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| PRELIMINARYH&M Survey Report NO. 2 |
| MV “VESSEL NAME” |
| **INSERT PICTURE OF VESSEL / DAMAGE** |
| **Occurrence:****Date/year - Fire in the engine room** | **NHC Claim Reference: xxxxxx/20xx/H&M** |
| **Our Reference.: xxxxxxxxx** |

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# INTRODUCTION / SCOPE OF WORK

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| Section not updated from preliminary 1 report. |

At the request of Norwegian Hull Club Bergen, Norway, being the Leading Hull & Machinery Underwriters of the above-mentioned vessel, the undersigned has on [*date, month, year*] and subsequent days surveyed [*Vessel Name*] whilst lying at the premises of [Name, Place].

# Occurrence

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| Section not updated from preliminary 1 report. |

Survey was held in order to ascertain the nature and extent of damage sustained on the following occasion:

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| **Occurrence No. 1** |  |
|  |  |
| **Date, month, year** | **On laden (or ballast) voyage from Port A to Port B.****Fire in the engine room.** |

# Attending representatives

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| Section updated after preliminary 1 report. |

The following persons were present during the survey / meetings:

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| --- | --- | --- |
| ***Name*** | ***Company*** | ***Function*** |
| Name | Company | Vessel Manager |
| Name | Company | Captain |
| Name | Company | Chief Engineer |
| Name | Class | Class surveyor |
| Name | Company | Senior Service Engineer |
| Further name(s)  | Further companies | Further |

# Vessel´s particulars

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| Section updated after preliminary 1 report. |

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| IMO Number | : | 123456 |
| Type |  | Ro-ro vessel |
| GT / DWT | : | xx.xxx / xx.xxx |
| Flag / Home port | : | Name / Port |
| Built | : | Shipyard / Country / Year |
| Owners | : | Name |
| Managers | : | Name |
| Class / Notation | : | DNV / 1A1 ICE-C SF COMF-V(3)C(3)  |
|  |  |  |
| Certificates |  | All certificates valid at time of occurrence |
| DOC details | : | Issued xx March 20xx, valid till yy February 20yy |
| ISM SMC details | : | Issued xx March 20xx, valid till yy February 20yy |
| Casualty ISM reported? | : | Yes |
| Prior related ISM reports? | : | Yes |

# VESSEL’S MOVEMENTS & events

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| Section updated after preliminary 1 report. |

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| ***Event*** | ***Date*** |
| Fire occurred. | Date, Year |
| Fire extinguished. | Date, Year |
| Vessel arrived at *Arriving Port*. | Date, Year |
| Inspection and commencement of repair. | Date, Year |
| Shifting to a nearby shipyard commenced by using harbor tugs. | Date, Year |
| The vessel arrived at the shipyard. | Date, Year |
| The vessel dry docked. | Date, Year |

# AVAILABLE INFORMATION

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| Section updated after preliminary 1 report. |

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| ***Document***  | ***Enclosed / Available*** |
| *General Information:* |   |
| Ship particulars | Enclosed |
| DOC | Available on request |
| SMC | Available on request |
|   |   |
| *Log books:* |   |
| Copy of bridge log book | Relevant pages enclosed |
| Copy of engine log book | Relevant pages enclosed |
|  |  |
| *Incident reports:* |   |
| Master’s initial report | Enclosed |
| Master’s statement of facts | Enclosed |
| Class report and recommendation for repairs | Enclosed |
| Owner’s Incident Report | Enclosed |
|   |   |
| *Repair planning and execution of repairs:* |   |
| GA-Plan | PDF-file enclosed |
| Repair Plan | Enclosed |
| Repair offer from Cable Renewal Company | Available on request |
| Quotation from Cleaning Company | Available on request |
| Quoted unit prices from Electric Motor Overhaul Company | Available on request |
|   |   |
| *Technical reports:* |   |
| Damage Control Company’s report of chloride spread and extent | Enclosed |

# BRIEF TECHNICAL DESCRIPTION

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| Section not updated from preliminary 1 report. |

The vessel is a Ro-Ro ferry of xx xxx gross tons, built in 1985. The two main engines are of make MAN B&W, type 8L45GB, two stroke diesel engine with 8 cylinders in line, rated to
16 965 bhp. Each cylinder has a separate fuel pump. The engines are normally running on heavy fuel oil.

Hi-Fog water mist extinguishing system is fitted in the engine room and in the machinery spaces.

# BACKGROUND

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| Section not updated from preliminary 1 report. |

On the above date, at 15:34:30 hrs, whilst the vessel was approaching the entrance to
[*Arrival Port*], the fire alarm was activated in the engine room. Concurrently an oil squirt from the top of the No. 1 main engine was observed on the video monitor in the engine control room. Reportedly, the oil splashed into the ceiling plates of the deck above.

