

Facility	Texaco refinery, Milford Haven
Date	24 <sup>th</sup> July 1994
Consequences	26 minor injuries and an estimated £48 million damage & major production loss.
Description of accident	<p>As a consequence of flammable hydrocarbon liquid being continuously pumped into a process vessel that, due to a valve malfunction, had its outlet closed, an explosion occurred. The flare system was not designed to cope with this excursion from normal operation resulting in a failure occurred in the outlet pipe.</p> <p>20 tonnes of a mixture of hydrocarbon liquid and vapour were released, ignited and subsequently exploded. This caused a major hydrocarbon fire at the flare drum outlet and a number of secondary fires.</p>
Key Lessons Learnt	<ul style="list-style-type: none"> <li>• Inadequate maintenance of plant and instrumentation A control valve being shut when the control system indicated it was open.</li> <li>• Plant modification Modification of the plant had been carried out without an assessment of the potential consequences.</li> <li>• Control Room Design: need to address plant layout and ergonomic issues Control panel graphics did not provide necessary process overviews. Excessive number of alarms in emergency situation reduced the effectiveness of operator response.</li> <li>• Emergency Response/Spill Control Attempts to keep the unit running when it should have been shut down</li> </ul>
Reports & Links	1) HSE website: COMAH incident report