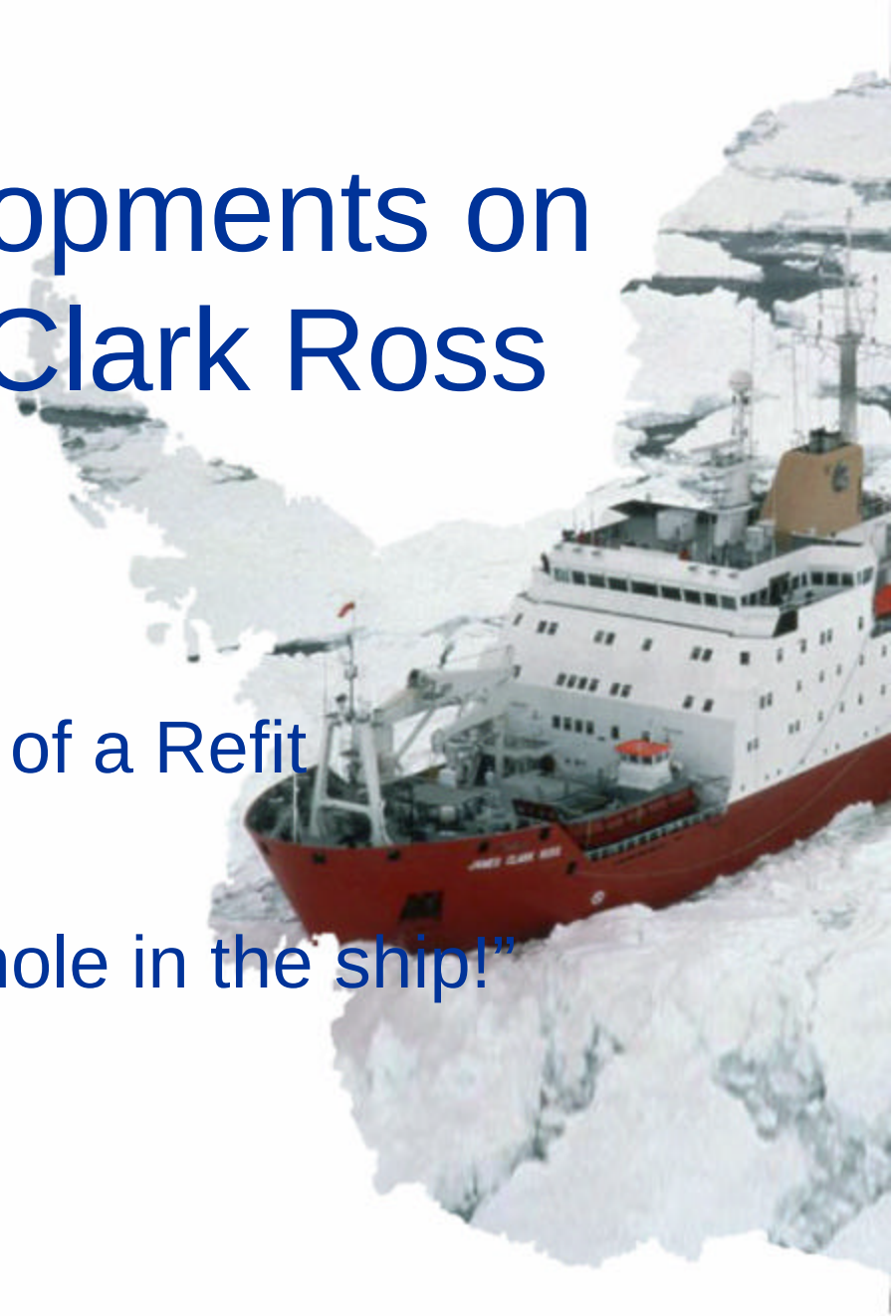
Recent Developments on RRS James Clark Ross



The Challenges of a Refit

or

“Why we put another hole in the ship!”

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The Project

To install an acoustic reference system to the vessel

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Acoustic reference system

Choices to be made

- Short baseLine (SBL)
- Ultra Short BaseLine (USBL)

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USBL?

