


Comment from Schaefer, Louis; Legacy Offshore

This is a Comment on the **Occupational Safety and Health Administration (OSHA)**
Notice: [Standard on Commercial Diving Operations; Extension of the Office of
Management and Budget's \(OMB\) Approval of Information Collection \(Paperwork\)
Requirements](#)

For related information, [Open Docket Folder](#) 

Comment

View document:

Paperwork & regulatory burden is not currently a problem within the commercial diving industry; the real problem is multiple oversight organizations (OSHA/USCG/US Army Corps of Engineers), lax industry standards (3 or 4 man teams vs. a minimum of 5); and a failure to properly/immediately investigate as well as keep records of accidents which would lead to regulation shifts that would not only save lives but also prevent similar types of serious injuries from occurring in the future.

My name is: Louis E. Schaefer JR. I am the Chief Executive Officer at Legacy Offshore International, LLC located at 4823 E. FM 646, Dickinson, Texas 77539

I have been diving and managing commercial diving operations in the US Gulf of Mexico for fifty-two years. During this time I have heard of and read about numerous fatalities in our industry. The sad thing is that most of the fatalities are due to one reason...

The lack of an adequate number of dive team members on the job.

(Please review the attached dive team comparison PDF for a detailed overview of this concept)

Due to inadequate regulations, lack of prompt and proper investigation of diving fatalities, and failure to keep accurate records and statistics that would show that this problem is far greater than anyone at OSHA could imagine. Some diving statistics show that commercial divers that are working under OSHA jurisdiction are 40 times more likely to die than any other labor group in America.

There are too many diving companies that are willing to gamble with the lives of their divers by bidding a 3 or 4 man dive team when a five man team is the minimum size required to conduct diving operations in a reasonable and safe manner. This shortage of team members is the root cause of most diver fatalities as rescue personnel and equipment are not built into the equation, thereby not available when an emergency situation does arise. The continued use of 3 or 4 teams will only lead to countless more unnecessary and avoidable fatalities.

If safety is the goal, and if the lives of our divers matter, then the paperwork/time/accountability burden OSHA is attempting to save here is simply not relevant to our specific industry. Our industry needs APPROPRIATE regulations, immediate accident investigations, and proper record keeping which would lead to accurate statistics. Beyond this we would like to see a new industry standard of 5 man dive teams with primary oversight coming from the USCG, as well as a paperwork/time burden from this organization that leads to an industry in which fatalities are not simply the cost of doing business.

I have been a diver, I have supervised divers, I have ran commercial diving operations, I have owned international diving companies... the point is that at every step of the way, regardless of what position I found myself in; the safety of the divers is and always has to come first. Safety trumps convenience, it trumps profits, and it certainly trumps irrelevant paperwork.

Expanding on the need for safety just mentioned, a simple solution would be for OSHA to petition the USCG to take over jurisdiction of all commercial diving operations performed in navigable waters in the USA.

For example: I live on Clear lake bay in Kemah, Texas directly across the bay from NASA Space Center, every day I watch USCG / Homeland security patrol boats run around the bay looking for something to do. I have never heard of or seen an OSHA patrol boat in any harbor or bay in the last 50 years. It would be very easy for the USCG to do a quick inspection of a diving company operating in the bay or harbor thereby ensuring that they have the minimum 5 man dive team, as well as adequate diving equipment; which in the end creates a safer worksite resulting in significantly less incidences of serious injury and/or fatalities.

In closing, it is my hope that after reviewing this comment OSHA will come to the realization that the paperwork/time/cost burden is not relevant or applicable to our industry and that there are far more serious issues that need to be addressed.

No documents available.

Attachments

View All (1)

Safety in Commercial Diving Practices: A Comparison of Three (3), Four (4), and Five (5) Man Dive Teams

Written and Prepared by Louis E. Schaefer, Jr.

