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Work Permits – Understand the Scope of Work

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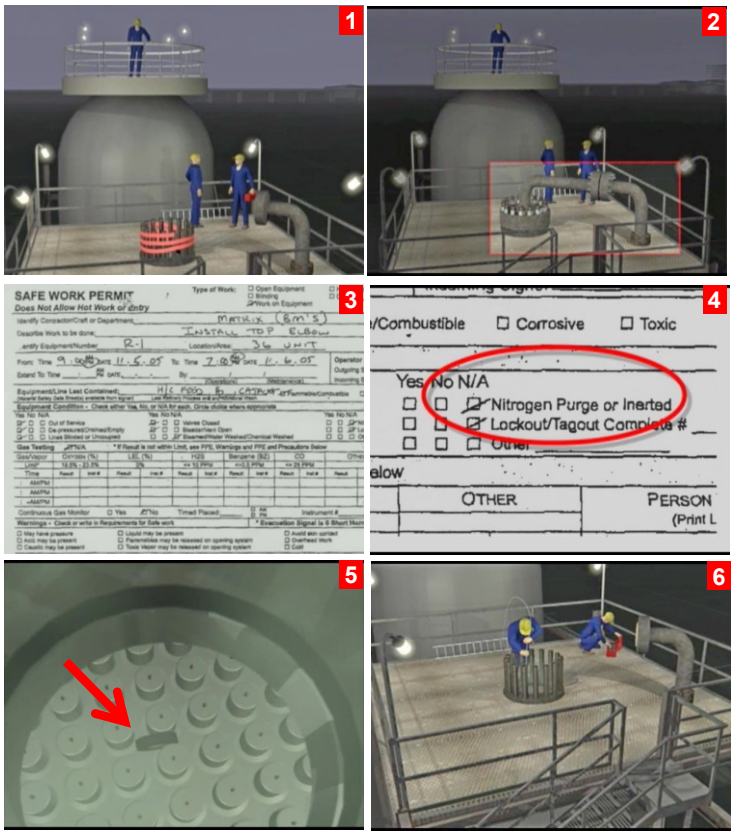

Pictures from US Chemical Safety Board Video - http://www.csb.gov/videos/hazards-of-nitrogen-asphyxiation/

A contractor maintenance crew was preparing to install a section of pipe at the top of a vessel in an oil refinery (1,2). A work permit (3) was issued for the job, with the expectation that no confined space entry was required. The scope of work was only to install the pipe section. The permit indicated that "Nitrogen Purge or Inerted" was N/A (Not Applicable) although the vessel was being purged with nitrogen (4).

Workers noticed that a roll of tape had been left inside the vessel (5) and decided to try to remove it before installing the pipe (6). They were unable to remove the tape using a long wire. At this point, a worker tried to get closer to remove the tape and was overcome by the oxygen depleted atmosphere near the opening and fell into the vessel. It is also possible that he may have climbed into the vessel to remove the tape, planning to quickly climb back out. The worker collapsed inside the vessel, and, to make the tragedy worse, a co-worker entered the vessel in a rescue attempt and also collapsed in the nearly pure nitrogen atmosphere. Both workers died from nitrogen asphyxiation.

This incident has been discussed in other *Beacons* – June 2012 about nitrogen hazards, and April 2015 on the importance of work permit procedures. But there is another lesson – the importance of recognizing a change in scope of work for any job which requires a work permit. The change might introduce additional hazards which require additional safeguards.

Did You Know?

- The work permit did not warn the maintenance crew about the nitrogen purge.
- As soon as the maintenance crew decided to remove the roll of tape by reaching into the vessel, the scope of the job changed. The original permit did not consider the need to remove anything from inside the vessel. A new permit should have been issued, considering potential confined space entry to remove the tape.
- In this case, a confined space entry permit was required, even for a person to reach into the vessel to remove the tape. When any part of the body of a person breaks the plane of an opening large enough to allow full entry, a confined space permit is required. This is the position of US OSHA and other authorities.

What Can You Do?

- If you issue a work permit, be sure that:
  - Hazards are identified and explained to the people doing the work.
  - Required safety procedures are specified and understood.
  - Personal protective equipment is available and used.
  - The people doing the work clearly understand the scope of work, and the need to ***stop work and contact you before they do anything not included the initial job scope.***
- If you are working on a job requiring a work permit:
  - Understand the hazards, safety procedures, and protective equipment.
  - Understand the job scope.
  - As you do the job, ensure for every step that you recognize any change in the scope of work. ***Stop the job and consult the person who issued the permit before you do anything not included in the initial job scope***!
  - If you are not sure if the job scope has changed, stop and ask the person who issued the permit.

Recognize a change in scope of work for a permitted job!

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