EXH. RPB-7 DOCKETS UE-22\_/UG-22\_ 2022 PSE GENERAL RATE CASE WITNESS: RYAN P. BLOOD

#### BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

Docket UE-22\_\_\_\_ Docket UG-22

SIXTH EXHIBIT (NONCONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY OF

**RYAN P. BLOOD** 

**ON BEHALF OF PUGET SOUND ENERGY** 

**JANUARY 31, 2022** 

Exh. RPB-7 Page 1 of 65

### **Puget Sound Energy**

# Lower Baker Dam Seepage Reduction Project

### **Cost and Schedule Risk Analysis**

**Technical Memorandum** 

Prepared for:



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Prepared By:



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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
  - Shall consist of offsite work
  - May include onsite work such as surveying, developing the required site and instrumentation as-builts, and installing project instrumentation
  - o Notice to Proceed will be issued following award of the contract
- Phase 1B
  - 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
  - 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
  - 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

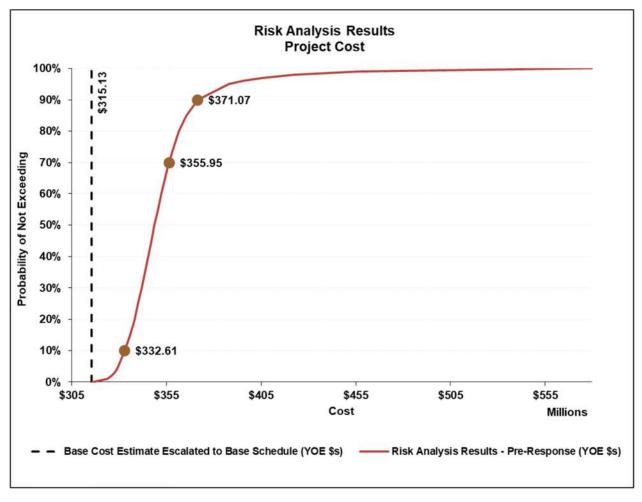


PSE. The range of impacts defines the representative distribution to be used when modeling the risk. The probability determines the relative frequency (or likelihood) of an event transpiring.

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 "S-curve" 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).

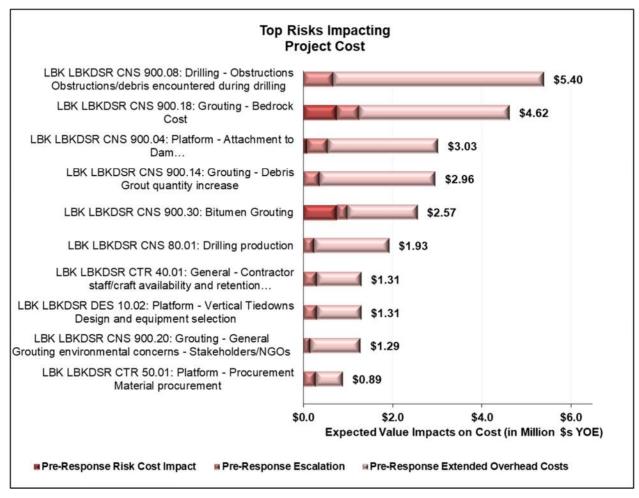


Figure 2: Top Cost Risks

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.

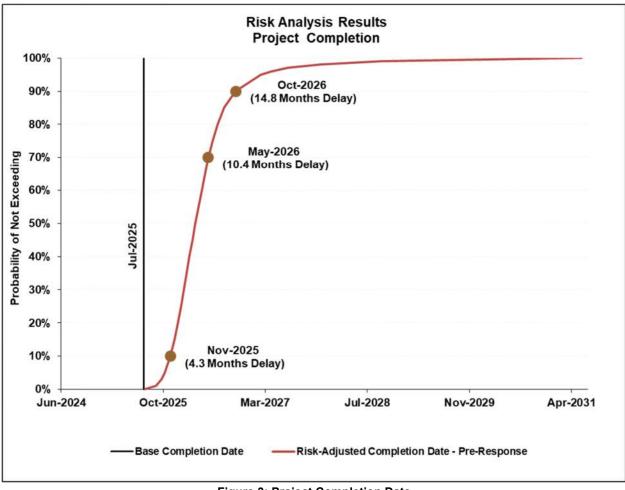


Figure 3: Project Completion Date

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.



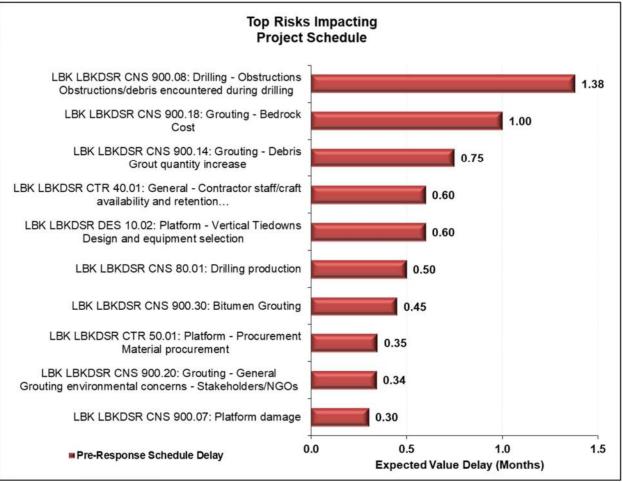


Figure 4: Top Schedule Risks

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	l			
A	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	Total Cost	Bid Scope
	\$ 10,270,000.00	insurance
	\$ 1,507,000.00	bonds
ph1 A	\$ 3,520,000.00	mob
	\$ 1,320,000.00	oh
	\$ 7,480,000.00	mob
	\$ 3,500,000.00	oh
ph1 B	\$ 1,250,000.00	survey
	\$ 4,515,000.00	access, env controls, signage
HDR	\$ 997,674.42	
s&w	\$ 200,000.00	
PSE Staff	\$ 140,000.00	
PSE OH	\$ 4,164,000.00	
Sub-total	\$ 38,863,674.42	
Contractor OH (ph1 A)	\$ 110,000.00	weekly (12 week duration)
Contractor OH (ph1 B)	\$ 175,000.00	weekly (20 week duration)



Description	Total Cost	Bid Scope
	\$ 22,280,000.00	mob
	\$ 13,200,000.00	oh
	\$ 2,500,000.00	seepage seal
	\$ 2,525,000.00	tunnel plug
	\$ 1,050,000.00	demolition
ph2 A	\$ 1,210,000.00	woody debris
	\$ 24,800,000.00	work platform
	\$ 17,151,000.00	guide pipes
	\$ 3,000,000.00	access pad
	\$ 19 <mark>,400,000.0</mark> 0	reservoir access
	\$ 27,600,000.00	oh
	\$ 46,675,375.00	drilling and grouting (35 line items)
ph2 B	\$ 1,600,000.00	grouting env controls mob
	\$ 10,295,000.00	wastewater treatment
	\$ 5,290,000.00	automated grouting controls
	\$ 3,080,000.00	oh
ah <mark>a</mark> C	\$ 6,200,000.00	platform removal
ph2 C	\$ 600,000.00	demob reservoir
	\$ 3,700,000.00	demob general
HDR	\$ 12,000,000.00	
S&W	\$ 16,200,000.00	
PSE Staff	\$ 1,675,000.00	
PSE OH	\$ 29,044,000.00	
Sub-total	\$ 271,075,375.00	



Contractor OH (ph2 A)	\$ 220,000.00	weekly (60 week duration)
Contractor OH (ph2 B)	\$ 400,000.00	weekly (69 week duration)
Contractor OH (ph2 C)	\$ 140,000.00	weekly (22 week duration)

Description	Total Cost	Bid Scope
-1-2	\$ 945,000.00	oh
ph3	\$ 499,970.00	vegetation
HDR	\$ 1,330,200.00	
S&W	\$ 21	
PSE Staff	\$ 186,000.00	
PSE OH	\$ 356,000.00	
Sub-total	\$ 3,317,170.00	

Contractor OH (ph3) \$

105,000.00 weekly (9 week duration)



## 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	m		Risk ID	LBK LBKDSR	CNS 50.01
	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	/e
		,		achment to Dar ete quality	n		
Risk Trigger	Contracto	or identification of o	deviations.	Flowchar	rt Activity	21	2
Depende	ency & Correla	ition	,	Delay is co	oncurrent with Risk	CNS 900.05	
		F	Pre-Response	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
10%				value impact	9	29	opuateu
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	
Concrete qu	ality different ti		Pha	hors required, beth ase 2A. se Quantificati		or divers extending o	luration.
Probability	ality different th		Pha	ase 2A.		Additional Cost	
Probability 10%	Low	P Most Likely	ost-Respons	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)	Low \$0.39	P Most Likely	Ost-Respons High \$0.78	se Quantificati Total Expected Value Impact \$0.06		Additional Cost to Respond	Date Post Las Updated 10/11/2021
Probability 10% Cost (\$M) Schedule (Mo)	Low \$0.39	P Most Likely	ost-Respons High \$0.78	se Quantificati Total Expected Value Impact \$0.06 0.00 g and Control		Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
Probability 10% Cost (\$M) Schedule (Mo)	Low \$0.39	P Most Likely	Monitoring Risk Aging	se Quantificati 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)	Low \$0.39	P Most Likely \$0.59	Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.06 0.00 g and Control From		Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
Probability 10% Cost (\$M) Schedule (Mo)	Low \$0.39	P Most Likely \$0.59	Monitoring Risk Aging	se Quantificati 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)	Low \$0.39	P Most Likely \$0.59	Monitoring Risk Aging	se Quantificati 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	Γ L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 50.02
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				achment to Dar ace irregularitie			
Risk Trigger	Contracto	or identification of c	deviations.	Flowcha	rt Activity	21	0
Depend	lency & Correla	ition					
		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
40%	]			value impact	7	14	Opuateu
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		Pha	eld fitting/shimming ase 2A. se Quantificati	) leading to extende		
Probability	Concrete s		Pha	ase 2A.		ed duration. Additional Cost to Respond	Date Post La Updated
40%	Low	Pe Most Likely	Phi ost-Respons High	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
		P	Pha ost-Respons	se Quantificati		Additional Cost	Updated
40% Cost (\$M) Schedule (Mo)	Low \$0.20 0.25	Provide the second seco	Pha ost-Response High \$0.39 0.50 erify all concerns through submitt	s are addressed in al review and RRM	on submittal. Ensure t	Additional Cost to Respond	Updated 10/11/2021
40% Cost (\$M) Schedule (Mo) Track submittal s	Low \$0,20 0,25 chedule and LE	Provide the second seco	Pha ost-Response High \$0.39 0.50 erify all concerns through submitt	se Quantificati Total Expected Value Impact \$0.14 0.18 a are addressed in al review and RRW g and Control	on submittal. Ensure t	Additional Cost to Respond Strategy	10/11/2021 and approach
40% Cost (\$M) Schedule (Mo)	Low \$0.20 0.25 chedule and LE	Provide the second seco	Pha ost-Response High \$0.39 0.50 erify all concerns through submitt	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 s Track Submittal s Risk Ov	Low \$0.20 0.25 chedule and LE	Per Most Likely \$0,39 0.50 C performance. Ver	Philost-Response High \$0.39 0.50 erify all concerns through submitt Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.14 0.18 a are addressed in al review and RRW 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 s Track Submittal s Risk Ov	Low \$0.20 0.25 chedule and LE	Provide the second seco	Philost-Response High \$0.39 0.50 erify all concerns through submitt Monitoring Risk Aging	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
40% Cost (\$M) Schedule (Mo) Track submittal s Track Submittal s Risk Ov	Low \$0.20 0.25 chedule and LE	Per Most Likely \$0,39 0.50 C performance. Ver	Philost-Response High \$0.39 0.50 erify all concerns through submitt Monitoring Risk Aging	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 La
40% Cost (\$M) Schedule (Mo) Track submittal s Track Submittal s Risk Ov	Low \$0.20 0.25 chedule and LE	Per Most Likely \$0,39 0.50 C performance. Ver	Philost-Response High \$0.39 0.50 erify all concerns through submitt Monitoring Risk Aging	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 La Updated



