

**Information Bulletin No. IB02-001**

**January 29, 2002**

## **ALERT**

### **Pipe Nipple Failures**

Recently, a threaded NPS  $\frac{3}{4}$  pipe nipple on a pressure vessel in service as a gas compressor suction scrubber broke, resulting in a gas release and a subsequent fire at a gas processing plant in southern Alberta. The failure of the nipple resulted in total damage of over half a million dollars to the plant. Investigation concluded that the pipe nipple failed due to fatigue loading because of vibration.

Last year, we investigated two other incidents on pipe nipple failures. As a result, an article was published in the 2001 December issue of the ABSA Pressure News to warn our industry of the hazards involved. A copy of this article is included below.

### **PIPE NIPPLE FAILURES**

Two pipe nipple failures resulted in fairly extensive damage to two different plants, one in the northwestern sector of the province and another in the central region of the province. In both cases, a 1" nipple was involved although they were of different pipe schedules. Concerns were raised to check if the causes of the two failures were similar.

It was determined that the causes of the failures were different. In one case, the cause of failure was attributed to fatigue and pipe loading on the nipple itself. For the other, frequent removal and reinstallation led to excessive wear on the threads.

A 1" nipple seems fairly small and insignificant. In both of these cases, significant damage was done to the plants involved. Fortunately, neither injuries nor fatalities were involved in either situation. We wish to alert our industry partners that pressure equipment safety depends on each and every component in the plant and all components, no matter how small and seemingly insignificant, must be properly designed and maintained to ensure that pressure equipment safety is not being jeopardized.

All plant owners are asked to review plant operation to minimize similar potential problems for pressure equipment safety as well as the other possible consequences to their plants.

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