



Industrial Power Systems, Inc.

Designers & Manufacturers of Electrical Controls, Switchgear & Automated Systems

Established 1981



FEATURED APPLICATION

The SSA M/V ISLAND HOME Ferry



Background

Since 1818 The Steamship Authority (SSA - The Woods Hole, Martha's Vineyard and Nantucket Steamship Authority) has been providing exemplary public ferry service between the Massachusetts mainland and the islands of Martha's Vineyard and Nantucket. Building a new ferry to further enhance the Authority's reputation would be a formidable task. Replacing the *M/V Islander*, a venerable old friend retiring after 57 years of near-flawless on-time performance, would be a tough act to follow in the hearts of the old ship's discerning passengers.

The true test of the new ferry's acceptance would lie in seamless performance under all conditions, both in the ferry operations and in the comfort of its passengers. And there are few places more noticeable than in the operation of the ship's electri-

cal power systems where her performance would be assessed.

To ensure that all ship's electrical controls and passenger amenities operate and function reliably upon demand, the ferry's builder VT Halter Marine turned to Industrial Power Systems (IPS) of Jacksonville, Florida, to design and build the electrical power system for the *M/V Island Home*.

The \$32 million *M/V Island Home* entered into service in March 2007. Tastefully appointed with first-class amenities, she has been welcomed as a proud accomplishment of the Steamship Authority. Designed by Elliott Bay Design Group in Seattle, Washington, and built by VT Halter Marine, Inc. in Moss Point, Mississippi, she is capable of carrying 1,200 passengers and 76 cars. The freight deck holds 60 cars and can be configured to hold motor coaches,

trucks, or semi-trailers. Hydraulic lift decks accommodate an additional 16 vehicles. Amenities include a contemporary interior design, ergonomic seats in comfortable arrangements, a quiet area, spacious bathrooms, and two passenger elevators. She is the first new ferry ordered by the Authority in 15 years.

Application Details

The *M/V Island Home* is a double-ended ferry 255 feet in length on a beam of 64 feet, powered forward and aft by 3,000 HP EMD diesel engines providing a top speed of 16 knots in either direction. The double-ended design allows that upon entering port she never needs to be turned around, making for a very smooth and efficient operation. Precise docking is aided by forward and aft 400 HP bow thrusters. Two Caterpillar 500 kW ship's service generators and a backup Caterpillar 175 kW emergency generator provide the ship's electrical power.

The IPS main ship's service switchboard controls the automatic and manual parallel operation of the two 500 kW, 480 volt ship's service generators, providing all electrical services for normal operations and passenger comfort. An emergency switchboard plays a key role in critical situations. The emergency switchboard is designed to automatically start and transfer essential loads to the 175 kW emergency generator, including emergency lighting, internal communications systems, and fire detection and alarm systems. The emergency switchboard also

