

Diver experienced an air flow restriction

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At the beginning of an air dive at 23msw, a diver experienced an air flow restriction.

What happened?

The system used was considered as a Mobile Surface Supplied System, the daughter craft was moored to the platform, the mother vessel was ready in the vicinity at about 200m.

Pre-dive checks were performed and recorded on deck before starting the dive. When at depth, 23msw, diver 1 reported the air was getting tight and informed his supervisor he was going onto bailout. The Diving Supervisor first increased the pressure on primary supply, then switched from primary to secondary supply, and instructed the diver to close his bailout. The diver did so and confirmed he was on main gas. The Diving Supervisor aborted the dive. The diver returned back to surface and was safely recovered on deck. The daughter craft went back to the mother vessel for investigation of the equipment by the dive technician.

The event led to the abort of the dive, no-one was injured. Operations were interrupted for investigation and the event was recorded as a near miss.

What went right?

- All equipment maintenance was in-date, and IMCA audits were done at the mobilization.
- Equipment familiarization had been performed at the start of the project.
- The dive system was maintained daily throughout the project.
- The dive system has been used daily for a month with no incident, this was the 103rd dive of the project.
- On investigation, the following was noted:
 - Diver 1's helmet was completely checked and tested and was found in normal working condition.
 - Diver 1's umbilical was checked and found free of twist, bent and deformation.

What went wrong?

- Diver 1's panel was tested at 15 bar with all needle valves fully open. It was noticed that Diver 1's primary needle valve was hard to open fully.
 - Direct cause: The needle valve was not opening as it should, restricting the air flow.
 - Root cause: Premature fatigue of the equipment, could be due to an

overtightening of the valve over time.

Actions taken

- The needle valve was replaced with a new one.
- Updated the pre-dive checklist to include an item to confirm that the status of the valve is open fully with a ¼ turn back.
- Amended onboard procedures – to not overtighten the valves either when opening or closing.
- Supervisors and divers to report any anomaly in the equipment, even when they seem minor.
- A debriefing was done with the whole team covering the emergency procedure for loss of main air.

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