EXH. JPH-10C 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

NINTH EXHIBIT (CONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY OF

JAMES P. HOGAN

**ON BEHALF OF PUGET SOUND ENERGY** 

**REDACTED VERSION** 

**FEBRUARY 15, 2024** 

# Puget Sound Energy Lower Baker Dam Seepage Reduction Project Cost and Schedule Risk Analysis

**Technical Memorandum** 

Prepared for:



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> Report Date: November 17, 2021

#### Disclaimer

The risk-based estimating process, Cost and Schedule Risk Analysis (CSRA) is iterative in nature. This process represents a "snapshot in time" for the Lower Baker Dam Seepage Reduction project and characterizes the conditions known at the time of the workshop.

The structured process by which this workshop has been undertaken with the contribution, deliberation, and concurrence in the analysis and results by the stakeholders, project team and subject matter experts that participated provides the best assessment of exposure to risk as it pertains to this project at this point in time.

Risk exposure is by its very nature subjective. The risk exposure of this project will continuously evolve, and this report represents the best assessment of associated interviews and workshops as of the date of the report. The assessment is provided with the objective to assist PSE with a more informed decision-making process for the subject project.

The risk assessment, facilitated by HDR, records and models the views of the PSE project team and subject matter experts in attendance at the risk workshop along with any recordings of subsequent meetings. The risk assessment addresses issues that could arise on the project given the experiences of the PSE team. It is limited in scope with respect to time allotted to the workshop, the information available at the time of the workshop, and availability of the PSE project team and subject matter expert representation.

There is no representation that all risks have been identified or that the quantification of the risks is in any way a guarantee of limit of exposure to schedule delay or cost overrun or underrun to PSE.

#### EXCLUSIONS AND ASSUMPTIONS

The risk analysis is based on the following assumptions and exclusions:

- The quantitative risk analysis is based on credible ranges of costs and possible schedule deviations and the probability of the risk occurring,
- The risk analysis does not take into account changes in commodity prices or cost of labor, or major events such as wars, major earthquakes, stock market volatility, deaths and injuries from site accident(s), pandemics, epidemics, and acts of God, etc.,
- The risk analysis does not take into account impacts to funding and financial risks, and
- The risk analysis was prepared for the sole and exclusive use by PSE and is not for the benefit of any third party and may not be distributed to, disclosed in any form to, used by, or relied upon by, any third party without the prior written consent of HDR, which consent may be withheld in its sole discretion. PSE agrees to indemnify HDR and its officers, employees, subcontractors, and affiliated corporations from all claims, damages, losses, and costs, including but not limited to litigation expenses and attorney's fees arising out of or related to the unauthorized disclosure, reuse, change, or alteration of the risk study.



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## Cost and Schedule Risk Analysis

This technical memorandum presents the Cost and Schedule Risk Analysis (CSRA) results for the Puget Sound Energy (PSE) Lower Baker Dam Seepage Reduction project. A qualitative risk register was developed by PSE on June 30, 2021. An initial CSRA workshop, facilitated by HDR, quantified each previously identified risk on August 3, 2021. A CSRA workshop update was held on October 11, 2021 during which several risks were retired, and quantifications were updated as the project has progressed.

The results of the CSRA workshop update reflect the current cost, schedule, and risk data as of the time of the workshop as provided by the PSE project team and do not include risk mitigation quantifications. The analysis is based on information, costs, and risk factors provided and approved by PSE. Updated inputs for the base cost and project schedule were provided by PSE then input into a more robust, custom, risk modeling analysis tool to account for the multiple construction phases within the project schedule.

The initial qualitative risk register (June 2021) as well as the initial quantitative risk analysis sheets (August 2021) can be found in the previous Technical Memorandum dated August 20, 2021. The updated quantitative Risk Analysis Sheets (October 2021) are provided in Appendix C.

### **Project Description**

The Baker River Hydroelectric Project, owned and operated by PSE, is located on the Baker River in Skagit and Whatcom counties, Washington and is comprised of both the Upper Baker and Lower Baker dams. The Lower Baker Dam (LBK) was constructed along the Baker River from 1925 to 1927 to generate hydroelectric power for northwestern Washington. The dam, which is located approximately one mile north of the town of Concrete, impounds a 7-mile-long reservoir known as Lake Shannon. This 285-foot-high concrete arch structure is located in a narrow canyon cut through limestone and shale bedrock by the Baker River.

LBK, since its original filling, has had a history of seepage through the foundation/abutment contact and features in the bedrock. Previous foundation grouting programs were conducted in 1934, 1959, and 1982. Seepage rates increased over the years following each grouting program and continued until another grouting program was undertaken.

This Project entails constructing a continuous, multiple line grouted seepage cutoff to reduce seepage and reduce the potential for bedrock erosion. Constructing the seepage cutoff will require working from a platform over the water, a work access pad on the left abutment, and barges and boats. Prior to completing the seepage cutoff, a seepage seal will be constructed over the soil and bedrock slope below the right abutment where previous dye tracing investigations have indicated seepage locations are located.

In addition, the work prior to the start of drilling and grouting will include constructing a concrete plug in the 1924/1925 diversion tunnel where the seepage cutoff crosses this abandoned diversion tunnel upstream of the intake structure on the left abutment.



### **Project Phases**

Project phases have been determined by PSE as listed below. The phases were used to pair project risks with the appropriate construction contractor overhead costs.

- Phase 1A
  - o Shall consist of offsite work
  - May include onsite work such as surveying, developing the required site and instrumentation as-builts, and installing project instrumentation
  - Notice to Proceed will be issued following award of the contract
- Phase 1B
  - o Shall generally consist of onsite work needed to prepare the site and site access
  - Notice to Proceed will be issued after the necessary permits are secured after completion of Phase 1A
- Phase 2A
  - Shall generally consist of constructing the work elements that are required prior to production drilling and grouting for the Seepage Cutoff
  - Notice to Proceed will be issued after completion of Phase 1B
- Phase 2B
  - o Shall generally consist of production drilling and grouting for the Seepage Cutoff
  - o Notice to Proceed will be issued after completion of Phase 2A
- Phase 2C
  - Shall generally consist of deconstruction of the work platform and demobilization of grouting equipment
  - o Notice to Proceed will be issued after completion of Phase 2B
- Phase 3
  - Shall generally consist of demobilization, site restoration of disturbed areas, and delivery of closeout submittals

### **Risk Model Inputs and Assumptions**

PSE provided a summary of base costs, by project phase, that was used within the risk model. This summary is included as Appendix B.

A range of uncertainty of -1 to +5 percent on the base construction cost was provided by PSE which represents the range of uncertainty of quantities during construction. All base costs were assumed to be in current year dollars with no escalation or inflation added.

PSE provided a construction start date of November 1, 2021 and an overall construction duration of 44 calendar months broken into phases. Contractor Overhead Costs for delay were provided by PSE for each phase. Additional delay costs are also included in the model for Construction Management, Engineering Services During Construction, and PSE Oversight. These are included within the summary provided by PSE in Appendix B.

### **Risk Analysis**

The risk analysis process quantified previously identified risk events by establishing the expected probability of occurrence and range of impacts through elicitation of information from



PSE. The range of impacts defines the representative distribution to be used when modeling the risk. The probability determines the relative frequency (or likelihood) of an event transpiring.

These values as well as risk interdependencies and unquantified risks (watchlist items) were developed by PSE. The individual Risk Analysis Sheets are provided in Appendix C. Escalation and overheads were modeled, as appropriate, to the risks that were quantified to have delay impacts.

#### **Cost Results**

Figure 1 depicts the total cost risk analysis results in the form of a probability distribution or "Scurve" graph. The S-curve shows the relationship between cost and the probability of not exceeding that cost. The graph indicates the best opinion of the cost ranges established by the PSE project team at the time of the analysis.



#### Figure 1: Total Project Costs

The vertical black dashed line represents the total base cost of \$315.13 million.

The **red** S-curve represents the cumulative probability distribution for the pre-response costs – prior to incorporating any risk mitigation strategies. This S-curve reveals that prior to risk



response, there was a **70 percent** probability to not exceed **\$355.95 million** YOE (year of expenditure).

	isks Impacting oject Cost
LBK LBKDSR CNS 900.08: Drilling - Obstructions Obstructions/debris encountered during drilling	
LBK LBKDSR CNS 900.18: Grouting - Bedrock Cost	
LBK LBKDSR CNS 900.04: Platform - Attachment to Dam	
LBK LBKDSR CNS 900.14: Grouting - Debris Grout quantity increase	
LBK LBKDSR CNS 900.30: Bitumen Grouting	
LBK LBKDSR CNS 80.01: Drilling production	
LBK LBKDSR CTR 40.01: General - Contractor staff/craft availability and retention	
LBK LBKDSR DES 10.02: Platform - Vertical Tiedowns Design and equipment selection	
LBK LBKDSR CNS 900.20: Grouting - General Grouting environmental concerns - Stakeholders/NGOs	
LBK LBKDSR CTR 50.01: Platform - Procurement Material procurement	<b>\$0</b> .
s	0.0 Expected Value Impacts on Cost (in Million \$s YOE)
Pre-Response Risk Cost Impact Pre-Response E	

Figure 2: Top Cost Risks

Figure 2 is a diagram showing the top ten cost risks of the project. This "tornado" chart shows the expected value for each risk. The bars represent the pre-response cost impacts for each event risk. The overall impact of the risk may be comprised of three components:

- The quantified and modeled cost of the risk
- The cost of escalation to the risk caused by delay
- The contractor overhead cost impact caused by the risk occurring (shown in Appendix B), and additional support costs caused by those delay

The risks in the tornado chart are ranked in descending order, with the largest risks at the top of the diagram. Risk names are listed along the vertical axis with the expected impact (in million \$) of the risk is shown along the horizontal axis.

The top three cost risks identified for the LBK Seepage Reduction project include obstructions/debris encountered during drilling, concentrated high flows increasing the grout



volume and leading to additional holes/grouting hours, and maintenance damage to the dam caused by platform attachment. Each risk is described in more detail in Appendix C.

#### **Schedule Results**

The probabilistic distribution of when the project is expected to be completed is shown in Figure 3. The base schedule project completion date is currently anticipated in July 2025.



Figure 3: Project Completion Date

The **red** S-curve reveals that prior to risk response, there is a **70 percent** probability that the project completion date will be May 2026, a delay of 10.4 months when compared to the base schedule.

The schedule tornado chart in Figure 4, on the following page, depicts the expected value preresponse impacts of the top risks affecting the project schedule. During the analysis these delay impacts are monetized, in the form of extended overhead costs only, and are shown in the cost risk profile, where applicable. The schedule delay tornado with expected values allows the management team with a priority list to focus on those with the largest quantified schedule impacts.





Figure 4: Top Schedule Risks

Risks in the tornado diagram are ranked in descending order, with the largest risks at the top of the diagram. Risk names are listed along the vertical axis, and the expected impact (in months) of the risk is shown along the horizontal axis. The expected value effect of each risk is calculated as the product of the risk's probability of occurrence and the risk's schedule impact as quantified in the workshop.

The top three schedule risks are encountering obstructions/debris during drilling, concentrated high flows increasing the grout volume and leading to additional holes/grouting hours, and grouting loss leading to a quantity increase. Any cost impacts as a result of a delay are monetized during the modeling process and are illustrated in the cost risk profile.



### Conclusion

Ongoing cost and schedule risk analysis updates are an integral tool for successful project management practices. The purpose of periodic risk analysis updates is to use the forecasts of risk-adjusted cost and schedule outcomes to measure the probability of project success compared to the project's initial anticipated completion date and project cost. Where a project cost or schedule lies on the S-curve of cost and schedule results reveal the confidence level of the project being delivered on time and on budget.

The basis of the analysis is strongly dependent on risk information provided by the team. As the project evolves, new information will become available, and this information should be analyzed to determine the current impacts to the project. Mitigation of the top schedule risk does not necessarily imply a direct schedule reduction, as other risks may move up to take their place.

All efforts should be made to deliver the project within the established cost and schedule budget. Project Managers and teams must not plan on using the risk reserve from onset of a project. They should avoid or mitigate threats and exploit opportunities. If avoidance of a risk is not possible, the team should try to minimize the likelihood of occurrence or reduce the impact of threat.

Continuous monitoring and control of risks is critical for project success and every effort must be made to mitigate or control major project risks to maximize the benefits.



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## Appendix A – Workshop Attendees

	2021				
Α	ug	Oct	Name	Organization – Position/Discipline	Contact
3	4	11			
✓	>	>	Rachel Bernhard	HDR – Risk Assistant	rachel.bernhard@hdrinc.com
~	✓	~	John Bickford	PSE – Project Manager	john.bickford@pse.com
	✓	~	Stan Boyle	Shannon & Wilson – Engineer of Record	srb@shanwil.com
~	>	~	Jim Cockburn	Advanced Construction Inc – Subject Matter Expert	jcockburn3935@gmail.com
~	✓	~	Tom Danielson	PSE – Chief of Dam Safety	thomas.danielson@pse.com
✓	✓	~	Michael Genduso	HDR – Resident Engineer	michael.genduso@hdrinc.com
✓	✓	~	Blane Long	HDR – Risk Facilitator	blane.long@hdrinc.com
	✓	✓	Gen Sasaki	Shannon & Wilson – Geotechnical Engineer	gns@shanwil.com
~	✓	~	Kevin Snyder	HDR – Hydropower Practice Leader	kevin.snyder@hdrinc.com
✓	✓	✓	Patrick White	HDR – Project Manager	patrick.white@hdrinc.com



## Appendix B – Contractor Overhead Costs

#### LOWER BAKER DAM SEEPAGE REDUCTION PROJECT

#### **COST SUMMARY - BY PHASE**

Description	Bid Scope
	insurance
	bonds
	mob
	oh
	mob
	oh
	survey
	access, env controls, signage
r OH (ph1 A)	weekly (12 week duration)
OH (ph1 B)	weekly (20 week duration)

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

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h2 A h2 B h2 B h2 B h2 B h2 B h2 B h2 B h2 C h3 C h	Description	Bid Scope
seepage seal tunnel plug demolition woody debris work platform guide pipes access pad reservoir access oh drilling and grouting (35 line item grouting env controls mob wastewater treatment automated grouting controls oh platform removal demob reservoir demob general		mob
tunnel plugdemolitionwoody debriswork platformguide pipesaccess padreservoir accessohdrilling and grouting (35 line itemgrouting env controls mobwastewater treatmentautomated grouting controlsohplatform removaldemob reservoir		oh
demolition woody debris work platform guide pipes access pad reservoir access oh drilling and grouting (35 line item grouting env controls mob wastewater treatment automated grouting controls oh platform removal demob reservoir		seepage seal
woody debriswork platformguide pipesaccess padreservoir accessohdrilling and grouting (35 line itemgrouting env controls mobwastewater treatmentautomated grouting controlsohplatform removaldemob reservoir		tunnel plug
work platform guide pipes access pad reservoir access oh drilling and grouting (35 line item grouting env controls mob wastewater treatment automated grouting controls oh platform removal demob reservoir		demolition
guide pipes access pad reservoir access oh drilling and grouting (35 line item grouting env controls mob wastewater treatment automated grouting controls oh platform removal demob reservoir		woody debris
access pad reservoir access oh drilling and grouting (35 line item grouting env controls mob wastewater treatment automated grouting controls oh platform removal demob reservoir		work platform
reservoir access oh drilling and grouting (35 line item grouting env controls mob wastewater treatment automated grouting controls oh platform removal demob reservoir		guide pipes
oh drilling and grouting (35 line item grouting env controls mob wastewater treatment automated grouting controls oh platform removal demob reservoir		access pad
drilling and grouting (35 line item grouting env controls mob wastewater treatment automated grouting controls oh platform removal demob reservoir		reservoir access
grouting env controls mob wastewater treatment automated grouting controls oh platform removal demob reservoir		oh
wastewater treatment automated grouting controls oh platform removal demob reservoir		drilling and grouting (35 line items
automated grouting controls oh platform removal demob reservoir		grouting env controls mob
oh platform removal demob reservoir		wastewater treatment
platform removal demob reservoir		automated grouting controls
demob reservoir		oh
		platform removal
demob general		demob reservoir
		demob general

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## Appendix C – Risk Analysis Sheets

The risks that were updated during the October 2021 CSRA Workshop are provided in the following Risk Analysis Sheets. Cost quantifications represent the Contractor Overhead Costs per Project Phase as shown in Appendix B. The initial qualitative risk register (June 2021) as well as the initial risk analysis sheets (August 2021) can be found in the previous Technical Memorandum dated August 20, 2021.

Project	L	ower Baker Da	am		Risk I D	LBK LBKDSF	CNS 50.01
Sub-Project	Lower Bake	er Dam Seepag	ge Reduction		Status	Acti	ive
				achment to Dai ete quality	n		
Risk Trigger	Contracto	or identification of	deviations.	Flowcha	t Activity	21	0
Depend	ency & Correla	ition		Delay is co	oncurrent with Risk	CNS 900.05	
			Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
10%					9	29	
Cost (\$M)	\$0.39	\$0.59	\$0.78	\$0.06	Project Rank Cost	Project Rank Schedule	11/15/2021
Schedule (Mo)				0.00	9	29	
		P	Pha ost-Respons	hors required, bett ase 2A. Se Quantificati		Additional Cost	duration.
Probability	laility different th		Ph	ase 2A.		Additional Cost to Respond	
Probability 10%	Low	P Most Likely	Pha Post-Respons High	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post Las Updated
Probability		P	Pha ost-Respons	se Quantificati		Additional Cost	Date Post Las
Probability 10% Cost (\$M) Schedule (Mo) Risk Ow	Low \$0.39	P Most Likely	Ost-Respons High \$0.78 Monitoring	ase 2A. Se Quantification Total Expected Value Impact \$0.06 0.00 g and Control From		Additional Cost to Respond	Date Post Las Updated
Probability 10% Cost (\$M) Schedule (Mo)	Low \$0.39	P Most Likely \$0.59	Ost-Respons High \$0.78 Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.06 0.00		Additional Cost to Respond Strategy	Date Post Las Updated
Probability 10% Cost (\$M) Schedule (Mo) Risk Ow	Low \$0.39	P Most Likely	Ost-Respons High \$0.78 Monitoring Risk Aging	ase 2A. Se Quantification Total Expected Value Impact \$0.06 0.00 g and Control From		Additional Cost to Respond Strategy	Date Post Las Updated
Probability 10% Cost (\$M) Schedule (Mo) Risk Ow	Low \$0.39	P Most Likely \$0.59	Ost-Respons High \$0.78 Monitoring Risk Aging	ase 2A. Se Quantification Total Expected Value Impact \$0.06 0.00 g and Control From		Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las
Probability 10% Cost (\$M) Schedule (Mo) Risk Ow	Low \$0.39	P Most Likely \$0.59	Ost-Respons High \$0.78 Monitoring Risk Aging	ase 2A. Se Quantification Total Expected Value Impact \$0.06 0.00 g and Control From		Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSF	R CNS 50.02
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ive
				achment to Dar ace irregularitie			
Risk Trigger	Contracto	or identification of a	deviations.	Flowchar	t Activity	21	0
Depend	lency & Correla	tion					
			Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las
40%	]			value impact	7	14	opuaieu
Cost (\$M)	\$0.20	\$0.39	\$0.39	\$0.14	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.25	0.50	0.50	0.18	7	14	
	Concrete s		Phi	eld fitting/shimming ase 2A. Se Quantificati	leading to extende	ed duration.	
Probability	Concrete s		Phi	se Quantificati		Additional Cost to Respond	
Probability 40%		P	Phi ost-Respons	se Quantificati		Additional Cost	Date Post Las Updated
40% Cost (\$M)	Low 30.20	P Most Likely \$0.39	ost-Respons High \$0.39	se Quantificati Total Expected Value Impact \$0.14		Additional Cost	
40%	Low	P Most Likely	Phi ost-Respons High	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
40% Cost (\$M) Schedule (Mo)	Low \$0.20 0.25 chedule and LB	P Most Likely \$0.39 0.50	Philosophic Philos	se Quantificati Total Expected Value Impact \$0.14 0.18	on submittal. Ensure t	Additional Cost to Respond	10/11/2021 and approach
40% Cost (\$M) Schedule (Mo) Track submittal s	Low \$0.20 0.25 chedule and LB VNET	P Most Likely \$0.39 0.50	Philosophic Philos	se Quantificati Total Expected Value Impact \$0.14 0.18 are addressed in al review and RRM g and Control	on submittal. Ensure t	Additional Cost to Respond Strategy	Updated 10/11/2021 and approach
40% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low \$0.20 0.25 chedule and LB VNET	P Most Likely \$0.39 0.50	Philosophic Philos	se Quantificati Total Expected Value Impact \$0.14 0.18 are addressed in al review and RRM g and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy	Updated 10/11/2021 and approach
40% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low \$0.20 0.25 chedule and LB VNET	P Most Likely \$0,39 0.50 C performance. V	Philosophic Philos	se Quantificati Total Expected Value Impact \$0.14 0.18 are addressed in al review and RRM g and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy	Updated 10/11/2021 and approach nterval Date MC Las Updated
40% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low \$0.20 0.25 chedule and LB VNET	P Most Likely \$0,39 0.50 C performance. V	Philosophic Philos	se Quantificati Total Expected Value Impact \$0.14 0.18 are addressed in al review and RRM g and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Updated 10/11/2021 and approach nterval Date MC Las
40% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low \$0.20 0.25 chedule and LB VNET	P Most Likely \$0,39 0.50 C performance. V	Philosophic Philos	se Quantificati Total Expected Value Impact \$0.14 0.18 are addressed in al review and RRM g and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Updated 10/11/2021 and approach nterval Date MC Las Updated 10/11/2021 Risk
40% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low \$0.20 0.25 chedule and LB vner	P Most Likely \$0,39 0.50 C performance. V	Philosophic Philos	se Quantificati Total Expected Value Impact \$0.14 0.18 are addressed in al review and RRM g and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan Status I	Updated 10/11/2021 and approach nterval Date MC Las Updated 10/11/2021



