Free report on the sleipner a

Experience, Failure

The Sleipner A is an oil and gas production platform in the North Sea. The platform has some concrete-filled cells which support it to the seabed as at a height of 82 meters. Occupying a total base area of 16000m squared. An accident occurred when the base structure developed a leak and sank during the preparation process for deck mating in Gandsfjorden in 1991 (Sinteff, 1997).

Based on the investigation that was conducted it may be concluded that the extensive loss was as a result of failure of a cell wall. The wall developed an extensive crack and leakage that developed an extremely heavy pressure to the pumps to a point the pumps could not withstand. The main cause of the failure of the wall is the combination for a concrete error in the predetermined element analysis well as inadequate support of the concrete base in a critical zone (Sinteff, 1997).

Post investigations of the accident indicate that the error would be traced from inaccurate estimate of the linear elastic model the tricell. The design had a 47% underestimated shear stresses that led to poor design. The 320 feet support to the platform began sinking and within a time period of between 17 minutes and 18. 5 minutes the platform had fully submerged into the water. On board there were 14 individuals who were rescued extremely fast with none of them being injured (Sinteff, 1997).

The failure had extreme financial and physical impacts. The financial loss may be analyzed following the physical loss as well as the foregone revenue as a result of the collapse. It is estimated that the collapse attracted approximately $180 million. The total revenue that was foregone up to the reconstruction period was approximately $700 million (Sinteff, 1997).

The loss was not only a loss to the owner of Sleipner A but to the entire economy and individuals who had been employed in the company.

Reference

Sinteff. (1997). The sinking of the Sleipner A offshore platform. Institute for Mathematics and its Applications (IMA). Retrieved June 14, 2013, from http://www. ima. umn. edu/~arnold//disasters/sleipner. html