BUREAU OF RECLAMATION

Folsom Dam - Temperature Control Shutters Redesign

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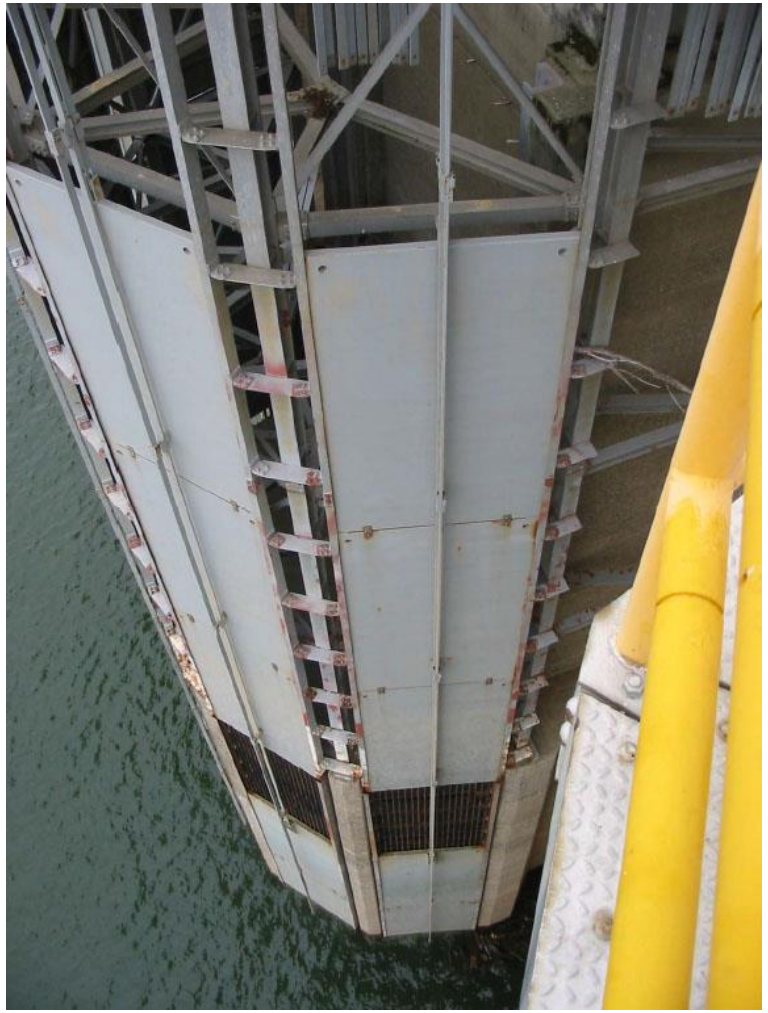
TCS Redesign Motivation

Bureau of Reclamation, 1963

- Temperature Control Shutters constructed in 1955
- Important for downstream endangered species
- Current issues
  - Aging system
  - Dam raise
  - Climate change

Current TCS System



- Three power penstocks and turbines
- 27 removable, 13-foot-high shutter panels
- Shutter panels are arranged in 3 vertical groups
- Leakage within scaffolding and between panels