LBK LBKDSF	Risk ID		m	ower Baker Da.	L	Project
Acti	Status	j i		er Dam Seepag		
	n	iide Pipe System ctor quality		F		
21	t Activity	Flowchar				Risk Trigger
		]		ation	ency & Correl	Depende
	on	e Quantificatio	re-Respons	P		
k Program Rank Schedule	Program Rank Cost	Total Expected	High	Most Likely	Low	Probability
10	12	Value Impact				25%
Project Rank Schedule	Project Rank Cost	\$0.00				Cost (\$M)
10	12	0.25	1.50	1.00	0.50	Schedule (Mo)
de pipes. Could affect Idditional grout holes.	it ability to add adc		and performar Ph	e curtain installation		qua
	it ability to add adc	ice, Design may limi ase 2A.	and performar Ph	curtain installation		qua Probability
Additional grout holes.	it ability to add adc	ice, Design may limi ase 2A. Se Quantification Total Expected Value Impact	and performar Ph Dist-Respon	e curtain installation	lity of seepage	qua Probability 25%
Additional grout holes.	it ability to add adc	ice. Design may limi ase 2A. se Quantificatio Total Expected	and performar Ph Dist-Respon	e curtain installation	lity of seepage	qua Probability
Additional grout holes. Additional Cost to Respond Strategy ment.	on	ice, Design may limit ase 2A. Se Quantification Total Expected Value Impact \$0.00 0.25 dress deviations in a g and Control	and performar Ph Dost-Respon High 1.50	Most Likely	Low 0.50	qua
Additional grout holes. Additional Cost to Respond Strategy	on	ice, Design may limit ase 2A. Se Quantification Total Expected Value Impact \$0.00 0.25 dress deviations in a g and Control From	and performar Ph Dost-Respon High 1.50	Most Likely	Low 0.50 Cc	qua Probability 25% Cost (\$M) Schedule (Mo) Risk Ow
Additional grout holes. Additional Cost to Respond Strategy ment.	on	ice, Design may limit ase 2A. Se Quantification Total Expected Value Impact \$0.00 0.25 dress deviations in a g and Control	and performar Ph Dost-Respon High 1.50 rout holes to ad Monitorin Risk Aging	Most Likely	Low 0.50 Cc	qua
Additional grout holes. Additional Cost to Respond Strategy ment.	on	ice, Design may limit ase 2A. Se Quantification Total Expected Value Impact \$0.00 0.25 dress deviations in a g and Control From	and performar Ph Dost-Respon High 1.50 rout holes to ad Monitorin Risk Aging	Most Likely	Low 0.50 Cc	qua Probability 25% Cost (\$M) Schedule (Mo) Risk Ow
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Project	L	ower Baker Da	m	1	Risk ID	LBK LBKDSR	CNS 50.04
Sub-Project		er Dam Seepag	5.55		Status	Acti	
			Pensto	ck damage			
Risk Trigger	Post gro	uting survey inside	penstock	Flowchar	rt Activity	21	D
Depend	ency & Correla	ition		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
5%				· une mpaer	11	28	opunter
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	
		P	age. Cost/delay show stopper (ye Pha ost-Respons	nel Plug ris associated with ears to fix, if occurs ase 2A. se Quantificati	s).		vise this risk is
New plug pushes ol Probability	d plug into pens		age. Cost/delay show stopper (ye Phi	r is associated with ears to fix, if occurs ase 2A.	s).	s to assess - otherv Additional Cost to Respond	
Probability 5%	Low	P. Most Likely	age. Cost/delay show stopper (yr Phi ost-Respons High	r is associated with ears to fix, if occurs ase 2A. Se Quantificati Total Expected Value Impact	s).	Additional Cost to Respond	Date Post La Updated
Probability		P	age. Cost/delay show stopper (ye Pha ost-Respons	r is associated with ears to fix, if occurs ase 2A. se Quantificati Total Expected	s).	Additional Cost	Date Post La
Probability 5% Cost (\$M)	Low \$0.40	Pr Most Likely \$0.40 0.25	age. Cost/delay show stopper (ye Phi ost-Respons High \$0.40 0.25	r is associated with ears to fix, if occurs ase 2A. <b>Se Quantificati</b> Total Expected Value Impact \$0.02 0.01 Control grout press	on	Additional Cost to Respond	Date Post La: Updated
Probability 5% Cost (\$M) Schedule (Mo)	Low \$0.40 0.25	Pr Most Likely \$0.40 0.25	age. Cost/delay show stopper (ye Phi ost-Respons High \$0.40 0.25	r is associated with ears to fix, if occurs ase 2A. Se Quantificati Total Expected Value Impact \$0.02 0.01 Control grout press g and Control	on	Additional Cost to Respond Strategy	Date Post Las Updated
Probability 5% Cost (\$M)	Low \$0.40 0.25	Pr Most Likely \$0.40 0.25	age. Cost/delay show stopper (ye Phi ost-Respons High \$0.40 0.25	r is associated with ears to fix, if occurs ase 2A. <b>Se Quantificati</b> Total Expected Value Impact \$0.02 0.01 Control grout press	on	Additional Cost to Respond	Date Post La Updated 10/11/2021
Probability 5% Cost (\$M) Schedule (Mo) Risk Ow	Low \$0.40 0.25	Pr Most Likely \$0.40 0.25	age. Cost/delay show stopper (ye Phi ost-Respons High \$0.40 0.25 ti into contract - Monitoring Risk Aging	r is associated with ears to fix, if occurs ase 2A. <b>Se Quantificati</b> Total Expected Value Impact \$0.02 0.01 Control grout press g and Control From	on	Additional Cost to Respond Strategy	Date Post La Updated 10/11/2021
Probability 5% Cost (\$M) Schedule (Mo) Risk Ow	Low \$0.40 0.25	Pr Most Likely \$0.40 0.25 Buil	age. Cost/delay show stopper (ye Phi ost-Respons High \$0.40 0.25 ti into contract - Monitoring Risk Aging	r is associated with ears to fix, if occurs ase 2A. <b>Se Quantificati</b> Total Expected Value Impact \$0.02 0.01 Control grout press g and Control From	on	Additional Cost to Respond Strategy	Date Post La: Updated
Probability 5% Cost (\$M) Schedule (Mo) Risk Ow	Low \$0.40 0.25	Pr Most Likely \$0.40 0.25 Buil	age. Cost/delay show stopper (ye Phi ost-Respons High \$0.40 0.25 ti into contract - Monitoring Risk Aging	r is associated with ears to fix, if occurs ase 2A. <b>Se Quantificati</b> Total Expected Value Impact \$0.02 0.01 Control grout press g and Control From	on	Additional Cost to Respond Strategy	Date Post La: Updated 10/11/2021 nterval Date MC La:
Probability 5% Cost (\$M) Schedule (Mo) Risk Ow	Low \$0.40 0.25	Pr Most Likely \$0.40 0.25 Buil	age. Cost/delay show stopper (ye Phi ost-Respons High \$0.40 0.25 ti into contract - Monitoring Risk Aging	r is associated with ears to fix, if occurs ase 2A. <b>Se Quantificati</b> Total Expected Value Impact \$0.02 0.01 Control grout press g and Control From	on	Additional Cost to Respond Strategy	Date Post La Updated 10/11/2021 nterval Date MC Las Updated



Project	T t	ower Baker Da	m ]		Risk ID	LBK LBKDSR	CNS 80.01
Sub-Project		er Dam Seepag			Status	Acti	
			Drilling	production			
Risk Trigger				Flowchar	rt Activity	22	D
Depend	iency & Correl	ation					
		P	re-Response	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
25%	]				3	6	
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	
			onnel, not approp Pha Dist-Respons	ise 2B. Se Quantificati			
Probability	Equip		onnel, not approp Pha	priate to maintain p ise 2B.		Additional Cost to Respond	Date Post La Updated
25%		Po	onnel, not approp Pha Dist-Respons	priate to maintain p rise 2B. Se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
		Po	onnel, not approp Pha Dist-Respons	priate to maintain p ise 2B. <b>Se Quantificati</b> Total Expected		Additional Cost	Updated
25% Cost (\$M) Schedule (Mo)	Low	Per Most Likely	nnel, not approj Pha Dost-Respons High 3.00	Priate to maintain prise 2B. Protected Value Impact \$0.00 0.50 Production rates very and Control	on	Additional Cost to Respond Strategy	Updated 11/16/2021
25% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 1.00 vner	Per Most Likely	nnel, not approj Pha Dost-Respons High 3.00	priate to maintain p rise 2B. Control Expected Value Impact \$0.00 0.50 production rates very and Control From	on	Additional Cost to Respond	Updated 11/16/2021
25% Cost (\$M) Schedule (Mo)	Low 1.00 vner	Po Most Likely 2.00 Verify and	Annel, not approp Pha Dost-Respons High 3.00 track assumed p Monitoring Risk Aging	Priate to maintain prise 2B. Protected Value Impact \$0.00 0.50 Production rates very and Control	on	Additional Cost to Respond Strategy	Updated 11/16/2021
25% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 1.00 vner	Per Most Likely	Annel, not approp Pha Dost-Respons High 3.00 track assumed p Monitoring Risk Aging	priate to maintain p rise 2B. Control Expected Value Impact \$0.00 0.50 production rates very and Control From	on	Additional Cost to Respond Strategy	Updated 11/16/2021 nterval Date MC La Updated
25% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 1.00 vner	Po Most Likely 2.00 Verify and	Annel, not approp Pha Dost-Respons High 3.00 track assumed p Monitoring Risk Aging	priate to maintain p rise 2B. Control Expected Value Impact \$0.00 0.50 production rates very and Control From	on	Additional Cost to Respond Strategy	11/16/2021 nterval Date MC Las



Project	T I	ower Baker Da	im l		Risk ID	LBK LBKDSR	CNS 90 01
Sub-Project		er Dam Seepag	15 T.C.		Status	Activ	
			Construct	tion accident			
Risk Trigger				Flowcha	rt Activity	220	D
Depend	lency & 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 Las Updated
5%	]	-			12 Project Rank	25 Project Rank	
Cost (\$M)				\$0.00	Cost	Schedule	
Schedule (Mo)	0.25	0.50	1.00	0.03	12	25	
		P	ork stoppage or Pha ost-Respons	ase 2B. <b>Se Quantificati</b>	or recordable incide	nt).	
Probability	Low		ork stoppage or Pha	delay (near-miss c ase 2B.			Date Post La Updated
5%		P	ork stoppage or Pha ost-Respons	delay (near-miss c ase 2B. <b>Se Quantificati</b> Total Expected Value Impact		Additional Cost to Respond	Updated
		P	ork stoppage or Pha ost-Respons	delay (near-miss c ase 2B. <b>Se Quantificati</b> Total Expected		Additional Cost	
5% Cost (\$M) Schedule (Mo)	Low 	P Most Likely 0.50 nd site safety train	ork stoppage or Pha ost-Respons High 1.00 ing program to b ent and work are	delay (near-miss c ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.03 e implemented pri	on	Additional Cost to Respond Strategy	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo)	Low D.25 De developed a Layo	P Most Likely 0.50 nd site safety train	ork stoppage or Pha ost-Respons High 1.00 ing program to b ent and work are Monitoring	delay (near-miss c ase 28. <b>Se Quantificati</b> Total Expected Value Impact \$0.00 0.03 e implemented pri- as to remove and	on or to work being co	Additional Cost to Respond Strategy	Updated 10/11/2021 afety meetings
5% Cost (\$M) Schedule (Mo) Site safety plan to	Low  Comparison  Low  Low  Layo  Lay	P Most Likely 0.50 0.50	ork stoppage or Pha ost-Respons High 1.00 ing program to b ent and work are Monitoring Risk Aging	delay (near-miss c ase 2B. Control Expected Value Impact \$0.00 0.03 de implemented pri- as to remove and and and Control	on or to work being co	Additional Cost to Respond Strategy ducted. Regular s zards.	Updated 10/11/2021 afety meetings
5% Cost (\$M) Schedule (Mo) Site safety plan to Risk Ov	Low  Control  Low  Low  Low  Layo  Layo  Vner	P Most Likely 0.50 nd site safety train	ork stoppage or Pha ost-Respons High 1.00 ing program to b ent and work are Monitoring Risk Aging	delay (near-miss c ase 2B. Control Expected Value Impact \$0.00 0.03 Description of the second of the second of the second of the second of the second of the seco	on or to work being co	Additional Cost to Respond Strategy ducted. Regular s zards.	Updated 10/11/2021 afety meetings
5% Cost (\$M) Schedule (Mo) Site safety plan to Risk Ov	Low  Control  Low  Low  Low  Layo  Layo  Vner	P Most Likely 0.50 0.50	ork stoppage or Pha ost-Respons High 1.00 ing program to b ent and work are Monitoring Risk Aging	delay (near-miss c ase 2B. Control Expected Value Impact \$0.00 0.03 Description of the second of the second of the second of the second of the second of the seco	on or to work being co	Additional Cost to Respond Strategy ducted. Regular s zards.	Updated 10/11/2021 afety meetings nterval Date MC Las Updated
5% Cost (\$M) Schedule (Mo) Site safety plan to Risk Ov	Low  Control  Low  Low  Low  Layo  Layo  Vner	P Most Likely 0.50 0.50	ork stoppage or Pha ost-Respons High 1.00 ing program to b ent and work are Monitoring Risk Aging	delay (near-miss c ase 2B. Control Expected Value Impact \$0.00 0.03 Description of the second of the second of the second of the second of the second of the seco	on or to work being co	Additional Cost to Respond Strategy nducted. Regular s zards.	Updated 10/11/2021 afety meetings nterval Date MC Las Updated 10/11/2021
5% Cost (\$M) Schedule (Mo) Site safety plan to Risk Ov	Low  Control  Low  Low  Low  Layo  Layo  Vner	P Most Likely 0.50 0.50	ork stoppage or Pha ost-Respons High 1.00 ing program to b ent and work are Monitoring Risk Aging	delay (near-miss c ase 2B. Control Expected Value Impact \$0.00 0.03 Description of the second of the second of the second of the second of the second of the seco	on or to work being co	Additional Cost to Respond Strategy nducted. Regular s zards.	afety meetings nterval Date MC Las Updated



