Steel Gate Rehabilitation | Design

Snare Falls Hydro

NORTHWEST TERRITORIES POWER CORPORATION

Description of Services Provided:

The Northwest Territories Power Corporation (NTPC), complete regular dam safety assessment and maintenance. A flood study completed in 2015 identified that one of two vertical gates at the Snare Falls Hydro was unheated and could not be relied upon for operation during freezing conditions. The work further identified that the facility might be at risk during operation of upstream facilities. Meco was retained to develop a design that would allow for all-season operation of the two gates located at Snare Falls.

Responsibilities included a site inspection to verify dimensions, coordination with operation staff to achieve a functional design, design development preparation of design documents. The solution recommended changing the approach for heating away from ceramic heaters to a heat trace tape system that allows for ease of installation, more favorable voltage regulation and lighter weight maintenance. The project is tentatively scheduled for construction in 2018.

The main components of the project deliverables were:

- As assessment of alternatives to achieve the goal, including gate modifications, dam modifications and operational changes.
- Site survey to verify member dimensions, elevations and interviews with operations staff.
- Coordination of design development to include operations staff and capture functional needs in final design.
- Prepare structural details for isolation, fastening and attachment of a gate system to enclose the heating elements.
- Electrical design for voltage regulation, heat trace installation, attachment.
- Prepare contract documents including drawings and technical specifications.