Project	1	ower Baker Da	m l		Risk ID	LBK LBKDSF	CNS 50.03
Sub-Project		er Dam Seepag			Status	Acti	
		ŀ		ide Pipe Syster tor quality	n		
Risk Trigger				Flowchar	t Activity	21	0
Depend	lency & Correl	ation					
		P	re-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las
25%					12	10	
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	
Schedule (Mo)	0.50	1.00	1.50	0.25	12	10	
qua	ality of seepage	e curtain installation	and performan Pha	ce, Design may lim ase 2A. <b>Se Quantificati</b>	it ability to add add	pipes. Could affect litional grout holes. Additional Cost	
qua Probability		e curtain installation	i and performan Pha	ce. Design may lim ase 2A.	it ability to add add	ditional grout holes.	
qua Probability 25%	ality of seepage	e curtain installation	and performan Pha	ce. Design may lim ase 2A. Se Quantificati Total Expected Value Impact	it ability to add add	Additional Cost to Respond	Date Post Las
qua Probability 25% Cost (\$M)	ality of seepage	e curtain installation	and performan Pha	ce, Design may lim ase 2A. <b>Se Quantificati</b> Total Expected	it ability to add add	ditional grout holes,	Date Post Las Updated
qua Probability 25%	Low 0.50	e curtain installation Pr Most Likely	a and performan Phr ost-Respons High 1.50 rout holes to add	ce. Design may lim see 2A. ce Quantification Total Expected Value Impact \$0.00 0.25 dress deviations in g and Control	it ability to add add	Additional grout holes. Additional Cost to Respond Strategy	Date Post Las Updated
qua Probability 25% Cost (\$M) Schedule (Mo)	Low 0.50 Co Vner	Most Likely 1.00	a and performan Phr ost-Respons High 1.50	ce. Design may lim ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.25 dress deviations in	it ability to add add	Additional grout holes. Additional Cost to Respond Strategy ent.	Date Post Las Updated
Qua Probability 25% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 0.50 Co Vner	Most Likely 1.00	A and performan Phr Dost-Respons High 1.50 rout holes to add Monitoring Risk Aging	ce. Design may lim see 2A. Se Quantification Total Expected Value Impact \$0.00 0.25 dress deviations in g and Control From	it ability to add add	Additional grout holes. Additional Cost to Respond Strategy ent.	Date Post Las Updated
Qua Probability 25% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 0.50 Co Vner	Most Likely 1.00	A and performan Phr Dost-Respons High 1.50 rout holes to add Monitoring Risk Aging	ce. Design may lim see 2A. Se Quantification Total Expected Value Impact \$0.00 0.25 dress deviations in g and Control From	it ability to add add	Additional grout holes. Additional Cost to Respond Strategy ent.	Date Post Las Updated 10/11/2021 nterval
Qua Probability 25% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 0.50 Co Vner	Most Likely 1.00	A and performan Phr Dost-Respons High 1.50 rout holes to add Monitoring Risk Aging	ce. Design may lim see 2A. Se Quantification Total Expected Value Impact \$0.00 0.25 dress deviations in g and Control From	it ability to add add	Additional grout holes. Additional Cost to Respond Strategy ent. Status I	Date Post Las
Qua Probability 25% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 0.50 Co Vner	Most Likely 1.00	A and performan Phr Dost-Respons High 1.50 rout holes to add Monitoring Risk Aging	ce. Design may lim see 2A. Se Quantification Total Expected Value Impact \$0.00 0.25 dress deviations in g and Control From	it ability to add add	Additional grout holes. Additional Cost to Respond Strategy ent. Status I	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated

PUCET SOUND ENERGY

Project	L	ower Baker Dar	m	1	Risk ID	LBK LBKDSR	CNS 50.04
Sub-Project	Lower Bake	er Dam Seepag	e Reduction	]	Status	Acti	ve
			Pensto	ck damage			
Risk Trigger	Post grou	uting survey inside	penstock	Flowchar	t Activity	21	0
Depende	ency & Correla	ition		1			
		P	re-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
5%				· · · · · · · · · · · · · · · · · · ·	11	28	opanica
Cost (\$M)	\$0.40	\$0.40	\$0.40	\$0.02	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.25	0.25	0.25	0.01	11	28	
	ping into pens	s	how stopper (y Ph	i is associated with ears to fix, if occurs ase 2A.	.).	s to assess - other	vise this risk is
Probability	Low	s	how stopper (y Ph	ears to fix, if occurs ase 2A se Quantificati Total Expected	.).	s to assess - otherw Additional Cost to Respond	Date Post Las
5%	Low	s Pc Most Likely	how stopper (y Ph Dist-Respon: High	ears to fix, if occurs ase 2A. se Quantificati Total Expected Value Impact	.).	Additional Cost to Respond	Date Post La: Updated
5% Cost (\$M)		s Pc	how stopper (y Ph ost-Respon	ears to fix, if occurs ase 2A se Quantificati Total Expected	.).	Additional Cost	Date Post Las
5%	Low \$0.40	\$     8     8     8     9     9     9     1	how stopper (y Ph Dost-Response High \$0.40 0.25	ears to fix, if occurs ase 2A. se Quantificati Total Expected Value Impact \$0.02 0.01 Control grout press	on	Additional Cost to Respond	Date Post Las Updated
5% Cost (\$M) Schedule (Mo)	Low \$0.40 0.25	S Most Likely \$0.40 0.25 Buit	how stopper (y Ph Dest-Respon High \$0.40 0.25 (into contract - Monitorin	ears to fix, if occurs ase 2A. Se Quantification Total Expected Value Impact \$0.02 0.01 Control grout press g and Control	on	Additional Cost to Respond	Date Post Las Updated
5% Cost (\$M)	Low \$0.40 0.25	S Most Likely \$0.40 0.25 Buit	how stopper (y Ph Dost-Response High \$0.40 0.25	ears to fix, if occurs ase 2A. se Quantificati Total Expected Value Impact \$0.02 0.01 Control grout press	on	Additional Cost to Respond Strategy	Date Post Las Updated
5% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low \$0.40 0.25	S Most Likely \$0.40 0.25 Buit	how stopper (y Ph Dest-Response High \$0.40 0.25 t into contract - Monitorini Risk Aging	ears to fix, if occurs ase 2A. Se Quantification Total Expected Value Impact \$0.02 0.01 Control grout press g and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated
5% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low \$0.40 0.25	S PC Most Likely \$0,40 0.25 Built	how stopper (y Ph Dest-Response High \$0.40 0.25 t into contract - Monitorini Risk Aging	ears to fix, if occurs ase 2A. Se Quantification Total Expected Value Impact \$0.02 0.01 Control grout press g and Control From	on on ures	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated
5% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low \$0.40 0.25	S PC Most Likely \$0,40 0.25 Built	how stopper (y Ph Dest-Response High \$0.40 0.25 t into contract - Monitorini Risk Aging	ears to fix, if occurs ase 2A. Se Quantification Total Expected Value Impact \$0.02 0.01 Control grout press g and Control From	on on ures	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las
5% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low \$0.40 0.25	S PC Most Likely \$0,40 0.25 Built	how stopper (y Ph Dest-Response High \$0.40 0.25 t into contract - Monitorini Risk Aging	ears to fix, if occurs ase 2A. Se Quantification Total Expected Value Impact \$0.02 0.01 Control grout press g and Control From	on on ures	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated 10/11/2021 Risk
5% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low \$0.40 0.25	S PC Most Likely \$0,40 0.25 Built	how stopper (y Ph Dest-Response High \$0.40 0.25 t into contract - Monitorini Risk Aging	ears to fix, if occurs ase 2A. Se Quantification Total Expected Value Impact \$0.02 0.01 Control grout press g and Control From	on on ures	Additional Cost to Respond Strategy Strategy Status I Last Review	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated 10/11/2021



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSF	CNS 80.01
Sub-Project	Lower Bake	r Dam Seepag	e Reduction		Status	Acti	ve
			Drilling	production			
Risk Trigger				Flowchar	t Activity	22	0
Depend	lency & Correla	tion					
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Last
25%	]			Value Impact	3	6	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	11/16/2021
Schedule (Mo)	1.00	2.00	3.00	0.50	3	6	
20 0 com		P	onnel, not appro Pha	Production priate to maintain p ase 2B.			
Probability	Equipn		onnel, not appro Pha	priate to maintain p ase 2B.		Additional Cost to Respond	Date Post Las Updated
25%		P	onnel, not appro Pha	priate to maintain p ase 2B. Se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
25% Cost (\$M)		P	onnel, not appro Pha	priate to maintain p ase 2B. <b>Se Quantificati</b> Total Expected		Additional Cost	
25% Cost (\$M) Schedule (Mo)	Low 1.00	P Most Likely 2.00	ornel, not appropriate property of the propert	priate to maintain p ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.50 production rates ve g and Control	on	Additional Cost to Respond Strategy	Updated
25% Cost (\$M)	Low 1.00 vner	P Most Likely 2.00	ornel, not approv Pha ost-Respons High 3.00	priate to maintain p ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.50 production rates ve	on	Additional Cost to Respond	Updated
25% Cost (\$M) Schedule (Mo) Risk Ov	Low 1.00 vner	P Most Likely 2.00	ornel, not appropriate ost-Respons High 3.00 track assumed ( Monitoring Risk Aging	priate to maintain p ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.50 production rates ve g and Control From	on	Additional Cost to Respond Strategy	11/16/2021
25% Cost (\$M) Schedule (Mo) Risk Ov	Low 1.00 vner	P Most Likely 2.00 Verity and	ornel, not appropriate ost-Respons High 3.00 track assumed ( Monitoring Risk Aging	priate to maintain p ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.50 production rates ve g and Control From	on	Additional Cost to Respond Strategy	Updated 11/16/2021 nterval
25% Cost (\$M) Schedule (Mo) Risk Ov	Low 1.00 vner	P Most Likely 2.00 Verity and	ornel, not appropriate ost-Respons High 3.00 track assumed ( Monitoring Risk Aging	priate to maintain p ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.50 production rates ve g and Control From	on	Additional Cost to Respond Strategy	Updated 11/16/2021 nterval Date MC Las
25% Cost (\$M) Schedule (Mo) Risk Ov	Low 1.00 vner	P Most Likely 2.00 Verity and	ornel, not appropriate ost-Respons High 3.00 track assumed ( Monitoring Risk Aging	priate to maintain p ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.50 production rates ve g and Control From	on	Additional Cost to Respond Strategy	Updated 11/16/2021 nterval Date MC Las Updated 10/11/2021 Risk
25% Cost (\$M) Schedule (Mo) Risk Ov	Low 1.00 vner	P Most Likely 2.00 Verity and	ornel, not appropriate ost-Respons High 3.00 track assumed ( Monitoring Risk Aging	priate to maintain p ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.50 production rates ve g and Control From	on	Additional Cost to Respond Strategy	Updated 11/16/2021 nterval Date MC Las Updated 10/11/2021

PSE PUGET SOUND ENERGY

Project	L	ower Baker Da	m		Risk I D	LBK LBKDSF	CNS 90.01
Sub-Project	Lower Bake	r Dam Seepag	e Reduction		Status	Acti	ive
			Construct	tion accident			
Risk Trigger				Flowchar	t Activity	22	0
Depend	lency & Correla	tion					
		P	Pre-Respons	e Quantificatio	on	-	
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
5%	1	L		Value Impact	12	25	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	
Schedule (Mo)	0.25	0.50	1.00	0.03	12	25	
	An		ork stoppage or Pha	al - Safety delay (near-miss o ase 2B. <b>se Quantificati</b>	r recordable incide	nt).	
Probability	An Low		ork stoppage or Pha	delay (near-miss o ase 2B. <b>Se Quantificati</b> Total Expected		Additional Cost	
Probability 5%		P	ork stoppage or Pha ost-Respons	delay (near-miss o ase 2B. <b>se Quantificati</b>			Date Post La Updated
		P	ork stoppage or Pha ost-Respons	delay (near-miss o ase 2B. <b>Se Quantificati</b> Total Expected		Additional Cost	
5%		P	ork stoppage or Pha ost-Respons	delay (near-miss o ase 2B. Se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
5% Cost (\$M)	Low 0.25 be developed ar Layou	Pe Most Likely 0.50	ork stoppage or Pha ost-Respons High 1.00 ing program to b ent and work are Monitoring	delay (near-miss o ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.03 we implemented prior	on	Additional Cost to Respond Strategy	Updated 10/11/2021 safety meetings
5% Cost (\$M) Schedule (Mo) Site safety plan to t	Low D.25 Location Loc	Per Most Likely	ork stoppage or Phi ost-Respons High 1.00 ing program to b ent and work are Monitoring Risk Aging	delay (near-miss o ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.03 Total expected value implemented pri- tas to remove and in- g and Control	ON or to work being co	Additional Cost to Respond Strategy ducted. Regular s zards.	10/11/2021
5% Cost (\$M) Schedule (Mo) Site safety plan to t Risk Ow	Low D.25 Location Loc	Pe Most Likely 0.50	ork stoppage or Phi ost-Respons High 1.00 ing program to b ent and work are Monitoring Risk Aging	delay (near-miss o ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.03 Total Expected Value Impact \$0.00 0.03 Total Expected Solution (Solution) (Solu	ON or to work being co	Additional Cost to Respond Strategy nducted. Regular s zards.	Updated 10/11/2021 safely meetings nterval
5% Cost (\$M) Schedule (Mo) Site safety plan to t Risk Ow	Low D.25 Location Loc	Per Most Likely	ork stoppage or Phi ost-Respons High 1.00 ing program to b ent and work are Monitoring Risk Aging	delay (near-miss o ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.03 Total Expected Value Impact \$0.00 0.03 Total Expected Solution (Solution) (Solu	ON or to work being co	Additional Cost to Respond Strategy ducted. Regular s zards.	Updated 10/11/2021 safety meetings nterval
5% Cost (\$M) Schedule (Mo) Site safety plan to t Risk Ow	Low D.25 Location Loc	Per Most Likely	ork stoppage or Phi ost-Respons High 1.00 ing program to b ent and work are Monitoring Risk Aging	delay (near-miss o ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.03 Total Expected Value Impact \$0.00 0.03 Total Expected Solution (Solution) (Solu	ON or to work being co	Additional Cost to Respond Strategy nducted. Regular s zards.	Updated 10/11/2021 safely meetings nterval Date MC Las
5% Cost (\$M) Schedule (Mo) Site safety plan to t Risk Ow	Low D.25 Location Loc	Per Most Likely	ork stoppage or Phi ost-Respons High 1.00 ing program to b ent and work are Monitoring Risk Aging	delay (near-miss o ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.03 Total Expected Value Impact \$0.00 0.03 Total Expected Solution (Solution) (Solu	ON or to work being co	Additional Cost to Respond Strategy nducted. Regular s zards.	Updated 10/11/2021 safety meetings nterval Date MC Las Updated 10/11/2021 Risk
5% Cost (\$M) Schedule (Mo) Site safety plan to t Risk Ow	Low D.25 Location Loc	Per Most Likely	ork stoppage or Phi ost-Respons High 1.00 ing program to b ent and work are Monitoring Risk Aging	delay (near-miss o ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.03 Total Expected Value Impact \$0.00 0.03 Total Expected Solution (Solution) (Solu	ON or to work being co	Additional Cost to Respond Strategy nducted. Regular s zards. Status I	Updated 10/11/2021 safety meetings nterval Date MC Las Updated 10/11/2021

PSE PUGET SOUND ENERGY

Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.01
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
		Non-t		Right Abutment face/poor rock	quality		
Risk Trigger				Flowchar	t Activity	21	0
Depend	lency & Correla	ition		Mutuall	y exclusive with CN	IS 900.02	
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
20%	]	-LL		Value Impact	8	17	Updated
Cost (\$M)	\$0.39	\$0.59	\$0.78	\$0.12	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.50	0.75	1.00	0.15	8	17	
Ar	nchoring of form		Ph	n due to non-unifor ase 2A. Se Quantificati	m rock face and/or ON		
Probability	Low		Ph	ase 2A.		poor rock quality. Additional Cost to Respond	Date Post Las Updated
Probability 20%	Low	P. Most Likely	Phi ost-Respons High	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
Probability		P	Phi ost-Respons	se Quantificati		Additional Cost	
Probability 20% Cost (\$M) Schedule (Mo) Track submittal se	Low \$0.39 0.50	P Most Likely \$0,59 0,75	Philosophic Philos	se Quantificati Total Expected Value Impact \$0.12 0.15 are addressed in al review and RRM g and Control	on submittal. Ensure t	Additional Cost to Respond Strategy	10/11/2021 and approach
Probability 20% Cost (\$M) Schedule (Mo) Track submittal so Track submittal so Risk Ow	Low \$0.39 0.50 chedule and LE	P Most Likely \$0,59 0,75	Philosophic Philos	ase 2A. Control Expected Value Impact \$0.12 0.15 are addressed in al review and RRM g and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy	Updated 10/11/2021 and approach
Probability 20% Cost (\$M) Schedule (Mo) Track submittal se	Low \$0.39 0.50 chedule and LE	P Most Likely \$0.59 0.75 C performance. Vo	Philosophic Philos	se Quantificati Total Expected Value Impact \$0.12 0.15 are addressed in al review and RRM g and Control	on submittal. Ensure t	Additional Cost to Respond Strategy	Updated 10/11/2021 and approach
Probability 20% Cost (\$M) Schedule (Mo) Track submittal so Track submittal so Risk Ow	Low \$0.39 0.50 chedule and LE	P Most Likely \$0,59 0,75	Philosophic Philos	ase 2A. Control Expected Value Impact \$0.12 0.15 are addressed in al review and RRM g and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy	Updated 10/11/2021 and approach nterval Date MC Las
Probability 20% Cost (\$M) Schedule (Mo) Track submittal so Track Submittal so Risk Ow	Low \$0.39 0.50 chedule and LE	P Most Likely \$0.59 0.75 C performance. Vo	Philosophic Philos	ase 2A. Control Expected Value Impact \$0.12 0.15 are addressed in al review and RRM g and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Updated 10/11/2021 and approach nterval
Probability 20% Cost (\$M) Schedule (Mo) Track submittal so Track submittal so Risk Ow	Low \$0.39 0.50 chedule and LE	P Most Likely \$0.59 0.75 C performance. Vo	Philosophic Philos	ase 2A. Control Expected Value Impact \$0.12 0.15 are addressed in al review and RRM g and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan Status I	Updated 10/11/2021 and approach nterval Date MC Las Updated 10/11/2021
Probability 20% Cost (\$M) Schedule (Mo) Track submittal so Track Submittal so Risk Ow	Low \$0.39 0.50 chedule and LE	P Most Likely \$0.59 0.75 C performance. Vo	Philosophic Philos	ase 2A. Control Expected Value Impact \$0.12 0.15 are addressed in al review and RRM g and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Updated 10/11/2021 and approach nterval Date MC Las Updated
Probability 20% Cost (\$M) Schedule (Mo) Track submittal so Track Submittal so Risk Ow	Low \$0.39 0.50 chedule and LE	P Most Likely \$0.59 0.75 C performance. Vo	Philosophic Philos	ase 2A. Control Expected Value Impact \$0.12 0.15 are addressed in al review and RRM g and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan Status I	Updated 10/11/2021 and approach nterval Date MC Las Updated 10/11/2021 Risk



