



AUSTRALASIAN INSTITUTE  
OF MARINE SURVEYORS

# Shipshape

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**Bulk carrier safety, efficiency  
reshaped by new rules, tools**

**YEAR'S END A TIME TO REFLECT**

# Survey to repair: turning findings into action

MARINE surveying is not just about identifying defects – it is about converting findings into safe, cost-effective and compliant repair solutions.

Phillip Fox of Midwest Marine Surveyors recently managed a case on the Midwest coast involving a serious incident on a bulk carrier: the failure of an SCR compressor.

The vessel was boarded via local launch, and damage inspections revealed significant fire damage to the compressor unit and to the surrounding compartment's A60 fire insulation, a critical safety barrier in vessel construction. Without repair, the vessel was deemed unseaworthy.

## 1. From damage survey to warranty survey

Close inspection determined that a pneumatic high-pressure circuit failure had ignited the compressor's electrical wiring.

This incident not only required a damage survey but also triggered a warranty survey due to the extent of the affected components and age of the vessel. Recognising the scope and regulatory requirements, Phillip engaged Tim Nexer of TK Marine Consultants.

TK Marine Consultants, an AMSA-accredited surveying company with strong knowledge of international standards and insurance club requirements, worked alongside Midwest Marine Surveyors to deliver a structured repair plan and Inspection & Test Plan (ITP) utilising a recognised insulation company, Griffin Marine.

## 2. Repair controls and compliance

When managing repairs of this scale, surveyors must ensure compliance at every stage. For

this project, key controls included the following.

**Qualified Contractors** – The insulation replacement required LR or DNV-certified insulators.

**Approved Insulation Materials** – Materials had to comply with the IMO FTP Code and be IACS approved.

**OEM Components** – Only OEM spare parts with IACS-type approval were quoted on the compressor. Using non-approved parts on a critical system could lead to litigation in the event of failure, damage or loss of life.

The ITP was counter-signed by the vessel's Chief Engineer or Master, confirming acceptance of the repair work. This step is crucial to ensure shipboard accountability and to provide closure for owners, managers, and insurers.

## 3. Collaborative project management

The project – from inspection

to full repair – was completed in just six days. This was possible through collaboration between independent surveyors, specialised contractors, and classification-approved suppliers.

The case highlights that, when different surveying companies combine expertise, projects are:

- delivered on schedule;
- completed within budget; and
- compliant with international standards.

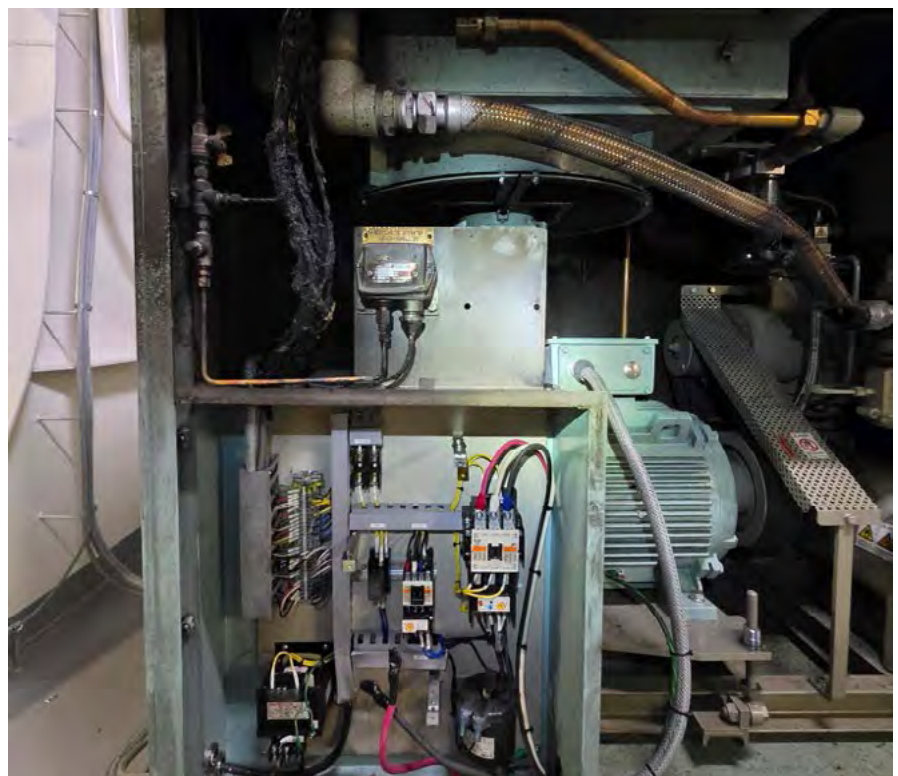
## 4. Project plan

### 4.1 Overview

Client requires SCR compressor removed and wiring isolated.

Compressor will be isolated by removing wiring from main switchboard in engine control room via circuit breaker for this unit. Circuit breaker to be tagged out and positively isolated with C/E having the key for the lock.

Wiring then to be disconnected from compressor and associate



alarm system and heater system. Wiring to be taped up and isolated inside a plastic junction box or if easily accessible remove wiring harness from nearby junction box.

Compressor to be removed as one unit after confirmation from ships crew on dimensions and lifting requirements through hatches and then out of engine room with ships gantry or stores crane.

Pneumatic system to be isolated after removal of SCR unit.

The compressor was left in place after a few considerations:

- lead time for a new compressor was 60 days;
- wiring repairs were to be in conjunction with ISO / Class requirements and cabling to be of low smoke and correct certification;
- pneumatic safety valves would need certifying and testing;
- alternative means of air from a secondary system was utilised and a condition of class issued to the vessel; and
- availability of Class Surveyor.

## 4.2 Labour requirements

Name	Role	Description
TK Marine	Mechanical fitters x 2	Removing compressor unit
TK Marine	Electrician	Isolate unit in all locations
Ships Agent	Provide clearance	Port clearance for removal and export
Midwest Surveying	Project Manager	Stakeholders' engagement

## 4.3 Ship requirements

Item	Question	To do	Report to
Bulk head doors / hatches	Will compressor fit out of hatches or doors?	Crew to measure	Report back to TK Marine
Asbestos	Asbestos free Declaration	Vessel supply documentation	Report back to Midwest Surveying
Lifting equipment	Are there lifting pad eyes for lifting or beams for beam clamps and has ship got chain blocks for job?	Ship to come back and check if we require chain blocks, shackles and beam clamps	Report back to TK Marine

## 5. Key Lessons for surveyors

- There are no shortcuts in marine repairs - particularly when dealing with fire

protection and critical machinery.

- The surveyor or project manager is ultimately liable for the integrity of repairs carried out under their supervision.
- A clear ITP, signed off by both the surveyor and ship's officers, is essential for accountability and documentation.

From the pictorial evidence of this case, the consequences of equipment and insulation failure were clear. However, through structured repair planning, the vessel was safely restored and returned to service.

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