Within the next 50 seconds the following sequence of events has been reported:

* 15:34:40 hrs. The bridge was contacted, and the No. 1 main engine was requested to be stopped.
* 15:34:45 hrs. Two engineers entered the engine room. They discovered a fire was starting and tried to extinguish with local fire extinguishers.
* 15:34:51 hrs. The No. 1 main engine was stopped.
* 15:34:55 hrs. The 2nd engineer arrived in the engine room but was met by an explosive fire development.
* Bridge was notified that a fire was at stake.
* 15:35:10 hrs. The fixed Hi-Fog fire extinguishing plant for No. 1 main engine was released from a panel in the engine control room.
* 15:35:30 hrs. No. 3 fire team (engine room team) commenced dressing up. Chief Engineer arrived in the engine control room.

At 15:38 hrs, the fuel to the No. 1 main engine was shut off by activating the quick closing valves.

Three fire teams, including one cooling team were now ready and the engine room team entered into the engine room and reported that the fire had been extinguished. Further checking was carried out to confirm that the fire would not re-ignite before the engine room was eventually ventilated.

In the meantime, the Owners had been informed at 15:46 hrs. and the No. 2 main engine had been stopped at 15:50 hrs. after the anchor had been dropped.

After thorough checking of the fire area it was decided that the vessel could sail to port by using the No. 2 main engine and she resumed her voyage towards [*Arrival Port*], where she arrived at 17:30 hrs.

# DAMAGE DESCRIPTION

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| Section updated after preliminary 1 report. |

Upon survey at [*Arrival Port*] we noted damages as follows:

* The No. 1 main engine and the adjacent areas, including equipment in way, were covered with a layer of fuel oil.
* The ceiling and bulkhead structures adjacent to No. 1 main engine, including pipes, cables, the engine room crane above No. 1 main engine, lighting armatures, fire detectors, video surveillance cameras, electric equipment, etc. were covered with soot and variously melted, discoloured and deformed.
* Water leaks were noted from cooling water piping on the engine.
* The instrumentation on the No. 1 main engine was variously melted, discoloured, covered by soot and deformed, involving sensors, wiring, and control/monitoring system.
* Electric cables in the area around No. 1 main engine were melted, discoloured, covered by soot and deformed.
* From the specialist company, Messrs. Cleaning Company it was reported that except for the areas close to the fire, the chloride measurements in the engine room revealed relative low concentrations.

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| **Insert relevant photo** |
| Photo 1: [*Text*] |

|  |  |
| --- | --- |
| **Insert relevant photo** | **Insert relevant photo** |
| Photo 2: [*Text*] | Photo 3: [*Text*] |

# REPAIRS

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| Section updated after preliminary 1 report. |

Following a specification and tender process, it was decided to carry out permanent repair of the vessel at the local repair yard in the *Arrival Port*, as their repair offer was the most favourable and expensive removal costs were avoided.

The repair included to dry-dock the vessel for cropping an access hole in the shipside.

The permanent repairs (now in progress) will include as follows:

* Cleaning for oil and soot.
* Renewal of approx. 3000m electric cables.
* Dismounting, cleaning and control of all affected piping, valves, pumps etc. fitted to the engine.
* Open-up the cylinder covers of cylinders nos. 2, 3, 4 and 5 for inspection. The inspection result will give guidance whether additional cylinders require inspection.
* Check of both turbochargers of No. 1 and 2 main engines. It is particularly important to check the condition of the silencers due to oil mist and heat exposure.
* Renewal of the automation system fitted to the engine (sensors, wiring, control- and monitoring system).
* Checking of the engine telegraphs systems.
* Cleaning and overhaul/renewal as necessary of various electric and mechanical equipment/components.
* Testing as per makers’ and Class’ recommendation.

# OTHER MATTERS OF RELEVANCE

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| Section updated after preliminary 1 report. |

3 quotations based on the prepared repair specification has been received and evaluated.

The Owners informed that they will use the opportunity to commence the Class’ special survey during the repairs. The Owners’ work will require dry docking.

# Cause CONSIDERATION

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| Section updated after preliminary 1 report. |

At this early stage in the process, it is difficult to draw unambiguous conclusions about the cause of damage. However, preliminary investigation indicates that the fire may be related to a sudden oil leak from the top of the No. 4 cylinder fuel pump of No. 1 main engine. We will revert with further information as soon as further investigation has been carried out.

#  REPAIR COST AND TIME

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| Section updated after preliminary 1 report. |

The permanent repair will be carried out whilst dry docked at *Messrs*. *Repair Yard*, who presented the most favourable repair offer, based on both cost and time.

The main subcontractors are as follows:

* Cleaning – Messrs. Cleaning Company.
* Electric repair / Cable renewal – Messrs Cable Renewal Company.
* Engine repair - Engine maker, MAN B&W.
* Turbo chargers - Messrs ABB AS.
* Engine control and monitoring system - Kongsberg Maritime AS.

Based on the repair specification and the repair offer from the yard, as well as budget prices from the mentioned subcontractors, an updated estimate of the repair cost is at the level of
USD 2,5 million.

Based on various discussions between the owners, the yard and the main contractors a repair plan has been made with scheduled completion of repairs on February 22nd 20xx.

We will follow up the case as necessary and report accordingly.

Place, day, month, year

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| Yours faithfully |
| For *[Name of the survey company]**Signature*H&M Surveyor [*name of surveyor]**Please include your written name in addition to the signature* |