Project	L	ower Baker Da	ım		Risk ID	LBK LBKDSR	CNS 900.01
Sub-Project	Lower Bake	er Dam Seepag	ge Reduction		Status	Acti	ve
		Non-		Right Abutment face/poor rock o	quality		
Risk Trigger				Flowchar	rt Activity	21	D
Depende	ency & Correla	tion		Mutuali	y exclusive with CN	IS 900.02	
		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
20%				value impact	8	17	Opdated
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	
And	choring of form		Pha	n due to non-unifor ase 2A. se Quantificati	rm rock face and/or <b>on</b>		
Probability	Low		Pha	ase 2A.		poor rock quality. Additional Cost to Respond	Date Post Las Updated
Probability 20%	Low	P Most Likely	Pha ost-Respons High	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
Probability		P	Pha ost-Respons	se Quantificati		Additional Cost	
Probability 20% Cost (\$M) Schedule (Mo)	Low \$0.39 0.50	P Most Likely \$0.59 0.75	Pha ost-Respons High \$0.78 1.00 erify all concerns through submitt	se Quantificati Total Expected Value Impact \$0.12 0.15	on       submittal. Ensure t	Additional Cost to Respond	Updated 10/11/2021
Probability 20% Cost (\$M) Schedule (Mo)	Low \$0.39 0.50	P Most Likely \$0.59 0.75	ost-Respons High \$0.78 1.00 erify all concerns through submitt	se Quantificati Total Expected Value Impact \$0.12 0.15 s are addressed in al review and RRM	on       submittal. Ensure t	Additional Cost to Respond Strategy	10/11/2021 and approach
Probability 20% Cost (\$M) Schedule (Mo) Track submittal scl	Low \$0,39 0.50 hedule and LB	P Most Likely \$0.59 0.75 C performance. V	Pha ost-Respons High \$0.78 1.00 erify all concerns through submitt Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.12 0.15 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
Probability 20% Cost (\$M) Schedule (Mo) Track submittal scl	Low \$0,39 0.50 hedule and LB	P Most Likely \$0.59 0.75	Pha ost-Respons High \$0.78 1.00 erify all concerns through submitt Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.12 0.15 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
Probability 20% Cost (\$M) Schedule (Mo) Track submittal scl	Low \$0,39 0.50 hedule and LB	P Most Likely \$0.59 0.75 C performance. V	Pha ost-Respons High \$0.78 1.00 erify all concerns through submitt Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.12 0.15 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	Updated 10/11/2021 and approach nterval Date MC Las Updated
Probability 20% Cost (\$M) Schedule (Mo) Track submittal scl	Low \$0,39 0.50 hedule and LB	P Most Likely \$0.59 0.75 C performance. V	Pha ost-Respons High \$0.78 1.00 erify all concerns through submitt Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.12 0.15 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	Updated 10/11/2021 and approach nterval Date MC Las



Project	L	ower Baker Da	m	1	Risk ID	LBK LBKDSR	CNS 900.02
	Lower Bak	er Dam Seepag	e Reduction		Status	Acti	ve
				Right Abutment rk installation			
Risk Trigger				Flowcha	rt Activity	21	0
Depend	ency & Correl	ation		Mutual	y exclusive with CN	IS 900.01	
		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
15%				Tanac Impact	12	21	opulleu
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	
		placing concrete du	ie to location or Phi		on due to concrete		erdam.
Probability		placing concrete du	ie to location or Phi	stopping of operati ase 2A.	on due to concrete		
Probability 15%	Delay in	placing concrete du	e to location or Pha Dist-Respons	stopping of operations of a see 2A.	on due to concrete	Additional Cost to Respond	Date Post La Updated
Probability	Delay in	placing concrete du	e to location or Pha Dist-Respons	stopping of operations of a see 2A.	on due to concrete	e leak/spill.	Date Post La Updated
Probability 15% Cost (\$M) Schedule (Mo)	Low 0.25 N	Most Likely	e to location or Phi ost-Respons High 0.50 I on contractor a erify all concerns ncorporate risk	stopping of operations of oper	on due to concrete on on on on operly categorize n submittal. Ensure t	Additional Cost to Respond Strategy isk.	Date Post La Updated 10/11/2021
Probability 15% Cost (\$M) Schedule (Mo) Track submittal sc three	Delay in Low 0.25 N thedule and Lt ough submitta	Placing concrete du Placin	e to location or Phi ost-Respons High 0.50 I on contractor a erify all concerns ncorporate risk	stopping of operations are 2A.	on due to concrete on on on on operly categorize n submittal. Ensure t	Additional Cost to Respond Strategy isk. here is a clear plan elopment/flexibility.	Date Post La Updated 10/11/2021 and approach
Probability 15% Cost (\$M) Schedule (Mo)	Delay in Low 0.25 N chedule and LE ough submitta	Placing concrete du Placin	e to location or Phi ost-Respons High 0.50 I on contractor a erify all concerns ncorporate risk	stopping of operations of oper	on due to concrete on on on on operly categorize n submittal. Ensure t	Additional Cost to Respond Strategy isk.	Date Post La Updated 10/11/2021 and approach
Probability 15% Cost (\$M) Schedule (Mo) Track submittal so three Risk Ow	Delay in Low 0.25 N chedule and LE ough submitta	Placing concrete du Placin	e to location or Phi ost-Respons High 0.50 I on contractor a crify all concerns incorporate risk Monitoring Risk Aging	stopping of operations are 2A.	on due to concrete on on on on operly categorize n submittal. Ensure t	Additional Cost to Respond Strategy isk. here is a clear plan elopment/flexibility.	Date Post La Updated 10/11/2021 and approach
Probability 15% Cost (\$M) Schedule (Mo) Track submittal so three Risk Ow	Delay in Low 0.25 N chedule and LE ough submitta	Placing concrete du Placin	e to location or Phi ost-Respons High 0.50 I on contractor a crify all concerns incorporate risk Monitoring Risk Aging	stopping of operations are 2A.	on due to concrete on on on on operly categorize n submittal. Ensure t	Additional Cost to Respond Strategy isk. here is a clear plan elopment/flexibility.	Date Post La Updated 10/11/2021 and approach nterval Date MC La Updated
Probability 15% Cost (\$M) Schedule (Mo) Track submittal so three Risk Ow	Delay in Low 0.25 N chedule and LE ough submitta	Placing concrete du Placin	e to location or Phi ost-Respons High 0.50 I on contractor a crify all concerns incorporate risk Monitoring Risk Aging	stopping of operations are 2A.	on due to concrete on on on on operly categorize n submittal. Ensure t	Additional Cost to Respond Strategy isk. here is a clear plan elopment/flexibility.	Date Post La Updated 10/11/2021 and approach nterval Date MC La Updated
Probability 15% Cost (\$M) Schedule (Mo) Track submittal so three Risk Ow	Delay in Low 0.25 N chedule and LE ough submitta	Placing concrete du Placin	e to location or Phi ost-Respons High 0.50 I on contractor a crify all concerns incorporate risk Monitoring Risk Aging	stopping of operations are 2A.	on due to concrete on on on on operly categorize n submittal. Ensure t	Additional Cost to Respond Strategy isk. here is a clear plan elopment/flexibility.	Date Post La Updated 10/11/2021 and approach nterval Date MC La



Project	1	ower Baker Da	im 🛛		Risk ID	LBK LBKDSR	CNS 900.03
Sub-Project		er Dam Seepag	6.42		Status	Acti	
				ntake Structure power house	No.00		
Risk Trigger				Flowcha	rt Activity	21	0
Depend	ency & Correl	ation		<u></u>			
			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%				Tanac Impact	12	25	opuicu
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	
Schedule (Mo)	0.25	0.50	1.00	0.03	12	25	
	Construct		Pha	uce debris into pow ase 2A. se Quantificati	on		
Probability	Construct		Pha	se Quantificati		in damage. Additional Cost to Respond	1.1.1.1.1.1.1.4.4.4.1.7.1.1.1.1.1.1.1.1.
5%		P	Pha ost-Respons	ase 2A. se Quantificati		Additional Cost	Date Post La Updated
5% Cost (\$M)		P	Pha ost-Respons	se Quantificati		Additional Cost	Updated
5% Cost (\$M) Schedule (Mo)	Low 0.25 hedule and LE	P Most Likely 0.50 Direct cost imp	Pha ost-Respons High 1.00 vact to PSE. Rev erify all concerns	se Quantificati Total Expected Value Impact \$0.00 0.03	on       tegies with LBC.	Additional Cost to Respond Strategy	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo)	Low 0.25 hedule and LE	P Most Likely 0.50 Direct cost imp	Pha ost-Respons High 1.00 Pact to PSE. Rev Pact to PSE. Rev Pact to PSE. Rev Pact to PSE. Rev Pact to PSE. Rev	se Quantificati Total Expected Value Impact \$0.00 0.03 iew mitigation strai are addressed in approach through	on	Additional Cost to Respond Strategy	10/11/2021
5% Cost (\$M) Schedule (Mo)	Low 0.25 hedule and LE (netting	P Most Likely 0.50 Direct cost imp	Pha ost-Respons High 1.00 nact to PSE. Rev erify all concerns a clear plan and Monitoring	se Quantificati Total Expected Value Impact \$0.00 0.03 few mitigation stra approach through g and Control	on	Additional Cost to Respond Strategy	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo) Track submittal sc	Low 0.25 hedule and LE (netting	P Most Likely 0.50 Direct cost imp	Pha ost-Respons High 1.00 Pact to PSE. Rev Pact to PSE. Rev Pact to PSE. Rev Pact to PSE. Rev Pact to PSE. Rev	se Quantificati Total Expected Value Impact \$0.00 0.03 iew mitigation strai are addressed in approach through	on	Additional Cost to Respond Strategy	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo) Track submittal sc Risk Ow	Low 0.25 hedule and LE (netting	P Most Likely 0.50 Direct cost imp	Pha ost-Respons High 1.00 Diact to PSE. Rev erify all concerns a clear plan and Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.03 few mitigation stra approach through g and Control From	on	Additional Cost to Respond Strategy	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo) Track submittal sc Risk Ow	Low 0.25 hedule and LE (netting	P Most Likely 0.50 Direct cost imp Direct cost imp Direct cost imp Direct cost imp	Pha ost-Respons High 1.00 Diact to PSE. Rev erify all concerns a clear plan and Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.03 few mitigation stra approach through g and Control From	on	Additional Cost to Respond Strategy	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo) Track submittal sc Risk Ow	Low 0.25 hedule and LE (netting	P Most Likely 0.50 Direct cost imp Direct cost imp Direct cost imp Direct cost imp	Pha ost-Respons High 1.00 Diact to PSE. Rev erify all concerns a clear plan and Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.03 few mitigation stra approach through g and Control From	on	Additional Cost to Respond Strategy construction debrised RRM.	Updated 10/11/2021 management nterval Date MC La Updated
5% Cost (\$M) Schedule (Mo) Track submittal sc Risk Ow	Low 0.25 hedule and LE (netting	P Most Likely 0.50 Direct cost imp Direct cost imp Direct cost imp Direct cost imp	Pha ost-Respons High 1.00 Diact to PSE. Rev erify all concerns a clear plan and Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.03 few mitigation stra approach through g and Control From	on	Additional Cost to Respond Strategy construction debrised RRM.	Updated 10/11/2021 s management nterval Date MC La:



