

Lessons Learned

Date: 4/5/2023

Region: Mountain

Project: X5871 TMCA

Incident Title: Struck by Pneumatic Hose

Summary

Apollo family member suffered a laceration to his right cheek when the metal factory crimp on the pneumatic hose failed at 80 psi



The hose used from the nitrogen tank to the piping system was rated at 200 PSI.

Picture



What Went Right?

- Employee was taken directly to the ER department in the hospital where the work was taking place.
- Employee was released after confirmation that the impact by the hose did not cause any damage to his cheek bone, jaw, or his chest where he was struck by the end of the hose.

What Went Wrong?

A pneumatic hose at 80 PSI will thrash violently around in a catastrophic failure and if you're working in a small ICRA containment when the failure occurs, there is no place to go.

Hose manufactures offer little help in identifying this type of failure before it occurs. Possible causes of a factory crimp failure include:

- The hose was not fully inserted into the shell of the fitting during assembly.



- The shell of the fitting was crimped too much or too little during assembly.

Lessons Learned

What we can do:

1. Inspect pneumatic hoses prior to each use, look for cuts, frays, and abrasions.
2. Replace old hard, stiff, heat cracked, or brittle hoses.
3. Ensure the pneumatic hose in use is rated for the PSI you are intending.
4. Avoid sudden surges in pressure to the hose, by filling systems slowly.
5. Check factory crimps to ensure the hose is fully inserted into the crimp, verify it is tight, not kinked, crushed, flattened, or bent.

Please stay diligent out there, by inspecting your tools and equipment prior to each use, this incident could have been much more severe than it was.