Australia:

Sit-in at Esso gas plant after worker blamed for explosion

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Control operators at the Esso gas plant in the Australian state of Victoria staged a sit-in on Tuesday after the company sought to blame an individual worker for an explosion in September 1998 that killed two men, seriously injured eight others and cut gas supplies to the state for two weeks.

The Esso workers passed a resolution deploring the company's actions in singling out James Ward, a panel operator at the time of the accident, in its final submission to the Longford Royal Commission, which was established by the Kennett state government to probe the disaster.

The operators said they would refuse to return to work until Esso agree to reinstate Ward and another operator, Ron Rawson, to their former jobs and to retrain all operations staff. In its submission, Esso claimed that Ward failed to adequately respond to equipment failures and "just waited" for others to investigate. This accusation appears to be in retaliation for damaging evidence that Ward and other workers gave to the royal commission.

In its own final submission, the Kennett government said Esso was "solely responsible" for the fatal explosion and there were no guarantees a repeat emergency would be avoided, endangering the state's gas supplies again. Whatever the Liberal Party government's reasons for attacking the company, workers and technical experts presented the inquiry with compelling evidence of a comprehensive breakdown of safety at the plant.

Workers' testimony pointed to lack of training, equipment failure, unsafe processes and maintenance cost-cutting over a decade. They also expressed the fears they held on the day of the tragedy. Two maintenance fitters for instance, revealed that they had left the scene of the accident before it happened, sensing imminent danger.

Throughout the morning of 25 September, personnel had worked on the 922 heat exchanger, attempting without success to repair a dangerous leak of between 1,000 and 3,000 litres of inflammable condensate. Bruce Robinson, who was a temporary maintenance supervisor, testified that before the explosion he told more senior supervisors that the 922 exchanger should be shut down for a thorough examination. One of the supervisors, John Lowery, had tended to agree with him, but was later killed in the blast.

The lack of knowledge and training afforded to Esso employees was critical. As many as 15 experienced men had been gathered prior to the explosion to discuss what action to take on the leaking exchanger and the cold temperatures inside it, but none had any idea of the impending dangers they confronted.

One key factor was that the circulation of lean oil had been off for at least three hours prior to the explosion because key pumps had stopped. The area operator had made unsuccessful attempts to restart the pumps. Without the lean oil, equipment that normally operates at 120 Centigrade was iced over. All the workers testified that they were concerned by the situation, but none knew that the combination of hot oil with the cold temperatures could cause the metal casing of the 14 tonne 905 exchanger to burst open and release high pressure gas.

Circulation of lean oil is vital to remove certain impurities from the incoming gas from the off-shore Bass Strait wells. At the same time, it is a heating medium. There is great danger if its supply is cut off for even 15 minutes. Yet from the plant supervisor to the plant operators, none knew of the importance of this to the safe running of Gas Plant 1, where the explosion erupted.

James Ward, the victimised panel operator, was among those giving the most revealing testimony. He explained: "It's my estimation that on 25 September, probably up to and including 15 people realised there was a loss of lean oil circulation for some length of time, and not one of them ever raised the issue that this was critical".

Their lack of safety training had been reinforced by management's reaction to a similar situation only a month earlier. At that time, the plant had been run without a flow of lean oil due to a machinery breakdown. Fortunately, pumps were restarted successfully without incident.

In his testimony, Ward also referred to the pressure placed on the operators to meet production targets. Recalling a previous question, he said: "Earlier you mentioned troubleshooting. That is not our foremost responsibility. Our first job is to provide gas on time, on spec at a given pressure."

Wayne Olssen, the plant operator on the night prior to the explosion, revealed another major factor in the lead up to the disaster. A demand for increased gas output caused a change in the composition of the product flowing through the plant. Higher amounts of condensate and water created problems.

He said such disruption had been experienced before. "This is due to an increased demand for gas in the plant to satisfy the daily

gas order. This extra requirement can be due to a shortfall in the gas rate or the amended daily gas order by Vencorp [the authority supplying natural gas to Victoria]. The extra gas being sent in from offshore will sweep the pipes of liquid lying in low areas and bring the liquid into the plant."

