



Keep Workers Alive During Diving Operations

Divers working around drains, tunnels, pipes or valves can suffer fatal injuries when differential water pressure, commonly known as Delta P, creates forces quick and strong enough to entrap them.

Diving contractors and facility operators must take measures to protect divers by attending pre-job safety briefs to discuss Delta P; identifying and calculating the force of Delta P; considering a pre-dive inspection with remotely-operated vehicles (ROVs); using a lockout/tagout (LOTO) program; and making sure all dive team members are qualified.

From June 2019 to July 2021, 5 of the 6 Delta P fatalities occurred at power generation facilities

Other measures diving contractors and facility operators can take to ensure divers' safety include:

Facility Operator

- Update facility drawings to show the most current piping and valve configurations.
- Train facility workers and diving contractors on LOTO procedures.
- Verify zero energy by using gauges, meters and confirmation from the diving contractor.
- Eliminate the hazard by constructing guards/screens or close valves.
- Review and understand the diving contractor diving plan.

Diving Contractor

- Review facility drawings and physically verify plant configuration and valve alignment.
- Use your own locks to ensure LOTO.
- Verify zero energy by use of tell-tales, velocity meters, ROVs or SONAR as well as confirmation from the facility operator.
- Limit the length of the diver's umbilical and use proper umbilical management techniques.
- Always create a plan for each dive, even if you have worked at the facility and location previously.

Do not start the dive until it is safe.

To learn more about commercial diving safety, visit [osha.gov/commercial-diving](https://www.osha.gov/commercial-diving). To watch a video on the dangers of Delta P, visit [videos.adc-int.org/dangers-of-delta-p](https://www.videos.adc-int.org/dangers-of-delta-p).

OSHA alerts are issued on occasion to draw attention to worker safety and health issues and solutions.