confirm system operation following deployment from a nearby vessel, with no cable connection required.

List required materials needed to make the product, including materials of product components	Materials for GNSS tide buoys include high-density polyethylene (HDPE) or fiberglass-reinforced plastic (FRP) for the buoyant hulls, and marine-grade stainless steel (316L) or galvanized steel for structural frames, chains, and shackles. Electronics require FR4 glass epoxy for PCBs, silicone or viton for waterproof seals and gaskets, and aluminum or polycarbonate for instrument housings. Energy systems utilize monocrystalline silicon for solar panels and lithium iron phosphate (LiFePO4) or lead-acid for batteries, while the mooring base typically employs cast iron or concrete for heavy-duty anchors.
Are there applicable certification requirements?	No
Are there applicable regulations?	No
Are there any other standards, requirements, etc.?	No
Additional Technical Comments	Solutions should include capabilities equivalent to: - o Septentrio Asterx-m3 Fg GNSS Receiver - o Tallysman (Calian) Verostar 6037L Full GNSS Precision Antenna - o 1100 Molded PU Plastic Hull - o FreoOceans data module with wi-fi - o GNSS web GUI - o Real-time 10-minute mean sea level with Marinestar G4+ - o Pitch and roll sensor for antenna correction - o 16 GB Flash Memory - o 4 Panel Solar - o Sealite SL15 Solar Marine Lantern - o Stainless steel frame - o Septentrio Asterx-m3 Fg GNSS Receiver - o Tallysman (Calian) Verostar 6037L Full GNSS Precision Antenna - o 1100 Molded PU Plastic Hull - o FreoOceans data module with wi-fi - o GNSS web GUI - o Real-time 10-minute mean sea level with Marinestar G4+ - o Pitch and roll sensor for antenna correction - o 16 GB Flash Memory - o 4 Panel Solar - o Sealite SL15 Solar Marine Lantern - o Stainless steel frame 85 kg buoy with 10kg counter weight, (< 200 lbs) allowing for easy and safe deployment and recovery from small vessel without overhead lift capability • (Qty – 2) SB IV Mooring - o Assembled mooring for 40 m water depth

Section 4: Business Information

Estimated potential business volume	2 buoys and 2 moorings
Estimated target price / unit cost information (if unavailable explain)	\$30K for each buoy and \$1,500 for each mooring
When is it needed by?	12/31/2026
Describe packaging requirements	Best available. Delivered undamaged. Specifics discussed in negotiation.
Where will this item be shipped?	Chesapeake, VA

Additional Comments

Is there other information you would like to include?	
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