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Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.02
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				light Abutment k installation			
Risk Trigger				Flowchar	t Activity	21	0
Depend	ency & Correl	ation		Mutually	y exclusive with CN	IS 900.01	
			Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
15%				Value Impact	12	21	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.25	0.50	0.50	0.07	12	21	
Installation		placing concrete d	ue to location or Pha		on due to concrete		erdam.
Probability		placing concrete d	ue to location or Pha	stopping of operati ise 2A.	on due to concrete		ordam. Date Post La: Updated
Probability 15%	Delay in	placing concrete d	ue to location or Pha ost-Respons	stopping of operations 2A.	on due to concrete	leak/spil. Additional Cost to Respond	Date Post La Updated
Probability 15% Cost (\$M)	Delay in	placing concrete d	ue to location or Pha ost-Respons	stopping of operations 2A.	on due to concrete	leak/spil.	Date Post La:
Probability 15% Cost (\$M) Schedule (Mo) Track submittal so	Low 0.25 Network	Most Likely 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.5	ue to location or Phi ost-Respons High 0.50 il on contractor a erify all concerns Incorporate risk	stopping of operations 2A.	on due to concrete on on on	Additional Cost to Respond Strategy sk.	Date Post La: Updated 10/11/2021
Probability 15% Cost (\$M) Schedule (Mo) Track submittal so	Delay in post of the second se	Most Likely 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.5	ue to location or Phi ost-Respons High 0.50 il on contractor a erify all concerns Incorporate risk Monitoring	stopping of operations of a see 2A.	on due to concrete ON operly categorize ri submittal. Ensure ti	Additional Cost to Respond Strategy sk.	Date Post La: Updated 10/11/2021 and approach
Probability 15% Cost (\$M) Schedule (Mo) Track submittal so thr	Delay in p Low 0.25 Ne shedule and LE ough submittal	Most Likely 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.5	ue to location or Phi ost-Respons High 0.50 il on contractor a erify all concerns Incorporate risk Monitoring Risk Aging	stopping of operations 2A. Se Quantifications 2A. Total Expected Value Impact \$0.00 0.07 pproach/plan to pro- are addressed in mitigation strategy and Control	on due to concrete ON operly categorize ri submittal. Ensure ti	Additional Cost to Respond Strategy sk. here is a clear plan lopment/flexibility.	Date Post La: Updated 10/11/2021 and approach
Probability 15% Cost (\$M) Schedule (Mo) Track submittal so thr Risk Ow	Delay in p Low 0.25 Ne shedule and LE ough submittal	Most Likely 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.5	ue to location or Phi ost-Respons High 0.50 il on contractor a erify all concerns Incorporate risk Monitoring Risk Aging	stopping of operations 2A. Se Quantifications 2A. Total Expected Value Impact \$0.00 0.07 pproach/plan to pro- are addressed in mitigation strategy and Control From	on due to concrete ON operly categorize ri submittal. Ensure ti	Additional Cost to Respond Strategy sk. here is a clear plan lopment/flexibility.	Date Post La: Updated 10/11/2021 and approach nterval
Probability 15% Cost (\$M) Schedule (Mo) Track submittal so thr Risk Ow	Delay in p Low 0.25 Ne shedule and LE ough submittal	Most Likely 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.5	ue to location or Phi ost-Respons High 0.50 il on contractor a erify all concerns Incorporate risk Monitoring Risk Aging	stopping of operations 2A. Se Quantifications 2A. Total Expected Value Impact \$0.00 0.07 pproach/plan to pro- are addressed in mitigation strategy and Control From	on due to concrete ON operly categorize ri submittal. Ensure ti	Ieak/spil. Additional Cost to Respond Strategy sk, here is a clear plan lopment/flexibility. Status I	Date Post La: Updated 10/11/2021 and approach nterval Date MC La:
Probability 15% Cost (\$M) Schedule (Mo) Track submittal so thr Risk Ow	Delay in p Low 0.25 Ne shedule and LE ough submittal	Most Likely 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.5	ue to location or Phi ost-Respons High 0.50 il on contractor a erify all concerns Incorporate risk Monitoring Risk Aging	stopping of operations 2A. Se Quantifications 2A. Total Expected Value Impact \$0.00 0.07 pproach/plan to pro- are addressed in mitigation strategy and Control From	on due to concrete ON operly categorize ri submittal. Ensure ti	Ieak/spil. Additional Cost to Respond Strategy sk, here is a clear plan lopment/flexibility. Status I	Date Post La: Updated 10/11/2021 and approach nterval Date MC La: Updated

PUCET SOUND ENERGY

Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.03
Sub-Project	Lower Bake	r Dam Seepag	e Reduction		Status	Acti	ve
				take Structure power house			
Risk Trigger				Flowchar	t Activity	21	0
Depend	iency & Correla	tion					
		F	Pre-Response	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Last
5%	]			Value Impact	12	25	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	
Schedule (Mo)	0.25	0.50	1.00	0.03	12	25	
	Constructio		Pha	ice debris into pow Ise 2A. Ise Quantificati	er house resulting	in damage.	
Probability	Construction Low		Pha	ise 2A. Se Quantificati Total Expected		Additional Cost	
5%	1	P	Pha ost-Respons	ise 2A. Se Quantificati		Additional Cost	Date Post Las Updated
5% Cost (\$M)	1	P	Pha ost-Respons	ise 2A. Se Quantificati Total Expected		Additional Cost	
5% Cost (\$M) Schedule (Mo)	Low 0.25	P Most Likely 0.50 Direct cost imp C performance. Ve	Pha ost-Respons High 1.00 vact to PSE. Rev prify all concerns a clear plan and	ISE 2A.	on tegies with LBC.	Additional Cost to Respond Strategy	Updated
5% Cost (\$M) Schedule (Mo) Track submittal se	Low 0.25	P Most Likely 0.50 Direct cost imp C performance. Ve	Pha ost-Respons High 1.00 Pact to PSE. Revi a clear plan and Monitoring	se 2A. Control Expected Value Impact \$0.00 0.03 iew mitigation strai are addressed in 1 approach through g and Control	on tegies with LBC, submittal, including	Additional Cost to Respond Strategy construction debris	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo)	Low O.25 Chedule and LBG (netting	P Most Likely 0.50 Direct cost imp C performance. Ve	Pha ost-Respons High 1.00 vact to PSE. Rev prify all concerns a clear plan and	ISE 2A.	on tegies with LBC, submittal, including	Additional Cost to Respond Strategy	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low O.25 Chedule and LBG (netting	P Most Likely 0.50 Direct cost imp C performance. Ve	Pha ost-Respons High 1.00 Deact to PSE. Rev prify all concerns a clear plan and Monitoring Risk Aging	ISE 2A. Control Expected Value Impact \$0.00 0.03 Note: Solid Strate Solid Strate	on tegies with LBC, submittal, including	Additional Cost to Respond Strategy construction debris	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low O.25 Chedule and LBG (netting	P Most Likely 0.50 Direct cost imp C performance. Ve ). Ensure there is a	Pha ost-Respons High 1.00 Deact to PSE. Rev prify all concerns a clear plan and Monitoring Risk Aging	ISE 2A. Control Expected Value Impact \$0.00 0.03 Note: Solid Strate Solid Strate	on tegies with LBC, submittal, including	Additional Cost to Respond Strategy construction debris d RRM.	Updated 10/11/2021 e management nterval
5% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low O.25 Chedule and LBG (netting	P Most Likely 0.50 Direct cost imp C performance. Ve ). Ensure there is a	Pha ost-Respons High 1.00 Deact to PSE. Rev prify all concerns a clear plan and Monitoring Risk Aging	ISE 2A. Control Expected Value Impact \$0.00 0.03 Note: Solid Strate Solid Strate	on tegies with LBC, submittal, including	Additional Cost to Respond Strategy construction debris d RRM.	Updated 10/11/2021 s management nterval Date MC Las
5% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low O.25 Chedule and LBG (netting	P Most Likely 0.50 Direct cost imp C performance. Ve ). Ensure there is a	Pha ost-Respons High 1.00 Deact to PSE. Rev prify all concerns a clear plan and Monitoring Risk Aging	ISE 2A. Control Expected Value Impact \$0.00 0.03 Note: Solid Strate Solid Strate	on tegies with LBC, submittal, including	Additional Cost to Respond Strategy construction debris d RRM.	Updated 10/11/2021 s management nterval Date MC Las Updated 10/11/2021 Risk
5% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low O.25 Chedule and LBG (netting	P Most Likely 0.50 Direct cost imp C performance. Ve ). Ensure there is a	Pha ost-Respons High 1.00 Deact to PSE. Rev prify all concerns a clear plan and Monitoring Risk Aging	ISE 2A. Control Expected Value Impact \$0.00 0.03 Note: Solid Strate Solid Strate	on tegies with LBC, submittal, including	Additional Cost to Respond Strategy construction debris d RRM. Status I Last Review	10/11/2021 s management nterval Date MC Lass Updated 10/11/2021

PUCET SOUND ENERGY

Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.04
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ive
				achment to Dar damage to dan			
Risk Trigger				Flowchar	t Activity	210, 22	0, 230
Depend	lency & Correl	ition		Equal o	pportunity to hit ea	ch activity	
		P	re-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
5%	1			Value Impact	10	15	Updated
Cost (\$M)	\$0.25	\$0.50	\$1.00	\$0.03	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	1.00	2.00	12.00	0.18	10	15	
	I		Phase	oduce meintenance 2A, 2B, 2C se Quantificati			
Probability	Low		Phase	2A, 2B, 2C se Quantificati Total Expected		Additional Cost to Respond	
5%	]	Pe	Phase ost-Respons High	2A, 2B, 2C se Quantificati Total Expected Value Impact			Date Post Las Updated
5% Cost (\$M)	Low \$0.25 1.00	Pe	Phase ost-Respons	2A, 2B, 2C se Quantificati Total Expected			
5% Cost (\$M) Schedule (Mo)	\$0.25	Pe Most Likely \$0.50 2.00 Could have a dree	Phase ost-Respons High \$1.00 12.00 ct cost impact ct wify all concerns through submitt	2A, 2B, 2C Se Quantificati Total Expected Value Impact \$0.03 0.18 component dependir are addressed in a al review and RRM	on ng on type of issue submittal. Ensure ti	to Respond Strategy	Updated
5% Cost (\$M) Schedule (Mo) Pre-core to verify	\$0,25 1.00	Pe Most Likely \$0.50 2.00 Could have a dree	Phase ost-Respons High \$1.00 12.00 ct cost impact ct wify all concerns through submitt	2A, 2B, 2C Component depending are addressed in a al review and RRM and Control	on ng on type of issue submittal. Ensure ti	to Respond	10/11/2021 and approach
5% Cost (\$M) Schedule (Mo)	\$0,25 1.00 concrete quali	Pe Most Likely \$0.50 2.00 Could have a dree	Phase ost-Respons High \$1.00 12.00 ct cost impact ct wify all concerns through submitt	2A, 2B, 2C Se Quantificati Total Expected Value Impact \$0.03 0.18 component dependir are addressed in a al review and RRM	on ng on type of issue submittal. Ensure ti	to Respond Strategy	Updated 10/11/2021 and approach
5% Cost (\$M) Schedule (Mo) Pre-core to verify Risk Ow	\$0,25 1.00 concrete quali	Pe Most Likely \$0.50 2.00 Could have a dree	Phase ost-Respons High \$1.00 12.00 et cost impact co rify all concerns through submitte Monitoring Risk Aging	2A, 2B, 2C Component depending are addressed in a al review and RRM g and Control From	on ng on type of issue submittal. Ensure ti	to Respond	Updated 10/11/2021 and approach
5% Cost (\$M) Schedule (Mo) Pre-core to verify Risk Ow	\$0,25 1.00 concrete quali	Per Most Likely \$0,50 2.00 Could have a dree by assumptions. Ve	Phase ost-Respons High \$1.00 12.00 et cost impact co rify all concerns through submitte Monitoring Risk Aging	2A, 2B, 2C Component depending are addressed in a al review and RRM g and Control From	on ng on type of issue submittal. Ensure ti	to Respond	Updated 10/11/2021 and approach
5% Cost (\$M) Schedule (Mo) Pre-core to verify Risk Ow	\$0,25 1.00 concrete quali	Per Most Likely \$0,50 2.00 Could have a dree by assumptions. Ve	Phase ost-Respons High \$1.00 12.00 et cost impact co rify all concerns through submitte Monitoring Risk Aging	2A, 2B, 2C Component depending are addressed in a al review and RRM g and Control From	on ng on type of issue submittal. Ensure ti	toRespond  Strategy  rere is a clear plan  Status I	Updated 10/11/2021 and approach nterval Date MC Las
5% Cost (\$M) Schedule (Mo) Pre-core to verify Risk Ow	\$0,25 1.00 concrete quali	Per Most Likely \$0,50 2.00 Could have a dree by assumptions. Ve	Phase ost-Respons High \$1.00 12.00 et cost impact co rify all concerns through submitte Monitoring Risk Aging	2A, 2B, 2C Component depending are addressed in a al review and RRM g and Control From	on ng on type of issue submittal. Ensure ti	toRespond  Strategy  rere is a clear plan  Status I	Updated 10/11/2021 and approach nterval Date MC Las Updated 10/11/2021 Risk
5% Cost (\$M) Schedule (Mo) Pre-core to verify Risk Ow	\$0,25 1.00 concrete quali	Per Most Likely \$0,50 2.00 Could have a dree by assumptions. Ve	Phase ost-Respons High \$1.00 12.00 et cost impact co rify all concerns through submitte Monitoring Risk Aging	2A, 2B, 2C Component depending are addressed in a al review and RRM g and Control From	on ng on type of issue submittal. Ensure ti	toRespond  toRespond  Strategy  here is a clear plan  Last Review	Updated 10/11/2021 and approach nterval Date MC Las Updated 10/11/2021

PSE PUGET SOUND ENERGY



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.05
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
		(1)		achment to Dai nt at low elevat			
Risk Trigger				Flowchar	t Activity	21	D
Depend	ency & Correl	ation		Delay is co	oncurrent with Risk	CNS 50.01.	
		F	Pre-Response	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las
40%	j			vanierinpaci	12	12	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.25	0.50	0.75	0.00			
Greater dive time r	Diver alta	chment at low elev	ation, limited lim riser pipe encho delays cor Pha			a time per individual	diver results in
Probability	Diver alta	chment at low elev	ation, limited lim riser pipe encho delays cor Pha	e at depth leading rages and seepag npleting work. ise 2A	to longer installatio	n duration.	
Probability 40%	Diver atta equired for inst	chment at low elev alling platform and P	ation, limited lim riser pipe encho delays cor Phe <b>ost-Respons</b>	e at depth leading reges and seepag npleting work. ise 2A. ie Quantificati Total Expected Value Impact	to longer installatio	n duration. time per individual Additional Cost to Respond	Date Post La Updated
Probability	Diver atta equired for inst	chment at low elev alling platform and P	ation, limited lim riser pipe encho delays cor Phe <b>ost-Respons</b>	e at depth leading rages and seepag npleting work. Ise 2A. Se Quantificati Total Expected	to longer installatio	n duration. • time per individual Additional Cost	Date Post La Updated
Probability 40% Cost (\$M) Schedule (Mo) Track submittal so Develop installa	Diver atta equired for inst Low 0.25 chedule and LE	P Most Likely 0.50 C performance. Vo prage techniques the	ation, limited tim riser pipe encho delays con Phe <b>ost-Respons</b> High 0.75 erify all concerns through submitt nat do not require fuces diver effort	e at depth leading reges and seepag npleting work. ise 2A. e Quantificati Total Expected Value Impact \$0.00 0.20 are addressed in al review and RRM s high precision wo for underwater ins	to longer installatio e seal. Limited dive ON Submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan effort per task to be	Date Post La Updated 10/11/2021 and approach
Probability 40% Cost (\$M) Schedule (Mo) Track submittal so Develop installa un	Diver atta equired for inst Low 0.25 chedule and LE ation and anch derwater. Use	P Most Likely 0.50 C performance. Vo prage techniques the	ation, limited tim riser pipe encho delays con Phe <b>ost-Respons</b> High 0.75 erify all concerns through submitt nat do not require fuces diver effort	e at depth leading reges and seepag npleting work. ise 2A. e Quantificati Total Expected Value Impact \$0.00 0.20 are addressed in al review and RRM s high precision wo for underwater ins and Control	to Ionger installatio e seal. Limited dive on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan effort per task to be	Date Post La Updated 10/11/2021 and approach e performed
Probability 40% Cost (\$M) Schedule (Mo) Track submittal so Develop installa	Diver atta equired for inst Low 0.25 chedule and LE ation and anch- derwater. Use	P Most Likely 0.50 C performance. Vo prage techniques the	ation, limited tim riser pipe encho delays con Phe <b>ost-Respons</b> High 0.75 erify all concerns through submitt nat do not require fuces diver effort	e at depth leading reges and seepag npleting work. ise 2A. e Quantificati Total Expected Value Impact \$0.00 0.20 are addressed in al review and RRM se high precision wo for underwater ins and Control From	to Ionger installatio e seal. Limited dive on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan effort per task to be	Date Post La Updated 10/11/2021 and approach e performed
Probability 40% Cost (\$M) Schedule (Mo) Track submittal so Develop installe uni Risk Ow	Diver atta equired for inst Low 0.25 chedule and LE ation and anch- derwater. Use	P Most Likely 0.50 C performance. Vo prage techniques the	ation, limited tim riser pipe encho delays con Pha <b>ost-Respons</b> High 0.75 erify all concerns through submitt nat do not require fuces diver effort Monitoring Risk Aging	e at depth leading reges and seepag npleting work. ise 2A. e Quantificati Total Expected Value Impact \$0.00 0.20 are addressed in al review and RRM s high precision wo for underwater ins and Control	to Ionger installatio e seal. Limited dive on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan effort per task to be	Date Post La Updated 10/11/2021 and approach
Probability 40% Cost (\$M) Schedule (Mo) Track submittal so Develop installe uni Risk Ow	Diver atta equired for inst Low 0.25 chedule and LE ation and anch- derwater. Use	Chment at low eleve alling platform and P Most Likely 0.50 BC performance. Ve prage techniques the equipment that reconstructions	ation, limited tim riser pipe encho delays con Pha <b>ost-Respons</b> High 0.75 erify all concerns through submitt nat do not require fuces diver effort Monitoring Risk Aging	e at depth leading reges and seepag npleting work. ise 2A. e Quantificati Total Expected Value Impact \$0.00 0.20 are addressed in al review and RRM se high precision wo for underwater ins and Control From	to Ionger installatio e seal. Limited dive on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan effort per task to be	Date Post La Updated 10/11/2021 and approach performed nterval Date MC La
Probability 40% Cost (\$M) Schedule (Mo) Track submittal so Develop installe uni Risk Ow	Diver atta equired for inst Low 0.25 chedule and LE ation and anch- derwater. Use	Chment at low eleve alling platform and P Most Likely 0.50 BC performance. Ve prage techniques the equipment that reconstructions	ation, limited tim riser pipe encho delays con Pha <b>ost-Respons</b> High 0.75 erify all concerns through submitt nat do not require fuces diver effort Monitoring Risk Aging	e at depth leading reges and seepag npleting work. ise 2A. e Quantificati Total Expected Value Impact \$0.00 0.20 are addressed in al review and RRM se high precision wo for underwater ins and Control From	to Ionger installatio e seal. Limited dive on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan effort per task to be point lightening, etc.	Date Post La Updated 10/11/2021 and approach e performed nterval Date MC La Updated
Probability 40% Cost (\$M) Schedule (Mo) Track submittal so Develop installe uni Risk Ow	Diver atta equired for inst Low 0.25 chedule and LE ation and anch- derwater. Use	Chment at low eleve alling platform and P Most Likely 0.50 BC performance. Ve prage techniques the equipment that reconstructions	ation, limited tim riser pipe encho delays con Pha <b>ost-Respons</b> High 0.75 erify all concerns through submitt nat do not require fuces diver effort Monitoring Risk Aging	e at depth leading reges and seepag npleting work. ise 2A. e Quantificati Total Expected Value Impact \$0.00 0.20 are addressed in al review and RRM se high precision wo for underwater ins and Control From	to Ionger installatio e seal. Limited dive on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan effort per task to be point lightening, etc.	Date Post La Updated 10/11/2021 and approach performed nterval Date MC La

