



Safety Alert



CONFINED SPACE DOUBLE FATALITY

The following safety alert was provided to ConocoPhillips by one of our colleagues in industry and pertains to a common hazard that we can encounter while working on our worksites. However, the alert does not pertain to any of our jobsites or work activities at COP, similar circumstances are present and the same result can happen if we are not diligent in making sure policy and procedures are followed properly.

Please use this alert as a learning tool and implement the corrective actions on each of your work sites and job activities. The most important asset that we have as a company is our employees and we strive to provide an **INCIDENT AND INJURY FREE** workplace for all. Please use your **STOP WORK AUTHORITY** anytime you feel that a job cannot be completed in a safe manner or if you question the task at hand.

On 16th of February 2010 at approximately 18:00hrs, two contractor welders made unauthorized entry into a confined space and were overcome by low Oxygen, Argon rich atmosphere. The welders had just completed the root pass and hot pass welds, connecting a 36" pipe to a nozzle on a heat exchanger vessel. At completion of the welding, the pipefitters were requested to shutoff the Argon source which supplied the weld purge. Due to complexity of the bottle set-up, one bottle was inadvertently left open. Evidence indicates that one welder made entry into the vessel head to inspect the inside of the root pass weld, likely after pulling the purge dams using the external lanyard. When the dams were pulled the Argon hose still flowing and were drawn into the vessel head, increasing the Argon concentration of the atmosphere. When the second welder observed the first in physical distress, he entered to initiate the rescue, and he was also overcome but managed to call for help. A fitter responded and alerted the supervisor who took charge and initiated the rescue. Both welders were pronounced dead at the hospital at 18:50hrs.



Positions of 4 Argon gas cylinders feeding inert chamber

Root Causes:

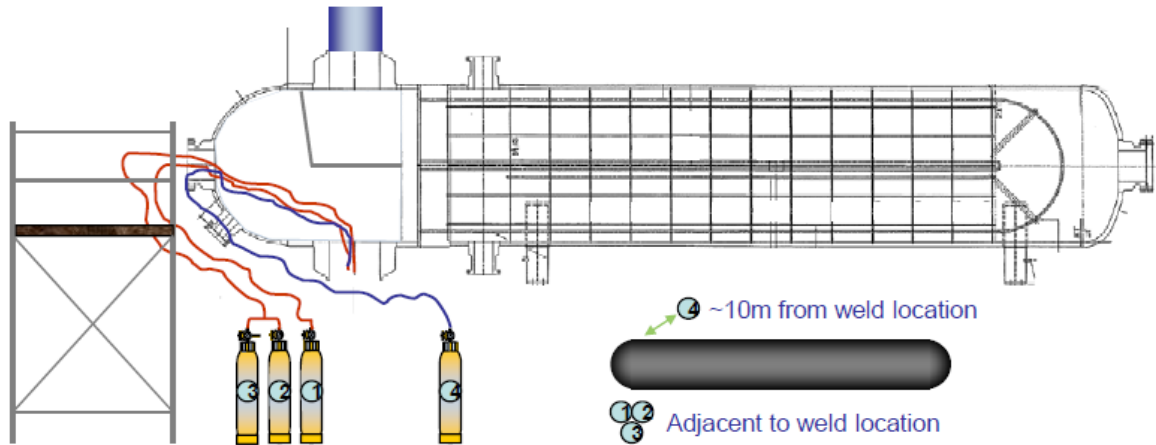
- Production pressure – Time pressure to complete the weld that day and ongoing pressure resulting in a culture of circumventing safety rules to get work completed quicker.
- Tools & equipment – Improper distribution and configuration of Argon cylinders resulted in confusion and one cylinder was left on
- Procedure not followed – Confined space entry procedure not followed



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Argon bottle configuration



Lessons Learned:

- A production focused culture will generate a response of ignoring safety requirements if it is believed that it will save time, in the face of continuous safety messages describing the correct behaviors. Commitment of management and supervision to on the job safety is critical in establishing safe behaviors. A zero tolerance approach is required to ensure workers follow safety critical rules.
- Good basic housekeeping is critical. If good housekeeping principles would have been followed, all four Argon bottles would have been located together by the job; hoses would have been configured and laid out to minimize any opportunity for confusion with bottle operation.
- Up to this incident there had been approximately 7,500 successful, permitted confined space entries made on this project. It's possible to lose sight of "under the radar" non-compliance when a program is considered to be a successful one.

Even though this incident occurred inside of a pressure vessel, the same circumstances are present in our line of work, such as work inside of barge tanks. Our scope of work inside barges normally requires running compressed gas hoses inside barges and leaking hoses, torches, and the welding process can displace oxygen. Remember, marine chemist clearances, periodic competent person checks, and adequate ventilation is the most important means of detecting hazardous atmospheres. Continue to be diligent so that this doesn't repeat itself. History is known to repeat itself if we do not learn from past experiences of ourselves and of others.