SAFETY IN COMMERCIAL DIVING PRACTICES:

A COMPARISON OF THREE (3), FOUR (4), AND FIVE (5) MAN DIVE TEAMS

Unfortunately, commercial dive companies in the United States frequently circumvent industry safe practices and existing federal regulations by utilizing three (3) man rather than five (5) man dive teams for diving operations in United States waters.¹ Reducing the number of commercial dive personnel by using three (3) rather than five (5) man dive teams not only endangers divers' lives, but this ever-increasing practice is not in compliance with existing federal regulations including: Occupational Safety and Health Administration ("OSHA") standards², U.S. Coast Guard regulations³, and U.S. Army Corps of Engineers guidelines.⁴

To properly and safely comply with existing federal regulations, commercial dive companies must use minimum five (5) man dive teams. Regrettably, in the interest of profits, many commercial diving companies attempt to bypass the above-referenced federal regulations by operating with fewer dive personnel than required by law.

This report illustrates why five (5) man dive teams are the only safe and regulatory-compliant practice for commercial dive operations. A properly manned dive team consists of the following five (5) members:

- 1) A designated person-in-charge (qualified as a dive supervisor);
- 2) A primary diver (experience to perform the assigned task);
- 3) A tender for the primary diver;
- 4) A standby diver to aid the rescue of the primary diver; and
- 5) A tender for the standby diver.

