



NORWEGIAN HULL CLUB

Casualty Information

No. 106 - June 2020



Overdue Maintenance of Engines and Equipment

Norwegian Hull Club wishes to emphasise the importance of safety on board by focusing on welfare, environment, assets and the sharing of useful experience.

In this Casualty Information newsletter, we focus on taking measures regarding use of non-original or incorrect spare parts used in connection with overhaul or repairs to engines and equipment onboard the vessel.

The importance of close dialogue with Engine Maker and Class Society in case of overdue maintenance is stressed.

Dear Seafarer,

Ship Managers and crews do their utmost to ensure the operational status of their vessels - of course, this applies even in challenging times. During the current COVID-19 pandemic, for example, there is the challenge of the availability of service technicians and spare parts being negatively affected.

As Norwegian Hull Club has experienced cases concerning damage to machinery equipment caused by a lack of spare parts - although it should be noted that not all were directly linked to COVID-19 - we want to draw your attention to the following:

Risk Assessment

We would strongly recommend carrying out a Risk Assessment in regard to overdue maintenance. Such an assessment - with the aim of identifying risks and introducing mitigants where appropriate - would help to reduce the likelihood of damage.

When planning such an assessment, remember to have the right people involved in order to best ensure all necessary elements, scenarios and perspectives are considered. Identified risks should be prioritised, while their respective risk owners should be defined. Clear communication of the assessment's findings should be performed to ensure the correct actions are taken by the appropriate individuals.

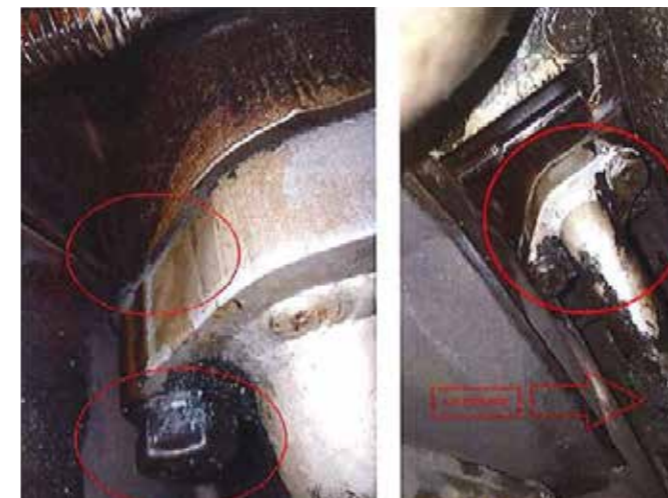
Typical situations

The following points provide an overview of typical situations a crew might have to deal with:

- 1) Maintenance and overhaul carried out without enough spare parts to complete the overhaul
- 2) Service Engineers not available, and crew lacking competence required to perform the overhaul without supervision and support
- 3) Incorrect spare parts / old spare parts used during overhaul.
- 4) Incorrect tools used
- 5) Lack of performance evaluation after overhaul
- 6) Lack of Class surveyors

Example A

Incorrect type of sealing rings or packings may cause serious damage and even fire in the engine room, such as shown in the examples below.



Please check the specification of seals to ensure the correct type is used for the medium, pressure and temperature.

Example B

Incorrect type of piston ring is installed (for the fuel type in use) due to no spares being available. Piston rings are then worn out after short time in operation, resulting in a long off-hire period before the correct type of piston rings are received on board.



"We will most likely see an increase in overdue maintenance due to reduced availability of spare parts."

Example C

Oil quality reduced due to contamination - late response from a test laboratory to provide results from oil samples due to logistics issues.

In instances where a vessel has not been able to send samples to a laboratory, or if case analysis reports from a laboratory are delayed, we would recommend considering replenishing or changing the oil. Close monitoring of filters and purifiers at all times is very important.

Physical Condition						
Viscosity at 40°C (M002)	IST	116	133	105	104	101
Viscosity at 100°C (M002)	IST	15.5	17.4	14.2	14.5	14.3
Flash (M001)	deg. C	190+	190+	190+	190+	190+
Fuel (M001)	% wt	<2.0	<2.0	<2.0	<2.0	<2.0
Water (M011/M010M)	% wt	0.1800	0.1092	0.0992	0.1180	0.0952
Oxidation (M017)	mla/cm	11	-	-	n/p	6
Nitration (M017)	mla/cm	<1	-	-	n/p	2
Insolubles (M017)	% wt	5.87	9.32	0.75	n/p	0.67
TBN (M006)	mg/KWh	10.1	9.7	10.6	12.9	9.5
PQ Index (M015)	PQ units	5	19	9	4	4
Spectrographic Analysis						
Iron (M018)	mg/kg	60	84	22	14	10
Aluminium (M018)	mg/kg	<1	<1	1	<1	<1
Chromium (M018)	mg/kg	1	1	<1	<1	<1
Molybdenum (M018)	mg/kg	5	9	13	50	46
Copper (M018)	mg/kg	2.7	3.8	1.5	1.7	1.6
Lead (M018)	mg/kg	1	1	<1	1	<1
Tin (M018)	mg/kg	2	1	1	<1	<1

Overdue Maintenance

During the months to come, we will most likely see an increase in overdue maintenance due to a reduced availability of spare parts and service personnel.

In addition, when the restrictions are lifted, an increased demand for both of these can be expected, both on board ships in operation and ships in yards.

Therefore, we would strongly recommend that Owners and Managers maintain a close dialogue with engine and equipment makers. This will assist in advising the crew on how to handle work despite the ongoing situation and help reduce the likelihood of high-cost repairs and off-hire periods.



Most engine makers may provide operation guidance in case of overdue maintenance, such as advice on performance testing and improved monitoring to help prevent damage.

Generally, a postponed main overhaul would require more frequent minor maintenance and checks in order to avoid potential damage.

Recommendations

By sharing our experiences from surveys related to damage on board clients' vessels, Norwegian Hull Club aims to highlight possible measures that can be taken to prevent serious incidents occurring.

In instances of postponed maintenance and overhaul of engines and machinery on board your vessel due to lack of spares and service providers, we strongly recommend maintaining close dialogue with makers and suppliers in order to handle the situation in the best possible way.

With proper barriers put in place, severe damage may very well be avoided - crucial, particularly if the supply of services and spares is not at "normal" levels.

Norwegian Hull Club wishes you all fair winds and following seas.



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Questions? technical@norclub.com