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.04
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				achment to Dar damage to dan			
Risk Trigger				Flowchai	rt Activity	210, 22	0, 230
Depend	ency & Correl	ation		Equal o	pportunity to hit ea	ch activity	
		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%				rune impuer	10	15	opuurou
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	
		Pe	Phase ost-Respons	oduce maintenance 2A, 2B, 2C se Quantificati		Additional Cost	
Probability	Low		Phase	2A, 2B, 2C		Additional Cost to Respond	Date Post La Updated
5%	]	Pe Most Likely	Phase ost-Respons High	2A, 2B, 2C se Quantificati Total Expected Value Impact		to Respond	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	Pr Most Likely \$0.50 2.00 Could have a directly assumptions. Ve	Phase ost-Respons High \$1.00 12.00 ct cost impact co rify all concerns through submitt	2A, 2B, 2C Se Quantificati Total Expected Value Impact \$0.03 0.18 component depending are addressed in sal review and RRM	on ng on type of issue	to Respond Strategy	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo)	\$0.25 1.00	Pr Most Likely \$0.50 2.00 Could have a directly assumptions. Ve	Phase ost-Respons High \$1.00 12.00 et cost impact co rify all concerns through submitt Monitoring	2A, 2B, 2C se Quantificati Total Expected Value Impact \$0.03 0.18 component depending are addressed in the second	on ng on type of issue	to Respond Strategy	10/11/2021 and approach
5% Cost (\$M) Schedule (Mo) Pre-core to verify	\$0.25 1.00 concrete quali	Pr Most Likely \$0.50 2.00 Could have a directly assumptions. Ve	Phase ost-Respons High \$1.00 12.00 ct cost impact co rify all concerns through submitt	2A, 2B, 2C Se Quantificati Total Expected Value Impact \$0.03 0.18 omponent dependir are addressed in s al review and RRM g and Control	on ng on type of issue	to Respond  Strategy  nere is a clear plan	Updated 10/11/2021 and approach
5% Cost (\$M) Schedule (Mo) Pre-core to verify Risk Ow	\$0.25 1.00 concrete quali	Pr Most Likely \$0.50 2.00 Could have a directly assumptions. Ve	Phase ost-Respons High \$1.00 12.00 ct cost impact cc rify all concerns through submitt Monitoring Risk Aging	2A, 2B, 2C Se Quantificati Total Expected Value Impact \$0.03 0.18 component dependir are addressed in s al review and RRW g and Control From	on ng on type of issue	to Respond  Strategy  nere is a clear plan	Updated 10/11/2021 and approach nterval
5% Cost (\$M) Schedule (Mo) Pre-core to verify Risk Ow	\$0.25 1.00 concrete quali	Per Most Likely S0.50 2.00 Could have a direct ty assumptions. Ve	Phase ost-Respons High \$1.00 12.00 ct cost impact cc rify all concerns through submitt Monitoring Risk Aging	2A, 2B, 2C Se Quantificati Total Expected Value Impact \$0.03 0.18 component dependir are addressed in s al review and RRW g and Control From	on ng on type of issue	to Respond  Strategy  nere is a clear plan	Updated 10/11/2021 and approach nterval Date MC La Updated
5% Cost (\$M) Schedule (Mo) Pre-core to verify Risk Ow	\$0.25 1.00 concrete quali	Per Most Likely S0.50 2.00 Could have a direct ty assumptions. Ve	Phase ost-Respons High \$1.00 12.00 ct cost impact cc rify all concerns through submitt Monitoring Risk Aging	2A, 2B, 2C Se Quantificati Total Expected Value Impact \$0.03 0.18 component dependir are addressed in s al review and RRW g and Control From	on ng on type of issue	to Respond  Strategy  rere is a clear plan  Status I	Updated 10/11/2021 and approach nterval Date MC La
5% Cost (\$M) Schedule (Mo) Pre-core to verify Risk Ow	\$0.25 1.00 concrete quali	Per Most Likely S0.50 2.00 Could have a direct ty assumptions. Ve	Phase ost-Respons High \$1.00 12.00 ct cost impact cc rify all concerns through submitt Monitoring Risk Aging	2A, 2B, 2C Se Quantificati Total Expected Value Impact \$0.03 0.18 component dependir are addressed in s al review and RRW g and Control From	on ng on type of issue	to Respond  Strategy  rere is a clear plan  Status I	Updated 10/11/2021 and approach nterval Date MC La Updated



Project	L	ower Baker Da	im		Risk ID	LBK LBKDSR	CNS 900.05
Sub-Project	Lower Bake	er Dam Seepag	e Reduction	ĺ	Status	Acti	ve
				achment to Dar ent at low elevat			
Risk Trigger				Flowchai	rt Activity	21	0
Depende	ency & Correl	ation		Delay is co	oncurrent with Risk	CNS 50.01.	
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre La
40%				Value Impact	12	12	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.25	0.50	0.75	0.20	12	12	
Greater dive time re		alling platform and	i riser pipe ancho delays co Phi			e time per indivídual	diver results in
Greater dive time re Probability		alling platform and	i riser pipe ancho delays co Phi	orages and seepag mpleting work. ase 2A. se Quantificati Total Expected	e seal. Limited dive		Date Post La
	equired for inst	alling platform and	i riser pipe anche delays coi Phi ost-Respons	orages and seepag mpleting work. ase 2A. se Quantificati	e seal. Limited dive	time per individual	
Probability	equired for inst	alling platform and	i riser pipe anche delays coi Phi ost-Respons	orages and seepag mpleting work. ase 2A. se Quantificati Total Expected	e seal. Limited dive	time per individual	Date Post La Updated
Probability 40% Cost (\$M) Schedule (Mo)	Low 0.25	Most Likely 0.50	ost-Respons High	rages and seepag mpleting work. ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.20	e seal. Limited dive	Additional Cost to Respond Strategy	Date Post La Updated 10/11/2021
Probability 40% Cost (\$M) Schedule (Mo) Track submittal sc Develop installa und Risk Ow	Low 0.25	P Most Likely 0.50 C performance. Vo orage techniques th	i riser pipe anche delays cor Phi ost-Respons High 0.75 erify all concerns through submitt that do not requir	rages and seepag mpleting work. ase 2A. <b>Se Quantificati</b> <b>Total Expected</b> <b>Value Impact</b> \$0.00 0.20 s are addressed in fal review and RRM re high precision wo t for underwater ins <b>g and Control</b> <b>From</b>	e seal. Limited dive on submittal. Ensure ti	Additional Cost to Respond Strategy here is a clear plan effort per task to bo	Date Post La Updated 10/11/2021 and approach e performed
Probability 40% Cost (\$M) Schedule (Mo) Track submittal sc Develop installa und	Low 0.25	P Most Likely 0.50 C performance. Vo orage techniques th equipment that rec	i riser pipe anché delays cor Phi ost-Respons High 0.75 0.75 erify all concerns through submitt fuces diver effor Monitoring Risk Aging	rages and seepag mpleting work. ase 2A. <b>Se Quantificati</b> <b>Total Expected</b> <b>Value Impact</b> \$0.00 0.20 s are addressed in fal review and RRM re high precision wo t for underwater ins <b>g and Control</b>	e seal. Limited dive on submittal. Ensure th	Additional Cost to Respond Strategy here is a clear plan effort per task to be bolt tightening, etc.	Date Post La Updated 10/11/2021 and approach e performed
Probability 40% Cost (\$M) Schedule (Mo) Track submittal sc Develop installa und Risk Ow	Low 0.25	P Most Likely 0.50 C performance. Vo orage techniques th	i riser pipe anché delays cor Phi ost-Respons High 0.75 0.75 erify all concerns through submitt fuces diver effor Monitoring Risk Aging	rages and seepag mpleting work. ase 2A. <b>Se Quantificati</b> <b>Total Expected</b> <b>Value Impact</b> \$0.00 0.20 s are addressed in fal review and RRM re high precision wo t for underwater ins <b>g and Control</b> <b>From</b>	e seal. Limited dive on submittal. Ensure th	Additional Cost to Respond Strategy here is a clear plan effort per task to be bolt tightening, etc.	Date Post La Updated 10/11/2021 and approach e performed nterval Date MC La
Probability 40% Cost (\$M) Schedule (Mo) Track submittal sc Develop installa und Risk Ow	Low 0.25	P Most Likely 0.50 C performance. Vo orage techniques th equipment that rec	i riser pipe anché delays cor Phi ost-Respons High 0.75 0.75 erify all concerns through submitt fuces diver effor Monitoring Risk Aging	rages and seepag mpleting work. ase 2A. <b>Se Quantificati</b> <b>Total Expected</b> <b>Value Impact</b> \$0.00 0.20 s are addressed in fal review and RRM re high precision wo t for underwater ins <b>g and Control</b> <b>From</b>	e seal. Limited dive on submittal. Ensure th	Additional Cost to Respond Strategy here is a clear plan effort per task to be bolt tightening, 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 sc Develop installa und Risk Ow	Low 0.25	P Most Likely 0.50 C performance. Vo orage techniques th equipment that rec	i riser pipe anché delays cor Phi ost-Respons High 0.75 0.75 erify all concerns through submitt fuces diver effor Monitoring Risk Aging	rages and seepag mpleting work. ase 2A. <b>Se Quantificati</b> <b>Total Expected</b> <b>Value Impact</b> \$0.00 0.20 s are addressed in fal review and RRM re high precision wo t for underwater ins <b>g and Control</b> <b>From</b>	e seal. Limited dive on submittal. Ensure th	Additional Cost to Respond Strategy here is a clear plan effort per task to be bolt tightening, etc.	Date Post La Updated 10/11/2021 and approach e performed nterval Date MC La
Probability 40% Cost (\$M) Schedule (Mo) Track submittal sc Develop installa und Risk Ow	Low 0.25	P Most Likely 0.50 C performance. Vo orage techniques th equipment that rec	i riser pipe anché delays cor Phi ost-Respons High 0.75 0.75 erify all concerns through submitt fuces diver effor Monitoring Risk Aging	rages and seepag mpleting work. ase 2A. <b>Se Quantificati</b> <b>Total Expected</b> <b>Value Impact</b> \$0.00 0.20 s are addressed in fal review and RRM re high precision wo t for underwater ins <b>g and Control</b> <b>From</b>	e seal. Limited dive on submittal. Ensure th	Additional Cost to Respond Strategy here is a clear plan effort per task to be bolt tightening, etc.	Date Post La Updated 10/11/2021 and approach e performed nterval Date MC La Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.06
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				ide Pipe Syster n complexity	n		
Risk Trigger				Flowchar	rt Activity	21	0
Depende	ency & 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 Las Updated
20%				· une mpuer	12	12	opuutu
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	
		P	Pha ost-Respons	ater work), attachm ase 2A. se Quantificati	nent to Dam at low		
Probability	fficult installati		Pha	ase 2A.		elevation (depth). Additional Cost to Respond	Date Post Las Updated
Probability 20%		P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
Probability		P	Pha ost-Respons	ase 2A. se Quantificati Total Expected		Additional Cost	The second s
Probability 20% Cost (\$M)	Low 0.50	P Most Likely	Oost-Respons High 1.50 plan and appro	se Quantificati Total Expected Value Impact \$0.00 0.20 ach to address dev g and Control		Additional Cost to Respond Strategy e.	Updated 10/11/2021
Probability 20% Cost (\$M) Schedule (Mo)	Low 0.50	P Most Likely	Pha ost-Respons High 1.50	se Quantificati Total Expected Value Impact \$0.00 0.20 ach to address dev	on	Additional Cost to Respond Strategy	Updated 10/11/2021
Probability 20% Cost (\$M) Schedule (Mo)	Low 0.50	P Most Likely	Oost-Response High 1.50 plan and appro Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.20 ach to address dev g and Control From	on	Additional Cost to Respond Strategy e.	10/11/2021
Probability 20% Cost (\$M) Schedule (Mo)	Low 0.50	P Most Likely	Oost-Response High 1.50 plan and appro Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.20 ach to address dev g and Control From	on	Additional Cost to Respond Strategy e.	Updated 10/11/2021
Probability 20% Cost (\$M) Schedule (Mo)	Low 0.50	P Most Likely	Oost-Response High 1.50 plan and appro Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.20 ach to address dev g and Control From	on	Additional Cost to Respond Strategy e.	Updated 10/11/2021 nterval Date MC Las
Probability 20% Cost (\$M) Schedule (Mo)	Low 0.50	P Most Likely	Oost-Response High 1.50 plan and appro Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.20 ach to address dev g and Control From	on	Additional Cost to Respond Strategy e.	Updated 10/11/2021 nterval Date MC Las Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.07
		er Dam Seepag			Status	Acti	ve
			Platform	n damage			
Risk Trigger				Flowcha	t Activity	22	0
Depende	ency & Correl:	ation				I	
		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
50%				value impact	12	9	opuateu
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	
		P	Pha ost-Respons	r repairs or rework. ase 2B. <b>se Quantificati</b>	Impacts to the con		
Probability	Platfor		Pha	ase 2B.		Additional Cost to Respond	Date Post Las Updated
50%		P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
		P	Pha ost-Respons	se Quantificati		Additional Cost	Date Post Las Updated 10/11/2021
50% Cost (\$M)	Low 0.25 Requ	P Most Likely	Oost-Respons High 1.00 her to review fab	se Quantificati Total Expected Value Impact \$0.00 0.27		Additional Cost to Respond Strategy	Updated 10/11/2021
50% Cost (\$M) Schedule (Mo)	Low 0.25 Requ	P Most Likely	Pha ost-Respons High 1.00	se Quantificati Total Expected Value Impact \$0.00 0.27 rication and installa	on	Additional Cost to Respond Strategy g/use.	Updated 10/11/2021
50% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.25 Requ	P Most Likely	Pha ost-Respons High 1.00 her to review fab 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 Ow	Low 0.25 Requ	P Most Likely O.50 Urre platform design	Pha ost-Respons High 1.00 her to review fab 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
50% Cost (\$M) Schedule (Mo) Risk Ow	Low 0.25 Requ	P Most Likely O.50 Urre platform design	Pha ost-Respons High 1.00 her to review fab 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 Ow	Low 0.25 Requ	P Most Likely O.50 Urre platform design	Pha ost-Respons High 1.00 her to review fab 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



