

OCCUPATIONAL SAFETY & HEALTH
REPORTING EVENTS AND INCIDENTS
APPENDIX 3

Distribution by Corporate Health & Safety Department

Division: (Please X appropriate box)

P&P/Tissue Mills

WP Mills

Woodlands

SAFETY ALERT
Contractor

DIVISION: St-Félicien Kraft
 DEPARTMENT: Maintenance
 DATE: November 18, 2018
 TIME: Undetermined
 TYPE OF INCIDENT: **Gas Explosion - Property Damage- High Severity Potential**

EVENT DESCRIPTION:

During the night of November 17 to 18, an explosion occurred in Contractor Desco container. Contractor employees discovered the damages when they reported to work on Sunday morning, November 18.

Since there were no direct eye witnesses, facts were gathered using various clues left by the damages. An expert from Praxair Canada was consulted on some technical aspects.

So, at the end of Saturday work shift, Desco employees left the premises leaving an acetylene cylinder improperly closed stored inside *the container Contractor uses as a workshop*. Acetylene cylinder was connected to a cutting nozzle and gas coming out of the nozzle mixed with ambient air inside the container until it reached a concentration > 2.5%. At some time, the container electrical heating system automatically came on, creating the ignition source required for the explosion. (Leak was also confirmed by equipment tests.)

The blast caused the container walls and ceiling to bulge, tearing off the side door and the locking system on the large *access door* at the end.

Flame from the explosion then lit up the cutting nozzle, which explains the presence of acetylene soot *on the fireproof curtain*. A plastic pail located in the center of the container, which contained a plastic tarp and a sledgehammer for sure and possibly some waste, caught fire. Combustion was complete, even burning the tires of a bicycle and a hand truck nearby. Examination of soot deposits confirms that the pail fire occurred after the explosion. This fire went out after some time. When workers arrived on location, fire at the nozzle was also out, either due to the wind, or the decrease in oxygen during the pail fire, or the lower acetylene pressure as the temperature decreased.

CONSEQUENCE(S):

Property damage with high severe injury/fatality potential.

IMMEDIATE CAUSES:

- A. Acetylene explosion within an enclosed space.
- B. Acetylene cylinder valve left open *in an inside non-ventilated space.*

IMMEDIATE CORRECTIVE MEASURE: SFK Mill

Move flammable compressed gas cylinders outside.

IMMEDIATE CORRECTIVE MEASURES (0-3 months):All P&P-Tissue mills, WP sites & Woodlands

1. Ensure a documented directive is issued and understood by all our employees and contract workers on your sites regarding the ban on the storage of flammable compressed gas inside **containers or restricted NON-VENTILATED enclosed spaces.**
2. *Ensure an inspection is conducted on compliance with flammable gas cylinder storage in all site operational areas and contractor mobile workshops to measure compliance with Measure #1.*
3. If equipment with flammable gas needs to be stored in *an air-tight storage unit*, **ensure all electrical components within the storage area are classified as explosion-proof.**

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Revised by: Corporate H&S Department

PICTURES

