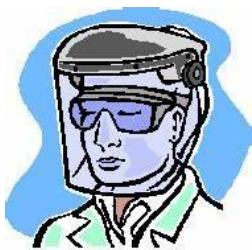


Sense of vulnerability – a very important safety component

June 2023



A person walking through a process area that handled sulfuric acid noticed an operator preparing to disconnect a nitrogen hose. The operator was not wearing the complete Personal Protective Equipment (PPE) required for the area, which included a face shield. The person stopped, pointed out the situation, and the operator willingly complied. The first person had only gone a few more steps when he heard a ‘pop’ and ‘hissing’ from the sulfuric area. The operator was drenched in acid and was helped to the nearest safety shower.

Unknown to the operator, sulfuric acid had backed up into the nitrogen hose. When it was disconnected, pressure sprayed the acid toward the operator’s face and body. The operator received only a few minor chemical burns on his neck because the required PPE had been worn.

During the investigation, the operator’s face shield was found to be severely corroded and had a stain in the center where the acid had sprayed it. Without the face shield in place, the operator would have been seriously burned and could have permanently lost his vision.

Why did the first person stop and remind the operator of the complete PPE? A sense of vulnerability. The observer saw the potential for the hose to have acid in it, even though it SHOULD only contain nitrogen.

Did You Know?

- What does a “sense of vulnerability” mean? It means that everyone in your plant:
 - Understands the hazards associated with the materials and process conditions (pressure, temperature, etc.) in the area.
 - Is constantly vigilant for symptoms of weaknesses that might indicate more serious events ahead, such as a small leak that could become a major line failure.
 - Stays vigilant even if the plant has good safety performance.
- In our personal life, a sense of vulnerability is what causes us to slow our driving speed in bad weather or to be more cautious when working on a ladder.
- We can lose our sense of vulnerability when we are in a hurry. That can cause us to skip steps or forget to wear the correct PPE.
- New employees may bring their sense of vulnerability from an earlier job or company. That means we may need to help them understand the hazards in their new job.
- Maintaining a sense of vulnerability is an essential characteristic of a good process safety culture.

What Can You Do?

- If you see an at-risk behavior, stop, and ask the person if they are following the correct procedure. You could keep someone from being seriously hurt – or worse.
- If someone stops you to ask about how you are performing a task, do not be defensive. They are trying to keep you safe. Answer their questions calmly, be open to their suggestions on how to perform the task and thank them for their concern about your safety.
- If your area has newer employees, coach them on the unit hazards and procedures. Help keep them safe!
- Never think, “It can’t happen here.” It can!

Sense of vulnerability – your process safety “spider sense”