

**Title:**           **Alternative Approaches for Demonstration of Fault Ride-Through Capability of DP Vessels with Close-Bus Operation**

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**Abstract**

In order to prove that electrical systems on dynamic positioning vessels (DP-2 and DP-3 class) can be safely operated in a closed bus configuration, recent marine industry guidance has been published recommending that fault ride-through testing be conducted on DP-2 and DP-3 ships and offshore vessels.

The main purpose is to prove that, in a closed bus configuration, the protective devices for generators, thrusters, and essential loads necessary for station keeping will “ride through” a fault on a main switchboard bus segment or a major feeder circuit without tripping before the bus-tie breaker opens to isolate the faulted side of the system. Demonstration of fault ride through capability for closed bus operation is not a simple task and the marine industry is still searching for standards in terms of the extent of the testing, testing methods, and other details. This paper will provide a brief background, rationale, and pros/cons for closed bus fault ride through testing (live short circuit testing) and will present a list of alternative testing methodologies to be considered.