PUCET SOUND ENERGY

Project	Ĺ	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.06
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ive
		,		ide Pipe Syster n complexity	n		
Risk Trigger				Flowchar	t Activity	21	0
Depend	lency & Correla	tion					
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
20%	]			Value Impact	12	12	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.50	1.00	1.50	0.20	12	12	
	I		Pha	ater work), attachm ise 2A. ise Quantificati	nent to Dam at Iow		
Probability			Pha	se Quantificati		Additional Cost	Date Post Las Updated
20%		P	Pha ost-Respons	ise 2A. Contraction of the second se		Additional Cost to Respond	Updated
20% Cost (\$M)		P	Pha ost-Respons	se Quantificati		Additional Cost	
20%	Low 0.50	P Most Likely	Pha ost-Respons High 1.50	se Quantificati Total Expected Value Impact \$0.00 0.20		Additional Cost to Respond Strategy	Updated
20% Cost (\$M)	Low 0.50	P Most Likely	Pha ost-Respons High 1.50 s plan and approx	Se Quantificati Total Expected Value Impact \$0.00 0.20 ach to address dev	on	Additional Cost to Respond Strategy	10/11/2021
20% Cost (\$M) Schedule (Mo)	Low 0.50	P Most Likely 1.00	OST-Respons High 1.50 s plan and approx Monitoring Risk Aging	e Quantificati Total Expected Value Impact \$0.00 0.20 ach to address dev g and Control	on	Additional Cost to Respond Strategy e.	Updated
20% Cost (\$M) Schedule (Mo) Risk Ov	Low 0.50	P Most Likely	OST-Respons High 1.50 s plan and approx Monitoring Risk Aging	e Quantificati Total Expected Value Impact \$0.00 0.20 ach to address dev and Control From	on	Additional Cost to Respond Strategy e.	Updated 10/11/2021 nterval
20% Cost (\$M) Schedule (Mo) Risk Ov	Low 0.50	P Most Likely 1.00	OST-Respons High 1.50 s plan and approx Monitoring Risk Aging	e Quantificati Total Expected Value Impact \$0.00 0.20 ach to address dev and Control From	on	Additional Cost to Respond Strategy e.	Updated 10/11/2021 nterval Date MC Las Updated
20% Cost (\$M) Schedule (Mo) Risk Ov	Low 0.50	P Most Likely 1.00	OST-Respons High 1.50 s plan and approx Monitoring Risk Aging	e Quantificati Total Expected Value Impact \$0.00 0.20 ach to address dev and Control From	on	Additional Cost to Respond Strategy e. Status I	Updated 10/11/2021 nterval Date MC Las
20% Cost (\$M) Schedule (Mo) Risk Ov	Low 0.50	P Most Likely 1.00	OST-Respons High 1.50 s plan and approx Monitoring Risk Aging	e Quantificati Total Expected Value Impact \$0.00 0.20 ach to address dev and Control From	on	Additional Cost to Respond Strategy e. Status I	Updated 10/11/2021 nterval Date MC Las Updated 10/11/2021 Risk
20% Cost (\$M) Schedule (Mo) Risk Ov	Low 0.50	P Most Likely 1.00	OST-Respons High 1.50 s plan and approx Monitoring Risk Aging	e Quantificati Total Expected Value Impact \$0.00 0.20 ach to address dev and Control From	on	Additional Cost to Respond Strategy e. Status I	Updated 10/11/2021 nterval Date MC Las Updated 10/11/2021



Project	L	ower Baker Da	m	1	Risk ID	LBK LBKDSR	CNS 900.07
Sub-Project	Lower Bake	r Dam Seepag	e Reduction		Status	Acti	ive
			Platform	n damage			
Risk Trigger				Flowcha	rt Activity	22	0
Depend	lency & Correla	tion					
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Last
50%	j			Value Impact	12	9	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.25	0.50	1.00	0.27	12	9	
	Planor		Ph	r repairs or rework. ase 2B. se Quantificati	Impacts to the con	tractor.	
Probability	Low		Ph	se Quantificati		Additional Cost	
Probability 50%		P	Pha ost-Respons	ase 2B. se Quantificati			Date Post Las Updated
		P	Pha ost-Respons	se Quantificati		Additional Cost	
50%		P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
50% Cost (\$M) Schedule (Mo)	Low 0.25 Requ	P Most Likely 0.50	Philosophic Philos	se Quantificati Total Expected Value Impact \$0.00 0.27		Additional Cost to Respond Strategy g/use.	Updated
50% Cost (\$M)	Low 0.25 Requi	P Most Likely 0.50	Pha ost-Respons High 1.00	se Quantificati Total Expected Value Impact \$0.00 0.27	on	Additional Cost to Respond Strategy	Updated
50% Cost (\$M) Schedule (Mo) Risk Ov	Low 0.25 Requi	P Most Likely 0.50	OST-Respons High 1.00 her to review fabr Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.27 rication and installa g and Control From	on	Additional Cost to Respond Strategy g/use.	Updated
50% Cost (\$M) Schedule (Mo) Risk Ov	Low 0.25 Requi	P Most Likely 0.50	OST-Respons High 1.00 her to review fabr Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.27 rication and installa g and Control From	on	Additional Cost to Respond Strategy g/use.	Updated 10/11/2021 nterval
50% Cost (\$M) Schedule (Mo) Risk Ov	Low 0.25 Requi	P Most Likely 0.50	OST-Respons High 1.00 her to review fabr Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.27 rication and installa g and Control From	on	Additional Cost to Respond Strategy g/use.	Updated 10/11/2021 nterval Date MC Las
50% Cost (\$M) Schedule (Mo) Risk Ov	Low 0.25 Requi	P Most Likely 0.50	OST-Respons High 1.00 her to review fabr Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.27 rication and installa g and Control From	on	Additional Cost to Respond Strategy g/use.	Updated 10/11/2021 nterval Date MC Las Updated 10/11/2021 Risk
50% Cost (\$M) Schedule (Mo) Risk Ov	Low 0.25 Requi	P Most Likely 0.50	OST-Respons High 1.00 her to review fabr Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.27 rication and installa g and Control From	on	Additional Cost to Respond Strategy g/use.	10/11/2021 nterval Date MC Las Updated 10/11/2021

PSE PUGET SOUND ENERGY



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.08
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
		Obstructi		Obstructions acountered dur	ing drilling		
Risk Trigger				Flowcha	rt Activity	22	0
Depend	ency & Correl	ation					
		F	Pre-Response	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Last Updated
60%					1 Project Rank	1 Project Rank	
Cost (\$M)				\$0.00	Cost	Schedule	1 1/1 6/2021
Schedule (Mo)	0.50	2.00	4.00	1.25	1	1	
		P	Pha ost-Respons	se 28.	from previous cons	Additional Cost	
Probability	bre obstruction		Pha	ase 2B.			Date Post Las Updated
Probability 60%		P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
Probability		P	Pha ost-Respons	se Quantificati		Additional Cost	Date Post Lass Updated
Probability 60% Cost (\$M) Schedule (Mo)	Low 0.50	P Most Likely	Pha ost-Respons High 4.00	se Quantificati Total Expected Value Impact \$0.00 1.25 Did item and pay T	on	Additional Cost to Respond Strategy	Updated
Probability 60% Cost (\$M)	Low 0.50	P Most Likely	Pha ost-Respons High 4.00	se Quantificati Total Expected Value Impact \$0.00 1.25	on	Additional Cost to Respond	Updated
Probability 60% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.50	P Most Likely	Pha ost-Respons High 4.00 otentially delete I Monitoring Risk Aging	se 28. Total Expected Value Impact \$0.00 1.25 Did item and pay T g and Control From	on	Additional Cost to Respond Strategy	Updated
Probability 60% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.50	P Most Likely 2.00	Pha ost-Respons High 4.00 otentially delete I Monitoring Risk Aging	se 28. Total Expected Value Impact \$0.00 1.25 Did item and pay T g and Control From	on	Additional Cost to Respond Strategy	Updated 11/16/2021 nterval
Probability 60% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.50	P Most Likely 2.00	Pha ost-Respons High 4.00 otentially delete I Monitoring Risk Aging	se 28. Total Expected Value Impact \$0.00 1.25 Did item and pay T g and Control From	on	Additional Cost to Respond Strategy Strategy	Updated 11/16/2021 nterval Date MC Las
Probability 60% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.50	P Most Likely 2.00	Pha ost-Respons High 4.00 otentially delete I Monitoring Risk Aging	se 28. Total Expected Value Impact \$0.00 1.25 Did item and pay T g and Control From	on	Additional Cost to Respond Strategy Strategy	Updated 11/16/2021 nterval Date MC Las Updated

PUCET SOUND ENERGY



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.09
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
		Gro		Verticality tion during colle	aring		
Risk Trigger				Flowchar	t Activity	Watc	hlist
Depend	ency & Correl	ation					
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
				Value Impact	12	29	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)				0.00	12	29	
		The second of	ost-Respons	se Quantificati			at this time.
Grout hole defle	ection during co					Additional Cost to Respond	
Probability		P	ost-Respons	Se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post La:
		P	ost-Respons	se Quantificati		Additional Cost	Date Post Las
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low	P	OST-Respons High Tooing a	se Quantification Total Expected Value Impact \$0.00 0.00 and practices and Control From		Additional Cost to Respond	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	Pe Most Likely	OST-Respons High Tooing a Monitoring Risk Aging	Se Quantification		Additional Cost to Respond Strategy	Date Post La: Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low	P	OST-Respons High Tooing a Monitoring Risk Aging	se Quantification Total Expected Value Impact \$0.00 0.00 and practices and Control From		Additional Cost to Respond Strategy	Date Post La: Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low	Pe Most Likely	OST-Respons High Tooing a Monitoring Risk Aging	se Quantification Total Expected Value Impact \$0.00 0.00 and practices and Control From		Additional Cost to Respond Strategy	Date Post La Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low	Pe Most Likely	OST-Respons High Tooing a Monitoring Risk Aging	se Quantification Total Expected Value Impact \$0.00 0.00 and practices and Control From		Additional Cost to Respond Strategy	Date Post Las Updated nterval Date MC Las Updated

PUCET SOUND ENERGY

Project	L	ower Baker Da	m		Risk I D	LBK LBKDSR	CNS 900.10
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				Verticality erformance			
Risk Trigger				Flowcha	t Activity	Watc	hlist
Depend	lency & Correla	tion					
			Pre-Response	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Last Updated
Cost (PM)				\$0.00	12 Project Rank	29 Project Rank	10/11/2021
Cost (\$M)					Cost	Schedule	10/11/2021
Schedule (Mo)				0.00	12	29	
Drobability		P	ost-Respons	e Quantificati	. Watchlist at this ti ON	ime. Additional Cost	
Probability	Dril						Date Post Last Updated
Probability Cost (\$M)		P	ost-Respons	e Quantificati		Additional Cost to Respond	
		P	ost-Respons	<b>e Quantificati</b> Total Expected Value Impact		Additional Cost	
Cost (\$M) Schedule (Mo)	Low	P	ost-Respons High Monitor drill	e Quantificati Total Expected Value Impact \$0.00		Additional Cost to Respond Strategy	Updated
Cost (\$M) Schedule (Mo) Risk Ow	Low	P	ost-Respons High Monitor drill	e Quantificati		Additional Cost to Respond	Updated
Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High Monitor drill Monitor ing Risk Aging	e Quantificati		Additional Cost to Respond Strategy	
Cost (\$M) Schedule (Mo) Risk Ow	Low	P	ost-Respons High Monitor drill Monitor ing Risk Aging	e Quantificati		Additional Cost to Respond Strategy	Updated
Cost (\$M) Schedule (Mo) Risk Ow	Low	P Most Likely	ost-Respons High Monitor drill Monitor ing Risk Aging	e Quantificati		Additional Cost to Respond Strategy	Updated nterval Date MC Las
Cost (\$M) Schedule (Mo) Risk Ow	Low	P Most Likely	ost-Respons High Monitor drill Monitor ing Risk Aging	e Quantificati		Additional Cost to Respond Strategy	Updated nterval Date MC Last Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.11
Sub-Project	Lower Bake	er Dam Seepag	ge Reduction		Status	Acti	ve
		Grout ho		Verticality Je to geologica	l formation		
Risk Trigger				Flowcha	rt Activity	22	0
Depend	ency & Correls	ation					
			Pre-Response	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
20%					12	19 Device Device	
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.25	0.50	0.75	0.10	12	19	
		P	Pha ost-Respons	ise 28. Se Quantificati	end to follow beddi ON		s.
Probability	hole deviation		Pha	ise 28.		ng or fracture plane Additional Cost to Respond	
Probability 20%		P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post Las Updated
Probability		P	Pha ost-Respons	se 2B.		Additional Cost	Date Post Las
Probability 20% Cost (\$M) Schedule (Mo)	Low 0.25	P Most Likely	Pha ost-Respons High 0.75 Ensure correct Monitoring	e Quantificati Total Expected Value Impact \$0.00 0.10	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
Probability 20% Cost (\$M)	Low 0.25	P Most Likely	Pha ost-Respons High 0.75 Ensure correct	se 28.	on	Additional Cost to Respond	Date Post Las Updated
Probability 20% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 0.25	P Most Likely	Ost-Respons High 0.75 Ensure correct Monitoring Risk Aging	se 28. Control Expected Control Expected Control Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
Probability 20% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 0.25	P Most Likely	Ost-Respons High 0.75 Ensure correct Monitoring Risk Aging	se 28. Control Expected Control Expected Control Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated
Probability 20% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 0.25	P Most Likely	Ost-Respons High 0.75 Ensure correct Monitoring Risk Aging	se 28. Control Expected Control Expected Value Impact \$0.00 0.10 drill tooling is used and Control From	on	Additional Cost to Respond Strategy Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las
Probability 20% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 0.25	P Most Likely	Ost-Respons High 0.75 Ensure correct Monitoring Risk Aging	se 28. Control Expected Control Expected Value Impact \$0.00 0.10 drill tooling is used and Control From	on	Additional Cost to Respond Strategy Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated



Project	L	ower Baker Da	Lower Baker Dam			LBK LBKDSR CNS 900.12	
Sub-Project	Lower Bake	r Dam Seepag	e Reduction		Risk ID Status	Active	
		Grout h		Verticality due to shifting	of debris		
Risk Trigger				Flowchart Activity		220	
Depend	lency & Correla	tion					
		F	Pre-Response	e Quantificatio		_	
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Last Updated
5%	]			value impact	12	27	optated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.25	0.50	0.50	0.02	12	27	
	1	1417-303	Pha	due to shifting of d ase 2B. <b>Se Quantificati</b>			
Probability	Low	1417-303	Pha	se Quantificati		Additional Cost to Respond	
5%	Low	P	Pha ost-Respons	se Quantificati Total Expected Value Impact		to Respond	Updated
5% Cost (\$M)	Low 0.25	P	Pha ost-Respons	se Quantificati			
5%	0.25	P Most Likely 0.50	Pha	se Quantificati Total Expected Value Impact \$0.00 0.02 , care taken when o		to Respond Strategy	Updated
5% Cost (\$M)	0.25 Too	P Most Likely 0.50	Ost-Respons High 0.50 Stiff rodstooling, Monitoring	se Quantificati Total Expected Value Impact \$0.00 0.02 , care taken when ( g and Control	on	to Respond Strategy	Updated
5% Cost (\$M) Schedule (Mo)	0.25 Too	P Most Likely 0.50	Pha	se Quantificati Total Expected Value Impact \$0.00 0.02 , care taken when o	on	toRespond  Strategy  oles	Updated
5% Cost (\$M) Schedule (Mo) Risk Ov	0.25 Too	P Most Likely 0.50	Ost-Respons High 0.50 Stiff rodsitcoling, Monitoring Risk Aging	se 28. Control Expected Control Expected Control Control From	on	toRespond  Strategy  oles  Status I	Updated 10/11/2021 nterval
5% Cost (\$M) Schedule (Mo) Risk Ov	0.25 Too	P Most Likely 0.50	Ost-Respons High 0.50 Stiff rodsitcoling, Monitoring Risk Aging	se 28. Control Expected Control Expected Control Control From	on	toRespond  Strategy  oles  Status I	Updated 10/11/2021 nterval
5% Cost (\$M) Schedule (Mo) Risk Ov	0.25 Too	P Most Likely 0.50	Ost-Respons High 0.50 Stiff rodsitcoling, Monitoring Risk Aging	se 28. Control Expected Control Expected Control Control From	on	toRespond Strategy oles Status I	Updated 10/11/2021 nterval Date MC Las
5% Cost (\$M) Schedule (Mo) Risk Ov	0.25 Too	P Most Likely 0.50	Ost-Respons High 0.50 Stiff rodsitcoling, Monitoring Risk Aging	se 28. Control Expected Control Expected Control Control From	on	toRespond Strategy oles Status I	Updated 10/11/2021 nterval Date MC Las Updated 10/11/2021 Risk
5% Cost (\$M) Schedule (Mo) Risk Ov	0.25 Too	P Most Likely 0.50	Ost-Respons High 0.50 Stiff rodsitcoling, Monitoring Risk Aging	se 28. Control Expected Control Expected Control Control From	on	toRespond  toRespond  Strategy  ooles  Last Review	10/11/2021 nterval Date MC Las Updated 10/11/2021