Three (3) man dive teams typically consist of:

- 1) A designated person-in-charge (often not qualified as a dive supervisor);
- 2) A primary diver (often inexperienced in the assigned task); and
- 3) A tender for the primary diver.

When commercial dive companies choose to mobilize three (3) man dive teams as described above, an integral member of the dive team, the designated person-in-charge, must also act as the standby / rescue diver to the primary diver. In an emergency, a three (3) man team is insufficient because, among other reasons, the standby / rescue diver does not have an assigned tender. Additionally, with the designated person-in-charge serving as a standby / rescue diver, no dive supervisor is on deck to communicate with the divers and provide important guidance and directions for rescue efforts.

The following pages illustrate why current industry practices are not sufficient to protect the lives of commercial divers and why five (5) man dive teams are the only option that is safe and regulatory compliant practice for commercial diving operations.

In the U.S. Continental Shelf Area, including harbors, rivers and the inspection of water towers, it is common practice to use a three (3) man dive team; which is absolutely unsafe.

A three (3) man dive team consists of:

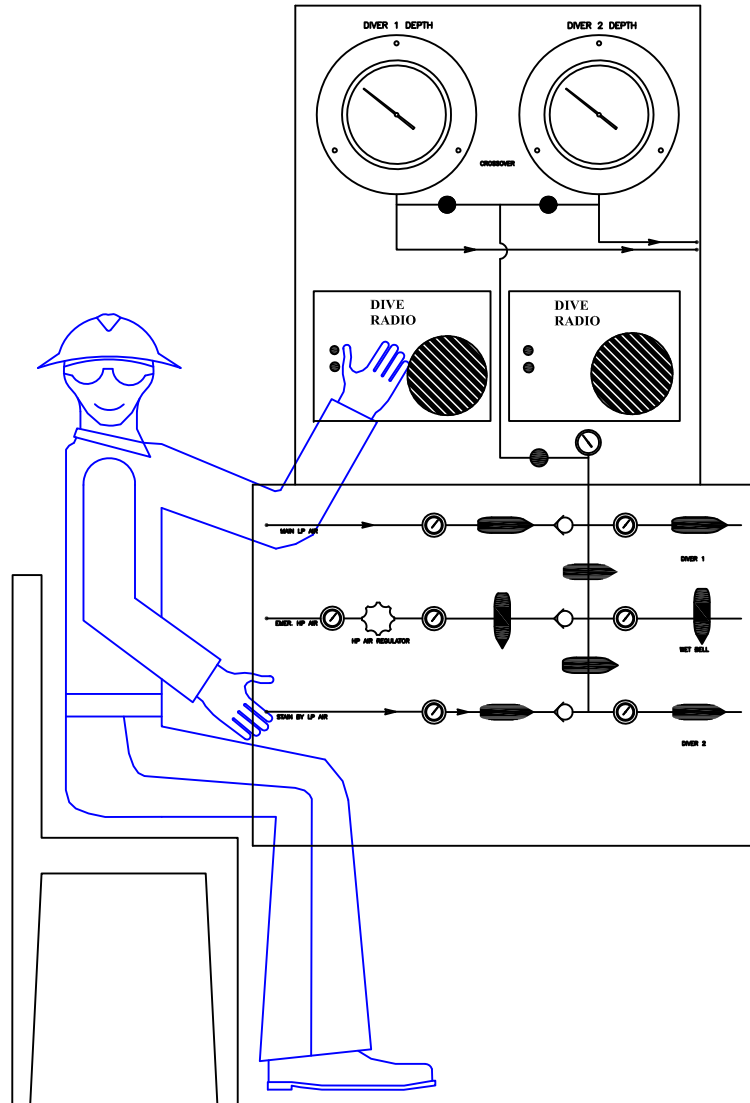
1. A Rescue Diver in place of a Diver Supervisor (Blue). The Rescue Divers are normally **not** qualified to be a Supervisor. This problem leads to many accidents and fatalities.
2. A Tender (Red)
3. A Diver (Black)

