

ENVIRONMENTAL RISK ASSESSMENT



SEA personnel have developed sophisticated environmental risk assessment methodologies through extensive involvement in the field of coastal and offshore engineering, which are increasingly finding application in allied environmental areas to provide a comprehensive risk assessment service.

NORTH RANKIN 'A' INTEGRITY STUDY

SEA personnel participated in this detailed risk evaluation of Woodside's North Rankin 'A' oil and gas production platform offshore Dampier by undertaking quantitative assessments of the peak wind, wave and current loadings on the platform. Sophisticated joint probability analyses of the loading components and the resulting force transfers were used in planning future platform modifications.

DARWIN STORM SURGE STUDY

Following Cyclone Tracy, *SEA* personnel were involved in undertaking detailed water level statistical analyses for the City of Darwin and also to investigate the impact of surge inundation on domestic housing.

INSURANCE LOSS

A sophisticated risk model has been developed which provides quantitative risk assessments of insurance losses caused by severe tropical cyclones and thunderstorms. The model accounts for variation in cyclone intensities, tracks, storm surge, building strengths and terrain and topography effects.

OFFSHORE INSTALLATION RISK

Specialist statistical analysis for Woodside in regard to the offshore launch of the 18,000t Goodwyn 'A' gas production platform jacket structure involving an assessment of the seasonal risk to the operations due to the tropical cyclones.

NORTHERN TERRITORY MUSEUM

Situated on the edge of Fannie Bay in Darwin, the Museum requested an assessment of potential tropical cyclone wind and water damage to its extensive collection. A review of likely inundation due to storm surge and an audit of the overview facility building strength was undertaken

BEACH PROTECTION AUTHORITY STORM TIDE STATISTICS

A comprehensive analysis of the risk of surge inundation along most of the Queensland coast to provide a basis for planning and design of coastal and harbour works and facilities and to assist in emergency planning.

SPECIFIC SERVICES INCLUDE:

- **Quantitative risk assessment**
- **Numerical simulation**
- **Statistical modelling**
- **Hazard analysis**
- **Impact assessment studies**
- **Operational analysis**
- **Insurance loss assessment**



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