Project	LO	wer Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.13
Sub-Project	Lower Baker	r Dam Seepag	e Reduction		Status	Acti	ive
				tallation MPSP installation			
Risk Trigger		of valves prior to ical survey of cas		Flowchar	t Activity	Watc	hlist
Depend	lency & Correlat	ion					
			Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
	]			value impact	12	29	opuated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)				0.00	12	29	
nstallation: prevent	damage of valve		pipes. Watchli	eation. Sealing, and st risk at this time.		alve design. MPSP	-multi port slee
Probability	damage of valve		pipes. Watchli	st risk at this time.		Alve design. MPSP Additional Cost to Respond	
Probability		P	pipes. Watchli	st risk at this time. <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contemporation</b> <b>Contem</b>		Additional Cost to Respond	Date Post Las
		P	pipes. Watchli	st risk at this time. se Quantificati Total Expected		Additional Cost	Date Post Las
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High	st risk at this time.	on	Additional Cost to Respond Strategy	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High	st risk at this time.	on	Additional Cost to Respond	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely Contracto	ost-Respons High or Risk - replacer Monitoring Risk Aging	st risk at this time.	on	Additional Cost to Respond Strategy	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High or Risk - replacer Monitoring Risk Aging	st risk at this time.	on	Additional Cost to Respond Strategy	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely Contracto	ost-Respons High or Risk - replacer Monitoring Risk Aging	st risk at this time.	on	Additional Cost to Respond Strategy	Date Post Las Updated nterval
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely Contracto	ost-Respons High or Risk - replacer Monitoring Risk Aging	st risk at this time.	on	Additional Cost to Respond Strategy	Date Post Las Updated nterval Date MC Las Updated



Project	L	ower Baker Da	Im		Risk I D	LBK LBKDSR	CNS 900.14
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				g - Debris ntity increase			
Risk Trigger	Water qualit	y monitoring, grou schedule, testing		Flowchar	t Activity	22	0
Depend	lency & Correla	tion					
			Pre-Response	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las
75%	]				2	3	
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	11/16/2021
Schedule (Mo)	0.50	1.00	1.50	0.75	2	3	
			Pha	ty leads to quantity ise 28. <b>Se Quantificati</b>		Additional Prove	
Probability	Low		Pha	ase 2B.		Additional Cost to Respond	Date Post Las Updated
75%	Low	P	Pha ost-Respons	se Quantificati Total Expected Value Impact		to Respond	Updated
75% Cost (\$M)	Low 0.50	P	Pha ost-Respons	se Quantificati			Date Post Las Updated
75% Cost (\$M) Schedule (Mo)	0.50	P Most Likely	Ost-Respons High 1.50 Use establi	se Quantificati Total Expected Value Impact \$0.00		toRespond Strategy	Updated
75% Cost (\$M) Schedule (Mo) Risk Ov	0.50	P Most Likely	Ost-Respons High 1.50 Use establi	se Quantificati Total Expected Value Impact \$0.00 0.75 shed bid items and Control From		to Respond	Updated
75% Cost (\$M) Schedule (Mo)	0.50	P Most Likely	Ost-Respons High 1.50 Use estable Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.75 shed bid items g and Control		toRespond Strategy	Updated
75% Cost (\$M) Schedule (Mo) Risk Ov	0.50	P Most Likely	Ost-Respons High 1.50 Use estable Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.75 shed bid items and Control From		toRespond Strategy	Updated
75% Cost (\$M) Schedule (Mo) Risk Ov	0.50	P Most Likely	Ost-Respons High 1.50 Use estable Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.75 shed bid items and Control From		toRespond Strategy Strategy Status I	Updated 11/16/2021 nterval Date MC Las
75% Cost (\$M) Schedule (Mo) Risk Ov	0.50	P Most Likely	Ost-Respons High 1.50 Use estable Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.75 shed bid items and Control From		toRespond Strategy Strategy Status I	Updated 11/16/2021 nterval Date MC Las Updated



Sub-Project     Lower Baker Dam Seepage Reduction     Status     Active       Grouting - Debris Reduced grout spread     Grouting - Debris Reduced grout spread     Status     Active       Risk Trigger     Water quality monitoring, grouting volumes, schedule, testing.     Flowchart Activity     220       Dependency & Correlation     Program Rank Cost     Program Rank Schedule     Program Rank Schedule     Program Rank Schedule     Date
Reduced grout spread         Risk Trigger       Water quality monitoring, grouting volumes, schedule, testing.       Flowchart Activity       220         Dependency & Correlation       Pre-Response Quantification       Program Rank Schedule       Program Rank Schedule       Date         Probability       Low       Most Likely       High       Total Expected       Program Rank Schedule       Date
Kisk i rigger         schedule, testing.         Flowchart Activity         220           Dependency & Correlation         Pre-Response Quantification         20           Probability         Low         Most Likely         High         Total Expected         Program Rank Cost         Program Rank Schedule         Date
Pre-Response Quantification           Probability         Low         Most Likely         High         Total Expected         Program Rank Cost         Program Rank Schedule         Date
Probability Low Most Likely High Total Expected Program Rank Cost Schedule Date
Probability Low Most Likely High Total Expected Cost Schedule Date
Value Impact Up
60% 5 15
Cost (\$M) \$0.00 Project Rank Schedule 11/1
Schedule (Mo) 0.25 0.25 0.50 0.18 5 15
Post-Response Quantification Additional Cost
Probability Low Most Likely High Total Expected Value Impact Additional Cost to Respond Up
Probability     Low     Most Likely     High     Total Expected     Additional Cost to Respond     Date H       60%
Probability Low Most Likely High Total Expected Value Impact Additional Cost to Respond Up
Probability     Low     Most Likely     High     Total Expected Value Impact     Additional Cost to Respond     Date H Up       60%     50.00     \$0.00     \$11/1       Schedule (Mo)     0.25     0.25     0.50     0.18       Use established bid items
Probability     Low     Most Likely     High     Total Expected Value Impact     Additional Cost to Respond     Date I Up       60%     0     50.00 </td
Probability     Low     Most Likely     High     Total Expected Value Impact     Additional Cost to Respond     Date H Up       60%     0     50.00 </td
Probability     Low     Most Likely     High     Total Expected Value Impact     Additional Cost to Respond     Date H Up       60%     0     50.00 </td
Probability       Low       Most Likely       High       Total Expected       Additional Cost to Respond       Date I         60%       0%       00%       00% </td
Probability       Low       Most Likely       High       Total Expected       Additional Cost to Respond       Date Hup         60%       00

PSE PUGET SOUND ENERGY

Project	LC	wer Baker Da	ım	-	Risk ID	LBK LBKDSR	CNS 900.16
Sub-Project	Lower Bake	r Dam Seepag	e Reduction		Status	Acti	ve
		Grou		on Zone Rock ( order holes	(SCC)		
Risk Trigger		rmonitoring, grou schedule, testing.		Flowchar	rt Activity	Watc	hlist
Depend	lency & Correlat	tion					
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
	1			Value Impact	12	29	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	Ì			0.00	12	29	
		effective, leadi	ng to higher orde	se Quantificati	risk at this time.	Additional Cost	s may not be
Probability	Low	effective, leadi	ng to higher ord	er holes. Watchlist	risk at this time.	Additional Cost to Respond	
		effective, leadi	ng to higher orde	er holes. Watchlist Se Quantificati Total Expected Value Impact	risk at this time.	Additional Cost to Respond	Date Post Las
Probability Cost (\$M) Schedule (Mo)		effective, leadi	ng to higher orde	er holes. Watchlist se Quantificati Total Expected	risk at this time.	Additional Cost	Date Post Las
Cost (\$M)	Low	effective, leadi P Most Likely	ost-Respons High tablished bid iter	er holes. Watchlist	on	Additional Cost to Respond	Date Post Las Updated
Cost (\$M) Schedule (Mo)	Low	effective, leadi P Most Likely	ost-Respons High High	er holes. Watchlist Se Quantificati Total Expected Value Impact \$0.00 0.00 ms and contract pro- g and Control	on	Additional Cost to Respond Strategy	Date Post La Updated
Cost (\$M) Schedule (Mo) Schedule (Mo)	Low	effective, leadi P Most Likely	ost-Respons High tablished bid iter Monitoring Risk Aging	er holes. Watchlist se Quantificati Total Expected Value Impact \$0,00 0,00 ms and contract pro- g and Control From	on	Additional Cost to Respond Strategy	Date Post La: Updated
Cost (\$M) Schedule (Mo) Schedule (Mo)	Low	effective, leadi P Most Likely Use est ] ] ]	ost-Respons High tablished bid iter Monitoring Risk Aging	er holes. Watchlist se Quantificati Total Expected Value Impact \$0,00 0,00 ms and contract pro- g and Control From	on	Additional Cost to Respond Strategy	Date Post La: Updated nterval Date MC La: Updated
Cost (\$M) Schedule (Mo) Schedule (Mo)	Low	effective, leadi P Most Likely Use est ] ] ]	ost-Respons High tablished bid iter Monitoring Risk Aging	er holes. Watchlist se Quantificati Total Expected Value Impact \$0,00 0,00 ms and contract pro- g and Control From	on	Additional Cost to Respond Strategy	Date Post La: Updated
ost (\$M) dule (Mo) Risk Ow	Low	effective, leadi P Most Likely Use est ] ] ]	ost-Respons High tablished bid iter Monitoring Risk Aging	er holes. Watchlist se Quantificati Total Expected Value Impact \$0,00 0,00 ms and contract pro- g and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated nterval Date MC Las Updated



FX

Project	L	ower Baker Da	m		Risk I D	LBK LBKDSR	CNS 900.17
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				on Zone Rock under dam - co			
Risk Trigger	Water qualit	y monitoring, grout schedule, testing.		Flowcha	t Activity	Watc	hlist
Depend	lency & Correla	ition					
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Last Updated
		1			12 Deciast Bank	29 Project Park	
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)				0.00	12	29	
Effectiveness of per		leading to a	ost-Respons	quantily needs: F ler dam. Watchlist <b>se Quantificati</b>	at this time.		edrock interface,
Effectiveness of per	formance could	leading to a	angled holes und	der dam. Watchlist	at this time.	Additional Cost	
Probability		leading to a	ost-Respons	der dam. Watchlist se Quantificati Total Expected	at this time.	Additional Cost to Respond	Date Fost Last
		leading to a	ost-Respons	der dam. Watchlist se Quantificati Total Expected Value Impact	at this time.	Additional Cost	Date Post Last
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High	e Quantificati Total Expected Value Impact \$0.00 0.00	on	Additional Cost to Respond Strategy	Date Post Lass Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low	P Most Likely	ost-Respons High	er dam. Watchlist e Quantificati Total Expected Value Impact \$0.00 0.00 ons and contract pro- g and Control From	on	Additional Cost to Respond	Date Post Last Updated
Probability Cost (\$M) Schedule (Mo)	Low	Most Likely	ost-Respons High High Hablished bid iter Monitoring Risk Aging	e Quantificati Total Expected Value Impact \$0.00 0.00	on	Additional Cost to Respond Strategy	Date Post Last Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low	Ieading to a P Most Likely Use est	ost-Respons High High Hablished bid iter Monitoring Risk Aging	er dam. Watchlist e Quantificati Total Expected Value Impact \$0.00 0.00 ons and contract pro- g and Control From	on	Additional Cost to Respond Strategy	Date Post Lass Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low	Ieading to a P Most Likely Use est	ost-Respons High High Hablished bid iter Monitoring Risk Aging	er dam. Watchlist e Quantificati Total Expected Value Impact \$0.00 0.00 ons and contract pro- g and Control From	on	Additional Cost to Respond Strategy Strategy	Date Post Lass Updated nterval Date MC Lass
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low	Ieading to a P Most Likely Use est	ost-Respons High High Hablished bid iter Monitoring Risk Aging	er dam. Watchlist e Quantificati Total Expected Value Impact \$0.00 0.00 ons and contract pro- g and Control From	on	Additional Cost to Respond Strategy Strategy	Date Post Last Updated nterval Date MC Last Updated



Project	L	ower Baker Da	m		Risk I D	LBK LBKDSR	CNS 900.18
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				g - Bedrock Cost			
Risk Trigger				Flowcha	rt Activity	22	0
Depend	lency & Correla	ition					
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
50%	]			Value Impact	4	2	Updated
Cost (\$M)	\$1.00	\$1.50	\$2.00	\$0.75	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	1.00	2.00	3.00	1.00	4	2	
46.866.400	ntrated high flø		Ph	al cost increase du ase 2B. <b>Se Quantificati</b>		es, grouting hours, o	əlc.
Probability	ntrated high flo		Ph	se Quantificati		es, grouting hours, e Additional Cost to Respond	Date Post Las
Probability 50%	Low	P. Most Likely	Pha ost-Respons High	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post Las Updated
Probability 50% Cost (\$M)		P	Pha ost-Respons	se Quantificati		Additional Cost	Date Post Las
Probability 50%	Low	P Most Likely \$1.50 2.00	Pha ost-Respons High \$2.00 3.00 Rablished bid iter	se Quantificati Total Expected Value Impact \$0.75 1.00	on	Additional Cost to Respond	Date Post Las Updated
Probability 50% Cost (\$M)	Low \$1.00 1.00	P Most Likely \$1.50 2.00	Philosophic Philos	se Quantificati Total Expected Value Impact \$0.75 1.00	on	Additional Cost to Respond	Date Post Las Updated
Probability 50% Cost (\$M) Schedule (Mo)	Low \$1.00 1.00	P Most Likely \$1.50 2.00	Pha ost-Respons High \$2.00 3.00 Rablished bid iter	se Quantificati Total Expected Value Impact \$0.75 1.00	on	Additional Cost to Respond Strategy	Date Post Las Updated
Probability 50% Cost (\$M) Schedule (Mo) Risk Ow	Low \$1.00 1.00	P Most Likely \$1.50 2.00	Antiperiod of the second secon	se Quantificati Total Expected Value Impact \$0.75 1.00 ms and contract pro g and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval
Probability 50% Cost (\$M) Schedule (Mo) Risk Ow	Low \$1.00 1.00	P Most Likely \$1.50 2.00 Use est	Antiperiod of the second secon	se Quantificati Total Expected Value Impact \$0.75 1.00 ms and contract pro g and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval
Probability 50% Cost (\$M) Schedule (Mo) Risk Ow	Low \$1.00 1.00	P Most Likely \$1.50 2.00 Use est	Antiperiod of the second secon	se Quantificati Total Expected Value Impact \$0.75 1.00 ms and contract pro g and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las
Probability 50% Cost (\$M) Schedule (Mo) Risk Ow	Low \$1.00 1.00	P Most Likely \$1.50 2.00 Use est	Antiperiod of the second secon	se Quantificati Total Expected Value Impact \$0.75 1.00 ms and contract pro g and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated 10/11/2021 Risk
Probability 50% Cost (\$M) Schedule (Mo) Risk Ow	Low \$1.00 1.00	P Most Likely \$1.50 2.00 Use est	Antiperiod of the second secon	se Quantificati Total Expected Value Impact \$0.75 1.00 ms and contract pro g and Control From	on	Additional Cost to Respond Strategy Strategy Last Review	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated 10/11/2021



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.20
Sub-Project	Lower Bake	er Dam Seepag	ge Reduction		Status	Acti	ve
		Grouting env		g - General ncerns - Stake	holders/NGOs		
Risk Trigger				Flowcha	rt Activity	22	0
Depend	ency & Correl:	ition					
			Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
5%					12	8	-panea
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	1.00	6.00	12.00	0.31	12	8	
	Stakeholders		Ph	legal or other meai ase 2B. <b>Se Quantificati</b>	ns due to environm ON		
Probability	Stakeholders		Ph	ase 2B.		Additional Cost to Respond	Date Post Las Updated
5%		P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
Contraction and the second		P	Pha ost-Respons	se Quantificati		Additional Cost	
5% Cost (\$M) Schedule (Mo)	Low 1.00	P Most Likely	Ost-Respons High 12.00 Ongoing clea	se Quantificati Total Expected Value Impact \$0.00		Additional Cost to Respond Strategy	Updated
5% Cost (\$M) Schedule (Mo) Risk Ow	Low 1.00	P Most Likely	Ost-Respons High 12.00 Ongoing clea	se 28. Control Expected Control Expected Control Control From		Additional Cost to Respond	10/11/2021
5% Cost (\$M) Schedule (Mo)	Low 1.00	P Most Likely 6.00	Ost-Respons High 12.00 Ongoing clea Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.31		Additional Cost to Respond Strategy	Updated
5% Cost (\$M) Schedule (Mo) Risk Ow	Low 1.00	P Most Likely	Ost-Respons High 12.00 Ongoing clea Monitoring Risk Aging	se 28. Control Expected Control Expected Control Control From		Additional Cost to Respond Strategy	Updated 10/11/2021 nterval Date MC Las Updated
5% Cost (\$M) Schedule (Mo) Risk Ow	Low 1.00	P Most Likely 6.00	Ost-Respons High 12.00 Ongoing clea Monitoring Risk Aging	se 28. Control Expected Control Expected Control Control From		Additional Cost to Respond Strategy Strategy Status I	Updated 10/11/2021 nterval Date MC Las
5% Cost (\$M) Schedule (Mo) Risk Ow	Low 1.00	P Most Likely 6.00	Ost-Respons High 12.00 Ongoing clea Monitoring Risk Aging	se 28. Control Expected Control Expected Control Control From		Additional Cost to Respond Strategy Strategy Status I	Updated 10/11/2021 nterval Date MC Las Updated



Project	L	ower Baker Da	ım	1	Risk ID	LBK LBKDSR	CNS 900.21
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
		Grouting		g - General al concerns - St	ate/federal		
Risk Trigger				Flowcha	rt Activity	22	0
Depend	ency & Correl	ation					
			Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las
10%				and the second second	12	19	
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.50	1.00	1.50	0.10	12	19	
State or	Federal regula		Phi	ronmentel) permit v ase 2B. <b>Se Quantificati</b>	violations or worse t		pacts
Probability	Federal regula		Phi	ase 2B.		han anticipated im Additional Cost to Respond	
Probability 10%		P	Phi ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post Las Updated
Probability		P	Phi ost-Respons	se Quantificati		Additional Cost	Date Post Las
Probability 10% Cost (\$M) Schedule (Mo)	Low 0.50	P Most Likely	Philosophic Philos	se Quantificati Total Expected Value Impact \$0,00 0.10		Additional Cost to Respond Strategy	Date Post Las Updated
Probability 10% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.50	P Most Likely	Philosophic Philos	se Quantificati Total Expected Value Impact \$0.00 0.10 ar communication g and Control From		Additional Cost to Respond	Date Post Las Updated
Probability 10% Cost (\$M) Schedule (Mo)	Low 0.50	P Most Likely	Ost-Respons High 1.50 Ongoing clea Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0,00 0.10		Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
Probability 10% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.50	P Most Likely	Ost-Respons High 1.50 Ongoing clea Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.10 ar communication g and Control From		Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated
Probability 10% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.50	P Most Likely	Ost-Respons High 1.50 Ongoing clea Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.10 ar communication g and Control From		Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las
Probability 10% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.50	P Most Likely	Ost-Respons High 1.50 Ongoing clea Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.10 ar communication g and Control From		Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated

Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.22
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				Schedule/Cost production			
Risk Trigger				Flowchar	t Activity	Watc	hlist
Depend	ency & Correls	ition					
	-	F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
	]	_L		Value Impact	12	29	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)				0.00	12	29	
	grouting not as		ost-Respons	ns longer and cost		st, covered with oth	er risks
Production Probability	grouting not as					st. covered with oth Additional Cost to Respond	
Probability		P	ost-Respons	e Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post Las
Probability Cost (\$M)		P	ost-Respons	e Quantificati		Additional Cost	Date Post Las
Probability	Low	P Most Likely	OST-Respons High Monitor scheduk	Contraction of the second seco	on	Additional Cost to Respond	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	P. Most Likely	OST-Respons High Monitor scheduk Monitoring Risk Aging	Se Quantification	on	Additional Cost to Respond Strategy	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low	P Most Likely	OST-Respons High Monitor scheduk Monitoring Risk Aging	Se Quantification	on	Additional Cost to Respond Strategy	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low	P. Most Likely	OST-Respons High Monitor scheduk Monitoring Risk Aging	Se Quantification	on	Additional Cost to Respond Strategy	Date Post Las Updated nterval Date MC Las Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low	P. Most Likely	OST-Respons High Monitor scheduk Monitoring Risk Aging	Se Quantification	on	Additional Cost to Respond Strategy	Date Post Las
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low	P. Most Likely	OST-Respons High Monitor scheduk Monitoring Risk Aging	Se Quantification	on	Additional Cost to Respond Strategy	Date Post Las Updated nterval Date MC Las Updated



