

MAN Energy Solutions, 2450 Copenhagen, Denmark

PetroChina Lubricant company  
Dalian Lube Oil research and development  
institute  
No.1 Shanzhong Street, Ganjingzi district  
Dalian  
China  
Attn: Zhang Jie

Copenhagen, 12 february 2020

REF.:  
EEEDF4/JUSV/BAN/  
Case no: 12838-2020

## No Objection Letter for cylinder oil KunLun DCA5070H, 70 BN, SAE 50 from PetroChina

Dear Zhang Jie,

Renewal of KunLun DCA5070H, this letter superseeds, the previous NOL (case no: 39561-2006).

MAN Energy Solutions (MAN ES) has participated in the testing of the cylinder oil KunLun DCA5070H, 70 BN, SAE 50 (the "Lube Oil") in 2003 and 2006 according to our field testing procedure at that point of time (the "Field Test"). The Field Test was performed on a 12K90MC MAN B&W engine. The Field Test included more than 2000 service hours and inspections by MAN ES at the start and the end of test.

MAN ES has evaluated data received in 2020. Different engine types and different engine operation conditions may require different cylinder lubrication feed rates and or oil type. Consequently, the result of this Field Test cannot be held out as a general statement.

MAN ES has No Objection to the usage of the Lube Oil in our MAN B&W two-stroke engine designs provided that the recommendations in our prevailing engine-type specific guidelines are followed.

This No Objection is valid two years from date, that is until 11 March 2022. Before the period is ended PetroChina can apply for a renewal of the No Objection.

Engine-type specific guidelines, engine-design, operation pattern, legislation and economic conditions all influence the lubrication in a direct or indirect way and they are all subjected to changes. As a consequence, MAN ES reserves the right to revise or withdraw the No Objection to the usage of the Lube Oil if the usage of the Lube Oil is deemed to not be applicable for all or certain engines types.

Quality assurance and monitoring of product performance are important. We expect that Petrochina has processes in order to assure that the quality of the product is acceptable and suitable for its intended use.

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As the Lube Oil is neither produced nor sold by MAN ES, MAN ES cannot be held responsible for any damage to the engine or engine components that may be caused by the use of the Lube Oil. Only the full and complete version of this No Objection Letter may be reproduced and/or displayed by the receiver.

Best regards,  
MAN Energy Solutions

A handwritten signature in blue ink, appearing to read "Julia Svensson", is written over the typed name and extends upwards into the text above.

**Julia Svensson**

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