

November 25th, 2024

The technical action of our transverse thruster for  
the latest VGP that US Environmental Protection Agency has issued  
(Updated on November 25th, 2024)

Dear Sirs,

US Environmental Protection Agency (EPA) has issued the latest VGP on Dec. 2013.

The VGP requires ships sailing in US waters to use EALs in all oil-to-sea interfaces “unless technically infeasible”. The Final 2013 VGP can be found at the EPA website. EALs are addressed in part 2.2.9 (page 47).

**【Technical action】**

Regarding using EAL for our thruster equipment, it needs changing to the suitable seal ring of propeller sealing device.

**【Technical evaluation】**

We consider that the life time of seal ring would be almost same as the existing device under the following condition.

- 1) Seal ring : Suitable Seal Ring for EAL
- 2) Thruster running time : Max. 600hrs/Year
- 3) The oil temperature : Max. 60 °C
- 4) Oil analysis : Water content Max. 1%, Sampling at every 3 month.

The using oil for our thruster is as following.

– Controllable pitch propeller type –

◆ TC-N type : Thruster body, Header tank . . . . . Gear lubrication oil VG150 or VG100  
Hyd. Pump unit . . . . . Hydraulic oil VG46 or VG32

◆ TCT type : Thruster body, Header tank . . . . . Gear lubrication oil VG100 or VG68  
(VG100 is our 1<sup>st</sup> recommendation.)

◆ NT-C type : Thruster body, Header tank . . . . . Gear lubrication oil VG100

– Fixed pitch propeller type –

◆ TFN type : Thruster body, Header tank . . . . . Gear lubrication oil VG150 or VG100

◆ NT-F type : Thruster body, Header tank . . . . . Gear lubrication oil VG150 or VG100

Now, we have confirmed that we can apply the EAL for our thruster as the attached list. (As on November 25th, 2024)

【The Other】

We kindly ask you to inform the Ship Name, IMO NO., our thruster type and the dock schedule to our Service Dept. as follows.

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If you have any question, please feel free to contact us.

Sincerely yours,

**NAKASHIMA PROPELLER CO., LTD.**