Even under the most optimal conditions a three (3) man dive team is an accident **waiting to happen.**

The regulations for all dives, at any depth should be as stringent as the regulations for any situation that puts a worker into an environment where he cannot breathe the surrounding atmosphere.

The following pages will illustrate current practices and why a five (5) man dive team is the **ONLY** safe option.

DIVE CONTROL PANEL



The Dive Control Panel is operated by the Dive Supervisor.

The Dive Control Panel receives air from 3 sources:

1. Main Dive Compressor
2. Standby Dive compressor
3. High Pressure (HP) Regulated Air Bank

The Dive Panel allows the Dive Supervisor to monitor and if necessary isolate each source of air and switch them.

Example A:

If the wind is blowing exhaust fumes from other equipment on the dive compressors' intake, the Dive Supervisor can switch to HP Air.

Example B:

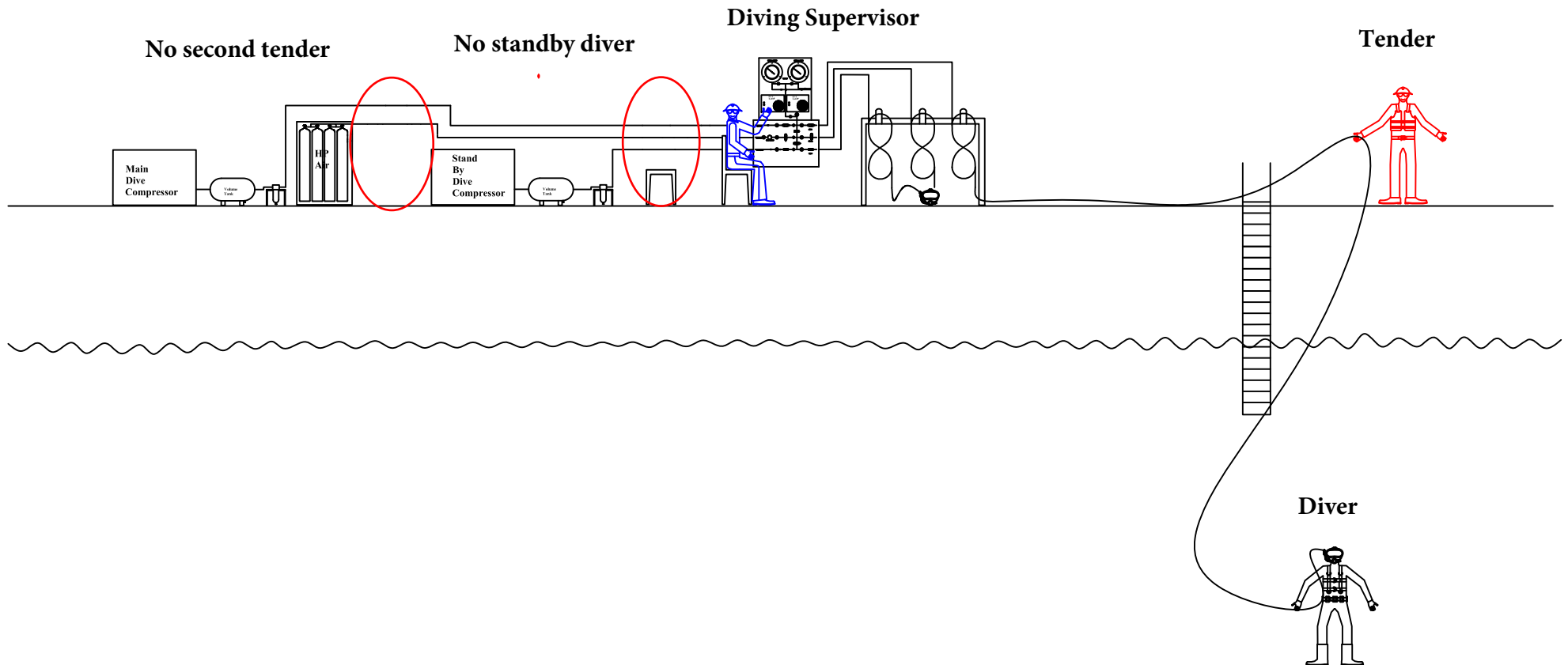
If the Main Compressor goes down, he can switch to the Standby Compressor.

Example C:

If both the Main and Standby Compressors go down, he can switch to the Emergency Air Bottles.

THREE (3) MAN DIVE TEAM - NORMAL SCENERIO

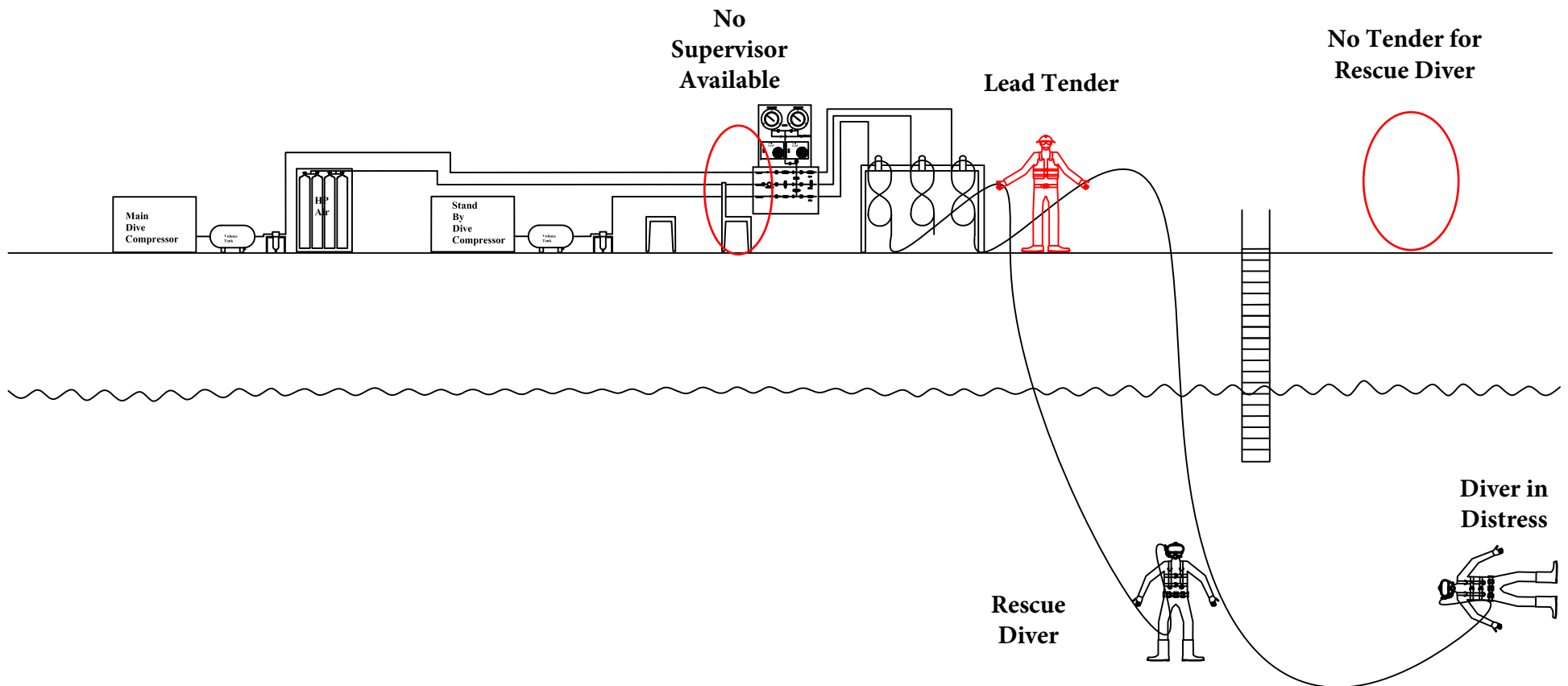
This scenario is not safe and should not be allowed. Upon a potential emergency situation, the diving supervisor usually takes on the role of the Rescue Diver, he is then required to leave his post, thereby creating a loss of direction for proper personnel to direct the rescue operation in a safe manner. In many cases, this has already caused the loss of life.



