

**EXH. JPH-13C
DOCKETS UE-240004/UG-240005
2024 PSE GENERAL RATE CASE
WITNESS: JAMES P. HOGAN**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

**Docket UE-240004
Docket UG-240005**

**TWELFTH EXHIBIT (CONFIDENTIAL) TO THE
PREFILED DIRECT TESTIMONY OF**

JAMES P. HOGAN

ON BEHALF OF PUGET SOUND ENERGY

REDACTED VERSION

FEBRUARY 15, 2024

Lower Baker Grouting Project

Baker River Project



September 27, 2021

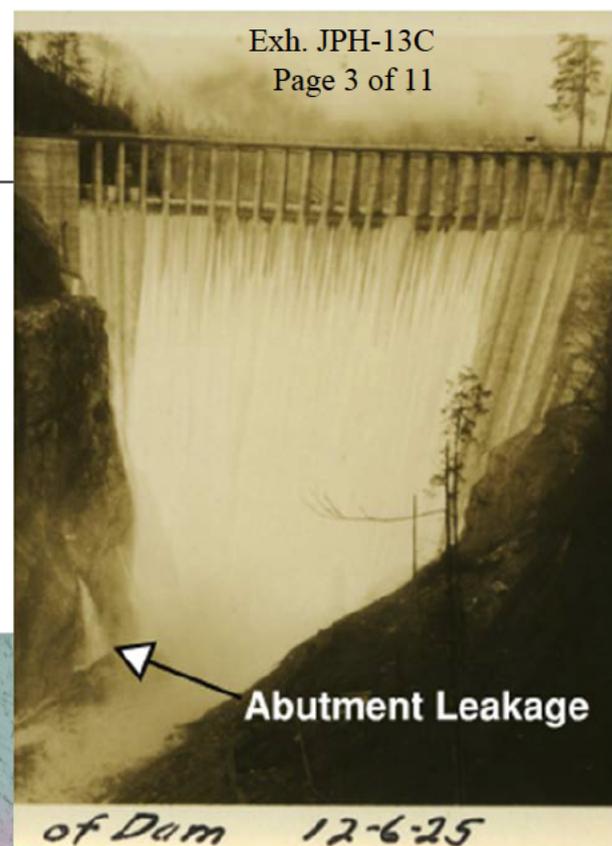
Objective

- Request that the Asset Management Committee recommend for approval by the PSE Board to enter into the construction contract for the Lower Baker Dam Grouting Project.



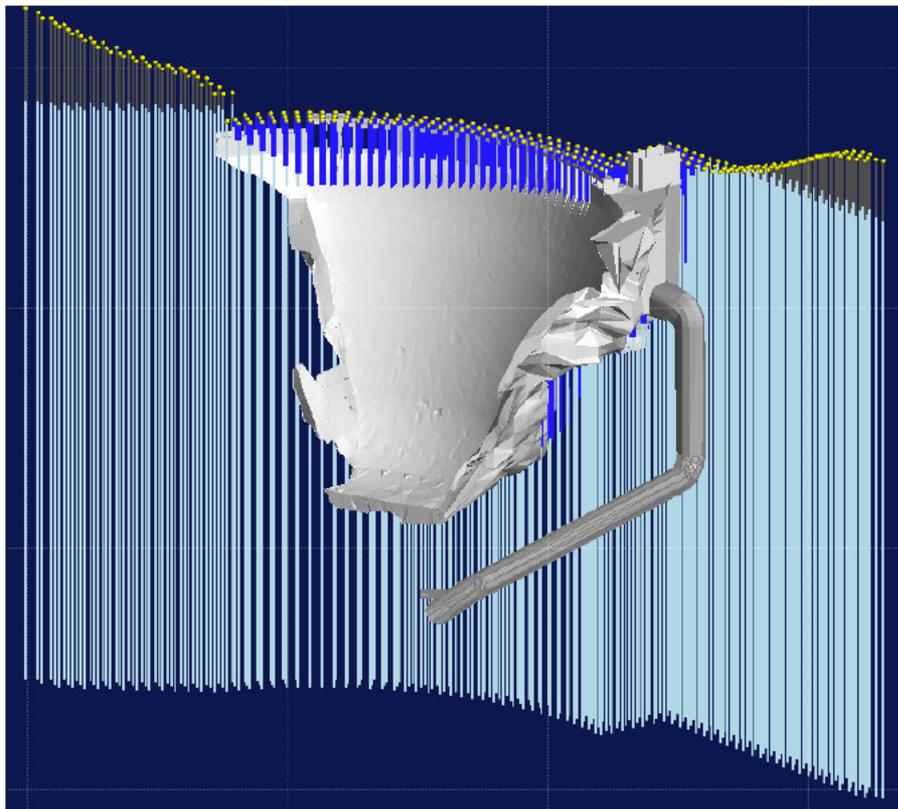
Background

- Semi-gravity concrete arch dam with a height of 285' and a crest length of 550'. The dam is located on the Baker River approximately one mile above the confluence of the Skagit River.
- Leakage through the dam/foundation contact as well as through geologic features within the bedrock has occurred since original construction.
- Grouting programs of limited scope have occurred in 1934, 1959, and 1982.



