

CLACKAMAS RIVER RELICENSING ENGINEERING SUPPORT

Portland General Electric Company (PGE) owns and operates a series of hydropower developments on the Clackamas River and its tributaries in north central Oregon. The Clackamas is a tributary to the Willamette River, which empties into the Columbia River. The Clackamas River Project licenses expired in 2006. PGE's power facilities there include the River Mill, North Fork, and Faraday hydroelectric developments on the Clackamas, along with the Oak Grove development on the Oak Grove Fork of the Clackamas. Seasonal storage for these power plants is provided by Timothy Lake Dam. Anadromous fish migrate from the Pacific Ocean up the Clackamas River to spawn, and pass through three dams via existing fish ladders. A downstream fish bypass system for outmigrating juveniles is located at the uppermost of the three mainstem dams (North Fork) designed to bypass fish around all three developments and place them back into the river below the lowermost dam (River Mill).



EES Consulting has provided engineering support to PGE during the collaborative relicensing process. Part of this process included a review of the existing project operation, and potential for operational and physical improvements to the project's facilities. EES Consulting assisted in management of the operational modeling effort, including presentation of results at agency and PGE staff meetings, developing operating scenarios, establishing formats for model presentations, and review of operating procedures and priorities with PGE project staff. Services included:

- Participating in the project operations workgroup component of the collaborative relicensing effort, providing operations modeling results to agency and NGO representatives.
- Reviewing project operating policies and procedures with engineering and project operations staff.
- Developing operational scenarios for evaluation of operational alternatives.
- Scenario evaluation using HEC-5 operations model.