THREE (3) MAN DIVE TEAM - EMERGENCY SCENARIO

In an emergency situation, in this scenario the diving supervisor must leave his post at the Dive Control Panel. Because he isn't prepared, he will spend too much time preparing for the rescue whereas a standby diver would have already have been prepared. The difference in these few minutes could cause a loss of life, and in many cases have.

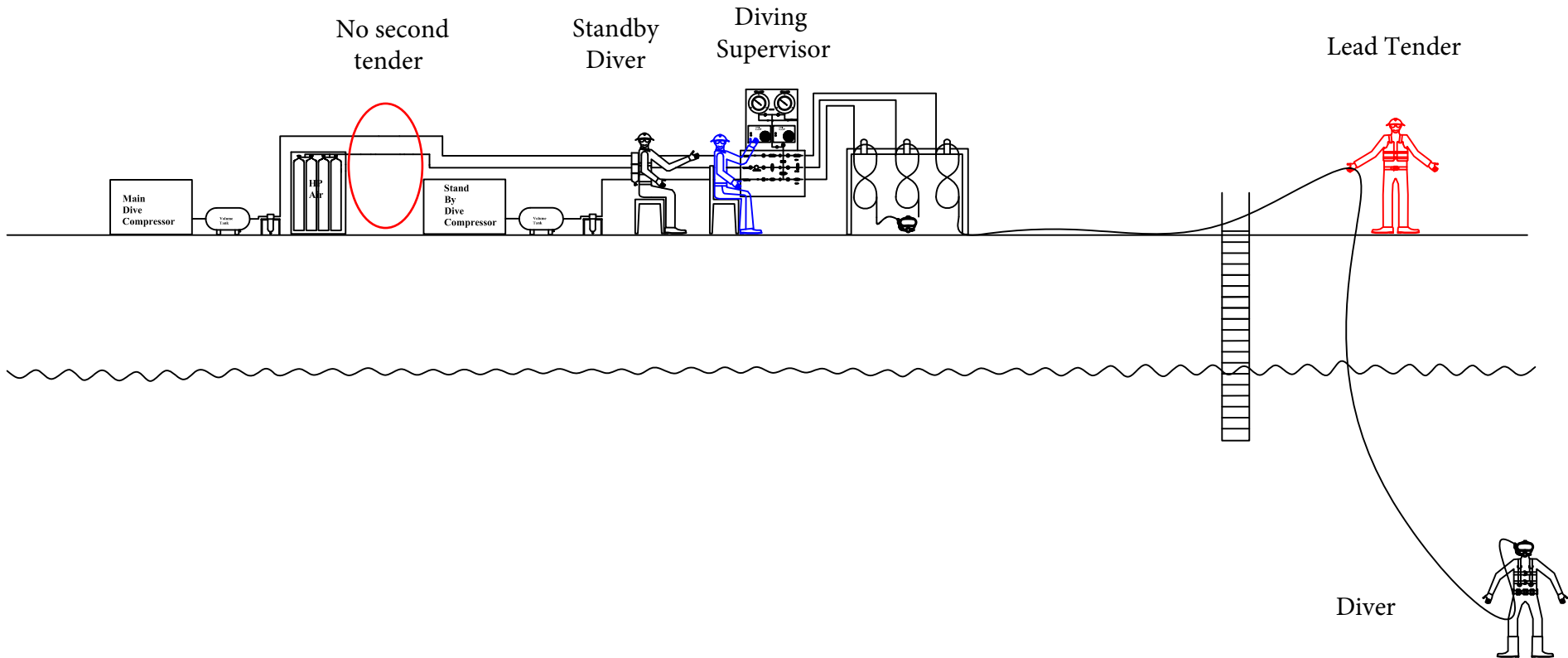
With both Rescue Diver and Diver on bottom, only one dive team member, the Tender remains on the surface to tend both divers, run the dive panel (which he is not qualified to do), check the gauges, tend the air compressors, bleed the volume tanks, get tools up and down, and radio for help. This is impossible for one person to do. The situation puts the safety and well being of both divers in jeopardy.



FOUR (4) MAN DIVE TEAM - NORMAL SCENARIO

In this scenario, the Supervisor is monitoring the Dive Control Panel and the Rescue Diver is available to assist, but there is no second Tender to:

1. Dress and tend the standby diver
2. Check and repair air compressors;
3. Drain water from volume tanks and air filters
4. Assist in watching for outside hazards to the diver (incoming boat traffic, overhead crane lifts, ect.)

