

## Services Performed

IRC conducted a Dropped Object Study for the Angostura Gas Project. The frequency and consequences of dropped objects were assessed for lifting operations on the Gas Export Platform (GEP) and Aripo wellhead platform.

## Objectives

- Evaluate dropped object risk for routine lifts to and from the GEP and Aripo platforms
- Assess the consequence of dropped objects on subsea and topsides equipment
- Develop conclusions and recommendations for lifting activities, based on dropped object risk

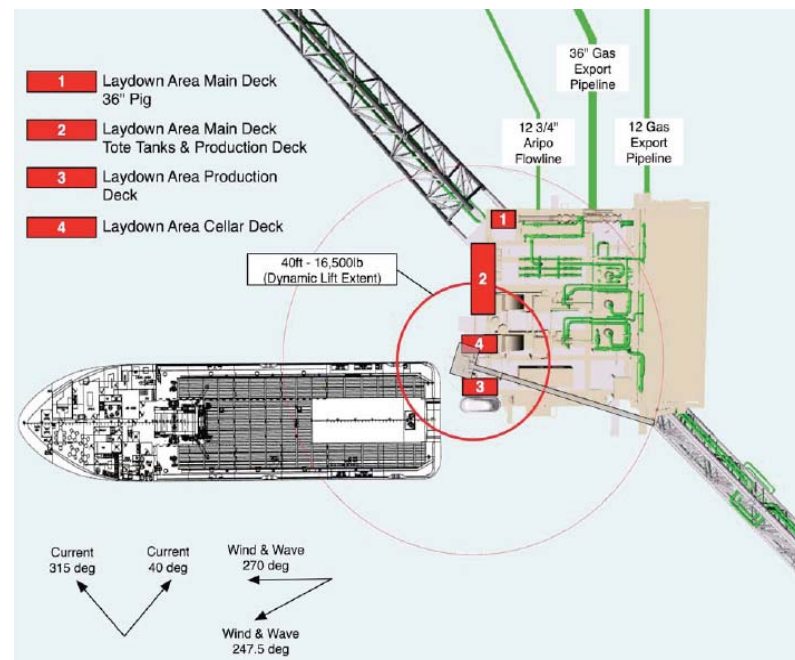
## Project Description

BHP Billiton Trinidad and Tobago (BHPB) expanded the Angostura field development, including upgrades to the Aripo wellhead platform and installation of a bridge linked GEP.

The dropped object study evaluated lifting operations over live equipment and in the vicinity of a number of pipelines, using DNV-RP-F107 Risk Assessment of Pipeline Protection as a basis.

Results showed that whilst the risk from dropped objects was low, impact energies were sufficient to result in damage and possible hydrocarbon leakage from pipelines and topsides process.

Although dropped object impact protection was not considered practicable; recommendations were made to reduce risk by restricting lifting operations in specific “no go” zones, and for updating lifting procedures with specific requirements for lifts near live equipment.



## Key Benefits to Client

- The risk from dropped objects was demonstrated to be low, providing BHPB and all project stakeholders confidence in the proposed GEP and Aripo layouts and lifting arrangements
- Clear “no go” zones were identified where lifting should not be undertaken
- Input was provided into lifting procedures and for managing residual risk