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Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.23
Sub-Project	Lower Bake	r Dam Seepag	e Reduction		Status	Acti	ve
				nel Plug e volumes			
Risk Trigger				Flowcha	rt Activity	Watc	hlist
Depend	iency & Correla	tion		1			
		F	Pre-Response	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Last Updated
Cost (\$M)				\$0.00	12 Project Rank	29 Project Rank Schedule	10/11/2021
Schedule (Mo)	1			0.00	<u>Cost</u> 12	29	
	Increased		Pha	nent ineffectivene: Ise 2A. Se Quantificati	ss. Watchlist risk at ON		
Probability	Low		Pha	ase 2A.		this time. Additional Cost to Respond	Date Post Las Updated
		P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	
Probability Cost (\$M) Schedule (Mo)		P	Pha ost-Respons	se Quantificati		Additional Cost	Date Post Lass Updated
Cost (\$M)	Low	P	Pha ost-Respons High Require s Monitoring	se Quantificati Total Expected Value Impact \$0.00		Additional Cost to Respond	Updated
Cost (\$M) Schedule (Mo)	Low	P	Pha ost-Respons High Require s	se Quantificati Total Expected Value Impact \$0.00 0.00		Additional Cost to Respond Strategy	Updated
Cost (\$M) Schedule (Mo) Risk Ow	Low	P	Pha ost-Respons High Require s Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.00 Burvey (spec) g and Control From		Additional Cost to Respond Strategy	Updated
Cost (\$M) Schedule (Mo) Risk Ow	Low	P Most Likely	Pha ost-Respons High Require s Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.00 Burvey (spec) g and Control From		Additional Cost to Respond Strategy	Updated nterval Date MC Las Updated
Cost (\$M) Schedule (Mo) Risk Ow	Low	P Most Likely	Pha ost-Respons High Require s Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.00 Burvey (spec) g and Control From		Additional Cost to Respond Strategy Strategy	Updated nterval Date MC Las
Cost (\$M) Schedule (Mo) Risk Ow	Low	P Most Likely	Pha ost-Respons High Require s Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.00 Burvey (spec) g and Control From		Additional Cost to Respond Strategy Strategy	Updated nterval Date MC Lass Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.24
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				nel Plug g placement			
Risk Trigger				Flowchar	t Activity	Watc	hlist
Depend	lency & Correla	tion		1			
		F	Pre-Response	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Last Updated
	]	1			12 DeciseDeck	29 Decident Parak	
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)		0		0.00	12	29	
Daub et 21-		P	Pha ost-Respons	se Quantificati	nt. Watchlist risk af ON	this time.	
Probability	Risk of in		Pha	ase 2A.			Date Post Las Updated
		P	Pha ost-Respons	se Quantificati		Additional Cost to Respond	
Probability Cost (\$M) Schedule (Mo)		P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost	
Cost (\$M) Schedule (Mo)		P	Pha ost-Respons High Require s	se Quantificati Total Expected Value Impact \$0.00 0.00		Additional Cost to Respond Strategy	Updated
Cost (\$M)	Low	P	Pha ost-Respons High Require s	se Quantificati Total Expected Value Impact \$0.00 0.00		Additional Cost to Respond	Updated
Cost (\$M) Schedule (Mo) Risk Ow	Low	P	Pha ost-Respons High Require s Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.00 survey (spec) and Control From		Additional Cost to Respond Strategy	Updated
Cost (\$M) Schedule (Mo) Risk Ow	Low	P Most Likely	Pha ost-Respons High Require s Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.00 survey (spec) and Control From		Additional Cost to Respond Strategy	Updated
Cost (\$M) Schedule (Mo) Risk Ow	Low	P Most Likely	Pha ost-Respons High Require s Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.00 survey (spec) and Control From		Additional Cost to Respond Strategy	Updated nterval
Cost (\$M) Schedule (Mo) Risk Ow	Low	P Most Likely	Pha ost-Respons High Require s Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.00 survey (spec) and Control From		Additional Cost to Respond Strategy	nterval Date MC Las Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.25
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
		Seep		age seal tallation/perform	ance		
Risk Trigger				Flowchar	t Activity	Watc	hlist
Depend	lency & Correl	ation					
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
	]	10		Value Impact	12	29	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)				0.00	12	29	
		P	Phi ost-Respons	page may lead to a ase 2A. <b>se Quantificati</b>		es and grout. Wate	nlist.
Installat Probability	tion and perform		Phi	ase 2A.		es and grout. Watel Additional Cost to Respond	
Probability		P	Phi ost-Respons	se Quantificati Total Expected		Additional Cost to Respond	Date Post Las
		P	Phi ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost	Date Post Las
Probability Cost (\$M)	Preinsta	P Most Likely	Phi ost-Respons High	se Quantificati Total Expected Value Impact \$0.00	on	Additional Cost to Respond Strategy	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Preinsta	P Most Likely	OST-Respons High ify modular app Monitoring Risk Aging	se Quantification Total Expected Value Impact \$0.00 0.00 roach, direct kill group g and Control From	on	Additional Cost to Respond Strategy ge zones	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Preinsta	P Most Likely	OST-Respons High ify modular app Monitoring Risk Aging	se Quantification Total Expected Value Impact \$0.00 0.00 roach, direct kill group g and Control From	on	Additional Cost to Respond Strategy ge zones	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Preinsta	P Most Likely	OST-Respons High ify modular app Monitoring Risk Aging	se Quantification Total Expected Value Impact \$0.00 0.00 roach, direct kill group g and Control From	on	Additional Cost to Respond Strategy ge zones	Date Post Las Updated nterval
Probability Cost (\$M) Schedule (Mo) Risk Ow	Preinsta	P Most Likely	OST-Respons High ify modular app Monitoring Risk Aging	se Quantification Total Expected Value Impact \$0.00 0.00 roach, direct kill group g and Control From	on	Additional Cost to Respond Strategy ge zones	Date Post Las Updated nterval Date MC Las Updated



Project	L	ower Baker Da	m		Risk I D	LBK LBKDSR	CNS 900.26
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ive
			Reservo	vir - Spilling			
Risk Trigger				Flowchat	rt Activity	21	0
Depend	ency & Correl	ation					
		P	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las
10%					12	23	
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.50	0.50	1.00	0.06	12	23	
	ations may im		Ph	es. Specifically dur ase 2A. Be Quantificati	ing platform erectio		tallation.
Probability	ations may im		Ph	ase 2A.		n and riser pipe ins Additional Cost to Respond	
Probability 10%		Pe	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post Las Updated
Probability		Pe	Pha ost-Respons	se Quantificati		Additional Cost	Date Post Las
Probability 10% Cost (\$M) Schedule (Mo)	Low 0.50	Pe Most Likely 0.50	Phi ost-Respons High 1.00	se Quantificati Total Expected Value Impact \$0.00 0.06 sible, accept when	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
Probability 10% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.50	Pe Most Likely 0.50	Phi ost-Respons High 1.00	se Quantificati Total Expected Value Impact \$0.00 0.06 sible, accept when and Control From	on	Additional Cost to Respond	Date Post Las Updated 10/11/2021
Probability 10% Cost (\$M) Schedule (Mo)	Low 0.50	Pr Most Likely 0.50	Phi ost-Respons High 1.00 igate where pos Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.06 sible, accept when	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
Probability 10% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.50	Pe Most Likely 0.50	Phi ost-Respons High 1.00 igate where pos Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.06 sible, accept when and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval
Probability 10% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.50	Pr Most Likely 0.50	Phi ost-Respons High 1.00 igate where pos Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.06 sible, accept when and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las
Probability 10% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.50	Pr Most Likely 0.50	Phi ost-Respons High 1.00 igate where pos Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.06 sible, accept when and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.27
	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
		Environment		Environmental to public/permit	ting agencies		
Risk Trigger				Flowchar	t Activity	22	0
Depende	ency & Correl	ation					
		F	Pre-Respons	e Quantificatio	on		-
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
50%				Value Impact	6	18	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	
Schedule (Mo)	0.25	0.25	0.25	0.13	6	18	
		and pH impacts do	wnstream of dar Pha		o public. Permittin	g agencies or public	
Probability		and pH impacts do	wnstream of dar Pha	m - and be visible t ase 2B.	o public. Permittin		
will c Probability 50%	ause turbidity	and pH impacts do	wnstream of dar Pha ost-Respons	n - and be visible t ase 2B. Se Quantificati Total Expected Value Impact	o public. Permittin	agencies or public Additional Cost to Respond	Date Post La Updated
will c Probability	ause turbidity	and pH impacts do	wnstream of dar Pha ost-Respons	m - and be visible t ase 2B. <b>Se Quantificati</b> Total Expected	o public. Permittin	g agencies or public Additional Cost	Date Post La Updated
will c Probability 50% Cost (\$M)	Low 0.25	Most Likely 0.25 d in the contract as	ost-Respons High 0.25 nd methods. Pro- permits has bee vated turbicity ar	m - and be visible t ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.13 e-project permitting n performed. Furth nd pH conditions of	o public. Permittin On g agency engagem rer education of pu	Additional Cost to Respond Strategy	Date Post La Updated 10/11/2021 turbidity and pl
will c Probability 50% Cost (\$M) Schedule (Mo) Environmental contr increases and get t	Low 0.25	Most Likely 0.25 d in the contract as	ost-Respons High 0.25 nd methods. Pro- permits has bee vated turbicity ar	m - and be visible t ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.13 e-project permitting n performed. Furth and pH conditions of g and Control	o public. Permittin On g agency engagem rer education of pu	Additional Cost to Respond Strategy ent to alert them to blic and permitting	Date Post La: Updated 10/11/2021 turbidity and pl agencies when
will c Probability 50% Cost (\$M) Schedule (Mo) Environmental contr	Low 0.25 rols are include these concerns	Most Likely 0.25 d in the contract as	ost-Respons High 0.25 nd methods. Pro- permits has bee vated turbicity ar	m - and be visible t ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.13 e-project permitting n performed. Furth and pH conditions of g and Control From	o public. Permittin On g agency engagem rer education of pu	Additional Cost to Respond Strategy	Date Post La Updated 10/11/2021 turbidity and pl agencies when
will c Probability 50% Cost (\$M) Schedule (Mo) Environmental contr increases and get t Risk Ow	Low 0.25 rols are include these concerns	Most Likely 0.25 d in the contract as	ost-Respons High 0.25 nd methods. Pro- permits has bee vated turbidity ar Monitoring Risk Aging	m - and be visible t ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.13 e-project permitting n performed. Furth and pH conditions of g and Control	o public. Permittin On g agency engagem rer education of pu	Additional Cost to Respond Strategy ent to alert them to blic and permitting	Date Post La: Updated 10/11/2021 turbidity and pl agencies when
will c Probability 50% Cost (\$M) Schedule (Mo) Environmental contr increases and get t Risk Ow	Low 0.25 rols are include these concerns	And pH impacts do P Most Likely 0.25 ed in the contract a s addressed in the elee	ost-Respons High 0.25 nd methods. Pro- permits has bee vated turbidity ar Monitoring Risk Aging	m - and be visible t ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.13 e-project permitting n performed. Furth and pH conditions of g and Control From	o public. Permittin On g agency engagem rer education of pu	Additional Cost to Respond Strategy ent to alert them to blic and permitting	Date Post La Updated 10/11/2021 turbidity and pi agencies when nterval
will c Probability 50% Cost (\$M) Schedule (Mo) Environmental contr increases and get t Risk Ow	Low 0.25 rols are include these concerns	And pH impacts do P Most Likely 0.25 ed in the contract a s addressed in the elee	ost-Respons High 0.25 nd methods. Pro- permits has bee vated turbidity ar Monitoring Risk Aging	m - and be visible t ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.13 e-project permitting n performed. Furth and pH conditions of g and Control From	o public. Permittin On g agency engagem rer education of pu	Additional Cost to Respond Strategy ent to alert them to blic and permitting	Date Post La Updated 10/11/2021 turbidity and pl agencies when nterval Date MC La
will c Probability 50% Cost (\$M) Schedule (Mo) Environmental contr increases and get t Risk Ow	Low 0.25 rols are include these concerns	And pH impacts do P Most Likely 0.25 ed in the contract a s addressed in the elee	ost-Respons High 0.25 nd methods. Pro- permits has bee vated turbidity ar Monitoring Risk Aging	m - and be visible t ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.13 e-project permitting n performed. Furth and pH conditions of g and Control From	o public. Permittin On g agency engagem rer education of pu	Additional Cost to Respond Strategy ent to alert them to blic and permitting	Date Post La Updated 10/11/2021 turbidity and pi agencies when nterval Date MC La Updated

CNS 900.28	LBK LBKDSR	Risk I D		m	wer Baker Da	L	Project
ive	Activ	Status		e Reduction	r Dam Seepag	Lower Bake	Sub-Project
			tup, Getting to ( lays - submittal				
hlist	Watch	t Activity	Flowchar				Risk Trigger
			•		tion	ency & Correla	Depend
		on	e Quantificatio	Pre-Respons			
Date Pre La	Program Rank Schedule	Program Rank Cost	Total Expected	High	Most Likely	Low	Probability
Updated	29	12	Value Impact		L	-	
	Project Rank Schedule	Project Rank Cost	\$0.00				Cost (\$M)
	29	12	0.00				Schedule (Mo)
	mittals. Watchlist ri Additional Cost		se Quantificati	ost-Respons	P		
	Mittals. Watchlist ri Additional Cost to Respond					start or is slow in	Contractor delays Probability
Date Post La	Additional Cost to Respond		se Quantificatio	ost-Respons	P		Probability
Date Post La	Additional Cost		<b>Contract Security</b>	ost-Respons	P		
Date Post La Updated	Additional Cost to Respond Strategy		Solution States	am monitor and	P Most Likely	Low PSE constructio	Probability Cost (\$M) Schedule (Mo)
Date Post La Updated	Additional Cost to Respond Strategy g work progress.	on	Se Quantification	ost-Respons High am monitor and	P Most Likely	Low PSE constructio	Probability Cost (\$M) Schedule (Mo)
Date Post La Updated	Additional Cost to Respond Strategy g work progress.	on	se Quantification	High High am monitor and Monitoring Risk Aging	P Most Likely	Low PSE constructio	Probability Cost (\$M) Schedule (Mo) Risk Ow
Date Post La Updated	Additional Cost to Respond Strategy g work progress.	on	se Quantification	High High am monitor and Monitoring Risk Aging	P Most Likely	Low PSE constructio	Probability Cost (\$M) Schedule (Mo) Risk Ow
Date Post La Updated	Additional Cost to Respond Strategy g work progress.	on	se Quantification	High High am monitor and Monitoring Risk Aging	P Most Likely	Low PSE constructio	Probability Cost (\$M) Schedule (Mo) Risk Ow

Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.29
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				tup, Getting to lays - permittin			
Risk Trigger				Flowchar	t Activity	Watc	hlist
Depend	lency & Correla	ition					
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
	1	-LI		Value Impact	12	29	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	
Schedule (Mo)				0.00	12	29	
		P	ost-Respons	se Quantificati		nits. Watchlist risk Additional Cost	
Contractor dela	ays start or is sl						
Probability		P	ost-Respons	e Quantificati		Additional Cost to Respond	Date Post La
		P	ost-Respons	e Quantificati Total Expected Value Impact		Additional Cost	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High am monitor and Monitoring	Se Quantificati		Additional Cost to Respond Strategy	Date Post La: Updated 10/11/2021
Probability Cost (\$M) Schedule (Mo)	Low PSE construction vner	P. Most Likely	ost-Respons High am monitor and Monitoring Risk Aging	Se Quantification	on	Additional Cost to Respond Strategy g work progress.	Date Post La: Updated 10/11/2021
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low PSE construction vner	P Most Likely	ost-Respons High am monitor and Monitoring Risk Aging	Se Quantification	on	Additional Cost to Respond Strategy g work progress.	Date Post La: Updated 10/11/2021 nterval
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low PSE construction vner	P. Most Likely	ost-Respons High am monitor and Monitoring Risk Aging	Se Quantification	on	Additional Cost to Respond Strategy g work progress.	Date Post La: Updated 10/11/2021 nterval
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low PSE construction vner	P. Most Likely	ost-Respons High am monitor and Monitoring Risk Aging	Se Quantification	on	Additional Cost to Respond Strategy g work progress.	Date Post La: Updated 10/11/2021 nterval Date MC Las
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low PSE construction vner	P. Most Likely	ost-Respons High am monitor and Monitoring Risk Aging	Se Quantification	on	Additional Cost to Respond Strategy g work progress.	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSF	CTR 40.01
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
		General - Co		craft availability iditions - labor	and retention		
Risk Trigger				Flowchar	t Activity	210, 22	0, 230
Depend	ency & Correl	ation		Equally	y weighted across a	activities	
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
30%				Value Impact	12	4	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	1.00	2.00	3.00	0.60	12	4	
Due to ongoing work	in the region,	job	consistently wit Phase	large amount of off h their project sche 2A, 2B, 2C. Se Quantificati	dule		uggle to staff th
Probability	in the region,	job	consistently wit Phase	h their project sche 2A, 2B, 2C,	dule	Contractor may sir Additional Cost to Respond	
Probability 30%		job P	consistently with Phase ost-Respons	h their project sche 2A, 2B, 2C. Se Quantificati Total Expected Value Impact	dule	Additional Cost to Respond	Date Post La Updated
Probability		job P	consistently with Phase ost-Respons	h their project sche 2A, 2B, 2C. Se Quantificati Total Expected	dule	Additional Cost	Date Post La:
Probability 30% Cost (\$M) Schedule (Mo)	Low 1.00	job P Most Likely	consistently with Phase ost-Respons High 3.00	h their project sche 2A, 2B, 2C. Se Quantificati Total Expected Value Impact \$0.00 0.60 g and Control	dule	Additional Cost to Respond Strategy	Date Post Las Updated
Probability 30% Cost (\$M) Schedule (Mo) Risk Ow	Low 1.00	job P Most Likely	consistently with Phase ost-Respons High 3.00	their project sche 2A, 2B, 2C.      Se Quantificati Total Expected Value Impact      \$0.00      0.60      g and Control From	dule	Additional Cost to Respond	Date Post La: Updated
Probability 30% Cost (\$M) Schedule (Mo)	Low 1.00	job P Most Likely	consistently with Phase : Migh 3.00 Monitoring Risk Aging	their project sche 2A, 2B, 2C.      Se Quantificati Total Expected Value Impact      \$0.00      0.60      g and Control	dule	Additional Cost to Respond Strategy	Date Post La: Updated
Probability 30% Cost (\$M) Schedule (Mo) Risk Ow	Low 1.00	job P Most Likely 2.00	consistently with Phase : Migh 3.00 Monitoring Risk Aging	their project sche 2A, 2B, 2C.     Se Quantificati Total Expected Value Impact     \$0.00     0.60     0.60     g and Control From	dule	Additional Cost to Respond Strategy	Date Post La: Updated 10/11/2021 nterval Date MC La:
Probability 30% Cost (\$M) Schedule (Mo) Risk Ow	Low 1.00	job P Most Likely 2.00	consistently with Phase : Migh 3.00 Monitoring Risk Aging	their project sche 2A, 2B, 2C.     Se Quantificati Total Expected Value Impact     \$0.00     0.60     0.60     g and Control From	dule	Additional Cost to Respond Strategy	Date Post La: Updated 10/11/2021 nterval Date MC La:
Probability 30% Cost (\$M) Schedule (Mo) Risk Ow	Low 1.00	job P Most Likely 2.00	consistently with Phase : Migh 3.00 Monitoring Risk Aging	their project sche 2A, 2B, 2C.     Se Quantificati Total Expected Value Impact     \$0.00     0.60     0.60     g and Control From	dule	Additional Cost to Respond Strategy	Date Post La: Updated 10/11/2021 nterval Date MC La: Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSF	CTR 50.01
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				Procurement procurement			
Risk Trigger				Flowcha	rt Activity	21	0
Depende	ency & Correl	ation					
		P	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Last Updated
10%				value impact	12	7	opuateu
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	
Schedule (Mo)	1.00	3.00	6.00	0.32	12	7	
		The summer of	Pha ost-Respons	high demand) ma ase 2A. Se Quantificati			[
Probability	vailability of sto Low		Ph	ase 2A.		Additional Cost to Respond	Date Post Las Updated
Probability 10%		Pe	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
Probability		Pe	Pha ost-Respons	se Quantificati		Additional Cost	
Probability 10% Cost (\$M) Schedule (Mo)	Low 1.00	Pe Most Likely 3.00	Ost-Respons High 6.00	se Quantificati Total Expected Value Impact \$0,00 0.32 d schedule perform g and Control	on	Additional Cost to Respond Strategy	10/11/2021
Probability 10% Cost (\$M) Schedule (Mo)	Low 1.00	Pe Most Likely 3.00	Ost-Respons High 6.00	ase 2A. Se Quantification Total Expected Value Impact \$0.00 0.32 d schedule perform g and Control From	on	Additional Cost to Respond	Updated
Probability 10% Cost (\$M) Schedule (Mo)	Low 1.00	Pe Most Likely 3.00 Moni	OST-Respons High 6.00 Itor progress and Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0,00 0.32 d schedule perform g and Control	on	Additional Cost to Respond Strategy	Updated
Probability 10% Cost (\$M) Schedule (Mo)	Low 1.00	Pe Most Likely 3.00	OST-Respons High 6.00 Itor progress and Monitoring Risk Aging	ase 2A. Se Quantification Total Expected Value Impact \$0.00 0.32 d schedule perform g and Control From	on	Additional Cost to Respond Strategy	Updated
Probability 10% Cost (\$M) Schedule (Mo)	Low 1.00	Pe Most Likely 3.00 Moni	OST-Respons High 6.00 Itor progress and Monitoring Risk Aging	ase 2A. Se Quantification Total Expected Value Impact \$0.00 0.32 d schedule perform g and Control From	on	Additional Cost to Respond Strategy	Updated 10/11/2021 nterval Date MC Las
Probability 10% Cost (\$M) Schedule (Mo)	Low 1.00	Pe Most Likely 3.00 Moni	OST-Respons High 6.00 Itor progress and Monitoring Risk Aging	ase 2A. Se Quantification Total Expected Value Impact \$0.00 0.32 d schedule perform g and Control From	on	Additional Cost to Respond Strategy	Updated 10/11/2021 nterval Date MC Las Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSF	CTR 60.01
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
			Schedule	performance			
Risk Trigger				Flowchar	t Activity	Watc	hlist
Depend	lency & Correl	ation					
		F	re-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Last Updated
	]				12	29	
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	
Schedule (Mo)				0.00	12	29	
		contract administra	tion staff for long	ger duration. Watch	nlist risk at this tim	ot. Increased PSE o a. Additional Cost	
Contractor may te		contract administra	tion staff for long	ger duration. Watc	nlist risk at this tim	e.	
Probability		contract administra	tion staff for long	ger duration. Watch se Quantificati Total Expected	nlist risk at this tim	Additional Cost to Respond	Date Post Las
		contract administra	tion staff for long	ger duration. Watch se Quantificati Total Expected Value Impact	nlist risk at this tim	Additional Cost	Date Post Las
Probability Cost (\$M) Schedule (Mo)	Low	contract administra	ost-Respons High am monitor and	ger duration. Watch Control Expected Value Impact \$0.00 0.00 Work with LBC to m g and Control	on	Additional Cost to Respond Strategy	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low PSE construction Vner	Most Likely	ost-Respons High	se Quantificati	on	Additional Cost to Respond Strategy g work progress.	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low PSE construction Vner	Most Likely	ost-Respons High am monitor and Monitoring Risk Aging	ger duration. Watch Control Expected Value Impact \$0.00 0.00 work with LBC to m g and Control From	on	Additional Cost to Respond Strategy g work progress.	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low PSE construction Vner	Most Likely	ost-Respons High am monitor and Monitoring Risk Aging	ger duration. Watch Control Expected Value Impact \$0.00 0.00 work with LBC to m g and Control From	on	Additional Cost to Respond Strategy g work progress.	Date Post Las Updated nterval Date MC Las Updated
Probability Cost (\$M) Schedule (Mo)	Low PSE construction Vner	Most Likely	ost-Respons High am monitor and Monitoring Risk Aging	ger duration. Watch Control Expected Value Impact \$0.00 0.00 work with LBC to m g and Control From	on	Additional Cost to Respond Strategy g work progress.	Date Post Las Updated nterval
Probability Cost (\$M) Schedule (Mo)	Low PSE construction Vner	Most Likely	ost-Respons High am monitor and Monitoring Risk Aging	ger duration. Watch Control Expected Value Impact \$0.00 0.00 work with LBC to m g and Control From	on	Additional Cost to Respond Strategy g work progress.	Date Post Las Updated nterval Date MC Las Updated



