



Kirkland Lake Power Plant Wet Surface Air-Cooled Condenser Modification

Location: Kirkland Lake, Ontario, Canada

Client: Northland Power

Gryphon Contact: Paul Durkin

Project Summary The Northland Power Kirkland Lake Power Plant has an existing wet surface air cooled condenser serving the steam turbine generator. The condenser was in general poor condition and its performance was unsatisfactory.

An investigation was carried out to determine the cause of condenser performance deterioration and identify modifications required, followed by implementation of the proposed modifications.

Project Services During the initial phase of this project, Gryphon conducted performance tests and engineering analysis of the existing condenser system. This included a report recommending specific modifications to enhance the overall performance of the condenser and non-condensable gases evacuation system.

In Phase 2, Gryphon provided the detail engineering required to implement these modifications. This included the preparation of the general installation contract, equipment specifications, procurement recommendations, detailed analyses and drawings, review of vendor drawings and documents, as well as monitoring of site installation and commissioning.

The modifications included the addition of a fourth cell to the condenser, modifications to the venting of the air evacuation system to ensure effective air removal, and improvements to the condenser control system. As a result, overall plant performance and efficiency increased significantly.



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