Acoustic sensor on the end of a 3 metre retractable pole which can communicate with transponders in the water, attached to vehicles or packages, giving information on range and bearing etc

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USBL - Impact

Two possible locations

- The Auxiliary Machinery Space
- The Transducer Space

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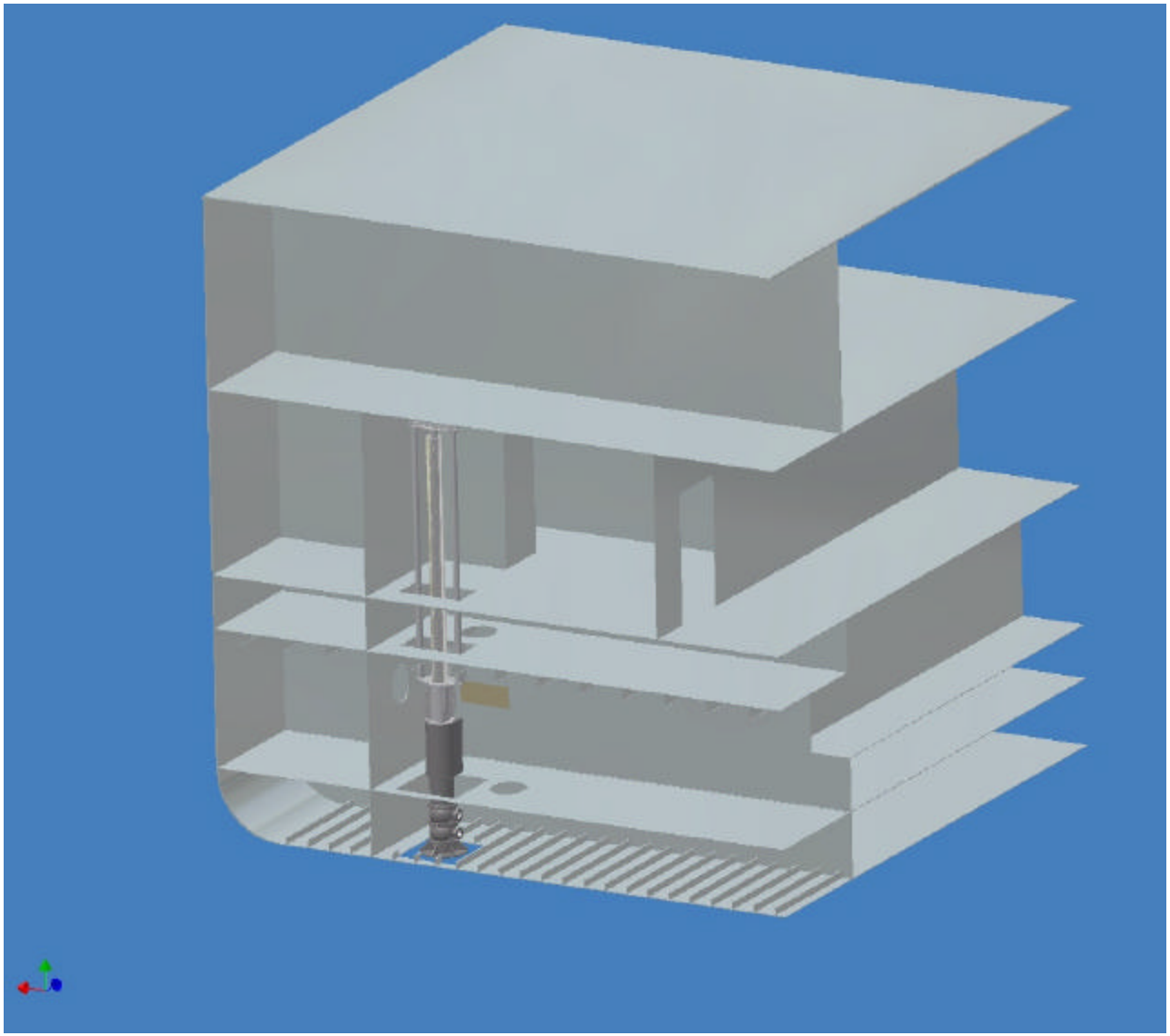
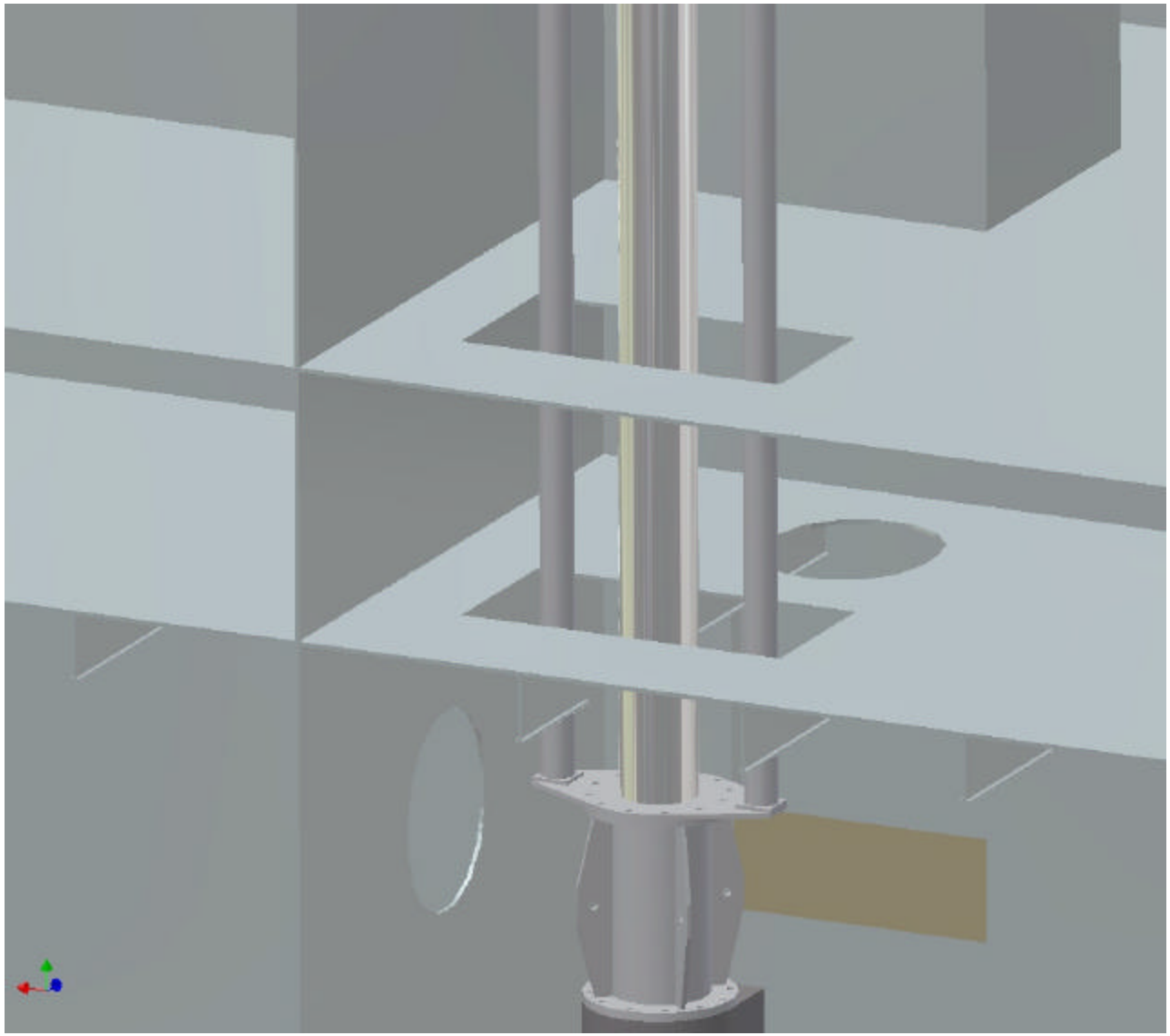
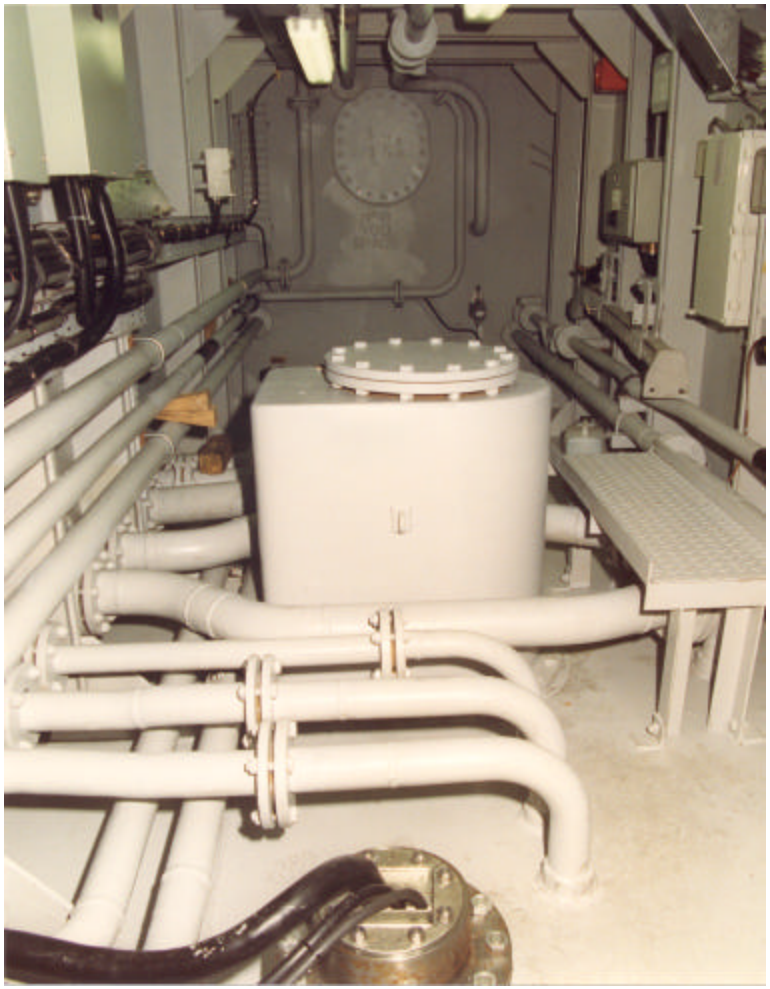
USBL location