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.08
Sub-Project	Lower Bak	er Dam Seepag	e Reduction		Status	Acti	ve
		Obstructi		Obstructions ncountered duri	ing drilling		
Risk Trigger				Flowcha	rt Activity	22	0
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
60%	]			Value Impact	1	1	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	11/16/2021
Schedule (Mo)	0.50	2.00	4.00	1.25	1	1	
м	ore obstruction	s and debris than a	Pha	ndoned steel / wire ase 28. se Quantificati			
M Probability	ore obstruction		Pha	ase 2B. <b>Se Quantificati</b> Total Expected		Additional Cost to Respond	
		P	Pha ost-Respons	ase 2B. se Quantificati		Additional Cost	Date Post Las Updated
Probability		P	Pha ost-Respons	ase 2B. <b>Se Quantificati</b> Total Expected		Additional Cost	
Probability 60%		P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	
Probability 60% Cost (\$M)	Low	P Most Likely 2.00	Pha ost-Respons High 4.00	se Quantificati Total Expected Value Impact \$0.00	on	Additional Cost to Respond	Updated
Probability 60% Cost (\$M) Schedule (Mo)	Low 0.50	P Most Likely 2.00	Oost-Respons High 4.00 otentially delete I	se Quantificati Total Expected Value Impact \$0.00 1.25 bid item and pay T g and Control From	on	Additional Cost to Respond	Updated 11/16/2021
Probability 60% Cost (\$M) Schedule (Mo)	Low 0.50	PA Most Likely 2.00 Pa	Ost-Respons High 4.00 otentially delete I Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 1.25 bid item and pay T	on	Additional Cost to Respond Strategy	Updated 11/16/2021
Probability 60% Cost (\$M) Schedule (Mo)	Low 0.50	P Most Likely 2.00	Ost-Respons High 4.00 otentially delete I Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 1.25 bid 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)	Low 0.50	PA Most Likely 2.00 Pa	Ost-Respons High 4.00 otentially delete I Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 1.25 bid item and pay T g and Control From	on	Additional Cost to Respond Strategy	Updated 11/16/2021 nterval Date MC Las Updated
Probability 60% Cost (\$M) Schedule (Mo)	Low 0.50	PA Most Likely 2.00 Pa	Ost-Respons High 4.00 otentially delete I Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 1.25 bid item and pay T g and Control From	on	Additional Cost to Respond Strategy	Updated 11/16/2021 nterval Date MC Las
Probability 60% Cost (\$M) Schedule (Mo)	Low 0.50	PA Most Likely 2.00 Pa	Ost-Respons High 4.00 otentially delete I Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 1.25 bid item and pay T g and Control From	on	Additional Cost to Respond Strategy	Updated 11/16/2021 nterval Date MC Las Updated



Project	L	ower Baker Da	ım	1	Risk ID	LBK LBKDSR	CNS 900.09
Sub-Project	Lower Bak	er Dam Seepag	ge Reduction	j	Status	Acti	ve
		Gro		- Verticality ction during colli	aring		
Risk Trigger				Flowchai	rt Activity	Watc	hlist
Depend	lency & Correl						
		F	Pre-Respons	e Quantificatio	on		-
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre La
	]			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	ost-Respon	se Quantificati		bris. Watchlist risk	
Probability	Low					bris. Watchlist risk Additional Cost to Respond	
		P	ost-Respon	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post La
Cost (\$M)		P	ost-Respon	se Quantificati		Additional Cost	Date Post La
Cost (\$M)		P	ost-Respon High Tooling a	Se Quantificati		Additional Cost to Respond	Date Post La
	Low	P	ost-Respons High Tooling a Monitoring	Se Quantificati		Additional Cost to Respond	Date Post La Updated
Cost (\$M) Schedule (Mo)	Low	P	ost-Respon High Tooling a	Se Quantificati		Additional Cost to Respond Strategy	Date Post La Updated
Cost (\$M) Schedule (Mo) Risk Ow	Low	P	ost-Respons High Tooling a Monitoring Risk Aging	Se Quantificati		Additional Cost to Respond Strategy	Date Post La Updated
Cost (\$M) Schedule (Mo) Risk Ow	Low	P Most Likely	ost-Respons High Tooling a Monitoring Risk Aging	Se Quantificati		Additional Cost to Respond Strategy	Date Post La Updated
Cost (\$M) Schedule (Mo) Risk Ow	Low	P Most Likely	ost-Respons High Tooling a Monitoring Risk Aging	Se Quantificati		Additional Cost to Respond Strategy Strategy Status I	Date Post La Updated
Cost (\$M) Schedule (Mo) Risk Ow	Low	P Most Likely	ost-Respons High Tooling a Monitoring Risk Aging	Se Quantificati		Additional Cost to Respond Strategy Strategy Status I	Date Post La: Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.10
Sub-Project		er Dam Seepag			Status	Acti	
				- Verticality erformance			
Risk Trigger				Flowchar	rt Activity	Watc	hlist
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 Updated
				· une mpuer	12	29	opunten
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)				0.00	12	29	
		P	ost-Respons	ld impact deviation	. Watchlist at this ti on		
Probability	Dri					me. Additional Cost to Respond	Date Post Las Updated
		P	ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	The second s
Probability Cost (\$M) Schedule (Mo)		P	ost-Respons	se Quantificati		Additional Cost	Date Post Las Updated
Cost (\$M)		P	Dost-Respons High Monitor drill	Se Quantificati Total Expected Value Impact \$0.00		Additional Cost to Respond	The second s
Cost (\$M)	Low	P	ost-Respons High Monitor drill Monitoring	Se Quantificati		Additional Cost to Respond	Updated
Cost (\$M) Schedule (Mo)	Low	P Most Likely	Monitor drill	Se Quantificati		Additional Cost to Respond Strategy	Updated
Cost (\$M) Schedule (Mo) Schedule (Mo)	Low	P	Monitor drill	Se Quantificati Total Expected Value Impact \$0.00 0.00 er performance g and Control From		Additional Cost to Respond Strategy	Updated
Cost (\$M) Schedule (Mo) Schedule (Mo)	Low	P Most Likely	Monitor drill	Se Quantificati Total Expected Value Impact \$0.00 0.00 er performance g and Control From		Additional Cost to Respond Strategy	Updated Interval Date MC Las Updated
Cost (\$M) Schedule (Mo) Schedule (Mo)	Low	P Most Likely	Monitoring	Se Quantificati Total Expected Value Impact \$0.00 0.00 er performance g and Control From		Additional Cost to Respond Strategy Strategy Status I	Updated Understand
Cost (\$M) Schedule (Mo) Schedule (Mo)	Low	P Most Likely	Monitoring	Se Quantificati Total Expected Value Impact \$0.00 0.00 er performance g and Control From		Additional Cost to Respond Strategy Strategy Status I	Updated nterval Date MC Las Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.11
Sub-Project	Lower Bak	er Dam Seepag	e Reduction		Status	Acti	ve
		Grout hole		Verticality ue to geologica	l formation		
Risk Trigger				Flowchar	rt Activity	22	0
Depend	lency & Correl	ation					
		P	re-Respons	e Quantificatio	on		<b>-</b>
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
20%	]			value impact	12	19	opuateu
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	
	1	The second second	Pha ost-Respons	ase 2B. se Quantificati			S.
Probability	t hole deviation		Pha	ase 2B.		ng or fracture plane Additional Cost to Respond	
Probability 20%	1	P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post Las Updated
Probability	1	P	Pha ost-Respons	se Quantificati		Additional Cost	Date Post Las
Probability 20% Cost (\$M)	Low	Pe Most Likely	Ost-Respons High 0.75 Ensure correct	se Quantificati Total Expected Value Impact \$0.00	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
Probability 20% Cost (\$M) Schedule (Mo)	Low 0.25	Pe Most Likely	Ost-Respons High 0.75 Ensure correct	se Quantificati Total Expected Value Impact \$0.00 0.10 drill tooling is used and Control From	on	Additional Cost to Respond	Date Post Las Updated 10/11/2021
Probability 20% Cost (\$M) Schedule (Mo)	Low 0.25	Per Most Likely	Ost-Respons High 0.75 Ensure correct Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.10 drill tooling is used a and Control	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
Probability 20% Cost (\$M) Schedule (Mo)	Low 0.25	Pe Most Likely	Ost-Respons High 0.75 Ensure correct Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.10 drill tooling is used and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
Probability 20% Cost (\$M) Schedule (Mo)	Low 0.25	Per Most Likely	Ost-Respons High 0.75 Ensure correct Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.10 drill tooling is used 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
Probability 20% Cost (\$M) Schedule (Mo)	Low 0.25	Per Most Likely	Ost-Respons High 0.75 Ensure correct Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.10 drill tooling is used and Control From	on	Additional Cost to Respond Strategy Strategy Status I	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated



Project	Lower Baker Dam				Risk ID	LBK LBKDSR CNS 900.12	
Sub-Project	Lower Bak	er Dam Seepag	e Reduction		Status	Active	
		Grout he		- Verticality due to shifting	of debris		
Risk Trigger				Flowchart Activity		220	
Depend	lency & Correl	ation					
		P	re-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	xpected Cost Schedule	Program Rank Schedule	Date Pre Las
5%	]			Value Impact	12	27	Updated
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	
		Pe	Phe ost-Respons	due to shifting of d ase 2B. se Quantificati		Additional Cost	
Probability	Low		Pha	ase 2B.		Additional Cost to Respond	Date Post Las Updated
5%	Low	Pe	Phe ost-Respons	se Quantificati Total Expected Value Impact		to Respond	Updated
5% Cost (\$M)	Low 0.25	Pe	Phe ost-Respons	ase 2B.			
5% Cost (\$M)	0.25	Po Most Likely	Obst-Respons High 0.50 Stiff rods/tooling	se Quantificati Total Expected Value Impact \$0.00 0.02	on	to Respond Strategy	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo)	0.25	Per Most Likely	Pha Dost-Response High 0.50 Stiff rods/tooling Monitoring Risk Aging	ase 2B. Total Expected Value Impact \$0.00 0.02 , care taken when g and Control	on	to Respond Strategy oles	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo) Schedule (Mo)	0.25	Po Most Likely	Pha Dost-Response High 0.50 Stiff rods/tooling Monitoring Risk Aging	ase 2B. Total Expected Value Impact \$0.00 0.02 , care taken when g and Control From	on	to Respond Strategy oles	Updated 10/11/2021 nterval
5% Cost (\$M) Schedule (Mo) Schedule (Mo)	0.25	Per Most Likely	Pha Dost-Response High 0.50 Stiff rods/tooling Monitoring Risk Aging	ase 2B. Total Expected Value Impact \$0.00 0.02 , care taken when g and Control From	on	to Respond  Strategy  oles  Status I	10/11/2021 nterval Date MC Las Updated



