



NORWEGIAN HULL CLUB

# Casualty Information

No. 110 - December 2020



## Bridge and Accommodation fires during lay-up

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 fire risks during lay-up.

As is usual in such newsletters, The Club makes a number of recommendations in order to promote best practice and avoid unwanted incidents.

#### Dear Owners, Managers and Seafarer,

Norwegian Hull Club, in the role of claims lead, has been involved in handling a number of claims related to serious fires during lay-up.

In this Casualty Information Newsletter, The Club will share information about fires occurring on the Bridge and in Accommodation, with a view to help prevent such incidents. Examples from insurance cases we have dealt with over the past two years will be used.

#### Root cause

It is not always possible to determine the root cause of a fire. However, the photographs featured in this newsletter help convey the importance of understanding how little ignition source is required to start a huge, complex fire.

The Club has experience of several fires on the Bridge, where blazes started in ceilings where electric wiring, electric consumer connection boxes and PCBs were installed. The number of electrical wires running in the ceiling and through deck trunks varies depending on ship type. However, all vessels feature sufficient amounts of wood paneling, plastic and other flammable materials on their Bridges and Accommodation areas to feed a fire. Delayed notification of a fire / alarm, together with a delay in firefighting response

/ capabilities (due to reduced resources on board during lay-up) enable fires to develop to a critical extent before resources are mobilized and action can be taken.

#### Actions count

As for all fires, immediate actions count - first, alert the crew and personnel in the area and second, fight the fire as quickly as possible.

Although there is a limited risk of fire on board when a vessel is not in operation, there is definitely still a risk. This risk must be considered and controlled.

The resulting damage of a fire on the Bridge is often serious, not only due to the fire itself but because of smoke and firefighting water damage to electronic equipment and cables. Rebuilding the entire Bridge requires considerable competence, often including both design / engineering and competent labour, and comes at a significant cost regardless of the location for repairs.

#### List of considerations

Establishing fire-risk mitigation actions is a challenge. However, there are always lessons to be learned following an incident. Here, we have listed some

considerations that should be borne in mind in the Risk Assessment process prior to lay-up:

1. Although a vessel is not in operation, fire ignition sources are still present. Incidents we have experienced confirm that even an electric circuit with low voltage/current could generate enough sparks and heat to start a fire.
2. During lay-up, a vessel's electric power is mostly supplied from facilities on shore via the Emergency Switchboard. Differences in voltage and current compared to normal operation could impact the electrical/electronic equipment on board, such as affecting UPSs (Uninterrupted Power Supplies) and batteries due to frequent changes in power supply; this could cause damage to the equipment and consequently a temperature increase then ignition.
3. Air conditioning/air handling units may have been switched off; alternative portable ventilation, if installed, may not supply the same quality of air (dry air) as normal when the ship's HVAC (Heating, Ventilation, Air-Conditioning) system is in operation. Areas with high humidity increase the risk of a short circuit occurring.
4. Electrical circuits on the Bridge and Accommodation (and indeed other places) not required to be energized during the lay-up should be switched off from the distribution panel.
5. In addition to random inspections on board by authorised personnel, consideration should be given to connecting the SMS/broadband alarm to the vessel's Fire Alarm Central; this is in order to receive an early warning. Additional smoke and fire sensors should be installed in areas with a risk of fire, such as rooms and void spaces with electrical wiring and equipment (such as Bridge ceiling, electric trunks and instrument/data rooms).
6. Assessment of the available resources in the area where the vessel is laid up, such as local Fire Patrol Station/Port Services, should be conducted.
7. Consideration should be given to sharing the vessel's fire plan, together with the specification of the on-board operational fire-fighting systems and equipment, with local firefighters in order to be as best prepared as possible in case assistance is needed.

## CASE EXAMPLE 1

Ship type: Fishing/Research Vessel  
Lay-up location: South America/warm lay-up  
Crew on board: Reduced number of crew; fire began at night  
Occurrence: Fire in Accommodation/Bridge  
Vessel status: Repaired

#### General comments

Damage to the Bridge, Accommodation, Deck Houses, Freezer Rooms.

