

FACTS SURROUNDING THE INCIDENT, continued.

At this point Blowdown Tank 5 leaked vinyl chloride into the building with a loud whistle. Inside the blowdown system, slurry followed the path of least resistance into Blowdown Tank 5, which, because of the leak, was at the lowest pressure. Blowdown Tank 5 was 1/3 full of slurry when it was isolated.

2. All required safety equipment was available and in good condition. Emergency procedures were followed.
3. The most recent maintenance done on Blowdown Tank 5's seal assembly or drive shaft assembly was August 5, 1991. The seal had been in service since 1986. The keyway in the stub shaft was still in the assembly, and still in good condition. The retaining bolt was still in good condition. See Drawing 1 Item 30. The direction of rotation of the drive shaft should tighten, not loosen, the retaining bolt, but with the keyway in place there should be no force applied to the bolt.
4. After the incident, the blowdown tank was steamed until in compliance for equipment opening. Then the seal was replaced and the drive shaft raised using the retaining bolt. The stub shaft was not replaced, and no steady bearing was installed. The blowdown tank was pressure checked and put back into service. A steady bearing will be installed during the plant shutdown scheduled for October 1991.
5. The proper precautions were taken to prevent exposure to people and the leak was properly reported to corporate environmental authorities and government agencies.

MANAGEMENT SYSTEMS INVESTIGATION

1. Excessive agitator vibration in vessels is audible and leads to accelerated failure of the agitator shaft seals. There was no preventive or corrective procedure for reporting agitator vibration noise.
2. The agitator shaft retaining mechanism (bolt) is determined to be a design defect. No past equipment history revealed this defect.

T. Grabenstetter

copies: Attendees
Managers
General Foremen
Safety Dept.
Central File

NGC 01392