Project	L	ower Baker Da	ım		Risk ID	LBK LBKDSR	CNS 900.13
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	
				tallation MPSP installation			
Risk Trigger		g of valves prior to otical survey of cas		Flowchar	t Activity	Watc	hlist
Depend	lency & Correla	ation					
		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
	]			value impact	12	29	opuateu
Cost (\$M)				\$0.00	Project Rank Cost	29 Project Rank Schedule 10/11/2021	
Schedule (Mo)				0.00	12	29	
		P	pipes. Watchli ost-Respons	cation. Sealing, and st risk at this time. se Quantificati			-multi port slee
nstallation: prevent of the second seco	damage of valv		pipes. Watchli	st risk at this time.		Additional Cost to Respond	
Probability		P	pipes. Watchli ost-Respons	st risk at this time. <b>Se Quantificati</b> Total Expected Value Impact		Additional Cost to Respond	Date Post La:
		P	pipes. Watchli ost-Respons	st risk at this time. se Quantificati Total Expected		Additional Cost	Date Post La:
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	pipes. Watchli ost-Respons High or Risk - replaced	st risk at this time. Se Quantificati Total Expected Value Impact \$0.00 0.00 ment due to non-pe	on	Additional Cost to Respond Strategy	Date Post I.a: Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	pipes. Watchli ost-Respons High or Risk - replaced	st risk at this time. Se Quantificati Total Expected Value Impact \$0.00 0.00 ment due to non-pe g and Control From	on	Additional Cost to Respond	Date Post La Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High or Risk - replacer Monitoring Risk Aging	st risk at this time. Se Quantificati Total Expected Value Impact \$0.00 0.00 ment due to non-pe	on	Additional Cost to Respond Strategy	Date Post La Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High or Risk - replacer Monitoring Risk Aging	st risk at this time. Se Quantificati Total Expected Value Impact \$0.00 0.00 ment due to non-pe g and Control From	on	Additional Cost to Respond Strategy	Date Post I.a: Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High or Risk - replacer Monitoring Risk Aging	st risk at this time. Se Quantificati Total Expected Value Impact \$0.00 0.00 ment due to non-pe g and Control From	on	Additional Cost to Respond Strategy	Date Post La Updated



Project	L	ower Baker Da	m		Risk ID	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, grout schedule, testing.		Flowchar	rt Activity	22	)
Depend	lency & Correl:	ation					
		F	re-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
75%	]			Value Impact	2	3	Updated
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	
		P	Pha ost-Respons	ty leads to quantity use 2B. Se Quantificati		Additional Prove	
Probability	Low		Pha	se 2B.		Additional Cost to Respond	Date Post La: Updated
75%	Low	P	Pha ost-Respons	e Quantificati Total Expected Value Impact		to Respond	Updated
75% Cost (\$M)	Low 0.50	P	Pha ost-Respons	se 2B.			
75%	]	Pi Most Likely	Ost-Respons High 1.50 Use establi	se Quantificati Total Expected Value Impact \$0.00 0.75 shed bid items		to Respond	Updated
75% Cost (\$M) Schedule (Mo)	0.50	Pi Most Likely	Ost-Respons High 1.50 Use establi	se Quantificati Total Expected Value Impact \$0.00 0.75 shed bid items and Control		to Respond Strategy	11/16/2021
75% Cost (\$M) Schedule (Mo) Schedule (Mo)	0.50	Pi Most Likely	Ost-Respons High 1.50 Use establi	ise 2B. Total Expected Value Impact \$0.00 0.75 shed bid items g and Control From		to Respond	Updated 11/16/2021
75% Cost (\$M) Schedule (Mo)	0.50	P4 Most Likely 1.00	Oost-Respons High 1.50 Use establi Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.75 shed bid items and Control		to Respond Strategy	Updated 11/16/2021
75% Cost (\$M) Schedule (Mo) Schedule (Mo)	0.50	Pi Most Likely	Oost-Respons High 1.50 Use establi Monitoring Risk Aging	ise 2B. Total Expected Value Impact \$0.00 0.75 shed bid items g and Control From		to Respond Strategy	Updated 11/16/2021 nterval
75% Cost (\$M) Schedule (Mo) Schedule (Mo)	0.50	P4 Most Likely 1.00	Oost-Respons High 1.50 Use establi Monitoring Risk Aging	ise 2B. Total Expected Value Impact \$0.00 0.75 shed bid items g and Control From		to Respond  Strategy  Strategy  Status I	Updated 11/16/2021 nterval Date MC Las Updated 10/11/2021
75% Cost (\$M) Schedule (Mo) Schedule (Mo)	0.50	P4 Most Likely 1.00	Oost-Respons High 1.50 Use establi Monitoring Risk Aging	ise 2B. Total Expected Value Impact \$0.00 0.75 shed bid items g and Control From		to Respond  Strategy  Strategy  Status I	Updated 11/16/2021 nterval Date MC Las Updated



Project	L	ower Baker Da	im		Risk ID	LBK LBKDSR	CNS 900.15
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
				ig - Debris grout spread			
Risk Trigger	Water qualit	y monitoring, grout schedule, testing.		Flowchar	t Activity	22	0
Depend	lency & Correl:	ation		N		Program Rank Schedule Date Pre Last	
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost		
60%	j			Value Impact	5	15	Updated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	11/16/2021
Schedule (Mo)	0.25	0.25	0.50	0.18	5	15	
Localized low	porosity leads		Pha	cking of low porosil ase 2B. Se Quantificati		new pathway throu	gh debris,
Localized low	porosity leads		Pha	ase 2B.		new pathway throu Additional Cost to Respond	gh debris. Date Post Las Updated
Probability 60%		P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post Las Updated
Probability		P	Pha ost-Respons	ee Quantificati		Additional Cost	Date Post Las
Probability 60% Cost (\$M)	Low	P Most Likely	Ost-Respons High 0.50 Use establ	se Quantificati Total Expected Value Impact \$0.00 0.18 shed bid items		Additional Cost to Respond	Date Post Las Updated
Probability 60% Cost (\$M)	Low 0.25	P Most Likely	Ost-Respons High 0.50 Use estable	se Quantificati Total Expected Value Impact \$0.00 0.18		Additional Cost to Respond	Date Post Las Updated
Probability 60% Cost (\$M) Schedule (Mo)	Low 0.25	P Most Likely	Ost-Respons High 0.50 Use establ	se Quantificati Total Expected Value Impact \$0.00 0.18 shed bid items and Control		Additional Cost to Respond Strategy	Date Post Las Updated
Probability 60% Cost (\$M) Schedule (Mo)	Low 0.25	P Most Likely	Ost-Respons High 0.50 Use estable Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.18 shed bid items and Control From		Additional Cost to Respond Strategy	Date Post Las Updated 11/16/2021
Probability 60% Cost (\$M) Schedule (Mo)	Low 0.25	P Most Likely	Ost-Respons High 0.50 Use estable Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.18 shed bid items and Control From		Additional Cost to Respond Strategy	Date Post Las Updated 11/16/2021
Probability 60% Cost (\$M) Schedule (Mo)	Low 0.25	P Most Likely	Ost-Respons High 0.50 Use estable Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.18 shed bid items and Control From		Additional Cost to Respond Strategy Strategy Status I	Date Post Las Updated 11/16/2021 nterval Date MC Las
Probability 60% Cost (\$M) Schedule (Mo)	Low 0.25	P Most Likely	Ost-Respons High 0.50 Use estable Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.18 shed bid items and Control From		Additional Cost to Respond Strategy Strategy Status I	Date Post Las Updated 11/16/2021 nterval Date MC Las Updated



Project	L	ower Baker Da	ım		Risk ID	LBK LBKDSR	CNS 900.16
Sub-Project	Lower Bake	er Dam Seepag	ge Reduction		Status	Acti	ve
		Grou		ion Zone Rock ( order holes	(SCC)		
Risk Trigger	Water qualit	ty monitoring, grou schedule, testing		Flowchar	t Activity	Watc	hlist
Depend	lency & 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 Updated
					12	29	
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule 10/11/202	
Schedule (Mo)				0.00	12	29	
		effective, lead	ng to higher ord	rout quantity needs er holes. Watchlist se Quantificati	risk at this time.	Additional Cost	s may not be
Probability	Low	effective, lead	ing to higher ord	er holes. Watchlist se Quantificati Total Expected	risk at this time.	Additional Cost to Respond	
		effective, lead	ng to higher ord	er holes. Watchlist se Quantificati Total Expected Value Impact	risk at this time.	Additional Cost to Respond	Date Post La:
Probability Cost (\$M) Schedule (Mo)		effective, lead	ng to higher ord	er holes. Watchlist se Quantificati Total Expected	risk at this time.	Additional Cost	Date Post La:
Cost (\$M)		effective, lead	ing to higher orde	er holes. Watchlist Se Quantificati Total Expected Value Impact \$0.00 0.00 ms and contract pro	on	Additional Cost to Respond	Date Post La:
Cost (\$M) Schedule (Mo)	Low	effective, lead	ing to higher orde	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 Las Updated
Cost (\$M)	Low	effective, lead	ing to higher orde	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	Date Post La Updated
Cost (\$M) Schedule (Mo) Schedule (Mo)	Low	effective, lead	ing to higher orde	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, lead	ing to higher orde	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, lead	ing to higher orde	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
Cost (\$M) Schedule (Mo) Schedule (Mo)	Low	effective, lead	ing to higher orde	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



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.17
		er Dam Seepag	655		Status	Acti	
				ion Zone Rock ( under dam - co			
Risk Trigger	Water quali	ty monitoring, grou schedule, testing		Flowchar	t Activity	Watc	hlist
Depende	ency & 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 Las Undated
					12	29 Updated	
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule 10/11/2021	
Schedule (Mo)				0.00	12	29	
		leading to	angled holes und ost-Respons	der dam. Watchlist	at this time.	act between Dam/b	
Effectiveness of perf	ormance could	leading to	angled holes und	der dam. Watchlist	at this time.	Additional Cost to Respond	
Probability		leading to	angled holes und ost-Respons	der dam. Watchlist se Quantificati Total Expected Value Impact	at this time.	Additional Cost to Respond	Date Post Las
		leading to	angled holes und ost-Respons	der dam. Watchlist se Quantificati Total Expected	at this time.	Additional Cost	Date Post Las
Probability Cost (\$M)		P Most Likely	ost-Respons High tablished bid iter	der dam. Watchlist se Quantificati Total Expected Value Impact \$0.00	on	Additional Cost to Respond	Date Post Las
Probability Cost (\$M)	Low	P Most Likely	ost-Respons High tablished bid iter	der dam. Watchlist Se Quantificati Total Expected Value Impact \$0.00 0.00 ms and contract pro-	on	Additional Cost to Respond	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	leading to P Most Likely Use es	angled holes und ost-Respons High tablished bid iter Monitoring Risk Aging	der dam. Watchlist se Quantificati Total Expected Value Impact \$0.00 0.00 ms and contract pro	on	Additional Cost to Respond Strategy	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	angled holes und ost-Respons High tablished bid iter Monitoring Risk Aging	der dam. 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
Probability Cost (\$M) Schedule (Mo)	Low	leading to P Most Likely Use es	angled holes und ost-Respons High tablished bid iter Monitoring Risk Aging	der dam. 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 Interval Date MC Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	leading to P Most Likely Use es	angled holes und ost-Respons High tablished bid iter Monitoring Risk Aging	der dam. 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
Probability Cost (\$M) Schedule (Mo)	Low	leading to P Most Likely Use es	angled holes und ost-Respons High tablished bid iter Monitoring Risk Aging	der dam. 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 Interval Date MC Las Updated