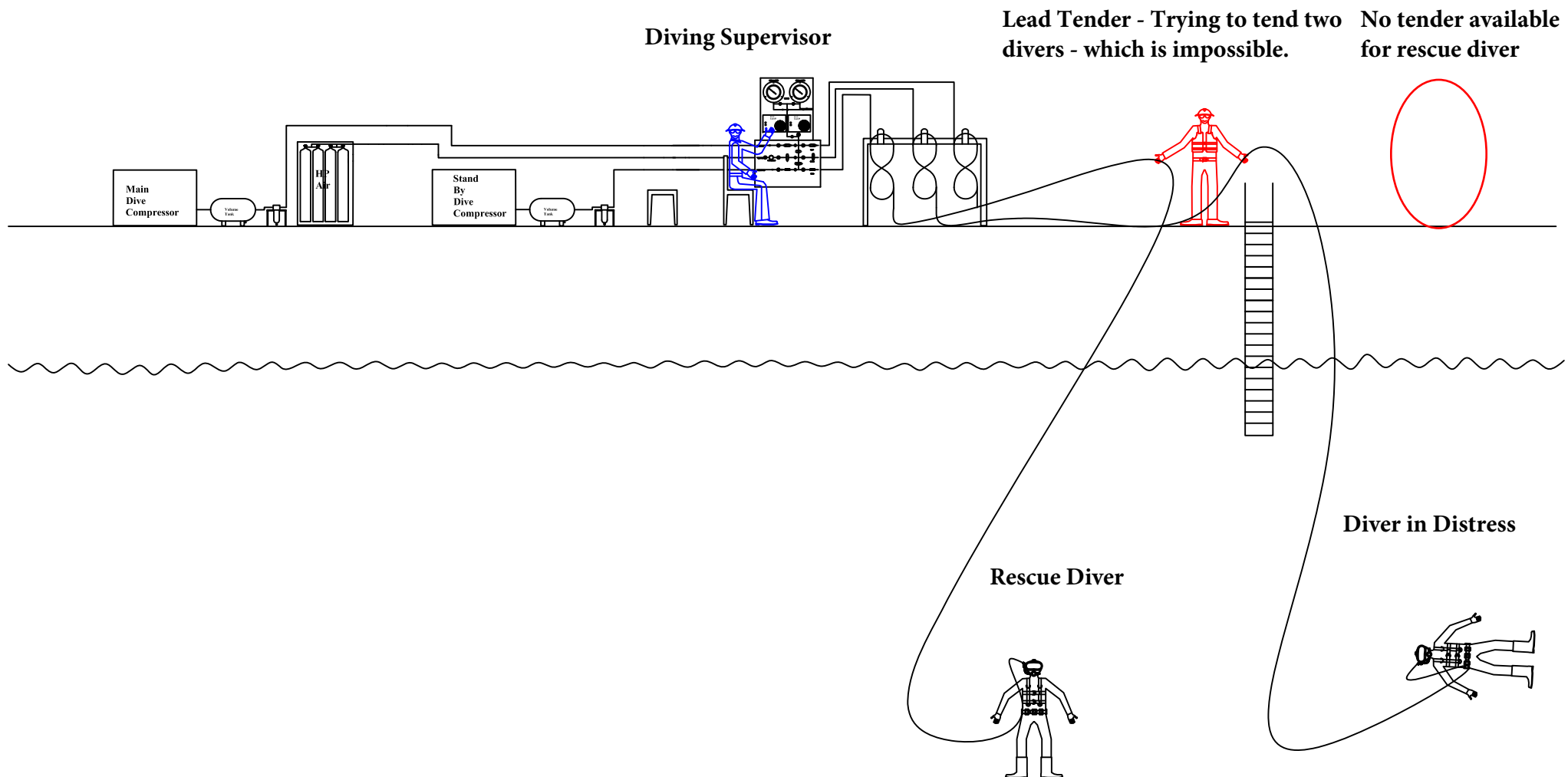


FOUR (4) MAN DIVE TEAM - EMERGENCY SCENERIO

In this scenerio, the Supervisor is monitoring the Dive Control Panel and in an emergency situation where a diver would require assistance, the Rescue Diver is available to assist, and there is no second Tender to assist in the following:

1. Dress and tend the standby diver
2. Open backup high pressure air bottles in emergency
3. Help Rescue Diver enter the water and tend his hose
4. Help get Diver in distress out of the water