This was known to have occurred in several incidents in the months prior to the explosion, with an ice-blockage in June, and the formation of a hydrate in August. On the night prior to the accident, three times the normal amount of condensate was being pushed through the plant.

To make matters worse, maintenance has been severely cut back in recent years. Many workers pointed out how deeply Esso had cut back on maintenance and on experienced staff.

Stephen Bennett, a process technician of 16 years, testified that: "The maintenance, itself, has been very slowly being undertaken. Equipment is out of service for longer periods than I can recall in the past."

Robert Elliot, another panel operator, said: "Esso is tightening up on their budgets, and in doing so they are trying to tighten up on the maintenance budgets. In the process, they have to prioritise the work that needs to be done in the plant. So if we put in a work request on a piece of equipment that we want fixed, say five years ago the job would have been done within a week, on occasions this job might not get done for months. The circumstances have arisen where people are not putting in work orders for job requests that are required."

The cuts to maintenance were most graphically shown with the delay in repairing the TRC3B valve, which is crucial to maintaining the temperature of the condensate. A repair order was submitted on 15 September--just 10 days before the explosion--after the valve had been faulty for months. But under the Matrix system of maintenance, if an item is not classified as requiring immediate attention, it is set down for work in 15 days. Despite the importance of this valve to the functioning of the plant, it was not due for internal inspection until 1 October.

The systematic nature of Esso's cost-cutting in maintenance was shown by its cancellation in 1995 of what is termed in the petro-chemical industry, a HAZOP (Hazard and Operability) review. This looks specifically for design shortcomings, and is regarded by engineers as the most thorough and therefore essential program of safety checks for dangerous industries. The HAZOP for Gas Plant 1 was never carried out, although similar checks were made in the more modern plants, 2&3.

When, in the lead up to the inquiry, Esso was asked by the Victorian WorkCover Authority why a HAZOP had not been carried out on Gas Plant 1, it replied: "During 1995 the decision was made not to undertake the HAZOP ... because of the length of time it would take and the fact that it would pick up too many little items".

The legal counsel for the Commission reported that a central factor in other major accidents had been a lack of "hazard awareness". This included the 1988 disaster at Occidental Petroleum's Piper Alpha oil Platform in the North Sea, where at least 167 lives were lost.

In the face of this evidence, Esso has attempted to blame workers for the tragedy. One of its witnesses, Kenneth Baker, a chemical engineer, testified that the explosion was caused by operators' errors. Despite all the testimony to the contrary, he claimed that the workers did know of the dangers involved with the lack of lean oil flow. When asked to explain their conflicting evidence, he said: "I think they were trained. I think for an unknown reason, they didn't perform... They have completely blocked certain things from their minds so they can go ahead and sleep at night".

Yet the workers were not alone in reporting a dangerous lack of knowledge. Supervisors and two Esso managers also explained that they had no understanding of the possible dangers inherent in the situation.

The 70 operators at the plant responded to Baker's testimony by calling a 48-hour strike. They pointed out that they were being scapegoated by Esso and called for an apology. Instead, Esso has gone further in its final submission by singling out James Ward.

Whatever the outcome of the Royal Commission, the conditions in which companies such as Esso put workers and the general community at risk in the pursuit of profit will continue. The Kennett government allows the major companies to undertake "self-regulation". They carry out their own safety checks. The Victorian WorkCover Authority completed just 37 inspection reports at the Longford plant over the past two years. By comparison, 120 reports were compiled each year on average over the previous decade.

Almost two-thirds of the major hazardous sites in Victoria operated with pre-dated dangerous goods licenses at the time of the explosion--that is, there had been no external checks on their equipment. Esso itself was unlicensed at the time of the explosion. There had been no comprehensive inspection for the purpose of renewing its licence under the Dangerous Goods Act. And, as Esso's own testimony illustrated, continual cost-cutting means that safety procedures and equipment maintenance are often seen as unbearable overheads in the petrochemical industry.