

Remembering Piper Alpha

This month marks the 25th anniversary of the *Piper Alpha* offshore oil platform disaster in the North Sea approximately 110 miles (180 km) from Aberdeen, Scotland. On July 6, 1988, a series of catastrophic explosions and fires destroyed the platform. Of the 226 people on the platform at the time of the event, 165 died, along with two emergency responders during a rescue attempt. The platform was totally destroyed.

Investigation was hindered by a lack of physical evidence. Based upon eyewitness accounts, investigators concluded that a release of light hydrocarbon occurred when a pump was restarted after having been prepared for maintenance. Unknown to the workers starting the pump, a relief valve in the pump discharge had been removed for maintenance. A blank had been loosely installed in place of the relief valve at a location that was not readily visible. When the pump was started, this blank leaked, producing a flammable cloud that subsequently found an ignition source. The pump was started at about 10 p.m., and by 1 a.m. the platform had been entirely destroyed and most of its occupants had been killed.



What Went Wrong?

As would be expected in a disaster of this magnitude, the investigation identified many root causes related to design, operation, safety culture, emergency response, and training. Two of these issues are the subject of this Beacon.

- *Shift turnover and communications.* During shift turnover, the status of the pump work was addressed, but no mention was made of the relief-valve work. The relief-valve work was also not mentioned in the control room or maintenance logs. Continuing problems with the adequacy of turnovers and log entries were known to some workers.
- *Work permit system.* The work permit system was not consistently implemented according to procedure. For example, omission of important information such as signatures and gas-test results was common. Operations representatives often did not inspect the job site before suspending the permit at the end of the shift or when closing the permit upon completion of the work. Craft supervisors often left permits on the control room desk at the end of a shift rather than personally returning them to the responsible operations representative as required by the procedure.

See the July 2005 Beacon for more on *Piper Alpha*, and the September 2007 Beacon for another incident related to work permits.

What Can You Do?

- Be complete in documenting the status of all equipment in your plant logs. At the end of your shift, clearly communicate the information to the incoming workers. Take the time to make sure they fully understand the status of all operating equipment, and the status of all maintenance jobs.
- Always follow work-permit procedures exactly as required, including all documentation, communication, and recordkeeping. Do not take shortcuts, and be sure to personally check everything on the permit. Never assume that things have been done correctly — if you are going to sign the permit, check it yourself.

Remember Piper Alpha by taking your turnover and work-permit procedures seriously!

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