Project	Î L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.18
Sub-Project	Lower Bake	er Dam Seepag	e Reduction	Ì	Status	Act	
				g - Bedrock Cost			
Risk Trigger				Flowcha	rt Activity	22	0
Depend	iency & Correla	ation					
		F	Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule Updated	
50%	]			Tanac mipace	4	2	opuncu
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	
		P	Pha ost-Respons	ase 2B. se Quantificati	ue to additional hole		etc.
Probability	Intrated high flo		Ph	ase 2B.		Additional Cost to Respond	
Probability 50%	Low	P Most Likely	Phi ost-Respons High	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post Las
Probability		P	Pha ost-Respons	ase 2B. Se Quantificati Total Expected		Additional Cost	Date Post Las Updated
Probability 50% Cost (\$M) Schedule (Mo)	Low \$1.00 1.00	P Most Likely \$1.50 2.00	Phi ost-Respons High \$2.00 3.00	se Quantificati Total Expected Value Impact \$0.75 1.00 ms and contract pro	ion	Additional Cost to Respond Strategy	Date Post Las Updated
Probability 50% Cost (\$M) Schedule (Mo)	Low \$1.00 1.00	P Most Likely \$1.50 2.00	Phi ost-Respons High \$2.00 3.00	se Quantificati Total Expected Value Impact \$0.75 1.00 ms and contract pro g and Control From	ion	Additional Cost to Respond	Date Post Las Updated 10/11/2021
Probability 50% Cost (\$M) Schedule (Mo)	Low \$1.00 1.00	P Most Likely \$1.50 2.00	OST-Response High \$2.00 3.00 tablished bid iter Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.75 1.00 ms and contract pro	ion	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
Probability 50% Cost (\$M) Schedule (Mo)	Low \$1.00 1.00	P Most Likely \$1.50 2.00 Use est	OST-Response High \$2.00 3.00 tablished bid iter Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.75 1.00 ms and contract pro g and Control From	ion	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval
Probability 50% Cost (\$M) Schedule (Mo)	Low \$1.00 1.00	P Most Likely \$1.50 2.00 Use est	OST-Response High \$2.00 3.00 tablished bid iter Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.75 1.00 ms and contract pro g and Control From	ion	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las
Probability 50% Cost (\$M) Schedule (Mo)	Low \$1.00 1.00	P Most Likely \$1.50 2.00 Use est	OST-Response High \$2.00 3.00 tablished bid iter Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.75 1.00 ms and contract pro g and Control From	ion	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 900.20
Sub-Project	Lower Bake	er Dam Seepag	e Reduction		Status	Acti	ve
		Grouting envi		g - General Incerns - Stake	holders/NGOs		
Risk Trigger				Flowcha	rt Activity	22	0
Depend	ency & Correl	ation		<u></u>			
		P	re-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected	Program Rank Cost	Program Rank Schedule	Date Pre Las
5%				Value Impact	12	8	Updated
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	The second second	Pha ost-Respons	legal or other mear ase 2B. <b>Se Quantificati</b>			
Probability	Stakeholders		Pha	ase 2B.		Additional Cost to Respond	Date Post Las Updated
5%		Pe	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
and the second sec		Pe	Pha ost-Respons	se Quantificati		Additional Cost	
5% Cost (\$M)	Low	Pe Most Likely	Pha ost-Respons High 12.00 Ongoing clea	se Quantificati Total Expected Value Impact \$0.00		Additional Cost to Respond	
5% Cost (\$M)	Low 1.00	Pe Most Likely	Obst-Respons High 12.00 Ongoing clea	se Quantificati Total Expected Value Impact \$0.00 0.31		Additional Cost to Respond	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo)	Low 1.00	Pe Most Likely	Pha ost-Respons High 12.00 Ongoing clea	se Quantificati Total Expected Value Impact \$0.00 0.31 r communication g and Control		Additional Cost to Respond Strategy	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo) Risk Ow	Low 1.00	Pe Most Likely	Obst-Respons High 12.00 Ongoing clea Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.31 r communication g and Control From		Additional Cost to Respond Strategy	Updated 10/11/2021 nterval
5% Cost (\$M) Schedule (Mo) Risk Ow	Low 1.00	P( Most Likely 6.00	Obst-Respons High 12.00 Ongoing clea Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.31 r communication g and Control From		Additional Cost to Respond Strategy	Updated 10/11/2021
5% Cost (\$M) Schedule (Mo) Risk Ow	Low 1.00	P( Most Likely 6.00	Obst-Respons High 12.00 Ongoing clea Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.31 r communication g and Control From		Additional Cost to Respond Strategy	Updated 10/11/2021 nterval Date MC Las
5% Cost (\$M) Schedule (Mo) Risk Ow	Low 1.00	P( Most Likely 6.00	Obst-Respons High 12.00 Ongoing clea Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.31 r communication g and Control From		Additional Cost to Respond Strategy	Updated 10/11/2021 nterval Date MC Las Updated



Project	L	ower Baker Dar	m		Risk ID	LBK LBKDSR	CNS 900.21
Sub-Project	Lower Bak	er Dam Seepag	e Reduction		Status	Acti	ve
		Grouting e		g - General Il concerns - St	ate/federal		
Risk Trigger				Flowcha	rt Activity	22	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 Updated
10%	]			value impact	12	19	opuateu
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	
		The second of	Pha ost-Respons	ronmental) permit v ase 28. se Quantificati			pacts
Probability	Federal regula		Pha	ase 2B.		than anticipated im Additional Cost to Respond	
Probability 10%		Pc	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post Las Updated
Probability		Pc	Pha ost-Respons	se Quantificati		Additional Cost	Date Post Las
Probability 10% Cost (\$M)	Low	Pc Most Likely	Pha Dost-Respons High 1.50 Ongoing clea	se Quantificati Total Expected Value Impact \$0.00		Additional Cost to Respond	Date Post Las Updated
Probability 10% Cost (\$M) Schedule (Mo)	Low 0.50	Pc Most Likely	Obst-Respons High 1.50 Ongoing clea	se Quantificati Total Expected Value Impact \$0.00 0.10 r communication g and Control From		Additional Cost to Respond	Date Post Las Updated
Probability 10% Cost (\$M) Schedule (Mo)	Low 0.50	Pc Most Likely 1.00	Pha Dist-Response High 1.50 Ongoing clean Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.10 r communication g and Control		Additional Cost to Respond Strategy	Date Post Las Updated
Probability 10% Cost (\$M) Schedule (Mo)	Low 0.50	Pc Most Likely	Pha Dist-Response High 1.50 Ongoing clean Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.10 r communication g and Control From		Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
Probability 10% Cost (\$M) Schedule (Mo)	Low 0.50	Pc Most Likely 1.00	Pha Dist-Response High 1.50 Ongoing clean Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.10 r 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)	Low 0.50	Pc Most Likely 1.00	Pha Dist-Response High 1.50 Ongoing clean Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.10 r 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	im		Risk ID	LBK LBKDSR	CNS 900.22
Sub-Project	Lower Bake	er Dam Seepag	e Reduction	ĺ	Status	Acti	ve
				Schedule/Cost production			
Risk Trigger				Flowchai	rt Activity	Watc	hlist
Depend	ency & Correl	ation		1			
			Pre-Respons	e Quantificatio	on		-
Probability	Low	Most Likely	High	Total Expected Value Impact	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	
Production	grouting not a			ns longer and cost se Quantificati		st, covered with oth	er risks
Production Probability	grouting not a			se Quantificati		st, covered with oth Additional Cost to Respond	Date Post Las
Probability		P	ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	
		P	ost-Respons	se Quantificati		Additional Cost	Date Post Las
Probability Cost (\$M)		P Most Likely	ost-Respons High	Total Expected Value Impact	on	Additional Cost to Respond	Date Post Las
Probability Cost (\$M)		P Most Likely	ost-Respons High Monitor schedul	Se Quantificati	on	Additional Cost to Respond	Date Post Las
Probability Cost (\$M)	Low	P Most Likely	ost-Respons High Monitor schedule	Se Quantificati	on	Additional Cost to Respond	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High Monitor schedul	Se Quantificati	on	Additional Cost to Respond Strategy	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High Monitor schedul Monitoring Risk Aging	se Quantificati	on	Additional Cost to Respond Strategy	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High Monitor schedul Monitoring Risk Aging	se Quantificati	on	Additional Cost to Respond Strategy	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High Monitor schedul Monitoring Risk Aging	se Quantificati	on	Additional Cost to Respond Strategy Strategy Status I	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High Monitor schedul Monitoring Risk Aging	se Quantificati	on	Additional Cost to Respond Strategy Strategy Status I	Date Post Las Updated



LBK LBKDSR C	Risk ID	1	n	ower Baker Da	L	Project
Active	Status	i i		er Dam Seepag		
		nel Plug te volumes				
Watchl	t Activity	Flowchart				Risk Trigger
		J		ition	ency & Correla	Depende
	n	e Quantificatio	re-Respons	P		
k Program Rank Schedule	Program Rank Cost	Total Expected Value Impact	High	Most Likely	Low	Probability
29	12	value impact				
k Project Rank Schedule	Project Rank Cost	\$0.00				Cost (\$M)
29	12	0.00				Schedule (Mo)
		ment ineffectiveness ase 2A. se Quantificatio	Ph ost-Respon	Pe		
Additional Cost to Respond		ase 2A.	Ph		Increased	Probability
Additional Cost to Respond		se Quantificatio	Ph ost-Respon	Pe		
Additional Cost		ase 2A. se Quantificatio Total Expected	Ph ost-Respon	Pe		Probability Cost (\$M) Schedule (Mo)
Additional Cost to Respond Strategy		se Quantification	Ph Dist-Respon High Require	Pe	Low	Cost (\$M) Schedule (Mo)
Additional Cost to Respond		se Quantification	Ph Dist-Respon High Require	Pe	Low	Cost (\$M) Schedule (Mo) Schedule (Mo)
Additional Cost to Respond Strategy		se Quantification	Ph Dist-Respon High Require Monitorin Risk Aging	Pe	Low	Cost (\$M) Schedule (Mo)
Additional Cost to Respond Strategy		se Quantification	Ph Dist-Respon High Require Monitorin Risk Aging	Pe	Low	Cost (\$M) Schedule (Mo) Schedule (Mo)



LBK LBKDSR	Risk ID	] [	n	ower Baker Dar	L	Project
Activ	Status	i i	e Reduction	er Dam Seepage	Lower Bake	
		nel Plug Ig placement				
Watch	t Activity	Flowchart				Risk Trigger
				ation	ency & Correla	Depende
	n	se Quantificatio	re-Respons	P		
k Program Rank Schedule	Program Rank Cost	Total Expected	High	Most Likely	Low	Probability
29	12	Value Impact				
Project Rank Schedule	Project Rank Cost	\$0.00				Cost (\$M)
29	12	0.00				Schedule (Mo)
		poor plug placemen ase 2A. se Quantificatio	Prost-Respon	Po		
at this time. Additional Cost to Respond		ase 2A.	Pr		Risk of ir	Probability
Additional Cost to Respond		se Quantificatio	Prost-Respon	Po		Probability Cost (\$M)
Additional Cost		se Quantification	Prost-Respon	Po		
Additional Cost to Respond Strategy		se Quantification Total Expected Value Impact \$0.00 0.00 survey (spec)	Pt sst-Respon High Require	Po	Low	Cost (\$M) Schedule (Mo)
Additional Cost to Respond		se Quantification Total Expected Value Impact \$0.00 0.00 survey (spec) g and Control From	Pt sst-Respon High Require	Pc Most Likely	Low	Cost (\$M) Schedule (Mo) Risk Ow
Additional Cost to Respond Strategy		se Quantification Total Expected Value Impact \$0.00 0.00 survey (spec)	Provide the second seco	Pc Most Likely	Low	Cost (\$M) Schedule (Mo)
Additional Cost to Respond Strategy		se Quantification Total Expected Value Impact \$0.00 0.00 survey (spec) g and Control From	Provide the second seco	Pc Most Likely	Low	Cost (\$M) Schedule (Mo) Risk Ow



wer Baker Dam         Risk ID         LBK LBKDSR CNS 90           Dam Seepage Reduction         Status         Active	Risk ID		m	ower Baker Da	1	Project
		Ì				Sub-Project
Seepage seal Seepage seal installation/performance	ance			Seep		
Flowchart Activity Watchlist	t Activity	Flowchar				Risk Trigger
					lency & Correla	Depend
Pre-Response Quantification	P	e Quantificatio	re-Respons	F		
Most Likely High Total Expected Cost Program Rank Schedule Date F			High	Most Likely	Low	Probability
Value Impact 12 29	12	value impact			]	
\$0.00 Project Rank Schedule 10/1		\$0.00				Cost (\$M)
0.00 12 29		0.00		İ	ĺ	Schedule (Mo)
Additional Cost				Moet Likely		Probability
Most Likely High Total Expected Value Impact Date P			High	Most Likely	Low	
Most Likely High Total Expected Value Impact Date P Upd		Value Impact	High	Most Likely	Low	Cost (\$M)
MOST LIKely High Total Expected to Respond Date P		Value Impact \$0.00	High			Cost (\$M) Schedule (Mo)
Most Likely       High       Total Expected       to Respond       Date P         Value Impact       \$0.00       \$trategy       Upd         \$0.00       \$trategy       \$trategy       \$trategy         ation survey, modify modular approach, direct kill grout into high seepage zones       \$trategy       \$trategy         Monitoring and Control       Strategy       Strategy       \$trategy	out into high seepa	Value Impact \$0.00 0.00 roach, direct kill gro	lify modular app Monitorin		Preinsta	Schedule (Mo)
Most Likely     High     Total Expected     to Respond     Date P       Value Impact     \$0.00     Strategy     Upd       0.00     0.00     Strategy     Impact	sut into high seepag	Value Impact \$0.00 0.00 roach, direct kill gro g and Control From	lify modular app Monitorin		Preinsta VNET	
Most Likely     High     Total Expected Value Impact     to Respond     Date P Upd       \$0.00     \$0.00     Strategy       ation survey, modify modular approach, direct kill grout into high seepage zones     Monitoring and Control       Risk Aging	xut into high seepa	Value Impact \$0.00 0.00 roach, direct kill gro g and Control From	lify modular app Monitorin Risk Aging	lation survey, mod	Preinsta VNET	Schedule (Mo)
Most Likely     High     Total Expected     to Respond     Date P       Value Impact     \$0,00     Strategy     Upd       1     \$0,00     Strategy     1       ation survey, modify modular approach, direct kill grout into high seepage zones     Strategy     1       Monitoring and Control       Status Interva       Risk Aging     To     1       To       Date Mupd	out into high seepa	Value Impact \$0.00 0.00 roach, direct kill gro g and Control From	lify modular app Monitorin Risk Aging	lation survey, mod	Preinsta VNET	Schedule (Mo)
Most Likely     High     Total Expected     to Respond     Date P       Value Impact     \$0.00     Strategy     Upd       \$0.00     \$0.00     Strategy     Image: Comparison of the point of the	out into high seepag	Value Impact \$0.00 0.00 roach, direct kill gro g and Control From	lify modular app Monitorin Risk Aging	lation survey, mod	Preinsta VNET	Schedule (Mo)