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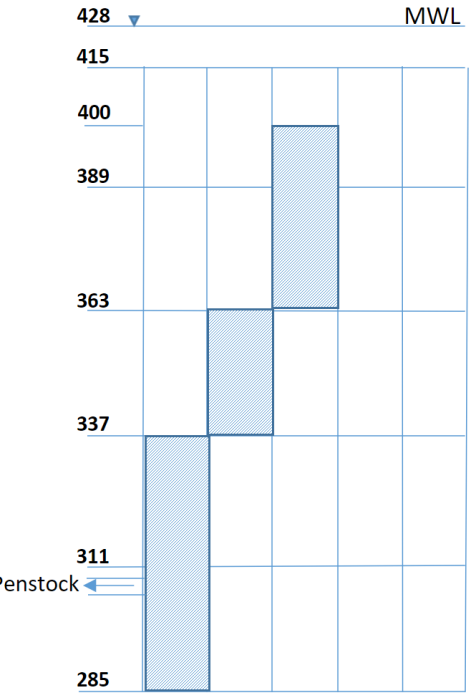
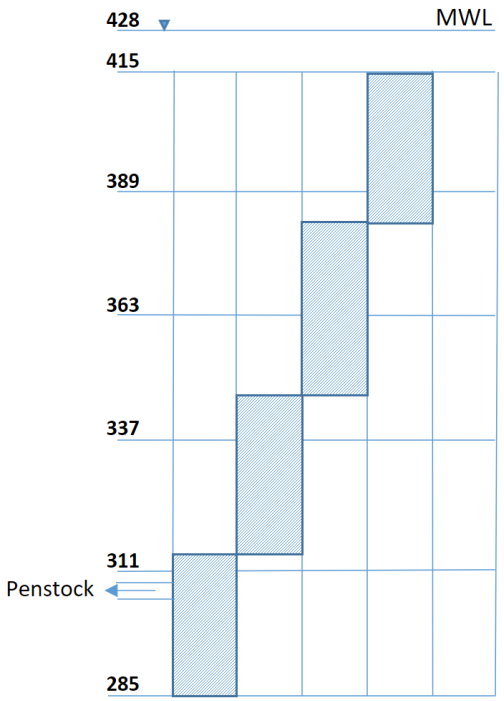
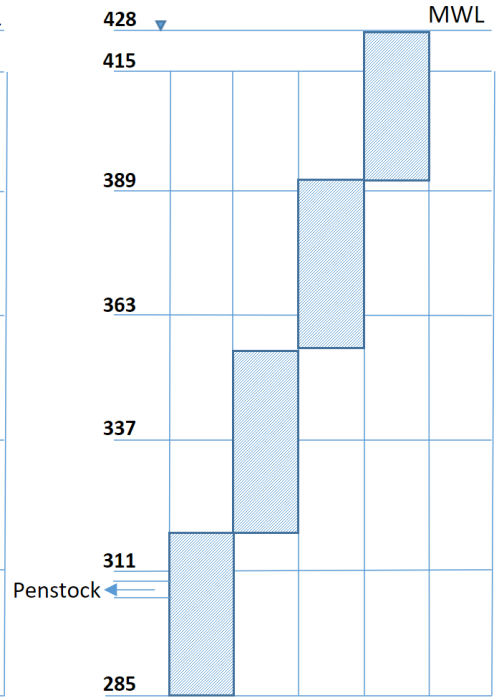
Water temperature and climate modeling will inform design



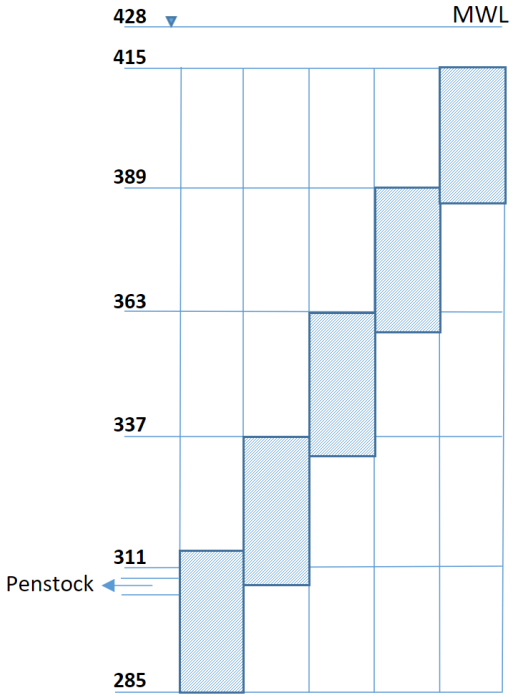
3 shutters/release elevations (Existing)



4 shutters



4+ shutters



5 shutters

- Preliminary work conducted for USACE by Reclamation examines various shutter configurations
- Climate change analysis will investigate climate scenarios
- More to come!

Takeaways

- Maintaining the Folsom Temperature Control Shutters is important for fisheries, environmental impacts, and meeting downstream regulations
- Downstream temperature management will become increasingly important (and potentially more difficult) with climate change
- Current shutters are past design life
  - 70 years into 50 year design life

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