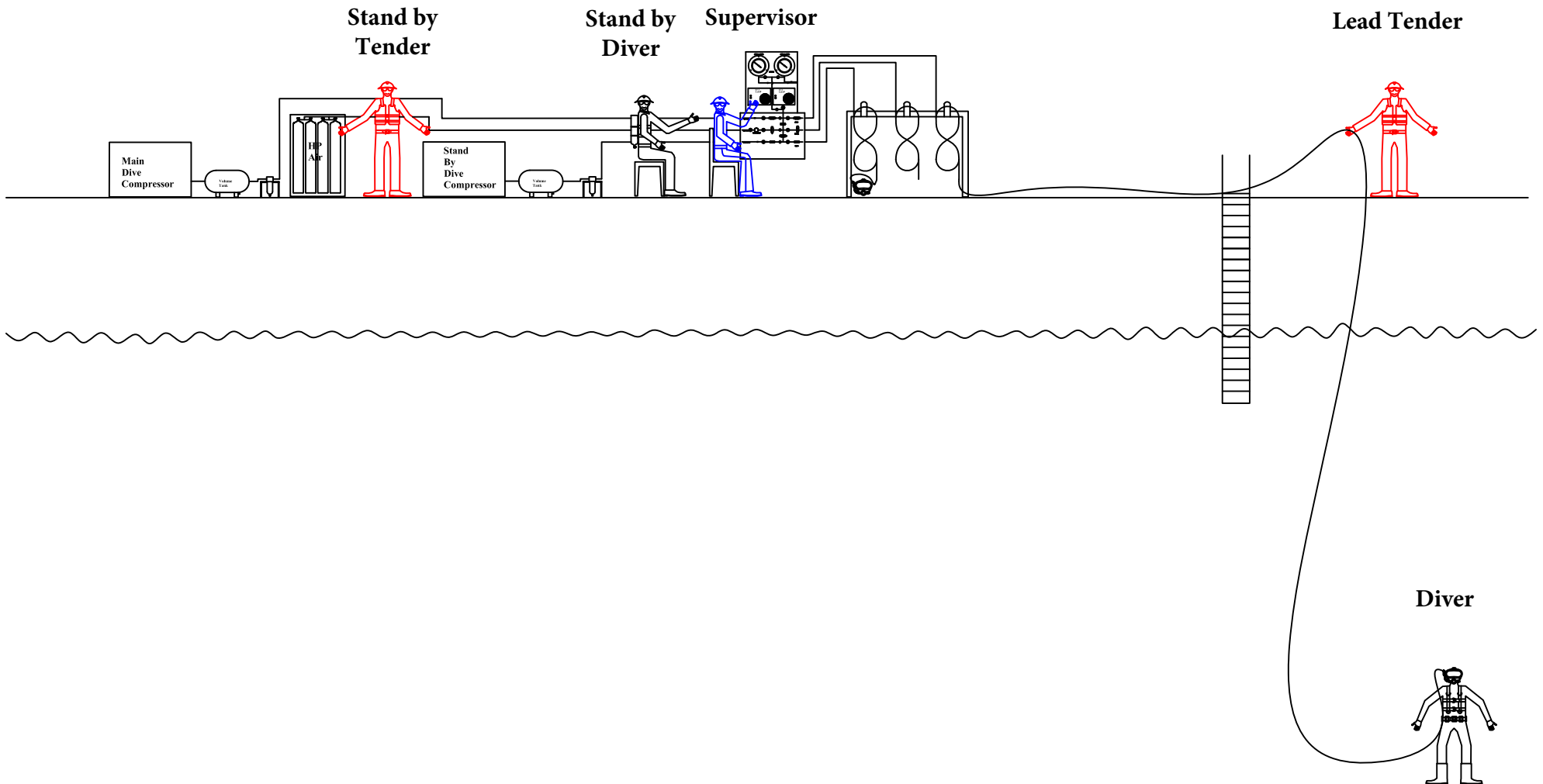
This means, in an emergency situation, the Supervisor may have to leave his post to assist divers as needed.



FIVE (5) MAN DIVE TEAM - NORMAL SCENARIO

In this scenario, the Supervisor is monitoring the Dive control Panel, the Rescue Diver is available to assist, AND there is a second Tender to:

1. Check, repair, or refuel air compressors
2. Drain water from volume tanks and air filters



FIVE (5) MAN DIVE TEAM - EMERGENCY SCENARIO

In this scenario, the Supervisor is monitoring the Dive Control Panel, the Rescue Diver is available to assist, AND there is a second Tender to:

1. Assist the rescue diver to quickly suit up to dive.
2. Help Rescue Diver enter the water and tend his hose
3. Help get Diver in distress out of the water

This means, in an emergency situation, the Supervisor stays in place to direct the dive.