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R CTR 900.0	LBK LBKDSR	Risk ID		m	ower Baker Da	L	Project
ctive	Acti	Status		e Reduction	r Dam Seepag	Lower Bake	Sub-Project
			nstrumentation ntation data				
itchlist	Watch	t Activity	Flowchar				Risk Trigger
			L		tion	ency & Correla	Depend
		on	e Quantificatio	re-Respons			
Date Pre L	Program Rank Schedule	Program Rank Cost	Total Expected	High	Most Likely	Low	Probability
Updated	29	12	Value Impact		1		
10/11/202	Project Rank Schedule	Project Rank Cost	\$0.00				Cost (\$M)
-	29	12	0.00				Schedule (Mo)
	strumentation and i		and ATMS integra iem. Watchlist ase 1A. Se Quantificatio	control sys Ph		strumentation d	Difficully getting in
t Date Post I	strumentation and i Additional Cost to Respond		tem. Watchlist ase 1A. Se Quantification Total Expected	control sys Ph		strumentation d	Difficulty getting in
t	Additional Cost to Respond		tem. Watchlist ase 1A. Se Quantification Total Expected Value Impact	control sys Phi ost-Respons	P		Probability
t Date Post I	Additional Cost		tem. Watchlist ase 1A. Se Quantification Total Expected	control sys Phi ost-Respons	P		
t Date Post I Updated	Additional Cost to Respond	on	tem. Watchlist ase 1A. <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b> <b>Contraction</b>	control sys Phi ost-Respons High tion integration gr	P Most Likely	Low	Probability Cost (\$M) Schedule (Mo)
t Date Post I Updated	Additional Cost to Respond Strategy ed to be completed	on	tem. Watchlist see 1A See Quantification Total Expected Value Impact \$0.00 0.00 with the grout control suting.	control sys Phi ost-Respons High tion integration gn Monitoring	P Most Likely	Low ign and testing	Probability Cost (\$M) Schedule (Mo)
t Date Post I Updated	Additional Cost to Respond Strategy ed to be completed	on	tem. Watchlist see 1A See Quantification Total Expected Value Impact \$0.00 0.00 with the grout control putting.	control sys Phi ost-Respons High tion integration gn Monitoring Risk Aging	P Most Likely of the instrument	Low ign and testing	Probability Cost (\$M) Schedule (Mo) Requirement for des
t Date Post I Updated ed prior to initia	Additional Cost to Respond Strategy ed to be completed	on	tem. Watchlist see 1A See Quantification Total Expected Value Impact \$0.00 0.00 with the grout control pand Control From	control sys Phi ost-Respons High tion integration gn Monitoring Risk Aging	P Most Likely	Low ign and testing	Probability Cost (\$M) Schedule (Mo) Requirement for des Risk Ow
t Date Post I Updated ded prior to initia sinterval	Additional Cost to Respond Strategy ed to be completed	on	tem. Watchlist see 1A See Quantification Total Expected Value Impact \$0.00 0.00 with the grout control pand Control From	control sys Phi ost-Respons High tion integration gn Monitoring Risk Aging	P Most Likely of the instrument	Low ign and testing	Probability Cost (\$M) Schedule (Mo) Requirement for des Risk Ow
t Date Post I Updated ed prior to initia	Additional Cost to Respond Strategy ed to be completed Status In	on	tem. Watchlist see 1A See Quantification Total Expected Value Impact \$0.00 0.00 with the grout control pand Control From	control sys Phi ost-Respons High tion integration gn Monitoring Risk Aging	P Most Likely of the instrument	Low ign and testing	Probability Cost (\$M) Schedule (Mo) Requirement for des Risk Ow
t Date Post I Updated ded prior to initia sinterval Date MC L Updated Updated Updated	Additional Cost to Respond Strategy ed to be completed Status In	on	tem. Watchlist see 1A See Quantification Total Expected Value Impact \$0.00 0.00 with the grout control pand Control From	control sys Phi ost-Respons High tion integration gn Monitoring Risk Aging	P Most Likely of the instrument	Low ign and testing	Probability Cost (\$M) Schedule (Mo) Requirement for des Risk Ow

Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CTR 900.03
Sub-Project	Lower Bak	er Dam Seepag	e Reduction		Status	Acti	ve
		Ge	neral - Decisi	on Making Proc	ess		
Risk Trigger				Flowchar	t Activity	22	0
Depend	ency & Correl	ation					
		F	re-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
25%				Value Impact	12	22	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.25	0.25	0.25	0.06	12		
PSE, PSE team me	embers, unabl	mix	changes, in-hole Pha	g approval of work testing, hole additi ise 2B. <b>:e Quantificati</b>	or timely direction		g program (e.g.
PSE, PSE team me Probability	embers, unabl	mix	changes, in-hole Pha	testing, hole additi se 2B. e Quantificatio Total Expected	or timely direction		Date Post La
		mix (	changes, in-hole Pha ost-Respons	testing, hole additi ise 2B. <b>e Quantificati</b>	or timely direction	Additional Cost to Respond	
Probability 25% Cost (\$M)	Low	P Most Likely	changes, in-hole Pha ost-Respons High	testing, hole additi see 28. e Quantification Total Expected Value Impact \$0.00	or timely direction	needed for grouting	Date Post La
Probability 25%	Low 0.25	Most Likely 0.25	ost-Respons High 0.25 of test grouting	testing, hole additi see 28. E Quantification Total Expected Value Impact \$0.00 0.06 program. Establish	or timely direction ions). Of	Additional Cost to Respond Strategy	Date Post La: Updated
Probability 25% Cost (\$M) Schedule (Mo)	Low 0.25	Most Likely 0.25 tocols prior to start	ost-Respons High 0.25	testing, hole additi see 28. <b>e Quantificati</b> Total Expected Value Impact \$0.00 0.06 program. Establish conditions and ope	or timely direction ions). Of	Additional Cost to Respond Strategy	Date Post La: Updated
Probability 25% Cost (\$M) Schedule (Mo)	Low 0.25 ocess and pro prior to start	Most Likely 0.25 tocols prior to start	ost-Respons High 0.25 of test grouting odate as ground Monitoring	testing, hole additi see 28. E Quantification Total Expected Value Impact \$0.00 0.06 program. Establish	or timely direction ions). Of	Additional Cost to Respond Strategy	Date Post La: Updated 10/11/2021 sions and action
Probability 25% Cost (\$M) Schedule (Mo)	Low 0.25 prior to start	Most Likely 0.25 tocols prior to start	ost-Respons High 0.25	testing, hole additi see 28. e Quantification Total Expected Value Impact \$0.00 0.06 program. Establish conditions and oper g and Control	or timely direction ions). Of	Additional Cost to Respond Strategy uting program decising advance.	Date Post La: Updated 10/11/2021 sions and action
Probability 25% Cost (\$M) Schedule (Mo) Stablish decision pr Stablish decision pr Risk Ow	Low 0.25 prior to start	Most Likely 0.25 tocols prior to start	Changes, in-hole Phi Ost-Respons High 0.25 of test grouting odate as ground Monitoring Risk Aging	testing, hole additi see 28. e Quantification Total Expected Value Impact \$0.00 0.06 program. Establish conditions and oper g and Control From	or timely direction ions). Of	Additional Cost to Respond Strategy uting program decising advance.	Date Post La: Updated 10/11/2021 sions and action nterval
Probability 25% Cost (\$M) Schedule (Mo) Stablish decision pr Stablish decision pr Risk Ow	Low 0.25 prior to start	Most Likely 0.25 tocols prior to start ing grouting and up	Changes, in-hole Phi Ost-Respons High 0.25 of test grouting odate as ground Monitoring Risk Aging	testing, hole additi see 28. e Quantification Total Expected Value Impact \$0.00 0.06 program. Establish conditions and oper g and Control From	or timely direction ions). Of	Additional Cost to Respond Strategy uting program decising advance.	Date Post La Updated 10/11/2021 sions and actio nterval Date MC La Updated
Probability 25% Cost (\$M) Schedule (Mo) Stablish decision pr Stablish decision pr Risk Ow	Low 0.25 prior to start	Most Likely 0.25 tocols prior to start ing grouting and up	Changes, in-hole Phi Ost-Respons High 0.25 of test grouting odate as ground Monitoring Risk Aging	testing, hole additi see 28. e Quantification Total Expected Value Impact \$0.00 0.06 program. Establish conditions and oper g and Control From	or timely direction ions). Of	Additional Cost to Respond Strategy uting program deci- sing advance.	Date Post La: Updated 10/11/2021 sions and action nterval Date MC La:
Probability 25% Cost (\$M) Schedule (Mo) Stablish decision pr Stablish decision pr Risk Ow	Low 0.25 prior to start	Most Likely 0.25 tocols prior to start ing grouting and up	Changes, in-hole Phi Ost-Respons High 0.25 of test grouting odate as ground Monitoring Risk Aging	testing, hole additi see 28. e Quantification Total Expected Value Impact \$0.00 0.06 program. Establish conditions and oper g and Control From	or timely direction ions). Of	Additional Cost to Respond Strategy uting program deci- sing advance.	Date Post La Updated 10/11/2021 sions and actio nterval Date MC La Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSF	R DES 10.02
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				ertical Tiedowns uipment selectio			
Risk Trigger				Flowchar	t Activity	100, 20	0, 210
Depend	ency & Correls	ition		Equ	al weight to each a	ctivity	
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
30%				Value Impact	12	4	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)							1
	1.00	could	delay operation Phase '	0.60 tivity has not yet b and project by exte IA, 1B, 2A. <b>e Quantificatio</b>	ension.	4	sign/approach
		nt selection for the could	s Critical Path ac delay operation Phase	tivity has not yet b and project by exte IA, 1B, 2A. Be Quantification Total Expected	een finalized, Dura		Date Post La:
Contractor's desig Probability 30%	n and equipme	nt selection for the could	s Critical Path ad delay operation Phase ost-Respons	tivity has not yet b and project by exte IA, 1B, 2A. e Quantification Total Expected Value Impact	een finalized, Dura	tion to complete de Additional Cost to Respond	Date Post La Updated
Contractor's desig	n and equipme	nt selection for the could	s Critical Path ad delay operation Phase ost-Respons	tivity has not yet b and project by exte IA, 1B, 2A. Be Quantification Total Expected	een finalized, Dura	tion to complete de	Date Post La:
Contractor's desig Probability 30% Cost (\$M) Schedule (Mo)	Low	Most Likely	s Crtical Path ac delay operation Phase ' ost-Respons High 3.00 erify all concerns through submitt	tivity has not yet b and project by exter IA, 1B, 2A. <b>Re Quantifications</b> <b>Total Expected Value Impact</b> \$0.00 0.60 are addressed in a al review and RRM	een finalized. Dura ansion. Ott	tion to complete de Additional Cost to Respond	Date Post La: Updated
Contractor's desig Probability 30% Cost (\$M) Schedule (Mo) Track submittal sc	Low	Most Likely	s Crtical Path ac delay operation Phase ' ost-Respons High 3.00 erify all concerns through submitt	tivity has not yet b and project by exter IA, 1B, 2A. <b>Se Quantifications</b> <b>Total Expected Value Impact</b> \$0.00 0.60 are addressed in a al review and RRM <b>g and Control</b>	een finalized. Dura ansion. Ott	Additional Cost to Respond Strategy	Date Post La: Updated 10/11/2021 and approach
Contractor's desig Probability 30% Cost (\$M) Schedule (Mo) Track submittal sc Risk Ow	n and equipme Low 1.00 hedule and LE ner	Most Likely	s Crtical Path ac delay operation Phase ' ost-Respons High 3.00 erify all concerns through submitt	tivity has not yet b and project by exter IA, 1B, 2A. <b>Se Quantifications</b> <b>Total Expected Value Impact</b> <b>SO.00</b> 0.60 are addressed in a al review and RRM <b>g and Control</b> <b>From</b>	een finalized. Dura ansion. Ott	Additional Cost to Respond Strategy	Date Post La: Updated 10/11/2021 and approach
Contractor's desig Probability 30% Cost (\$M) Schedule (Mo) Track submittal sc	n and equipme Low 1.00 hedule and LE ner	Most Likely	s Crtical Path a delay operation Phase ' ost-Respons High 3.00 erify all concerns through submitt Monitoring Risk Aging	tivity has not yet b and project by exter IA, 1B, 2A. <b>Se Quantifications</b> <b>Total Expected Value Impact</b> \$0.00 0.60 are addressed in a al review and RRM <b>g and Control</b>	een finalized. Dura ansion. Ott	Additional Cost to Respond Strategy	Date Post La: Updated 10/11/2021 and approach
Contractor's desig Probability 30% Cost (\$M) Schedule (Mo) Track submittal sc Risk Ow	n and equipme Low 1.00 hedule and LE ner	Most Likely	s Crtical Path a delay operation Phase ' ost-Respons High 3.00 erify all concerns through submitt Monitoring Risk Aging	tivity has not yet b and project by exter IA, 1B, 2A. <b>Se Quantifications</b> <b>Total Expected Value Impact</b> <b>SO.00</b> 0.60 are addressed in a al review and RRM <b>g and Control</b> <b>From</b>	een finalized. Dura ansion. Ott	Additional Cost to Respond Strategy	Date Post La Updated 10/11/2021 and approach nterval
Contractor's desig Probability 30% Cost (\$M) Schedule (Mo) Track submittal sc Risk Ow	n and equipme Low 1.00 hedule and LE ner	Most Likely	s Crtical Path a delay operation Phase ' ost-Respons High 3.00 erify all concerns through submitt Monitoring Risk Aging	tivity has not yet b and project by exter IA, 1B, 2A. <b>Se Quantifications</b> <b>Total Expected Value Impact</b> <b>SO.00</b> 0.60 are addressed in a al review and RRM <b>g and Control</b> <b>From</b>	een finalized. Dura ansion. Ott	Additional Cost to Respond Strategy nere is a clear plan Status I	Date Post La: Updated 10/11/2021 and approach nterval Date MC La:
Contractor's desig Probability 30% Cost (\$M) Schedule (Mo) Track submittal sc Risk Ow	n and equipme Low 1.00 hedule and LE ner	Most Likely	s Crtical Path a delay operation Phase ' ost-Respons High 3.00 erify all concerns through submitt Monitoring Risk Aging	tivity has not yet b and project by exter IA, 1B, 2A. <b>Se Quantifications</b> <b>Total Expected Value Impact</b> <b>SO.00</b> 0.60 are addressed in a al review and RRM <b>g and Control</b> <b>From</b>	een finalized. Dura ansion. Ott	Additional Cost to Respond Strategy nere is a clear plan Status I	Date Post La: Updated 10/11/2021 and approach nterval Date MC La: Updated

