Emerson Impact Partner

Customer Case Study

Prefabricated Power Distribution and Control Building

CUSTOMER NEED

The customer needed to consolidate customer-furnished controls and new power-distribution equipment inside a weather-resistant, transportable building, with electrical integration and factory acceptance testing completed before shipment.

Project At a Glance

Solution	Prefabricated power distribution and control building	**Size**	30 ft L x 12 ft W x 11 ft H
Schedule	22-26 weeks after receipt of order	**Delivery**	Integrated, tested and prepared for shipment

The Challenge

The customer required a compact, enclosed electrical building for an industrial operating site. The building needed to accommodate customer-furnished equipment while also incorporating newly supplied power distribution, environmental controls, lighting, safety systems, grounding, cable management and interconnecting wiring. The project also required coordinated engineering and installation so the major systems could be assembled and checked in a controlled shop environment rather than built piece-by-piece in the field.

The ECI Solution

ECI Skid Technologies delivered a unitized, all-welded structural steel power distribution and control building. The solution combined building fabrication, equipment installation, electrical integration, cable routing, controls wiring, documentation and factory acceptance testing under a single scope of responsibility.

FROM CUSTOMER REQUIREMENTS TO A TESTED, TRANSPORTABLE ASSEMBLY

ECI coordinates engineering, fabrication and integration to move complex assembly work into a controlled offsite environment, helping prepare a tested package for transport to site.

Customer name and proprietary details have been omitted to maintain privacy.

Package Area	Scope
Building and Structure	All-welded structural steel frame; insulated steel walls, roof, and floor; weather-resistant exterior; single and double access doors; structural review and PE-sealed drawings.
Power Distribution	150 kVA step-down transformer; 208Y/120 V, three-phase panelboard with a 400 A main and 30 kA short-circuit rating.
Controls and Electrical Integration	Installation of customer-furnished RTU and motor control equipment; interior and exterior LED lighting, receptacles, emergency/exit lighting, smoke detection, lighting controls, grounding bus, equipment feeds and control wiring.
Environmental Control	Two commercial-duty 5-ton HVAC units with heating, disconnects, service receptacles, supply/return grilles and a lead/lag controller.
Cable and Communications	36-inch cable tray, framed wall penetration, conductor routing and terminations, plus communications cabling between control and motor control equipment.
Factory Testing	Factory acceptance testing before readiness to ship, supported by project documentation and coordinated customer review.

Solution-In-Action: Addressing the Customer's Need

A thorough understanding of the project requirements creates a production-ready solution custom developed to meet the customer's precise specifications.

Reduced Field Assembly	Major structural, electrical, controls, HVAC, and cable-management work was consolidated into an offsite build, limiting the amount of work deferred to the operating site.
Single-Point Coordination	ECI coordinated the building package, supplied equipment, customer-furnished equipment, wiring and testing within one integrated project scope.
Controlled Manufacturing Environment	Fabrication and integration were planned for ECI's Operations Center, where engineering, panel, valve, electrical, welding, fabrication and automation resources are accessible on one campus.
Early Verification	Factory acceptance testing provided an opportunity to check the integrated package before shipment rather than discovering interface issues during field installation.
Site-Ready Modular Approach	The building was designed as a transportable package for site placement, external connections and commissioning activities.

Project Timeline

The quoted readiness-to-ship window was approximately 22–26 weeks after receipt of order. That schedule depended on timely receipt of customer-furnished equipment and design information, a one-week turnaround on drawing approvals, and coordinated execution of any hold or witness points.

Phase	Key Activities
Design alignment	Confirm equipment details, layout, interfaces, and project inputs.
Approval release	Issue drawings for customer review and release for construction.
Procurement and fabrication	Fabricate the building and secure major electrical and HVAC components.
Integration	Install customer-furnished and ECI-supplied equipment; route tray, power, control and communications wiring.
FAT and ship readiness	Conduct factory acceptance testing, close documentation and prepare the completed building for shipment.

Why Choose ECI Skid Technologies

ECI brings engineering, project management, fabrication, welding, electrical, panel, valve and controls capabilities together at its Operations Center. The 130,000-square-foot facility features flexible manufacturing space, extended lifting capacity, optimized material storage, robotic welding and CNC capabilities. Each project is completed with factory acceptance testing that customers can attend in person or virtually.

Planning a Project? ECI Skid Technologies can help define the scope, engineer interfaces, integrate equipment and controls and test the package before shipment.