

SOLAS Compliance Thermographic Survey

Sample Report

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By

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SCOPE OF SURVEY

The scope of this survey was to carry out a thermographic inspection of surface temperatures within the engine rooms of the vessel in order to highlight the following anomalies:

- Surface Temperatures >220°C
- Surface Temperatures Between 200°C and 220°C

REGULATIONS

According to SOLAS, Ch.11-2, reg. 15.2.10 and IACS rules for classification of ships, all surfaces above 220°C are to be insulated or otherwise protected in order to avoid ignition of flammable fluids.

Statistics show that most engine room fires are caused by a ruptured fuel pipe spraying oil onto a hot surface. Engine room fires are few in number, but are normally very costly for the owners and their insurers and one should not overlook the potential for loss of life or injury to crew and / or passengers.

REPORT DATA

A summary of all thermographic data is contained in the report pages that follow. The pages in the report have been designed as single page entries, each of which carries its own information so that individual pages can be given to the relevant professions in order that they may carry out any remedial repairs that may be necessary.

INSPECTION POLICY

Our inspection policy for this type of survey has been developed to not only highlight areas which fall outside the regulations for maximum temperatures but we also highlight areas where surface temperatures are approaching the maximum limit. This provides the client with information allowing them to carry out repairs before a real threat occurs.

Anomalies are grouped into 2 categories:

Surface Temperatures Detected >220° C.	Priority 1	Urgent Attention Required
Surface Temperatures Detected Between 200°C and 220° C.	Priority 2	Investigate Cause of Temperature Rise

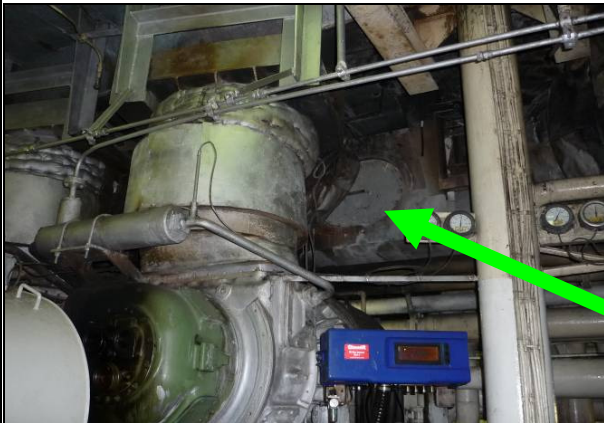
Only areas detected above 200°C have been included in this report. All other surfaces measured at the time of the survey were deemed top be >200°C.

Summary of Issues Found

Location	Equipment	Type	Priority	Page Number
Main Engine Room	Port Engine	Turbo Charger (STBD Side) & Exhaust Duct	1	4
Main Engine Room	Port Engine	Exhaust Duct After Turbo Charger	1	5
Generator Room	STBD Generator	Top Of Generator	1	6

Surface Temperatures Detected >220° C.	Priority 1	Urgent Attention Required
Surface Temperatures Detected Between 200°C and 220° C.	Priority 2	Investigate Cause of Temperature Rise

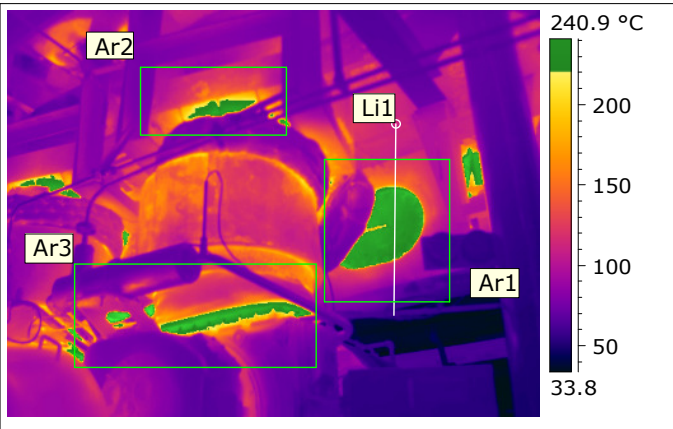
VISUAL IMAGE



EQUIPMENT INFORMATION

Location	Main Engine Room
Equipment	Port Engine
Type	Turbo Charger (STBD Side) & Exhaust Duct

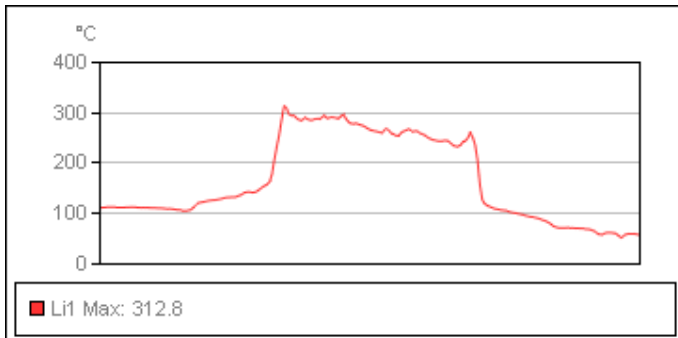
THERMAL IMAGE



RADIOMETRIC DATA

Object Parameters	Value
Date	06/08/2010
Image Time	08:27:14
Atmospheric Temperature	44.0 °C
Emissivity	0.95
Object Distance	4.0 m
Reflected Apparent Temperature	59.6 °C
Image File name	IR_6806.jpg
Ar1 Max. Temperature	342.9 °C
Ar2 Max. Temperature	294.1 °C
Ar3 Max. Temperature	429.3 °C

TEMPERATURE PLOT OF LINE Li1



Priority 1

ANALYSIS & OBSERVATIONS

Temperatures in excess of the upper limit of 220°C are highlighted in green.

