



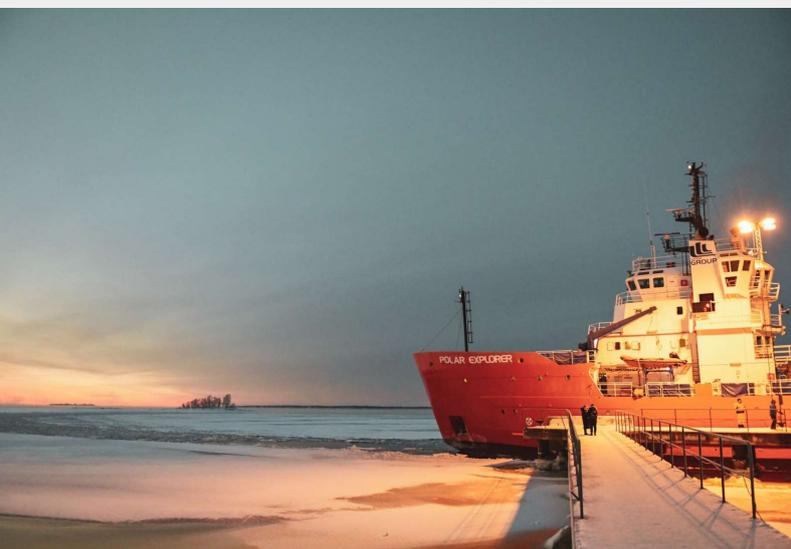
## Stern Thruster DC Drive Upgrade

We need to make sure our pioneers get their supplies

**Industry**  
Maritime

**Sector**  
Logistics

**Segment**  
Propulsion Systems



### Project

- The client is a premier maritime solutions provider to governments, businesses and organisations across the world.
- The client's vessel, the Aurora Australis, was the main supply ship for the Australian Antarctic Division.
- The vessel needed some updates to improve reliability and extend its useful service life.
- This was to be achieved by upgrading the control of the Port and Starboard Stern Thrusters.
- Electrical equipment and works had to be certified by Lloyds Maritime Register.
- Cromarty were given the challenge.

### Solution

The aim was to provide a cost effective compliant solution that minimised operational impact, this was achieved by:

- Retaining as much of the existing drive cubicles, motor wiring, cooling fan, main switch and supply fuses
- Using Lloyds approved flexible cables
- Installing additional I/O to monitor motor temperature and 3 phase supply currents
- Manufacturing new auxiliary equipment panels
- Removing unnecessary equipment from the existing panel door and install a remote control panel for the drive.
- Performing standard DC Drive startup and commissioning procedures.
- Re-commissioning all existing inputs, outputs and references.
- Document and commission installation suitable for Lloyds certification.



### Outcome

The operation was improved by providing additional emergency stops and fault indication on the vessel's bridge, one button press now started the drives and reliable indication of actual drive speed is provided. There was less harmonic distortion observed on the electrical supply generation system and reduced voltage spikes. The maintainability of the converters has been improved by with the inclusion of a low maintenance speed feedback encoder to allow easy access to parameter editing and monitoring of operational variables. Due to clever design there was reduced manual handling when changing major components and the auxiliary electrical components are now readily available current generation parts. Future changes can now also be easily implemented via the local control panel or a laptop.