

### **Part 1 - General**

1.00 General. To provide single source responsibility for the manufacture, warranty, service, installation oversight and start-up assistance of a prefabricated prepackaged system consisting of a skid base and UL listed or recognized equipment as outlined herein. The system shall conform to the following Specifications in all respects. This Specification covers the minimum requirements; however, it should not be construed as all inclusive. It is the Manufacturer's responsibility to include all necessary appurtenances to provide for a complete and operational system. All materials of construction for this equipment, components and accessories shall be new and of a type and grade suitable for the duty and requirements indicated in this document. The manufacturer shall supply two (2) Installation Operation & Maintenance Manuals with complete set of general arrangement drawings, electrical power schematics, and control schematics in the Manual. Manufacturer shall supply all loads necessary for design of supports and foundations and anchor bolt locations.

### **Part 2 – Power Distribution Center (PDC) Description**

#### 2.00 Scope.

The pre-packaged, pre-tested system with skid base, equipment structure anchored to skid base and associated equipment, shall be fabricated and assembled by a single manufacturer consisting of a coordinated grouping of Owner and Manufacturer supplied equipment. All equipment as identified with associated interconnecting wiring, cabling, conduit, and cable trays shall be mounted on a common structural steel base to form a complete, self-contained, automated system contained within an all-weather enclosure designed for the seismic zone with appropriate snow and wind loads as outlined in the Data Sheet. Upon installation and with minor electrical and mechanical hook-ups, the system shall be fully operational. The PDC shall be an ESS Metron number as shown on the Technical Data Sheet.

2.10 Base for PDC: The PDC skid shall be designed, fabricated and assembled to provide proper structural support for all attached equipment. The skid shall provide sufficient rigidity to withstand the stresses of reasonable and competent transportation to site, off loading, installation, and operation that is compatible with the foundation design. Main structural members shall be constructed with ASTM A-36 square tube, channel or I-beam steel, as identified in the Technical Data Sheet. The base structural members shall not interfere with or obstruct the areas designated for routing of power cables or control wiring. Base shall be designed for mounting on concrete or steel foundations provided by others. Structural grid base and floor shall be designed allowing the system to be lifted and transported with the interior equipment installed so no damage is incurred to the PDC or the equipment within due to flexing of the base. The base shall have removable lifting devices to facilitate handling and installation. The normal lifting for transportation and installation shall be by means of a crane using suitable spreader bars and rigging. Rigging diagrams, total weight and center of gravity information shall be provided by the Manufacturer.

2.20 Walls. The exterior and interior walls shall be made from material as identified in the Technical Data Sheet and shall consist of self-framing interlocking panels. Exterior wall panels shall be interlocked on 16" centers. The interior walls shall be made from material as identified in the Technical Data Sheet and shall consist of flat sheets that are 32" wide and fastened to the interlocking ribs of the exterior wall panels. All wall panels shall support roof snow and wind loads and seismic conditions as identified in the Technical Data Sheet. The interior and exterior walls shall be designed to accommodate the required insulation R value and material.

2.25 Floor. The floor shall be a minimum of 1/4 inch steel plate and have a continuous weld, skip welding is not acceptable, to the perimeter and to the longitudinal and/or transverse structural members of the base. The floor loading shall be rated not less than 250 lb/ft<sup>2</sup>, with a deflection no greater than 1/360 of the distance between floor stiffener members, when the packaged system is in its normal operating position, installation, off-loading or during shipment. The floor shall be designed to accommodate the required insulation R value which is achieved with polyurethane spray foam insulation.

2.30 Roof and Ceiling. The exterior of the roof shall be made from material as identified in the Technical Data Sheet. The roof shall consist of self-framing interlocking panels. The roof shall be sloped to allow for adequate drainage. The ceiling shall consist of self-framing interlocking panels. It shall be designed to retain the insulation and to provide a smooth ceiling surface. Ceiling height from floor shall be as identified in the Technical Data Sheet. Interior ceiling and structure shall be designed so that interior loads may be suspended from the ceiling without compromising the specified roof design load.

2.35 External Doors. The PDC shall have doors shown on plan drawings and as identified in the Technical Data Sheet. Doors shall open outwardly and have a 100 degree minimum swing. The door shall be double wall steel construction. Insulation available upon request. Doors shall have commercial grade key lock provision. All doorways shall be equipped with low profile panic-type door openers and automatic door closers. All hardware shall be of industrial quality. The doors shall have a drip shield above, weather stripping around, and include threshold, sweep and pin hinges.

2.40 Weather Proofing. All joints shall be designed and fabricated to minimize or prevent loss of conditioned or pressurized air and to prevent entry of sand, rain, sleet, snow or moisture. All wall seams and areas where metal to metal contact is made shall be liberally caulked with sealant. All roof seams shall be sealed to ensure water resistance. Ridge closures shall be installed at all roof ridge interlocking junctions. Closures shall be manufactured from closed-cell polyethylene foam and formed to fit the ridge flashing roof panel profile.

2.45 Paint. All structural steel for the PDC base shall be grit blasted per SSPC-6 to a near white metal finish, and evenly coated with four to six (4-6) mils rust inhibitive multi-purpose epoxy primer. A four to five (4-5) mil finish coat of aliphatic polyurethane, shall then be applied. Top surface of floor plates shall be painted with gray skid resistant paint. The PDC interior and exterior walls, roof panels and ceiling shall be phosphoric acid washed and etched, paintable grade galvanized steel have a three to six (3-6) mil polyester powder coated, baked-on, hammered finish applied, in accordance with UL Requirements. Manufacturer shall supply one quart of touch-up paint with the equipment for field brush applied touch-ups. The paint container shall include the manufacturer's label and a date or code indicating date of manufacture. The color of the exterior walls and roof and the interior walls and ceiling shall be as identified in the Technical Data Sheet.

ESS METRON  
Power Distribution Center (PDC)  
ESS Metron Model PDC-1.1

**Attachment A – Technical Data Sheet**

ESS Metron Model PDC-1.1 \_\_\_\_\_

Mechanical

Wall insulation R value: 11, fiberglass bats  
Ceiling insulation R value: 11, fiberglass bats  
Floor insulation R value: 11, sprayed on polyurethane  
Exterior wall material: phosphoric acid washed 16-gauge G90 galvanized steel  
Interior wall material: phosphoric acid washed 16-gauge G90 galvanized steel  
Roof material: phosphoric acid washed 16-gauge G90 galvanized steel  
PDC base Structural Components: \_\_\_\_\_” C-channel with \_\_\_\_\_ internal structural steel on no less than \_\_\_\_\_ “ centers  
Floor Color: ANSI 70 Light Grey  
Exterior wall color: beige  
Exterior roof color: beige  
Interior wall and ceiling color: white  
External Dimensions not including roof overhang, HVAC, lifting components or other auxiliary items.  
Length:  
Width:  
Height:  
Doors-  
Qty \_\_\_\_\_ : Single, 36” wide x 80” high  
Qty \_\_\_\_\_ : Double, 72” wide x 80” high  
Qty \_\_\_\_\_ : Removable Transom, \_\_\_\_\_” wide x \_\_\_\_\_” high

Electrical

Conduit Material:  
Incoming Power:

Environmental

Seismic Design Category: A  
Wind load: 90 MPH exposure C  
Snow load: 40 PSF  
Maximum ambient temperature: \_\_\_\_\_ degrees Fahrenheit  
Minimum ambient temperature: \_\_\_\_\_ degrees Fahrenheit  
Elevation:

Compliance

PE Structural Stamp for State of \_\_\_\_\_  
PE Electrical Stamp for State of \_\_\_\_\_