



Marafiq Independent Water & Power Plant (IWPP), Jubail, Kingdom of Saudi Arabia

Project Summary

As population grows and natural resources are steadily depleted, Saudi Arabia's Ministry of Commerce and Industry estimates that the country needs to triple its power generating capacity by 2023, with similarly increasing demands for water, largely to be provided by desalination technology. As a result, plans were put forward for what would be the world's largest Independent Water and Power Plant (IWPP) - Marafiq. WSP conducted detailed environmental and social impact assessments, compliant with the International Finance Corporation's (IFC, member of the World Bank Group) 'Equator Principles', with a key aim of securing financial close for this ground-breaking project.

The Client's Challenge:

The \$2.5 billion investment needed for the plant was to be obtained through international banks that are signatories to the Equator Principles, a benchmark for the financial industry which requires that pertinent projects are managed in a socially responsible way, reflecting 'sound environmental management practices' (IFC). Failure to comply with any of the social and environmental requirements could result in financial close being delayed or, indeed, financing being withdrawn altogether. The project also had to comply with the environmental regulations of the Royal Commission for Jubail & Yanbu and the national regulations for the Kingdom of Saudi Arabia.

Our Work:

The combined power generation and desalination facility on the Arabian Gulf coast will have a capacity of 2750 Megawatt of power and 800 000 cubic metres of water per day! The scale of the project was a challenge in itself, as well as the multitude of studies that needed to be undertaken.

We began with an Environmental Scoping Review for the project to highlight any and all environmental and social issues that may result from the proposed development. Using this research, we undertook an Environmental and Social Impact Assessment (ESIA) for the proposed plant that encompassed an appraisal of national, regional and international legislation, including an adherence to the International Finance Corporation's Equator Principles.

We undertook several specialist and technical studies, including an assessment of the marine ecological environment, and marine water quality, including requisite hydrodynamic modelling; air assessment and modelling; noise surveying and acoustic modelling; terrestrial ecological appraisal; geo-technical and geo-environmental studies; together with appraising the baseline situation in terms of such topics as traffic, socio-economics, and archaeology and cultural significance.

The Outcome:

The ESIA was delivered on time and within budget, and the project was duly brought to a successful financial close - positive proof of the project being Equator Principles - compliant.

The first power block and desalination units are expected to come on-stream towards the middle of 2009. The project's scheduled commercial operation date is then planned for March 2010.

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