The inspection panel (arrowed) appears to have missing insulation

The inlet and outlet flanges on the turbocharger appear to be uninsulated.

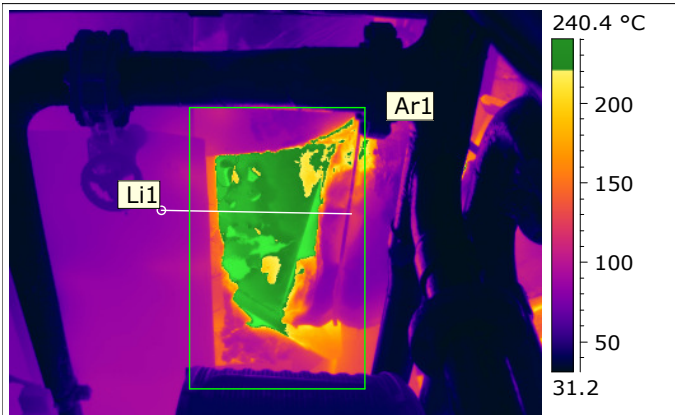
VISUAL IMAGE



EQUIPMENT INFORMATION

Location	Main Engine Room
Equipment	Port Engine
Type	Exhaust Duct After Turbo Charger

THERMAL IMAGE

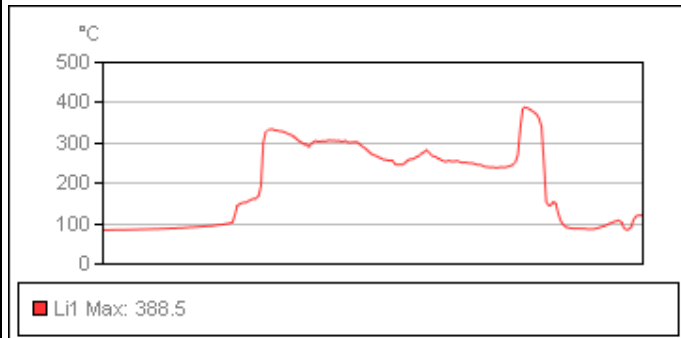


RADIOMETRIC DATA

Object Parameters	Value
Date	06/08/2010
Image Time	08:33:07
Atmospheric Temperature	44.0 °C
Emissivity	0.95
Object Distance	4.0 m
Reflected Apparent Temperature	59.6 °C
Image File name	IR_6812.jpg
Ar1 Max. Temperature	413.9 °C

Priority 1

TEMPERATURE PLOT OF LINE Li1



ANALYSIS & OBSERVATIONS

Temperatures in excess of the upper limit of 220°C are highlighted in green.
 Damaged / defective insulation appears to be the cause of the high surface temperatures.

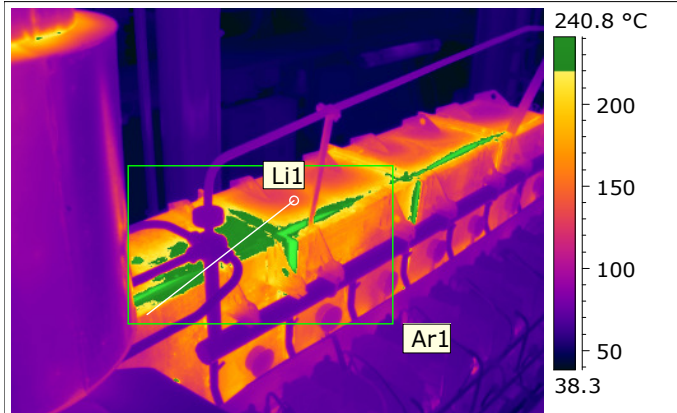
VISUAL IMAGE



EQUIPMENT INFORMATION

Location	Generator Room
Equipment	STBD Generator
Type	Top Of Generator

THERMAL IMAGE

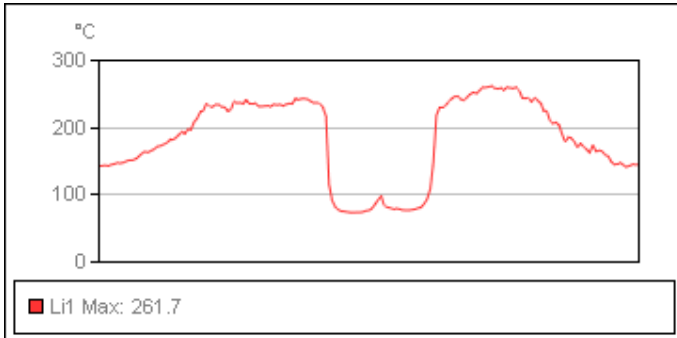


RADIOMETRIC DATA

Object Parameters	Value
Date	06/08/2010
Image Time	08:57:21
Atmospheric Temperature	44.0 °C
Emissivity	0.95
Object Distance	4.0 m
Reflected Apparent Temperature	59.6 °C
Image File name	IR_6833.jpg
Ar1 Max. Temperature	477.3 °C

Priority 1

TEMPERATURE PLOT OF LINE Li1



ANALYSIS & OBSERVATIONS

Temperatures in excess of the upper limit of 220°C are highlighted in green.

The hot surfaces appear to be caused by visible gaps in the casing.