

SPECIFICATIONS FOR SHORE POWER MOUND

PART 1 – GENERAL REQUIREMENTS

1.01 **Scope:**

- A. Contractor shall furnish, deliver, install and test the Shore Power Mounds as specified herein and in accordance with the drawings.

1.02 **Quality Assurance:**

- A. Shore power mounds shall comply with NFPA 70 and all applicable Military Specifications.
- B. Shore power mounds manufacturer shall provide a complete factory assembled and tested shore power mound.

1.03 **References:**

- A. The Publications listed below form a part of this Specification to the extent referenced.
 - a. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
 - b. ASTM A 167 (1994; Rev. A Stainless and Heat-Resistant Chromium-Nickel Steel plate, sheet, and strip
 - c. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
 - d. NFPA 70 (2008) National Electrical Code

1.03 **Related Requirements:**

- A. Section 16000, "Electrical General Requirements," applies to this Section with additional and modifications specified herein.

1.03 **Submittals:**

- A. Contractor shall submit manufacturer's drawings and catalog data of shore power mounds for Engineer's approval prior to start of fabrication. Drawings and data shall include, as a minimum:
 - a. Manufacturer qualifications, including fab shop location and list of (3) U.S. government facilities where manufacturer's shore power mounds are currently in use.
 - b. Manufacturer's dimensioned general arrangement drawings and wiring diagrams.
 - c. Manufacturer's data for all components.
 - d. Material callouts (type, thickness, plating, coating) for all fabricated items.
 - e. Manufacturer's 3rd party certification of IEEC 57.12.29 coating process.
 - f. Mounting provisions and installation instructions.
 - g. Conduit entry locations.

1.04 **Warranty:**

- A. Shore power mounds shall be covered by manufacturer's warranty for a minimum period of (1) one year after shipment from manufacturer.

SECTION 2 - PRODUCTS

2.01 **General:**

- A. All equipment shall be new.
- B. Shore power mound manufacturer must have produced and sold shore power mounds as a standard product for a minimum of (3) years.
- C. Contractor shall be responsible for the equipment until it has been installed and is finally inspected, tested and accepted in accordance with the requirements of this Specification.
- D. Shore power mounds shall be as manufactured by ESL Power Systems, Inc. or equal as approved by the Engineer.

2.02 **Shore Power Mounds:**

- A. Enclosure shall be NEMA type 4X, constructed of continuous seam-welded, 10 gauge 316 Stainless Steel conforming to ASTM 167. Enclosure shall be designed for severe service in an outdoor coastal marine environment. Enclosure shall be designed to accommodate Power Modules as shown on the drawings. There shall be a gasketed, bolt-on top cover for access to the interior of the shore power mound, cover shall be large enough for field personnel to install and maintain field wiring.
- B. After enclosure fabrication there shall be an Engineer-approved coating system applied to all exterior and interior stainless steel surfaces. Coating systems shall be not be applied until Engineer has confirmed that the power mound manufacturer has proven the coating system has been independently tested to and is in compliance with IEEC 57.12.29. Finish color of coating system shall be Light Gray.
- C. Power Modules shall be Safety-interlocked ESL Power Module (Cat. No. R500-480-400-35XEMILC) or approved equal. Power modules shall be modular in design and made to easily slide out of the enclosure for field wiring, maintenance and replacement. Power modules shall be rated for 480volts, 500amperes, 60 hertz, three-pole continuous duty operation. Power Modules shall be compatible with Mil-C 24368/1 Male Plug. Power module shall include an integral molded case circuit breaker with 400 amp trip rated for 35KAIC at 480VAC. Power module shall include a Stop pushbutton to trip the power module circuit breaker, and shall also include a manual disconnect mechanism to independently operate the power module circuit breaker. The safety-interlock mechanism shall prevent the power module circuit breaker from being closed (energized) if a male plug is not properly and fully inserted into the

receptacle. The safety-interlock mechanism shall also force the power module circuit breaker to the open position (de-energized) if the male plug is withdrawn from the power module.

SECTION 3 - EXECUTION

3.01 **Installation:**

- A. Prior to installation of shore power mound, Contractor shall examine the areas and conditions under which the shore power mound is to be installed and notify the Engineer in writing if unsatisfactory conditions exist.
- B. Shore power mound shall be installed as shown on the drawings and per the manufacturer's written instructions.
- C. Conduit entry into the shore power mound shall be by Contractor; Contractor shall furnish and install listed watertight conduit hubs, as manufactured by MYERS or T&B, for each conduit entry on the shore power mound. The hub size shall match the conduit size for conductors and ground as shown on the drawings. Hubs shall be properly installed and tightened to maintain Type 4X integrity of the shore power mound.
- D. Contractor shall terminate conductors and ground per the manufacturer's instructions. All field wiring terminations in the shore power mound shall be torqued as required per the instructions on the shore power mound.
- E. Once all wiring and field testing is complete, Contractor shall completely seal the interior of all conduits at the hubs where the conduits enter the shore power mound. Conduit sealant shall be Handi-Foam polyurethane expanding sealant; Duct Seal is not acceptable.

3.02 **Field Testing:**

- A. Prior to energizing shore power mound, the Contractor shall perform the following checks and tests as a minimum:
 - 1. Verify mounting and connections are complete and secure.
 - 2. Verify internal components and wiring are secure.
 - 3. Perform continuity check of all circuits.
 - 4. Perform 1,000 VDC megger test on phase and ground cables.
 - 6. Confirm operation of the shore power mound by inserting a male plug into the power module's receptacle, actuating the operating mechanism to turn the power module "ON", and then verifying that the male plug is properly energized.

End of Section