Project	L	ower Baker Da	m		Risk I D	LBK LBKDSF	R DES 50.01
Sub-Project	Lower Bake	r Dam Seepag	e Reduction		Status	Acti	ive
		Ine		rtical Tiedowns ronmental cont			
Risk Trigger				Flowchar	t Activity	21	0
Depend	lency & Correla	tion					
			Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las
10%	]			value (impact	12	24	opulated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.25	0.50	0.50	0.05	12	24	
	Inadequate		Pha	o permit violation, ise 2A. <b>Se Quantificati</b>	resulting in delay to	o operation.	
Probability	Inadequate		Pha	se 2A. Se Quantificati Total Expected		Additional Cost	
Probability 10%		P	Pha ost-Respons	ise 2A. Se Quantificati			Date Post Las Updated
		P	Pha ost-Respons	se 2A. Se Quantificati Total Expected		Additional Cost	
10%		P	Pha ost-Respons	e Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
10% Cost (\$M) Schedule (Mo)	Low 0.25	P Most Likely	Pha ost-Respons High 0.50 erify all concerns through submitte Monitoring	e Quantificati Total Expected Value Impact \$0.00 0.05	on submittal. Ensure t	Additional Cost to Respond	Updated 10/11/2021 and approach
10% Cost (\$M) Schedule (Mo) Track submittal s	Low O.25 Chedule and LB	P Most Likely	Pha ost-Respons High 0.50 erify all concerns through submitte	e Quantificati Total Expected Value Impact \$0.00 0.05 are addressed in al review and RRM and Control	on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Updated 10/11/2021 and approach
10% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low O.25 Chedule and LB	P Most Likely	Pha ost-Respons High 0.50 erify all concerns through submitti Monitoring Risk Aging	e Quantificati Total Expected Value Impact \$0.00 0.05 are addressed in al review and RRM and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Updated 10/11/2021 and approach nterval
10% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low O.25 Chedule and LB	P Most Likely 0.50 C performance. V	Pha ost-Respons High 0.50 erify all concerns through submitti Monitoring Risk Aging	e Quantificati Total Expected Value Impact \$0.00 0.05 are addressed in al review and RRM and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Updated 10/11/2021 and approach nterval Date MC Las Updated
10% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low O.25 Chedule and LB	P Most Likely 0.50 C performance. V	Pha ost-Respons High 0.50 erify all concerns through submitti Monitoring Risk Aging	e Quantificati Total Expected Value Impact \$0.00 0.05 are addressed in al review and RRM and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy bere is a clear plan Status I	Updated 10/11/2021 and approach nterval Date MC Las
10% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low O.25 Chedule and LB	P Most Likely 0.50 C performance. V	Pha ost-Respons High 0.50 erify all concerns through submitti Monitoring Risk Aging	e Quantificati Total Expected Value Impact \$0.00 0.05 are addressed in al review and RRM and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy bere is a clear plan Status I	Updated 10/11/2021 and approach nterval Date MC Las Updated 10/11/2021 Risk
10% Cost (\$M) Schedule (Mo) Track submittal se Track Submittal se Risk Ov	Low O.25 Chedule and LB	P Most Likely 0.50 C performance. V	Pha ost-Respons High 0.50 erify all concerns through submitti Monitoring Risk Aging	e Quantificati Total Expected Value Impact \$0.00 0.05 are addressed in al review and RRM and Control From	on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan Status I	10/11/2021 and approach nterval Date MC Las Updated 10/11/2021



Project	1	ower Baker Da	m l		Risk ID	LBK LBKDSR	DES 900.01
		er Dam Seepag			Status	Acti	
				atform w and approval			
Risk Trigger				Flowchar	t Activity	10	0
Depende	ency & Correl	lation					
		P	re-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
20%					12	11	
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.75	1.00	2.00	0.23	12	11	
		The second of	Pha ost-Respons	se Quantificati			
Probability	s and design r		Ph	ase 1A.		meet permanent se Additional Cost to Respond	
Probability 20%		Po	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post Las Updated
Probability		Po	Pha ost-Respons	se Quantificati		Additional Cost	Date Post Las
Probability 20% Cost (\$M) Schedule (Mo) Clearly monifor Co	Low 0.75	Po Most Likely	Pha Dost-Response High 2.00 erformance. Inte flexibility to b	se Quantificati Total Expected Value Impact \$0.00 0.23 emal project level n mitigate impact.	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 ilize schedule
Probability 20% Cost (\$M) Schedule (Mo)	Low 0.75 ontractor's de ner	Most Likely 1.00	Pha Dost-Response High 2.00 erformance. Inte flexibility to b	ase 1A. Control Expected Value Impact \$0.00 0.23 armal project level n mitigate impact. g and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 ilize schedule
Probability 20% Cost (\$M) Schedule (Mo) Clearly monifor Co Risk Ow	Low 0.75 ontractor's de ner	Most Likely 1.00	Philosot-Response High 2.00 erformance. Inte flexibility to r Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.23 emal project level n mitigate impact.	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 ilize schedule
Probability 20% Cost (\$M) Schedule (Mo) Clearly monifor Co Risk Ow	Low 0.75 ontractor's de ner	Pc Most Likely	Philosot-Response High 2.00 erformance. Inte flexibility to r Monitoring Risk Aging	ase 1A. Control Expected Value Impact \$0.00 0.23 armal project level n mitigate impact. g and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 ilize schedule nterval Date MC Las Updated
Probability 20% Cost (\$M) Schedule (Mo) Clearly monifor Co Risk Ow	Low 0.75 ontractor's de ner	Pc Most Likely	Philosot-Response High 2.00 erformance. Inte flexibility to r Monitoring Risk Aging	ase 1A. Control Expected Value Impact \$0.00 0.23 armal project level n mitigate impact. g and Control From	on	Additional Cost to Respond Strategy ission to FERC. Ut Status I	Date Post Las Updated 10/11/2021 ilize schedule nterval Date MC Las Updated 10/11/2021
Probability 20% Cost (\$M) Schedule (Mo) Clearly monifor Co Risk Ow	Low 0.75 ontractor's de ner	Pc Most Likely	Philosot-Response High 2.00 erformance. Inte flexibility to r Monitoring Risk Aging	ase 1A. Control Expected Value Impact \$0.00 0.23 armal project level n mitigate impact. g and Control From	on	Additional Cost to Respond Strategy ission to FERC. Ut	Date Post Las Updated 10/11/2021 ilize schedule nterval Date MC Las Updated

ower Baker Dam Seepage Reduction Status Refired Grouting - Bedrock Schedule  Flowchart Activity  rcy & Correlation  Pre-Response Quantification Low Most Likely High Total Expected Program Rank Schedule Date Pr
Schedule Flowchart Activity Flowchart Activity Pre-Response Quantification Low Most Likely High Taxis I Program Rank Program Rank
Pre-Response Quantification Program Rank Program Rank Program Rank
Pre-Response Quantification
Low Moet Likoly High mark Program Rank Program Rank
Value Impact Upda
12 29
\$0.00 Project Rank Cost Schedule 10/11/
0.00 12 29
Low Most Likely High Total Expected Value Impact Additional Cost to Respond Upda
\$0.00 Strategy
0.00
Use established bid items and contract procedures  Monitoring and Control  er  Risk Aging To
Monitoring and Control
Monitoring and Control er Risk Aging To



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Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CTR 900.02
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Retii	red
		1		nstrumentation on responsibilit	Y		
Risk Trigger				Flowchar	t Activity		
Depend	lency & Correl	ation				1	
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
1211 11220-02	]				12 Project Rank	29 Project Rank	
Cost (\$M)				\$0.00	Cost	Schedule	
Schedule (Mo)				0.00	12	29	
		assignment of resp	onsibility for revi Ph	overed in Risk CRT ewing instrumentat ase 1A. Se Quantificati	ion data results in	confusion.	
Probability		assignment of resp	onsibility for revi Ph	ewing instrumentat ase 1A. Se Quantificati Total Expected	ion data results in		
	Undear :	assignment of resp	onsibility for revi Phi ost-Respons	ewing instrumentat ase 1A. Se Quantificati Total Expected Value Impact	ion data results in	Additional Cost to Respond	Date Post La Updated
Probability Cost (\$M) Schedule (Mo)	Undear :	assignment of resp	onsibility for revi Phi ost-Respons	ewing instrumentat ase 1A. Se Quantificati Total Expected	ion data results in	Confusion.	
Cost (\$M) Schedule (Mo)	Undear :	assignment of resp	onsibility for revi Phi ost-Respons High	ewing instrumentat ase 1A. Se Quantificati Total Expected Value Impact \$0.00 0.00 0.00	ion data results in	Additional Cost to Respond Strategy	Updated
Cost (\$M)	Undear :	assignment of resp	onsibility for revi Phi ost-Respons High	ewing instrumentat ase 1A. Se Quantificati Total Expected Value Impact \$0.00 0.00 g and Control From	ion data results in	Additional Cost to Respond	Updated
Cost (\$M) Schedule (Mo)	Undear :	assignment of resp	Monitoring Risk Aging	ewing instrumentat ase 1A. Se Quantificati Total Expected Value Impact \$0.00 0.00 0.00	ion data results in	Additional Cost to Respond Strategy	Updated
Cost (\$M) Schedule (Mo)	Undear :	Most Likely	Monitoring Risk Aging	ewing instrumentat ase 1A. Se Quantificati Total Expected Value Impact \$0.00 0.00 g and Control From	ion data results in	Additional Cost to Respond Strategy	Updated nterval
Cost (\$M) Schedule (Mo)	Undear :	Most Likely	Monitoring Risk Aging	ewing instrumentat ase 1A. Se Quantificati Total Expected Value Impact \$0.00 0.00 g and Control From	ion data results in	Additional Cost to Respond Strategy	



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSF	R DES 10.01
Sub-Project	Lower Bake	er Dam Seepag	e Reduction	İ	Status	Retin	red
		E		ertical Tiedowns ptions inaccura			
Risk Trigger	Initial CP	M and final pricing	submittal.	Flowchar	rt Activity		
Depend	lency & Correls	ition		Mutual	ly exclusive with Di	ES 10.02	
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Last Updated
5%	]			· · · · · · · · · · · · · · · · · · ·	12	29	opanica
Cost (\$M)	\$0.78	\$0.78	\$2.34	\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	1.00	1.00	3.00	0.00	12	29	
	n assumptions	are inaccurate, ad	Iditional design a Phi			to extended duratio	vn,
Desig Probability		are inaccurate, ad	lditional design a Phi	and approval may b ase 2A.	e needed, leading		n. Date Post Lass Updated
Probability	n assumptions	are inaccurate, ad	Iditional design a Phi	and approval may b ase 2A. <b>Se Quantificati</b> Total Expected	e needed, leading	Additional Cost to Respond	Date Post Las
	n assumptions	are inaccurate, ad	Iditional design a Phi	and approval may b ase 2A. Se Quantificati Total Expected Value Impact	e needed, leading	to extended duratio	Date Post Las
Probability Cost (\$M) Schedule (Mo)	n assumptions	P Most Likely	Iditional design a Phi ost-Respons High erify all concernent through submitt	se Quantificati Se Quantificati Total Expected Value Impact \$0.00 0.00	on on submittal. Ensure t	Additional Cost to Respond	Date Post Last Updated
Probability Cost (\$M) Schedule (Mo) Track submittal s	n assumptions	P Most Likely C performance. V	Iditional design a Phi ost-Respons High erify all concerns through submitt Monitoring Risk Aging	and approval may be ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00 s are addressed in al review and RRN g and Control	on on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Date Post Last Updated
Probability Cost (\$M) Schedule (Mo) Track submittal s	n assumptions	P Most Likely	Iditional design a Phi ost-Respons High erify all concerns through submitt Monitoring Risk Aging	and approval may be ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00 s are addressed in al review and RRM g and Control From	on on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Date Post Lass Updated
Probability Cost (\$M) Schedule (Mo) Track submittal s	n assumptions	P Most Likely C performance. V	Iditional design a Phi ost-Respons High erify all concerns through submitt Monitoring Risk Aging	and approval may be ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00 s are addressed in al review and RRM g and Control From	on on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Date Post Lass Updated
Probability Cost (\$M) Schedule (Mo) Track submittal s	n assumptions	P Most Likely C performance. V	Iditional design a Phi ost-Respons High erify all concerns through submitt Monitoring Risk Aging	and approval may be ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00 s are addressed in al review and RRM g and Control From	on on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Date Post Lass Updated
Probability Cost (\$M) Schedule (Mo) Track submittal s	n assumptions	P Most Likely C performance. V	Iditional design a Phi ost-Respons High erify all concerns through submitt Monitoring Risk Aging	and approval may be ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00 s are addressed in al review and RRM g and Control From	on on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Date Post Lass Updated



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Project	L	ower Baker Da	m	(	Risk ID	LBK LBKDSF	R DES 10.03
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Reti	red
				- Alignment tor design			
Risk Trigger				Flowcha	rt Activity		
Depend	lency & Correl	ation					
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Last Updated
No. of Manager Ma					12 Project Rank	29 Project Rank	
Cost (\$M)				\$0.00	Cost	Schedule	10/11/2021
Schedule (Mo)				0.00	12	29	
	actor design ma	ny not be flexible er	nough to accommon Pha ost-Respons	nodate irregularitie ase 2A. <b>se Quantificati</b>		Vertical and Horizor	
Contra Probability		iy not be flexible er	rough to accomr Pha	modate irregularitie ase 2A.	s in Dam surface. \		Date Post Lass Updated
	actor design ma	ny not be flexible er	nough to accommon Pha ost-Respons	nodate irregularitie ase 2A. <b>Se Quantificati</b> Total Expected	s in Dam surface. \	Vertical and Horizor	Date Post Las
Probability	actor design ma	ny not be flexible er	nough to accommon Pha ost-Respons	nodate irregularitie ase 2A. Se Quantificati Total Expected Value Impact	s in Dam surface. \	Vertical and Horizor Additional Cost to Respond	Date Post Last Updated
Probability Cost (\$M)	actor design ma	Most Likely	ost-Respons Ost-Respons High	nodate irregularitie ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00	on	Vertical and Horizor Additional Cost to Respond	Date Post Last Updated
Probability Cost (\$M)	Low	Most Likely	ost-Respons High	nodate irregularitie ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00	on	Vertical and Horizor Additional Cost to Respond	Date Post Last Updated
Probability Cost (\$M) Schedule (Mo)	Low	Most Likely	ost-Respons Ost-Respons High	nodate irregularitie ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00 n survey of Dam su g and Control	on	Additional Cost to Respond Strategy	Date Post Last Updated
Probability Cost (\$M) Schedule (Mo) Risk Ov	Low	Most Likely	ost-Response High ulire pre-erection Monitoring Risk Aging	nodate irregularitie ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00 n survey of Dam su g and Control From	on	Additional Cost to Respond Strategy	Date Post Lass Updated 10/11/2021 nterval
Probability Cost (\$M) Schedule (Mo) Risk Ov	Low	Most Likely Rec	ost-Response High ulire pre-erection Monitoring Risk Aging	nodate irregularitie ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00 n survey of Dam su g and Control From	on	Additional Cost to Respond Strategy	Date Post Lass Updated 10/11/2021 nterval Date MC Lass Updated
Probability Cost (\$M) Schedule (Mo) Risk Ov	Low	Most Likely Rec	ost-Response High ulire pre-erection Monitoring Risk Aging	nodate irregularitie ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00 n survey of Dam su g and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las
Probability Cost (\$M) Schedule (Mo) Risk Ov	Low	Most Likely Rec	ost-Respons High uire pre-erection Monitoring Risk Aging	nodate irregularitie ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00 n survey of Dam su g and Control From	on	Additional Cost to Respond Strategy	Date Post Lass Updated 10/11/2021 nterval Date MC Lass Updated



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Project	1	ower Baker Da	m	1	Risk ID	LBKLBKDSR	DES 900.02
Sub-Project	Lower Bak	er Dam Seepag	e Reduction	Ì	Status	Reti	red
		FERC rev		n - General proval - platform	(general)		
Risk Trigger				Flowcha	rt Activity		
Depend	dency & Correl						
		P	re-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Last Updated
Cost (\$M)				\$0.00	12 Project Rank	29 Project Rank	11/15/2021
Schedule (Mo)	1			0.00	<u>Cost</u> 12	Schedule 29	
			<u>.</u>	L	1		M
		P	ost-Respon	risk is covered in se Quantificati		Additional Cost	
Probability	Low					Additional Cost to Respond	Date Post Last Updated
Probability Cost (\$M)	Low	P	ost-Respon	se Quantificati			
		P	ost-Respon	se Quantificati Total Expected Value Impact		to Respond	
Cost (\$M)		Per Most Likely	High High	Se Quantificati		to Respond	
Cost (\$M)		Per Most Likely	High High and detailed de	Se Quantificati Total Expected Value Impact \$0.00 0.00	on   	to Respond	Updated
Cost (\$M) Schedule (Mo)		Per Most Likely	High High	Se Quantificati	on   	to Respond Strategy	Updated
Cost (\$M) Schedule (Mo)		Per Most Likely	High High and detailed de Monitoring Risk Aging	Se Quantificati	on   	to Respond Strategy	Updated
Cost (\$M) Schedule (Mo)		Per Most Likely	High High and detailed de Monitoring Risk Aging	Se Quantificati	on   	to Respond Strategy	Updated
Cost (\$M) Schedule (Mo)		Per Most Likely	High High and detailed de Monitoring Risk Aging	Se Quantificati	on   	toRespond Strategy Strategy Status I	Updated Interval Date MC Last Updated
Cost (\$M) Schedule (Mo)		Per Most Likely	High High and detailed de Monitoring Risk Aging	Se Quantificati	on   	toRespond Strategy Strategy Status I	Updated nterval Date MC Last

AUGET SOUND ENERGY

Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.30
Sub-Project	Lower Bake	er Dam Seepag	e Reduction	Ì	Status	Acti	ive
			Bitume	n Grouting			
Risk Trigger				Flowcha	rt Activity	22	0
Depend	ency & Correla	ition					
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Last Updated
30% Cost (\$M)	\$1.50	\$2.50	\$3.50	\$0.75	Project Rank Cost	Project Rank Schedule	11/15/2021
Schedule (Mo)	1.00	1.50	2.00	0.45			
			Ph	g - optional item to ase 2B <b>se Quantificati</b>			
Probability	Low		Ph	ase 2B se Quantificati		Additional Cost to Respond	Date Post Last Updated
30%		P4 Most Likely	Ph ost-Respons High	se Quantificati Total Expected Value Impact		to Respond	Updated
	<b>Low</b> \$1.50 1.00	P	Ph ost-Respons	ase 2B se Quantificati			
30% Cost (\$M)	\$1.50	P4 Most Likely \$2.50	Ph ost-Respons High \$3,50 2.00	se Quantificati Total Expected Value Impact \$0.75		to Respond	Updated
30% Cost (\$M)	\$1.50 1.00	P4 Most Likely \$2.50	Ph ost-Respons High \$3.50 2.00	se Quantificati Total Expected Value Impact \$0.75 0.45		to Respond	Updated
30% Cost (\$M) Schedule (Mo)	\$1.50 1.00	P Most Likely \$2:50 1.50	Ph ost-Response High \$3.50 2.00 Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.75 0.45 g and Control		toRespond Strategy	Updated
30% Cost (\$M) Schedule (Mo) Risk Ow	\$1.50 1.00	P4 Most Likely \$2.50	Ph ost-Response High \$3.50 2.00 Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.75 0.45 g and Control From		toRespond Strategy Strategy Status I	Updated 11/15/2021 nterval
30% Cost (\$M) Schedule (Mo) Risk Ow	\$1.50 1.00	P Most Likely \$2:50 1.50	Ph ost-Response High \$3.50 2.00 Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.75 0.45 g and Control From		toRespond Strategy Strategy Status I	Updated 11/15/2021 nterval Date MC Last Updated
30% Cost (\$M) Schedule (Mo) Risk Ow	\$1.50 1.00	P Most Likely \$2:50 1.50	Ph ost-Response High \$3.50 2.00 Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.75 0.45 g and Control From		toRespond Strategy Strategy Status I	Updated 11/15/2021 nterval Date MC Last

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