Transducer Space



The Refit

- 8 weeks long
- Major survey year
- Mid-ship gantry overhaul
- Removal of the rudder and tailshaft
- Replacement of the ADCP
- Replacement of TX array on Swath Bathymetry
- Installation of the USBL

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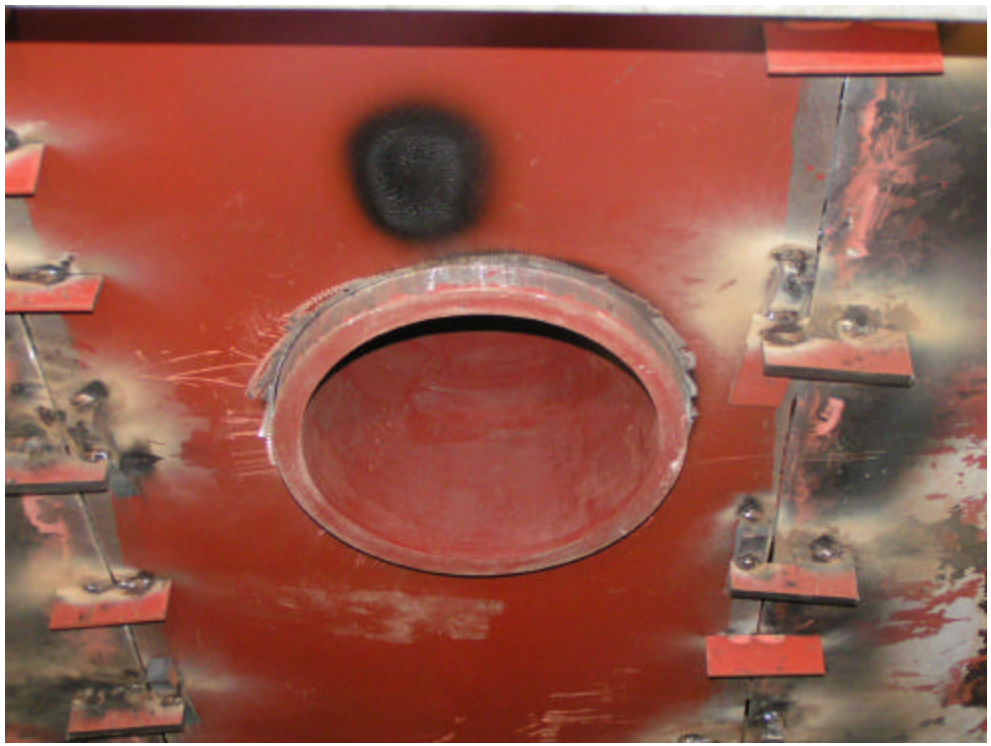
Small hole / Big pole

Getting it in!