Mitigation Measures

- Multiple mitigation measures considered for addressing leakage. Stand alone options considered included dam removal, construction of a new dam, blanket over reservoir bottom, secant pile or slurry cutoff wall, and a grout curtain.
- A grout curtain was ultimately the preferred alternative based on cost, constructability, and timeliness.



Project Costs - Overview

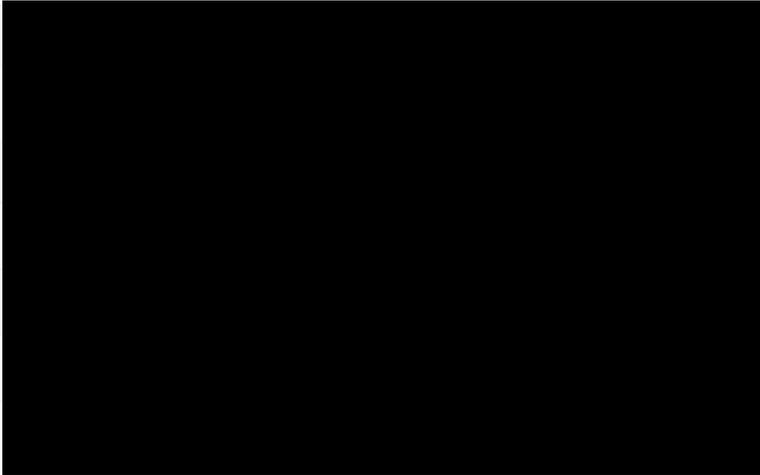
Shaded information is designated as
CONFIDENTIAL per WAC 480-07-160
Redacted version

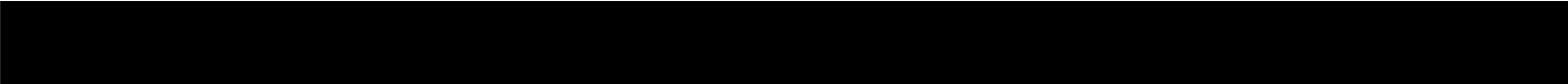
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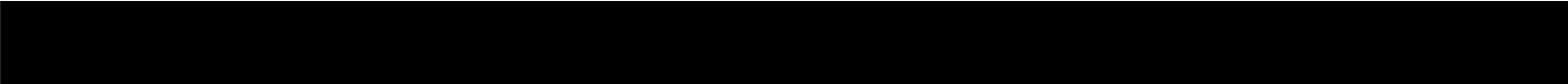
Activity	Cost (\$M)*
Construction (Lower Baker Constructors)	[REDACTED]
Construction management contract (HDR)	[REDACTED]
Engineer of record contract (S&W)	[REDACTED]
PSE labor	[REDACTED]
PSE overhead [REDACTED]	[REDACTED]
Contingency [REDACTED]	[REDACTED]
Total	[REDACTED]

* Final pricing received from Lower Baker Constructors on September 15, 2021.

