

# Incident Review

EMethanex – Egypt 1 Construction

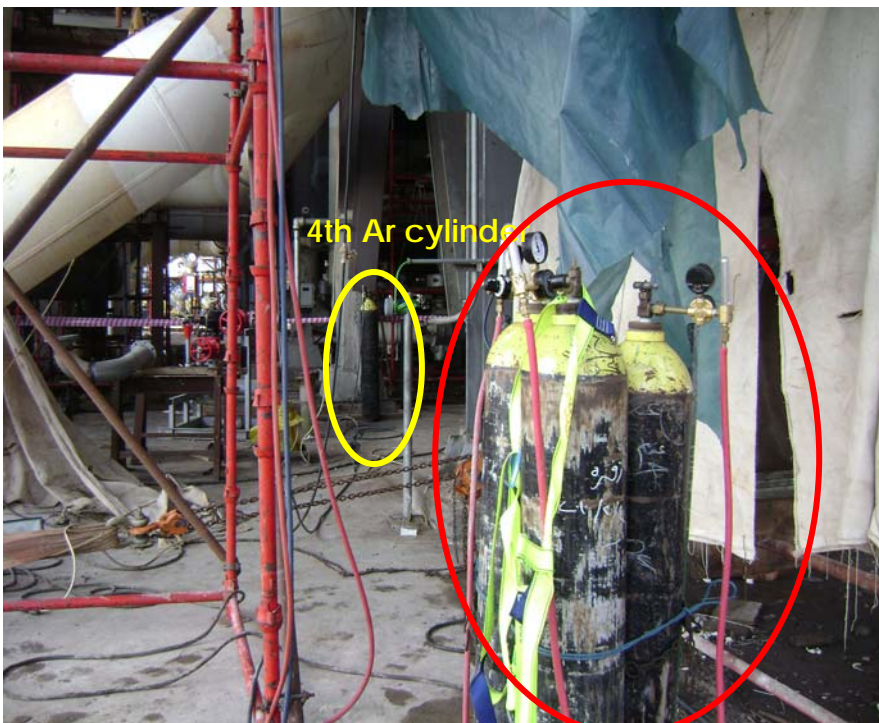


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## Confined Space Double Fatality

### What Happened?

On 16<sup>th</sup> of February 2010 at approximately 18:00hrs, two contractor welders made unauthorized entry into a confined space and were overcome by a 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 was 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 affect rescue, 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.

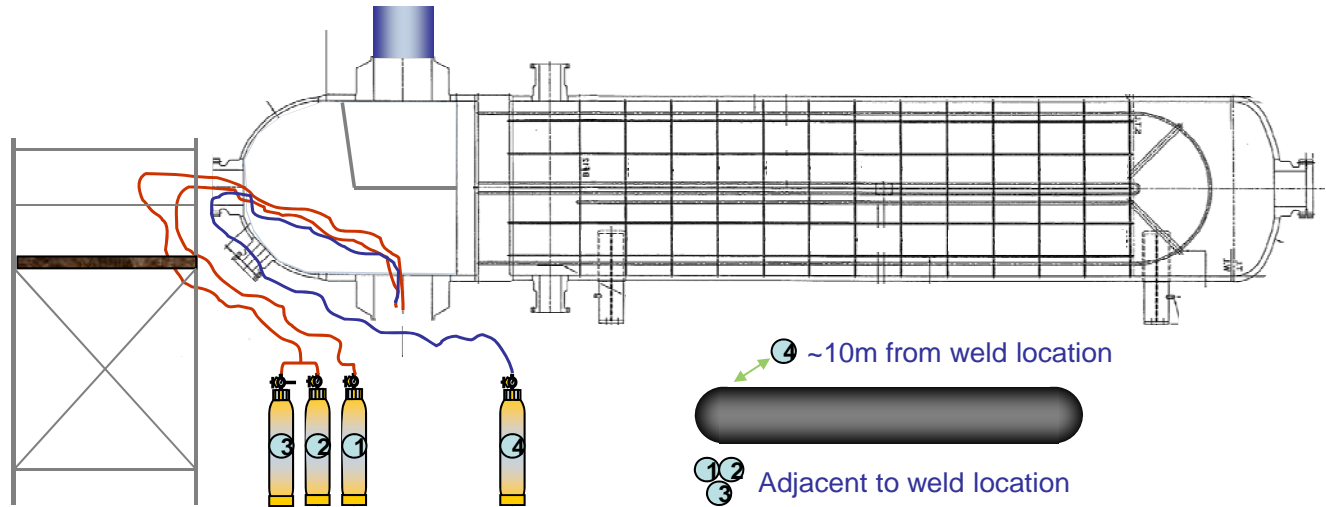


Positions of 4 Argon gas cylinders feeding inert chamber

### Root Causes:

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

## Argon bottle configuration



## Lessons Learned

- ✓ A production culture will generate a response of circumnavigating safety requirements if it is perceived 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 to circumvention of safety critical rules is required.
- ✓ 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 below-the-surface procedural non-compliance when a program is considered to be a successful one.

For further details on this incident:

Contact your GRCT member

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