

FEASIBILITY ASSESSMENT – STATION UPGRADE

Riley, Jay, Otis and Livermore Projects Jay, ME



- Feasibility Studies
- Conceptual Design
- Operations Modeling

International Paper and Otis Hydroelectric Company, Jay, ME - Gomez and Sullivan was selected by International Paper and Otis Hydroelectric Company to perform a feasibility assessment for generation enhancement, station upgrade and expansion for the Riley, Jay, Otis and Livermore Hydroelectric Projects located on the Androscoggin River in west-central Maine. The purpose of the study was to evaluate and rank various options at each of the four hydroelectric facilities in conjunction with several FERC relicensing studies. The study plan, methodology and report contents were developed in close cooperation with the Operations Resource Committee, a subcommittee of the Collaborative Team established for project relicensing.

Factors taken into consideration in evaluating study alternatives include:

- an evaluation of recent historic generation, river flows, equipment outages and annual operation and maintenance costs for each site to determine trends in station output
- the condition of the existing facilities including civil, mechanical and electrical components
- the impact of flashboard outages on energy production for the four plant hydro system
- limitations imposed by retrofitting new equipment within the existing concrete and masonry powerhouses for the upgrade and expansion alternatives
- estimated construction and annual operating costs and energy gains or losses associated with each study alternative
- other project considerations, including: environmental, recreational, energy related, construction related, permitting, agency coordination and land acquisition
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Gomez and Sullivan developed a conceptual design matrix ranking the alternatives for each site in terms of energy potential, estimated capital cost, plant capacity, expected average annual energy, and other project specific considerations. Data provided in the conceptual design matrix was used in making recommendations for project enhancement, upgrade and expansion for the existing projects. The enhancements included operational improvements to increase generation and reduce operating costs at the existing facilities.