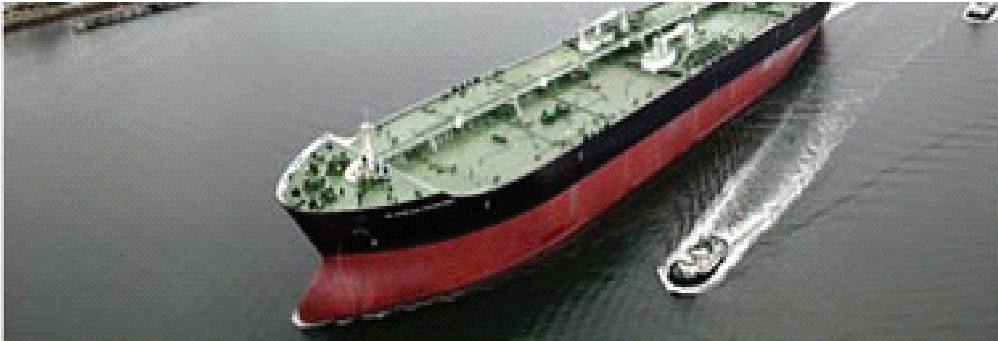


### Client requirement

Full scope of the vessel's low- and medium-voltage electrical equipment for its propulsion, electrical control and distribution systems. This included an original design MCC (Motor Control Center) that could resist the effects of water and dust when cleaned at sea, as per IP55 international standards.

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### Point Eight Solution

After careful engineering and design consultation, provide a custom, innovative solution for the client's needs.

BP, the multibillion-dollar energy company, continually runs tankers from Valdez, Alaska, to its West Coast refineries. It has made a strong commitment to protecting the environment and lowering carbon emissions.

When it commissioned the San Diego shipyard, National Steel and Shipbuilding Company (NASSCO), to build four tankers, BP asked for designs with heavy emphasis on environmental safety and redundancy. The ships would have double hulls, run on diesel-electric power to reduce emissions and use seawater instead of oil to cool the propeller shafts.

BP also wanted to keep the ships at sea for as long as possible without putting into port for maintenance. One unique design requirement of the system was an MCC that could be hosed down at sea. Such an MCC needed to adhere to stringent standards for dust and water intrusion set by the International Electrotechnical Commission (IEC).

The problem for NASSCO? No such MCCs existed on the marketplace. So NASSCO did what it did so successfully before – it turned to Point Eight Power. "Over the past 15 years of doing business with Point Eight Power," explained Bill Jones, NASSCO senior engineering specialist, "they have become the supplier of choice. In addition to providing high-quality products, their engineering department has proven to be an extremely innovative and resilient group, especially in support of last-minute design changes."

That "extremely innovative" Point Eight team designed and manufactured an IP55 MCC, meeting IEC, ANSI and NEMA standards. The dust and watertight design allowed the client to use these units in areas where traditional MCCs would not have been permissible due to environmental conditions. Additionally, the rating allowed the units to be sprayed down for cleaning purposes while at sea.

Another unique feature that Point Eight incorporated in the switchgear portion of the electrical system was a special lighted mimic bus system located at each lineup of switchgear that allows the user to control and monitor breaker status at locations remote to each switchboard. Teaming up with Cutler-Hammer, Point Eight used that company's power and molded case breakers for all medium- and low-voltage applications, as well as their Freedom series MCCs. These standard design MCCs were customized to meet the client's requirements and then close-coupled to the low-voltage distribution switchgear to reduce cabling within the system.

BP Oil and Shipping Company received the first ship, the *Alaskan Frontier*, in August 2004 and the second, the *Alaskan Explorer*, in March 2005. The third, the *Alaskan Navigator*, was christened November 12, 2005. Construction on the fourth ship is underway with delivery in 2006. And as part of Point Eight's process that emphasizes focused consultation, designs that fit the client's needs and quality manufacturing, BP's tankers navigating the harsh conditions of the Northern Pacific can receive Point Eight's unfailing service with one call should it ever be needed.

## **Point Eight Power. Controlling the Power You Generate**



For each vessel, Point Eight provided 14 vertical sections of 6.6kv (6,600 volt) medium-voltage switchgear for the propulsion generator controls; 14 vertical sections of 480V low-voltage switchgear; a 5 section 120V/480V combined low-voltage emergency switchboard; 50 vertical sections of low-voltage MCCs; and 150 low-voltage panel boards. All equipment was built to USCG and ABS standards.