UTILITIES

Australia

Burdekin Hydro Power Line, QLD

Stanwell Corporation Limited (Stanwell) is Queensland's largest electricity generator providing over 45% of the State's electricity needs. Stanwell proposes to develop a 37 megawatt hydro power station at the base of the Burdekin Falls Dam in Far North Queensland if a current feasibility study finds that the project is viable. The proposed power station will generate electricity whenever water flows over the dam's spillway (overtopping) or when SunWater, the dam's owner, releases water to meet the needs of its downstream customers.

FACTS AND FIGURES

Client: Stanwell Corporation Limited

Project estimated value: $20 million (approximately)

E&P involvement: 2010 - 2011

Line length: 45 kilometres

Line voltage: 132 kV

A new transmission line will be required to connect the proposed power station to the national electricity grid. A 45 kilometre long, 132 kilovolt (kV) power line would connect Burdekin Hydro Power Station to the grid at Ergon Energy's Blue Valley Substation. Before July 2010, power lines were usually provided by a transmission or distribution entity. However, due to a change in the funding arrangements for these entities, Stanwell found it could achieve a financially superior outcome if it planned, constructed, owned and operated the power line as well as the power station. This meant that Stanwell had to assume the responsibilities of a transmission entity.

Developing the power line added significant complexity to the project. Firstly, it was the first time in Queensland that a power line of this type had been proposed by an entity not holding a transmission authority. Stanwell was not recognised as a transmission entity under the Electricity Act 1994 (Queensland), so a number of regulatory approvals had to be obtained. Secondly, the power line corridor extended over the Burdekin River, crossed two regional council jurisdictions and traversed five properties, including State leasehold land and dedicated (but not constructed) roads.

It was vital that these challenges were overcome so that Stanwell could develop the power line in time and to the appropriate performance standards.

Evans & Peck's role

Stanwell engaged Evans & Peck in 2009 to manage the feasibility stage and facilitate project approval for the power station. In July 2010, Stanwell expanded the scope of this engagement to include the feasibility study for the power line.

Responsibilities for the power line feasibility study included:

- **Corridor identification and assessment**
  Evans & Peck adopted a multi-criteria assessment approach to identify and evaluate several potential power line corridors. Our team used geographic information system (GIS) technology to analyse the regulatory, environmental, cultural heritage, social, engineering and financial aspects of numerous corridor options. This contributed to more focussed and expedient site surveys and assessments, which informed negotiations with landholders and regulatory bodies as well as the preparation of the development application.
- **Regulatory approvals**
  Evans & Peck facilitated groundbreaking new processes between Stanwell and the electricity industry regulator to obtain necessary approvals to develop and operate the power line.

Pioneering work on the construction of power lines in Queensland

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Burdekin Hydro Transmission Line, QLD (continued)

- **Landholder negotiations**
  Evans & Peck negotiated public utility easements and secured land access rights across the entire corridor with the State and regional land and development administrators, leaseholders, landowners.
- **Documentation**
  Evans & Peck prepared specifications and tender documentation for the design, construction and maintenance of a fit-for-purpose 132 kV power line.
- **Procurement**
  Evans & Peck evaluated the contractor tenders within a risk-based value for money framework to recommend a preferred contractor.

Results

As a result of Evans & Peck's involvement in the feasibility stage, Stanwell achieved the following outcomes:

- A fit-for–purpose, cost-effective power line to connect Burdekin Hydro Power Station to the national electricity grid at Blue Valley substation has been planned and is ready to proceed if the overall project receives final approval
- A new approach to the regulatory regime has been pioneered with the assistance of the regulatory agencies to allow private power lines to be constructed,
- Alternative power line corridors were assessed and then the final route selected using GIS technology, supported by field surveys
- Easements have been negotiated with the landholders with satisfactory outcomes for all parties
- Specifications and tender documentation were prepared, tenders called and a preferred contractor selected for the construction of the power line.

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