Inside the Transducer Space

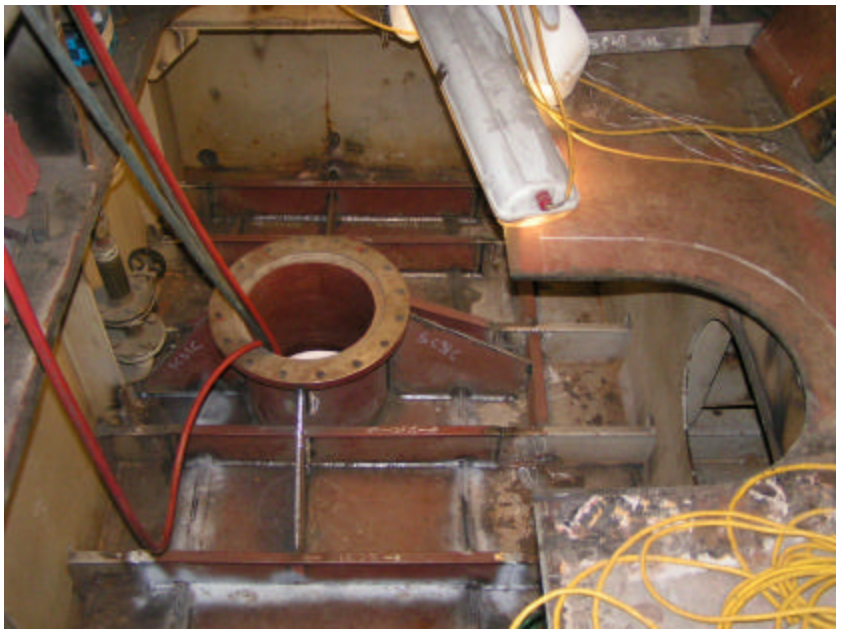
Inserting the gate valve

Plugging the hole



Levelling

Finishing the sea tube

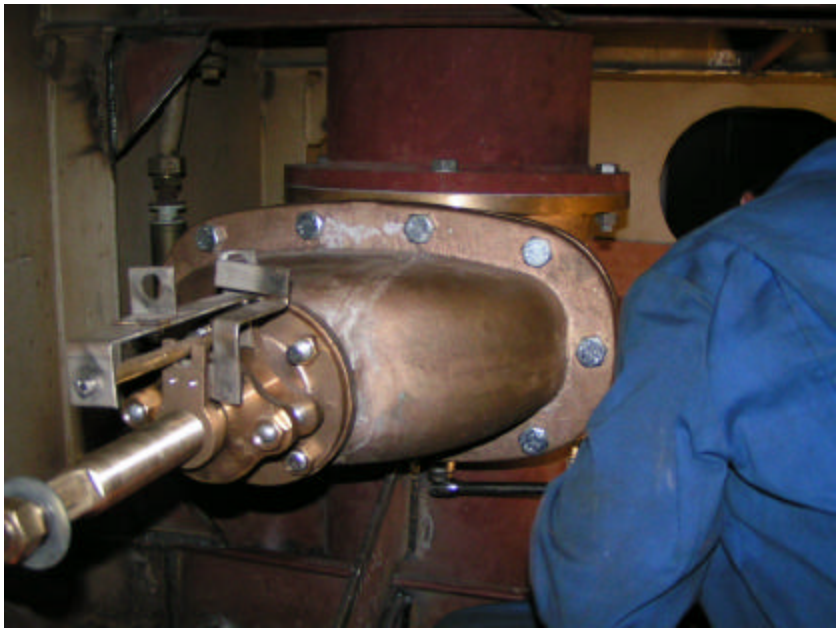


Meanwhile above

Access

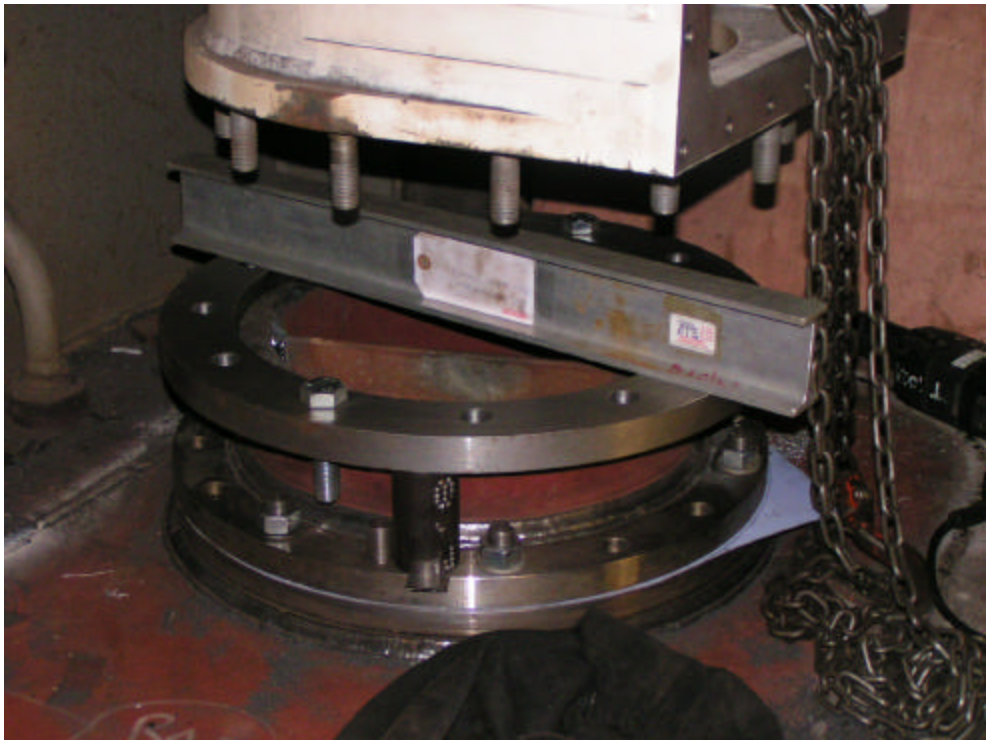
Manoeuvring the gate valve

Bolting down the gate valve

