



We stay within operating limits

- We discuss and use the approved limits for our location.
- We escalate where we cannot work within operating limits.
- We alert supervision if an alarm response action is unclear or the time to respond is inadequate.
- We obtain formal approval before changing operating limits.
- We confirm that potential for overpressure from temporary pressure sources has been addressed.

Air Gas Facility – Fatal Explosion

- A nitrous oxide transport lorry exploded whilst being filled at a chemical manufacturing site in Florida.
- The explosion killed 1 person and caused significant damage to the site.
- Nitrous oxide is stable and can be safely handled; however, under certain conditions it can decompose explosively.
- A pump used to transfer nitrous oxide into a trailer heated the gas above its safe operating limit and triggered a violent decomposition reaction.

Key findings:

- No review of the system was carried out to identify and control process safety hazards
- Installed safeguards failed to prevent the explosion



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DISCUSS

- How can you verify that you remain within operating limits?
- What actions do you need to take if operating limits are exceeded?
- If normal operating limits require to be exceeded, how is approval sought and verified?