



## Priority Learning Moment

### Industry-Submitted Incident Notification

#### IN-022-2026 | Truck Rack Hose Failure

**This Priority Learning Moment has been submitted to Energy Safety Canada by a company wishing to share a safety lesson.**

#### **Incident Description:**

- A truck driver was unloading natural gas liquids (NGL) at Rack 2 of the truck rack facility.
- The vapor hose used for offloading failed during the last ~10 m<sup>3</sup> of the product transfer.
- The truck rack went into an emergency shutdown (ESD) due to high %LEL detected at Rack 2.
- There were no drivers or other workers present in the immediate area at the time of the hose failure.
- The driver was able to safely isolate the system.
- All workers at the truck racks evacuated to muster areas and awaited direction from operations, as required.
- The system pressure was 1280 kPa (~185 psi) at the time of failure.
  - The maximum allowable working pressure (MAWP) for this hose is 250 psi.
  - The hose was pressure tested to 375 psi by the manufacturer prior to being put into service.



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### Photos:



Truck rack and event location



Hose condition in location after the event



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Hose separated from the crimped fitting



Hose after removal from the truck rack

#### Contributing Factors / Event Learnings:

- The hose was inspected by two separate third parties post-incident to find a cause of the failure.
- The hose was originally supplied by a company who assembled and performed the initial certifying pressure test.



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- The failed hose was sent back to the supplying company for inspection and failure analysis. Their conclusions are as follows:
  - The crimp diameter of the failed end and fitting was crimped to specification.
  - The damage to the hose and wire displacement is much greater than is possible from a blown-off end. Typically, if an end were to blow off, it would pull 6", and the pressure would dissipate. In this case, there is ~5 ft of inner/outer wire pulled from the hose—much more than expected.
  - The hose has a burst pressure of 1,000 psi (4:1 safety factor) before any damage to the integrity of the hose or the end ejecting.
  - These hoses are tested to 375 psi for 5 minutes once assembled. Any manufacturing defects would be found during the original test.
  - If there was no pull-away prior to the failure, the hose must have been damaged by some other means prior to the incident.
  - There is no logical explanation for this failure, other than unknown human error.
- Another third party was consulted to provide further independent analysis. Their response is as follows:
  - Composite hoses are built differently by various vendors, therefore, checking the crimp specification would not be of value.
  - Two scenarios were identified as possible causes of the hose failure:
    1. The pressure was too extreme, and a major blowout failure occurred.
    2. As previously mentioned by the other third-party company, it was somehow torn away.
- This company hypothesized that installation practices may be a contributing factor in damage to the crimp fitting.



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#### Known Factors That Conflict with Third-Party Findings:

- The system pressure was 1280 kPa (~185 psi) at time of failure, well below the hose MAWP.
- The truck was stationary at the time of failure, therefore, it was not “torn away”. Video evidence supports this.
- It is believed that the noted damage to the end of the hose resulted from the violent whipping action of the hose until flow was stopped and pressure dissipated.

#### Required Actions:

- Installation practice review to be conducted to confirm if it stresses and weakens the crimp joint.
- Initiate a Management of Change (MOC) to consider alternate connection joints that may be more appropriate for the application.
- If similar hose connections are in use at your facility, ensure they are being installed and inspected as per the manufacturer’s specifications and instructions, as certified by a professional engineer.

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### Learning Together

Energy Safety Canada (ESC) facilitates the sharing of safety knowledge to support industry-wide learning and continuous improvement. By making lessons learned and leading practices accessible, ESC helps organizations of all sizes learn from one another and strengthen safe work performance.

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#### Share a Priority Learning Moment

Every lesson shared has the potential to prevent an incident. If your organization has a Priority Learning Moment, [we’d like to hear from you](#).