C-5 FUEL CELL HANGAR

Market Sector: Government/Military
Project: C-5 Fuel Cell Hangar
Location: Martinsburg, West Virginia
Owner: US Air National Guard's 167th Airlift Wing
CM/GC: Kinsley Construction, Inc.
Contract Type: Subcontract
Tonnage: 2,224
Scope: Design/build, fabricate and install structural steel, joist and deck

Kinsley Manufacturing was contracted by Kinsley Construction, Inc. to fabricate and install the structural steel, joist and deck.

The C-5 Fuel Cell Hangar was a design/build project to construct a new aircraft hangar for the massive C-5 cargo plane. The purpose of the maintenance hangar is to provide maintenance support for the fuel cells on these massive aircrafts. The design team created a 79,000 square foot building with a 250-foot clear span to permit the C-5's unrestricted entry.

To fabricate the steel for a building of this design and magnitude within four months required multiple facilities working multiple shifts. Kinsley Manufacturing fabricated steel for this project in both of its fabrication facilities working two 10 hour shifts, 6 days a week. The trusses were preassembled into sections in the fabrication shops and then shipped to the site for final assembly. To achieve a 250 foot clear span, the trusses' design required massive steel that took eight hours to complete the drilling on one member with a fully-automated drill line.

The installation of this hangar required close coordination of all trades as the building's foot print was only 25 feet away from an active airstrip. Kinsley Manufacturing utilized three cranes that ranged from 160 to 250 ton capacities. To install the clear span trusses it took three cranes, three shoring towers and a crew of 25 iron workers. Once the structure was fully framed and decked, the shoring towers were removed, creating the post-tensioning of the structure and allowing it to stand freely without temporary shoring.

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