
Services Performed

IRC conducted a fire risk analysis (FRA) for the Thunder Hawk facility. Topsides potential fire events were modeled using in-house tools and industry-accepted software packages.

Objectives

- Assess the characteristics of fire events to determine jet and pool fire sizes, durations, and frequency
- Provide input into design safety issues such as fire prevention, detection, control, and mitigation
- Provide a risk-based argument for wall ratings for key buildings based on jet and pool fire consequences

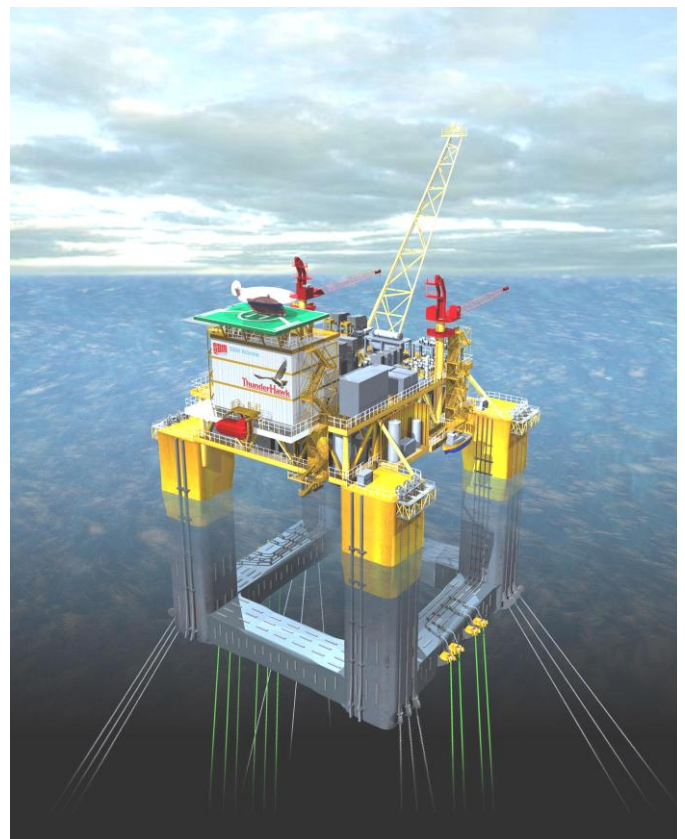
Project Description

Murphy Oil's Thunder Hawk is a semisubmersible, floating production unit (FPU) for the Mississippi Canyon Gulf of Mexico in approximately 6,200ft of water. SBM Atlantia performed the engineering for the project.

The FPU comprises a two-level topsides deck structure (main and production decks) that support production, treatment, and delivery facilities for gas and condensate, as well as living quarters and a helideck.

IRC made conservative yet credible assumptions to ensure that reasonably foreseeable, worst-case scenarios were quantified in the FRA. The methodology included:

- Defining process isolatable sections, inventories, and their associated potential fire events
- Documenting impairment criteria, such as fire impingement durations for structures, firewalls, and buildings
- Calculating leak frequencies and ignition probabilities
- Modeling fires: type, size, and duration
- Assessing design adequacy



Key Benefits to Client

- A clear understanding of the potential likelihood and severity of fire events based on proposed facility inventories, impairment criteria, and available historical data
- A clear assessment of the adequacy of design fire ratings for key building components (such as walls, bulkheads, roof structures) for immediate and delayed fire events

