

The Client



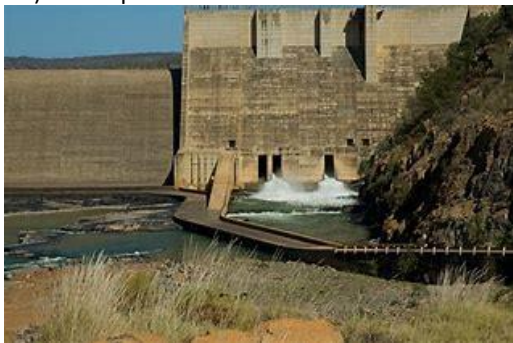
The Project

Burdekin Falls Dam is located 210 kilometres south east of Townsville on the Burdekin River and is owned and operated by Sunwater and comprises a mass concrete gravity main dam and zoned earth and rock-fill saddle dams. The asset continues to perform as it should however, assessments have highlighted actions Sunwater needs to take to bring the dam in line with modern engineering design standards and ensure the asset remains safe and productive for years to come. The Burdekin Falls Dam Projects are aimed at ensuring the dam’s long-term viability by:

- increasing its resilience to extreme weather events
- bringing it in line with modern engineering design standards
- ensuring it meets the safety requirements set out in the Water Supply (Safety and Reliability) Act 2008 (Qld).

Scope of Services

Flagstaff were engaged by Sunwater to provide independent review of the of the project during the Preliminary Business Case (PBC) development in 2017 and 2019.



Key components of the engagements were:

- Reviews of adequacy for Engineering, Execution Strategy, Construction Methodology, Staging, Schedule and Risk Model Development that supported the PBC.
- Detailed review and assessment of Cost Estimates and Schedules with First Principals estimate and schedule productivity benchmarking and validation.
- Contingency model review and assessment including interrogation of @ Risk Modelling and P-value outcomes and recommended contingency values against mature published industry codes of practice (AACE & TMR)
- Cost & Schedule Risk assessment for the Sunwater PBC execution plan to confirm the Sunwater budget and guide the optimisation of critical path scope management.
- Developed Cost Model including probabilistic modelling (@Risk) for monthly reporting to Sunwater Management
- Mentoring of Sunwater employees.

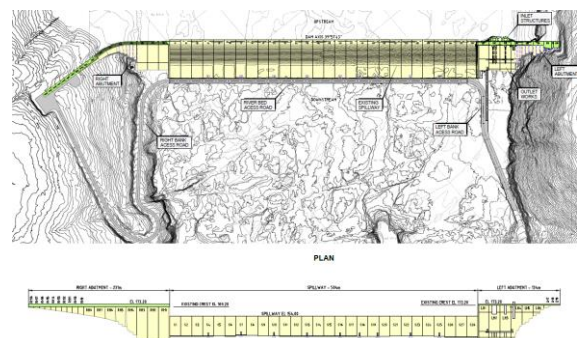


The Challenge

- A complex project as result of Comprehensive Risk Assessments (CRA) for dam safety and Portfolio Risk Assessment (PRA) findings along with current ANCOLD guidelines and DNRME’s requirements.
- Adjacent and competing project objectives to be considered against broader implications of direct project scope and objectives.
- Construction methods, timing and staging requirements around wet seasons was critical to integrated and optimised execution strategy.
- Detailed review and assessment conducted with appreciation of project remoteness and logistic challenges combined with market capability and capacity for specialist dam constructors with known sector programme of works.

The Outcome

- The Flagstaff reviews provide clear recommendations (RAG) that have been relied upon by the Sunwater Senior Management Team and Board to inform subsequent investment decisions for the project.
- Provided confidence of process rigour and validity to Building Queensland with as part of the Business Case Development Framework and subsequent OGC Gateway™ Process.
- Transferred skills, knowledge and capability into developing delivery focused Sunwater business to support the identified forward programme of major projects.



‘experience makes a difference’