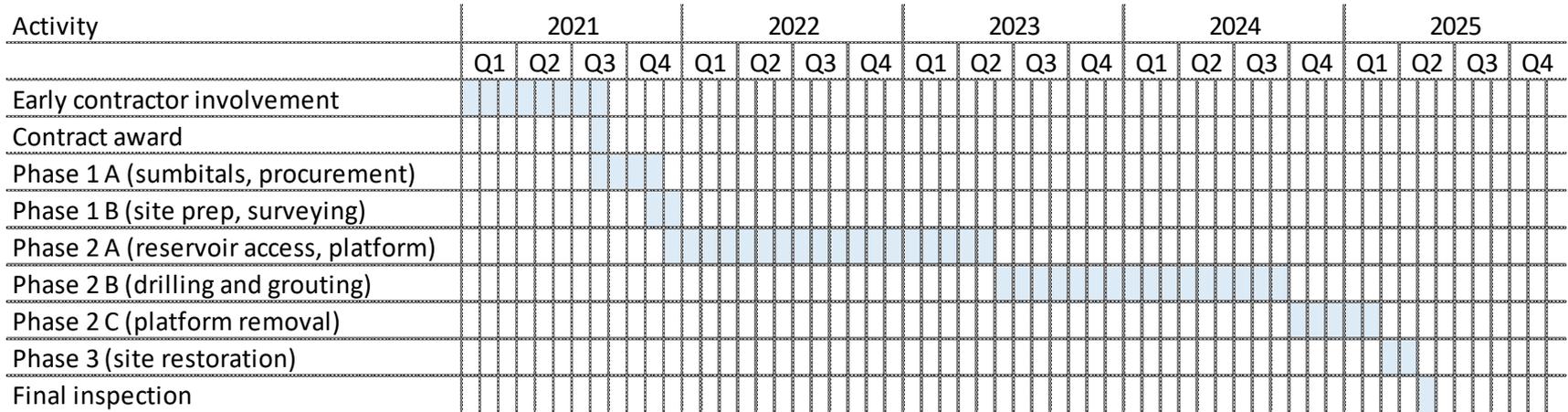
Project Costs – By Year and Phase

Construction Activity	2021	2022	2023	2024	2025
Phase 1 A (submittals, procurement, insurance)					
Phase 1 B (site prep, surveying)					
Phase 2 A (reservoir access, platform, guide pipes)					
Phase 2 B (drilling and grouting)					
Phase 2 C (platform and access removal)					
Phase 3 (site restoration)					
Total					

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Schedule

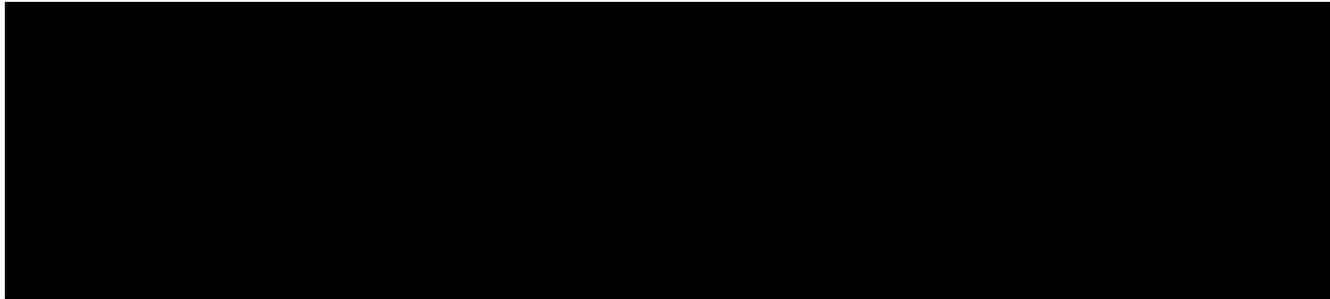


Cost and Schedule Risk Analysis

- A cost and schedule risk analysis (CSRA) was conducted on August 3-4, 2021 and was facilitated by HDR. The CSRA was founded on a qualitative risk register developed by PSE in June, 2021.

- The CSRA used the following model inputs:

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- Results indicate a 70 percent probability of total cost increase less than 7% of estimate used in the model [REDACTED]
- Principle potential cost drivers are drilling through obstructions, grouting the forebay debris, and drilling production rates.

Refined Cost and Schedule Risk Analysis

- Lower Baker Constructors, LLC provided their final pricing, schedule of values, and project schedule on September 15, 2021.
- PSE has contracted with HDR to conduct a more refined CSRA based on this data.
- The refined CSRA is schedule to start in mid-October and will be completed by the end of the month.

Non-Construction Risks

- PSE continues to work with the federal, state, and local agencies to ensure project authorization and permits are in place prior to construction.
 - The final design, excluding the platform and platform stability analysis, has been reviewed by both the regional (Portland) and national FERC Dam Safety teams with only minor comments.
 - The platform design and platform stability analysis will be submitted to FERC-Portland before the end of September.
 - The Washington Department of Ecology has approved the water quality protection plan (WQPP).
 - The Corps 404 permit has been out for public comment and PSE has responded to those comments.
 - NMFS and USF&WS are currently reviewing the biological assessment and drafting their opinions. The USF&WS review is currently behind schedule.

Project Responsibilities and Oversight

- Lower Baker Constructors, LLC
 - Traylor Bros., Inc. (JV partner) – site preparation, heavy civil construction, and JV management
 - ACT (JV partner) – execution of the drilling and grouting, tunnel plug drilling
 - Ballard Marine Construction (JV partner) – marine construction and support
 - Schnabel Engineering (sub) – platform stability analysis
 - Golder Associates (sub) – grouting interpretation and control
- Shannon & Wilson – engineering during construction to include real time oversight of grouting and geologic logging of drill core
- HDR – construction management to include project controls and field inspectors
- PSE – project management and coordination with the Lower Baker operations