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Leak in hot water system for saturation divers

What happened

During saturation diving operations between bell runs it was noted that Divers Hot Water Unit #2 had a water leak. The leak was investigated and located, but was found to be in a place with very poor access. There was a small hole in a pipe, which on investigation was found to be a bigger hole under surface corrosion.

The Dive Supervisors and Dive Superintendent were immediately informed about the issue, and diving was suspended due to there being no backup for the remaining Hot Water #1 Unit.

What went wrong

- Due to very limited access, it was not possible to inspect the tank outlet of the 4" closed circuit pipework;
- External corrosion had over the years completely corroded the 4mm pipe in a very limited area.

What was the cause

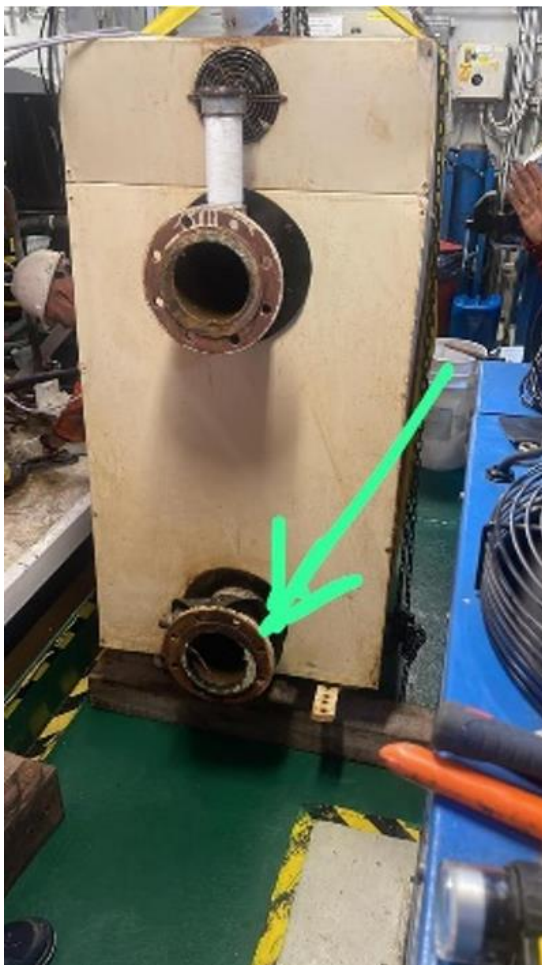
- The direct cause: corrosion over many years;
- The root cause: The inaccessible location [for visual inspection] of the pipe.



The hole at 6 o'clock in the water intake



Sleeve welded at the area of corrosion



Location of the hole, inaccessible for visual inspection. Picture shows the back part of the unit mounted against a wall

What action to take?

- Sleeve welded on the leaky area;
- Hot Water Unit #1 was inspected and no defects found;
- Consider wall thickness measurements of old pipes.