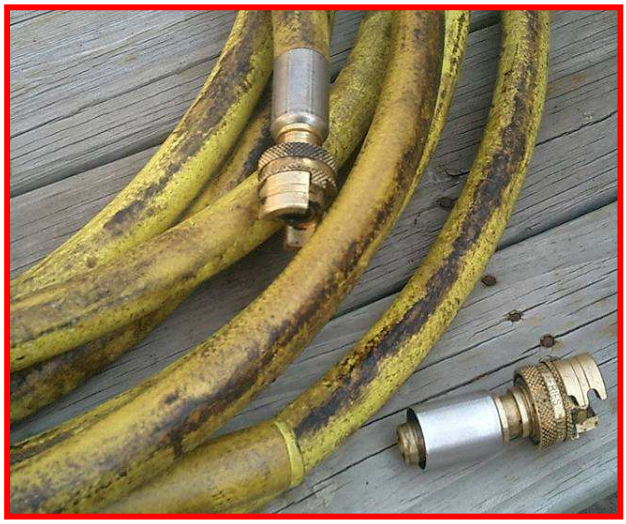
Safety Flash

RECENT NEAR MISS WITH NITROGEN HOSE

On 03/02/10, CDCC personnel were clearing E-715A for mechanical work. While nitrogen purging the tube side of the exchanger to an established H2S regulated area, the crimped fitting on the end of the nitrogen hose became separated from the hose. A whip check was utilized on the hose which prevented possible injury to personnel. CDCC technicians did an outstanding job by completing a well written JHA, following established procedures and having a check valve installed at the exchanger bleeder, which prevented crude oil from being released to the atmosphere. This incident is a prime example of why we have established procedures and why we should follow them. Any short cut taken while performing this task, i.e. no whip check, no check valve, etc., could have resulted in injury. We should always visually inspect all hoses for excessive wear, damage, and expiration date prior to each use.



Root Cause from Triplex:

Triplex inspected the ferrule and found a small imperfection in the form of a protrusion of metal on the inside of the ferrule. Triplex checked the equipment used to push the fitting and the ferrule onto the hose and found it to be in good working order. They also checked the FP-140 Finn Power machine used to crimp the ferrule onto the hose securing the fitting into the hose and found it to be in good working order. Triplex conducted several checks with different sizes and types of hoses measuring the crimp diameter of each. Each time a hose has a fitting crimped onto the hose the ferrule crimp diameter is measured for accuracy, consistency and repeatability. This is standard practice. Triplex follows the fitting manufacturer's crimp recommendations on the crimp diameter for each hose size, type, end fitting and ferrule.

In accordance with their agreement with ExxonMobil, the Air, Nitrogen and Water utility hose assemblies are 10% random tested, 1 hose for every 10 fabricated, unlike all process hose assemblies which are 100% tested. However, the crimp diameter is 100% checked on all utility hose assemblies with crimped or swaged on fittings.

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It appears that the ferrule on the fitting in question did not get pushed up all the way onto the end of the hose. It appears to have stopped at the point of where Triplex found the imperfection on the inside of the ferrule. Therefore, it was not completely seated onto the end of the hose. Once they discovered this Triplex took the following corrective actions.

1. Triplex inspected the balance of the ferrules in their inventory.
2. Triplex, jointly with the manufacturer's approval, implemented a tighter tolerance on the crimp diameter of the ferrule which secures the end fitting to the hose.
3. Triplex conducted 100% hydrostatic testing of all the Nitrogen hose assemblies in their inventory with crimped fittings that are pre-fabricated for ExxonMobil.
4. Triplex added the following to their existing procedures for rubber hose fabrication.
    a. Using the ferrule length, mark the hose in four spots behind the end of the ferrule on the hose providing a point of reference to check and verify that the hose is securely pushed all the way onto the fitting and into the ferrule prior to and after it has been crimped.
    b. As a secondary check, manually push the fitting into the hose and ferrule onto the hose up against a wood or metal stop to further check and insure that the fitting is all the way up onto the hose as far is it could go prior to crimping.

Steps for Baytown Complex Employees:

1. Always follow SSS-4020 requirements when making connections with utility stations.
2. Visually inspect each hose prior to use for excessive wear, damage, and expiration date.
3. Pressure test by performing the following:
    a. Ensure the hose is attached at both ends.
    b. Close all bleeders at the utility station and clearing tree.
    c. Slowly introduce pressure and listen for any leaks.