
Services Performed

IRC completed an analysis of safety critical elements (SCEs), after an incident on the Stena Clyde, to determine the ability of each SCE to perform its function during credible major accident events.

Objectives

- Identify and document SCE functions to give a clear picture of the role of the SCE on the facility
- Assess how the SCE could operate and fail during the realization of a major accident event
- Outline performance standards and assurance tasks for ensuring each SCE continues to function well

Project Description

The Stena Clyde is a semi-submersible mobile offshore drilling unit (MODU), that was being operated offshore Western Australia. In conjunction with Stena Drilling, IRC conducted a detailed, rig-based review of SCEs that require human operation during an emergency.

An SCE is defined as an item, software or hardware, for which:

- Failure could cause or contribute substantially to a major accident, and/or
- The purpose is to prevent or limit the effect of a major accident

SCEs included, for example, active and passive fire protection, communication systems, and evacuation and rescue systems.

All Stena Clyde SCEs were evaluated in terms of their vulnerability, fail-safe properties, and level of redundancy. The analysis found that all systems perform adequately when judged against Stena's safety goals and perform acceptably during major accident events.



Key Benefits to Client

- The first thorough analysis of SCEs to be carried out for the Stena Clyde, including in-depth individual SCE analyses and an overarching review of all SCEs
- A clear understanding of how SCEs performed against the established safety goals of Stena Drilling's corporate Health, Safety & Environmental Management System