The fire started in the vessel's gymnasium; however, the cause of fire could not be concluded.



A port fire patrol boat at work



Damage on the Navigation Bridge



Damage to the Master's Cabin and Office





## CASE EXAMPLE 2

Ship type: *Offshore Supply Vessel*

Lay-up location: *South Far East/ since 2016*

Crew onboard: *No crew onboard (regular inspection)*

Occurrence: *Fire on the Bridge*

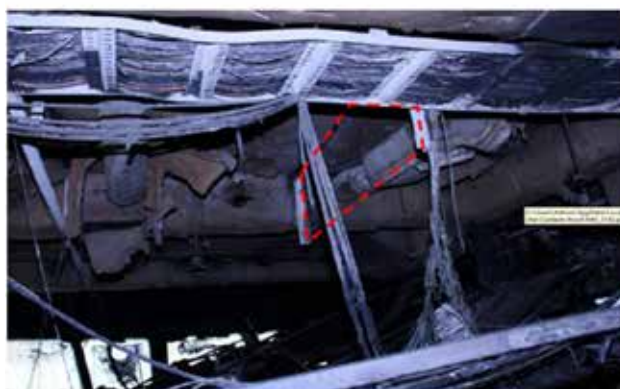
Vessel status: *Total Loss*

### General comments

*Damage to Bridge and partially to Accommodation. The fire started within the wheelhouse ceiling void space in an electrical connection box with a circuit board installed on a plywood board inside of the ceiling.*



*Fire occurred in the Bridge ceiling/void*



*Indicated position of plywood board on which electrical equipment was installed*



*Damaged wiring and circuit board which was fitted to the plywood board.*

## REMEMBER

Immediate actions count - in case of a fire, first alert the crew and personnel in the area and second, fight the blaze as soon as it is safe to do so.

Even if a vessel is not in operation, there is still a risk of fire onboard.

Electrical circuits on the Bridge and Accommodation (and indeed other places) not needing to be energized during the lay-up should be switched off from the distribution panel.

Assess available resources in the area where the vessel is laid up, such as local emergency / port services

Consider sharing the vessel's fire plan, together with the specification of the on-board operational fire-fighting systems and equipment, with local firefighters

## CASE EXAMPLE 3

Ship type: *Offshore Supply Vessel*

Lay-up location: *Scandinavia / 4 months*

Crew onboard : *No crew onboard (regular inspection)*

Occurrence: *Fire on the Bridge*

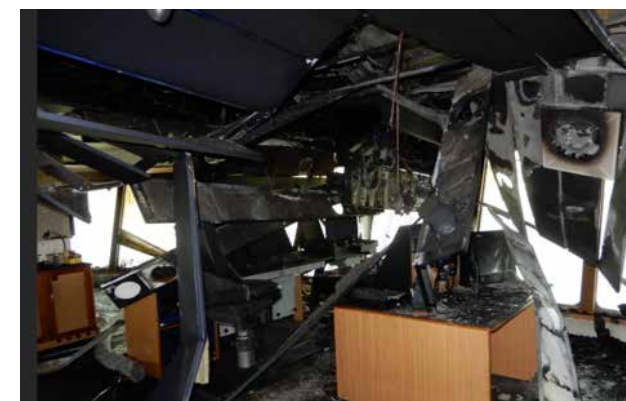
Vessel status: *Total Loss*

### General comments

*The fire started in the ceiling space on the aft port quarter of the Bridge. There was some wiring in the area, although much of it appears not to have been energized at the time. The cause of the fire was most likely an electrical fault in a wiring connection, or on a faulty PCB. A small resistive heating or tracking fault on a PCB is one possible cause of the fire.*



*The PCB (circuit board) lying amongst debris on the floor*



*Fire started in the ceiling and its panels fell down*



*Where the fire started*