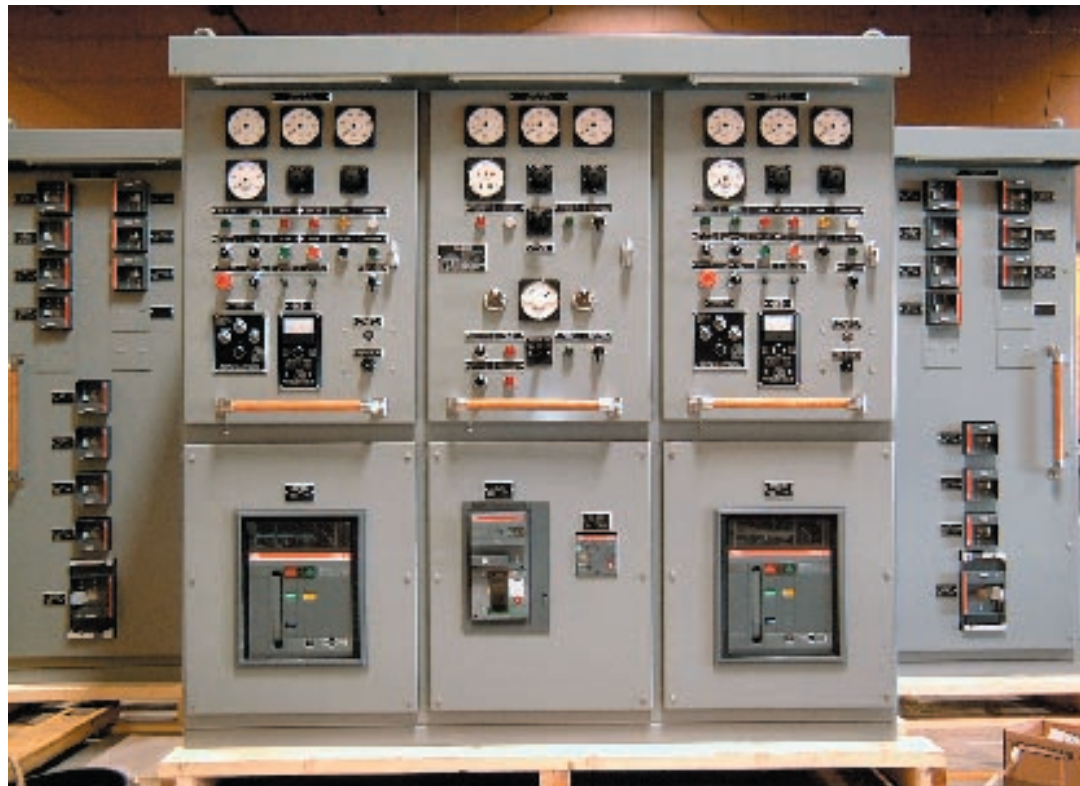
makes power available to the main switchboard for restarting the main propulsion engines in a dead ship condition.

All shipboard electrical systems are built to United States Coast Guard (USCG, Department of Homeland Security) and American Bureau of Shipping (ABS) Regulations and Rules. The USCG conducted its inspections during sea trials after the equipment was installed.

A Complete System

In addition to the main and emergency switchboards, IPS also supplied most of the other electrical power equipment on board the new ferry.

The package included four electric motor control centers, twelve enclosed motor controllers serving the ferry's electric motor loads, and two 400 HP bow thruster electric motors with variable frequency drive systems. The bow thrusters are the largest electric motors on board. They are installed at each end of the vessel to assist with precise docking and can also be used for electric propulsion should the main propulsion engines fail.



IPS-built M/V Island Home Main Switchboards

Fore and aft shore power connection boxes were supplied, complete with circuit breakers and mating plugs and receptacles for use at each end of the double-ended ferry when the vessel is docked.

Completing the package were four ship's service transformers, and twenty-six lighting panel boards for lights throughout the vessel.

According to *The Vineyard Gazette*, after a seven-day maiden voyage from Pascagoula, Mississippi, Captain O'Connor said, "She was just wonderful. She handles better than anything else we have... She has twice the horsepower of the *Martha's Vineyard* and operates with the simplicity of the *Islander*." Carl Walker, the Authority's director of engineering and maintenance, said "It is a beautiful vessel. Operationally, it runs beautifully from the deck down to the engine room." By all accounts, the *M/V Island Home* has made a considerable impression on the community she serves.

What IPS Can Do For You

Industrial Power Systems designs and builds quality electrical controls and switchgear systems for marine and industrial applications. Specialists in custom design and fabrication, IPS offers both bid-to-specification, and design-and-build products.

IPS builds to meet ABS, USCG and IEEE Rules and Regulations for marine applications in the USA and other classification societies including Lloyd's and Det Norske Veritas for international applications, and has been serving the marine industry with outstanding workmanship for over 25 years.

Take the Next Step

Call Glenn Beaupre, Marine Sales Manager, at 904.731.8844 (glenn@ipsjax.com) and ask about IPS designing and building the electrical power system for your next marine application.