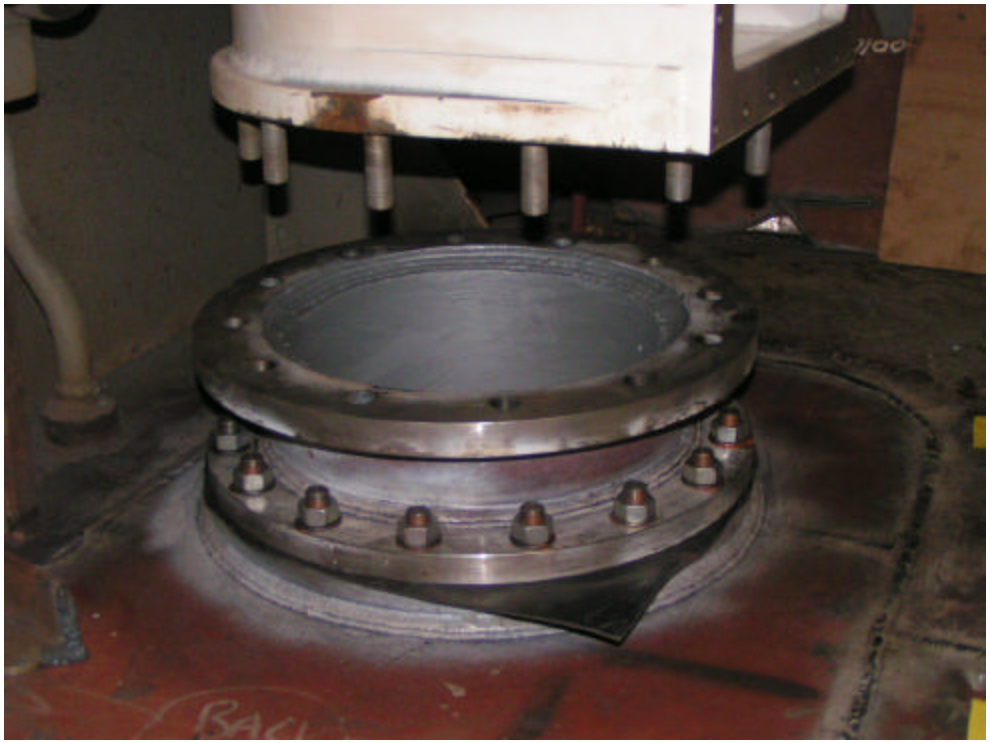


Meanwhile above

Positioning the top ring

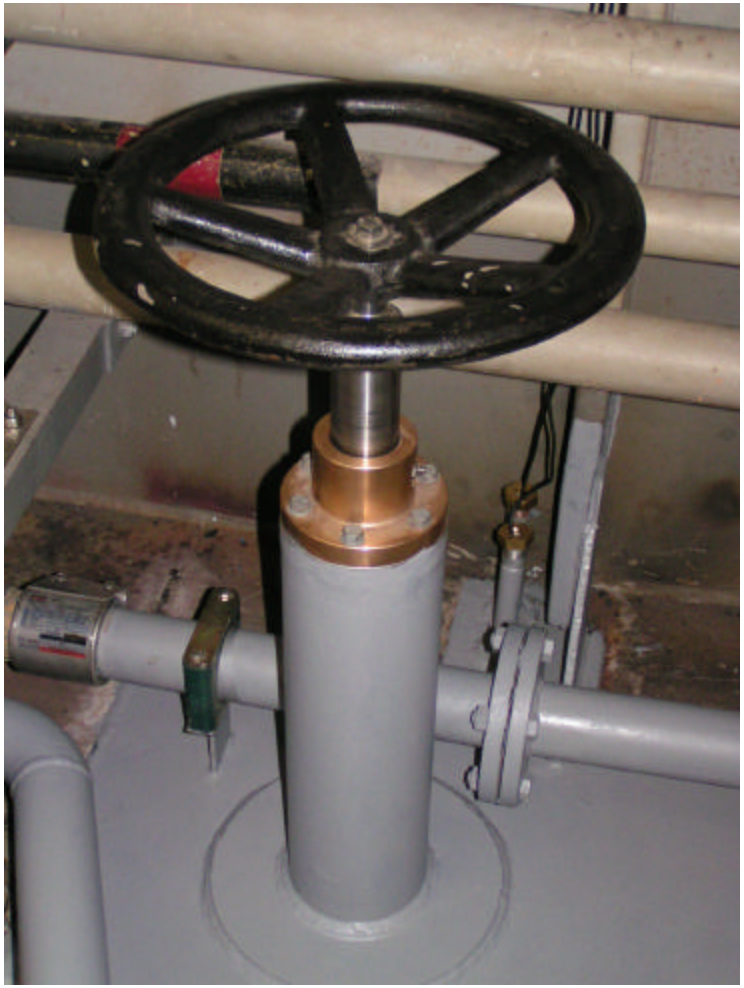


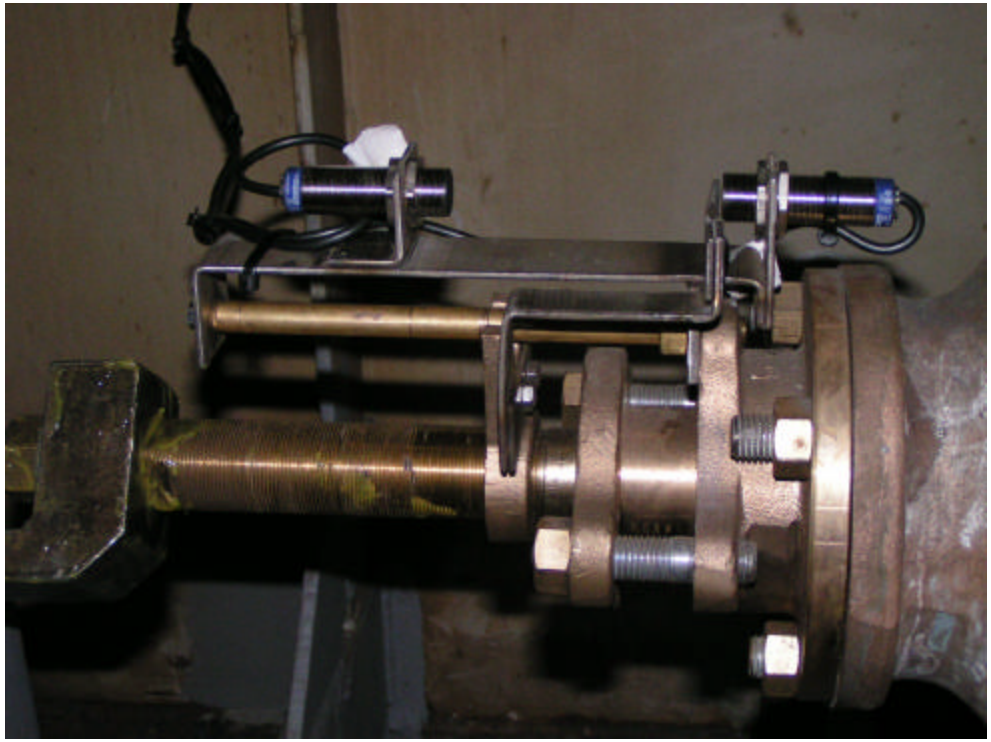
Finished Spool



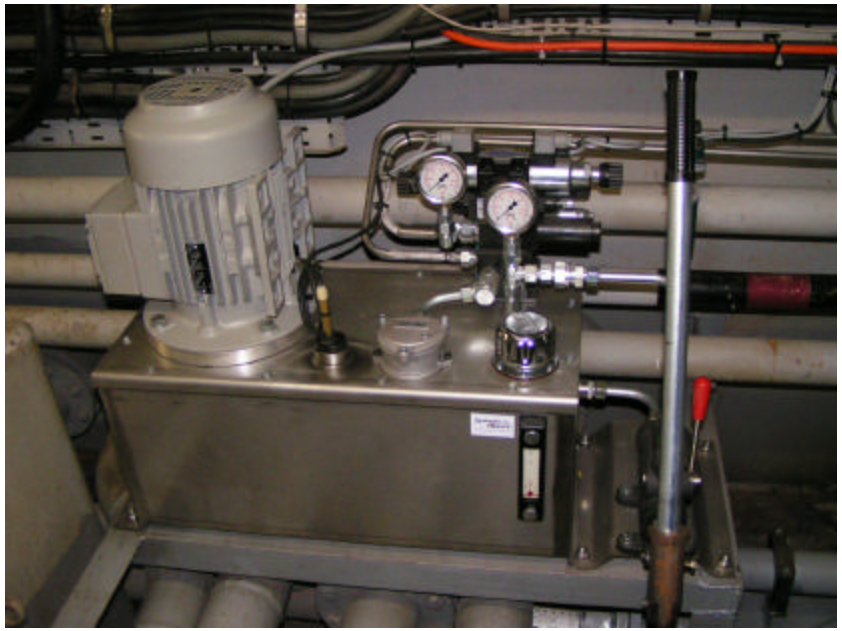
Finished assembly

The finishing touches



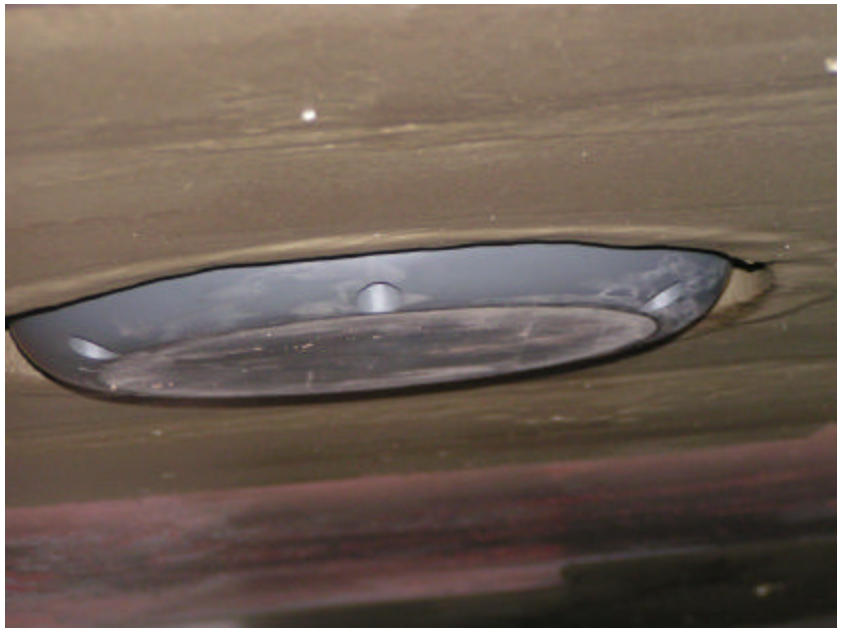



STARBOARD



Controls

Down in the dock



What do we do now?

Flood up

Lessons learned

- Involve everyone concerned from the start
- Get them to agree the way forward
- Write a detailed specification for all levels
- Select a reliable yard with on-site facilities
- Get the classification society on your side

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- Regular meetings throughout the project
- Especially during the refit
- Leave plenty of time
- Don’t assume anything
- Don’t plan to do too much during a refit
- Leave time at the end for problems

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And finally