



Manual activation of rough sea mode

Easy option to activate rough sea mode manually in regular weather conditions

Manual activation option

“Rough sea mode” is a unique power control mode of GE Power Conversion drives and is used to avoid power variations due to torque variation of the propeller during bad weather conditions. Depending on the vessel design this power control mode will automatically be activated in any of the drives and the same mode will be activated in all other drives consecutively and then it will be de-activated when the drives fulfill a reset condition. The information will be displayed on the HMI workstation. This is only possible during bad weather condition.

We could enable the same control mode also in regular weather conditions to ensure the synchronous operation of drives in a vessel. This is possible by adding a software/hardware selection switch. Thus, operator could select it manually.

Example conditions to get into rough sea mode

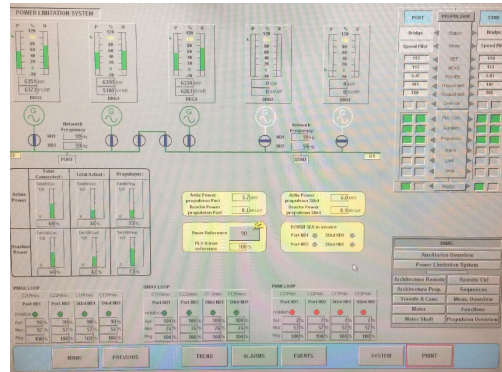
- The frequency of power variation is significant.
- The speed reference has not been modified for 3mins.
- The propulsion speed is greater than 60%.

Example reset conditions

- Speed variation on one shaft lines or propulsion speed is lower of 50%.

Benefits

- Adaptability regarding the needs of the operation by the Chief engineer/Captain.
- Improve the stability of the main network.
- Software or hardware switch option based on customer feasibility.
- Helps to ensure the synchronous operation.



Manual activation option

1. If one drive activates the rough mode, all other drives will activate the same mode.
2. When the drive fulfils reset condition on one shaft line, rough sea mode is deactivated on that shaft line.
3. If the rough sea mode is activated on the other shaft line, the shaft line will re-activate it after 2 minutes. (if no variation on the speed reference)
4. It will be deactivated on both the shaft lines when all the drives fulfil a reset condition**.

Operating sequence of rough sea mode

Salient points

- It is applicable to all drives that do not have this function already implemented.
- Field Service Engineer (FSE) completion time at site will be appx 1 FSE for 2 days / vessel depending on site conditions.
- GE recommends to implement this improvement during the next dry.

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CONTACT US: services.powerconversion@ge.com