

Project Overview

RI PH1 B3 Modernization

The B3 modernization project returns the second small PH1 unit to service.

The benefits of this project are:

- Helps meet strategic objective to improve hydro capability.
- Ensures another 40 years of reliable operation.
- New fish friendly turbine and greaseless components.
- Transition to internal work force to ensure long term reliability.
- Additional PH1 capacity increases encroachment revenue

Requesting a motion to increase the project budget.

B3 Modernization



Original 1930's runner

- 6 blades
- Gaps at hub
- Blunt blade edges

New fish friendly runner

- 4 blades
- Fixed pitch
- Tight blade fit to hub
- Rounded blade edges



B3 Modernization



New rotor built by CM crafts

- Built new assembly tools
- Revised procedures
- Achieved more uniform core stack

Restoring the discharge liner

- Severe cavitation damage
- Multiple repairs over decades
- Out of round, numerous cracks
- Replaced top 13" with new material
- 180 new anchor bolts installed
- Cavitation resistant surface achieved with a stainless steel overlay.



Project Budget Overview

Current project budget is \$19.4M.

Requesting a motion to increase the total capital budget by \$5.6M to a total budget of \$25M.

The budget increase is driven by these factors.

- Unanticipated costs of machining and repairs to the discharge liner. Includes confined space rescue crew for 24/7 operation for 5 months.
- Correction of quality issues.
- Addressed material supply issues.
- New tooling and procedures (startup learning curve)
- Labor and material escalation.

Capital Budget Revision Proposed Motion

To increase the total budget for capital project RI170013, RI PH1 B3 Modernization, in the amount of \$5,600,000. The current total project budget amount is \$19,400,000. The revised total project budget would be \$25,000,000.