Project		ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.26
		er Dam Seepag			Status	Acti	
			Reservo	bir - Spilling			
Risk Trigger				Flowchar	t Activity	21	0
Depende	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
10%				Value Impact	12	23	Updated
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	P	Pha	es. Specifically duri ase 2A. Se Quantificati		n and riser pipe ins	tallation.
Probability	ations may im Low		Pha	ase 2A.		n and riser pipe ins Additional Cost to Respond	
Probability 10%		P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post La Updated
Probability		P	Pha ost-Respons	se Quantificati		Additional Cost	Date Post La
Probability 10% Cost (\$M) Schedule (Mo)	Low 0.50	P Most Likely	Pha ost-Respons High 1.00	se Quantificati Total Expected Value Impact \$0.00 0.06 sible, accept when g and Control	on	Additional Cost to Respond Strategy	Date Post La Updated
Probability 10% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 0.50	P Most Likely	Pha ost-Respons High 1.00	se Quantificati Total Expected Value Impact \$0.00 0.06 sible, accept when g and Control From	on	Additional Cost to Respond	Date Post La Updated
Probability 10% Cost (\$M) Schedule (Mo)	Low 0.50	P Most Likely	Ost-Respons High 1.00 igate where pos Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.06 sible, accept when g and Control	on	Additional Cost to Respond Strategy	Date Post La Updated
Probability 10% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 0.50	P Most Likely	Ost-Respons High 1.00 igate where pos Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.06 sible, accept when g and Control From	on	Additional Cost to Respond Strategy	Date Post La Updated 10/11/2021 nterval Date MC La: Updated
Probability 10% Cost (\$M) Schedule (Mo) Schedule (Mo)	Low 0.50	P Most Likely	Ost-Respons High 1.00 igate where pos Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.06 sible, accept when g and Control From	on	Additional Cost to Respond Strategy	Date Post La Updated 10/11/2021 nterval Date MC La



Project	1	Lower Baker Da	im l	(	Risk ID	LBK LBKDSR	CNS 900 27
		er Dam Seepag	5.12		Status	Acti	
		Environmen		Environmental to public/permit	ting agencies		
Risk Trigger				Flowchar	rt Activity	22	0
Depende	ency & Correl	lation					
			Pre-Respons	e Quantificatio	on		
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
50%				value impact	6	18	opuateu
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 de	winstream of dar Pha		o public. Permittin	g agencies or publi	
Overwater work and will c Probability		and pH impacts de	winstream of dar Pha	m - and be visible t ase 2B. <b>se Quantificati</b> Total Expected	o public. Permittin		Date Post Las
will c	ause turbidity	r and pH impacts de	winstream of dar Pha ost-Respons	m - and be visible t ase 2B. <b>se Quantificati</b>	o public. Permittin	g agencies or publi	c
will c Probability 50% Cost (\$M)	ause turbidity	Most Likely	wwnstream of dar Pha ost-Respons High	m - and be visible t ase 2B. <b>Se Quantificati</b> Total Expected Value Impact \$0.00	o public. Permittin	g agencies or publi	Date Post Las
will c Probability 50%	ause turbidity	r and pH impacts de	winstream of dar Pha ost-Respons	m - and be visible t ase 2B. se Quantificati Total Expected Value Impact	o public. Permittin	g agencies or publi Additional Cost to Respond	C Date Post Las Updated
will c Probability 50% Cost (\$M)	Low 0.25	Most Likely	wwnstream of dar Pha ost-Respons High 0.25 nd methods. Pr- permits has bee vated turbidity ar Monitoring	m - and be visible t ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.13 e-project permitting in performed. Furth nd pH conditions of g and Control	o public. Permittin on gagency engagem. re education of pu	Additional Cost to Respond Strategy ent to alert them to	Date Post Las Updated 10/11/2021 turbidity and ph agencies when
will c Probability 50% Cost (\$M) Schedule (Mo) Environmental contr increases and get t	Low 0.25 ols are includ hese concern	Most Likely	ost-Respons High 0.25 nd methods. Pr permits has bee vated turbidity 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 gagency engagem. re education of pu	g agencies or publi Additional Cost to Respond Strategy ent to alert them to blic and permitting	Date Post Las Updated 10/11/2021 turbidity and ph agencies when
will c Probability 50% Cost (\$M) Schedule (Mo) Environmental contr increases and get t Risk Ow	Low 0.25 ols are includ hese concern	Most Likely	wwnstream of dar Phr ost-Respons High 0.25 nd methods. Prr 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 nd pH conditions of g and Control From	o public. Permittin on gagency engagem. re education of pu	g agencies or publi Additional Cost to Respond Strategy ent to alert them to blic and permitting	Date Post Las Updated 10/11/2021 turbidity and ph agencies when
will c Probability 50% Cost (\$M) Schedule (Mo) Environmental contr increases and get t Risk Ow	Low 0.25 ols are includ hese concern	Most Likely	wwnstream of dar Phr ost-Respons High 0.25 nd methods. Prr 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 nd pH conditions of g and Control From	o public. Permittin on gagency engagem. re education of pu	g agencies or publi Additional Cost to Respond Strategy ent to alert them to blic and permitting	Date Post Las Updated 10/11/2021 turbidity and ph agencies when nterval
will c Probability 50% Cost (\$M) Schedule (Mo) Environmental contr increases and get t Risk Ow	Low 0.25 ols are includ hese concern	Most Likely	wwnstream of dar Phr ost-Respons High 0.25 nd methods. Prr 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 nd pH conditions of g and Control From	o public. Permittin on gagency engagem. re education of pu	g agencies or publi Additional Cost to Respond Strategy ent to alert them to blic and permitting Status I	Date Post Las Updated 10/11/2021 turbidity and ph agencies when nterval Date MC Las
will c Probability 50% Cost (\$M) Schedule (Mo) Environmental contr increases and get t Risk Ow	Low 0.25 ols are includ hese concern	Most Likely	wwnstream of dar Phr ost-Respons High 0.25 nd methods. Prr 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 nd pH conditions of g and Control From	o public. Permittin on gagency engagem. re education of pu	g agencies or publi Additional Cost to Respond Strategy ent to alert them to blic and permitting Status I	C Date Post Las Updated 10/11/2021 turbidity and ph agencies when nterval Date MC Las Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.28
Sub-Project		er Dam Seepag			Status	Acti	
				tup, Getting to ( alays - submittal			
Risk Trigger				Flowchar	t Activity	Watc	hlist
Depend	iency & 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 Las Updated
	]			value impact	12	29	opuateu
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	
Schedule (Mo)				0.00	12	29	
		P	ost-Respons	Delay in review and se Quantificati			isk at this time.
Contractor delays Probability	start or is slow					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 La:
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	ost-Respons High am monitor and	Se Quantification	on	Additional Cost to Respond Strategy g work progress.	Date Post La Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low PSE construction VNET	P Most Likely	ost-Respons High am monitor and	Se Quantification Total Expected Value Impact \$0.00 0.00 work with LBC to read g and Control From	on	Additional Cost to Respond Strategy	Date Post La Updated
Probability Cost (\$M) Schedule (Mo)	Low PSE construction VNET	P Most Likely  on management te	ost-Respons High am monitor and Monitoring Risk Aging	Se Quantification	on	Additional Cost to Respond Strategy g work progress.	Date Post La Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low PSE construction VNET	P Most Likely	ost-Respons High am monitor and Monitoring Risk Aging	Se Quantification Total Expected Value Impact \$0.00 0.00 work with LBC to read g and Control From	on	Additional Cost to Respond Strategy g work progress.	Date Post La Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low PSE construction VNET	P Most Likely  on management te	ost-Respons High am monitor and Monitoring Risk Aging	Se Quantification Total Expected Value Impact \$0.00 0.00 work with LBC to read g and Control From	on	Additional Cost to Respond Strategy g work progress. Status I	Date Post La Updated
Probability Cost (\$M) Schedule (Mo) Risk Ow	Low PSE construction VNET	P Most Likely  on management te	ost-Respons High am monitor and Monitoring Risk Aging	Se Quantification Total Expected Value Impact \$0.00 0.00 work with LBC to read g and Control From	on	Additional Cost to Respond Strategy g work progress. Status I	Date Post La: Updated



Project	L	ower Baker Da	am		Risk ID	LBK LBKDSR	CNS 900.29
Sub-Project		er Dam Seepag		j	Status	Acti	
				etup, Getting to elays - permittin			
Risk Trigger				Flowchar	t Activity	Watc	hlist
Depend	lency & Correl:	ation					
		F	Pre-Respons	e Quantificatio	on	0	r
Probability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
	]			value impact	12	29	Opuateu
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	
Schedule (Mo)				0.00	12	29	
	ays start or is si	P		ackages. Delay rec se Quantificati		nits. Watchlist risk	at this time.
Contractor dela	ays start or is si					Mits. Watchlist risk	
Probability		P	ost-Respons	se Quantificati		Additional Cost to Respond	Date Post La:
		P	ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost	Date Post Las Updated
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	Bost-Respons High	Se Quantificati	on	Additional Cost to Respond Strategy g work progress.	Date Post Las Updated 10/11/2021
Probability Cost (\$M) Schedule (Mo)	Low PSE construction	P Most Likely	Bost-Respons High	Se Quantificati	on	Additional Cost to Respond Strategy	Date Post La: Updated 10/11/2021
Probability Cost (\$M) Schedule (Mo)	Low PSE construction	P Most Likely	High High am monitor and Monitoring Risk Aging	Se Quantificati	on	Additional Cost to Respond Strategy g work progress.	Date Post La: Updated 10/11/2021
Probability Cost (\$M) Schedule (Mo)	Low PSE construction	P Most Likely  on management te	High High am monitor and Monitoring Risk Aging	Se Quantificati	on	Additional Cost to Respond Strategy g work progress.	Date Post La: Updated 10/11/2021 nterval Date MC La: Updated
Probability Cost (\$M) Schedule (Mo)	Low PSE construction	P Most Likely  on management te	High High am monitor and Monitoring Risk Aging	Se Quantificati	on	Additional Cost to Respond Strategy g work progress. Status I	Date Post La: Updated 10/11/2021 nterval Date MC La:
Probability Cost (\$M) Schedule (Mo)	Low PSE construction	P Most Likely  on management te	High High am monitor and Monitoring Risk Aging	Se Quantificati	on	Additional Cost to Respond Strategy g work progress. Status I	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated



	1	ower Baker Da	m		Risk ID	LBK LBKDSF	CTR 40.01
owerl		er Dam Seepag	542		Status	Acti	
		General - Col		'craft availability nditions - labor	and retention		
				Flowcha	rt Activity	210, 22	0, 230
ncy & Co	/ & Correla	ition		Equal	y weighted across a	activities	
		F	re-Respons	e Quantificatio	on		
Lov	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
				value impact	12	4	opuateu
				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
1.0	1.00	2.00	3.00	0.60	12	4	
n the reg	ne region, i	job	consistently with Phase :	large amount of of h their project sche 2A, 2B, 2C. se Quantificati	dule	Contractor may str	uggle to staff th
	Low	job	consistently with Phase :	h their project sche 2A, 2B, 2C. <b>se Quantificati</b> Total Expected	dule	Contractor may str Additional Cost to Respond	Date Post Las
		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 Las Updated
Lov		job P	consistently with Phase : ost-Respons	h their project sche 2A, 2B, 2C. <b>se Quantificati</b> Total Expected	dule	Additional Cost	Date Post Las
Lov	Low	job P Most Likely	consistently with Phase 2 ost-Respons High 3.00	h their project sche 2A, 2B, 2C. Se Quantificati Total Expected Value Impact \$0.00 0.60	dule	Additional Cost to Respond	Date Post Las Updated
Lov	Low 1.00	job P Most Likely	consistently with Phase 2 ost-Respons High 3.00	h their project sche 2A, 2B, 2C. se Quantificati Total Expected Value Impact \$0.00	dule	Additional Cost to Respond	Date Post Las Updated 10/11/2021
Lov 1.0	Low 1.00	job P Most Likely	consistently with Phase 2 ost-Respons High 3.00	h their project sche 2A, 2B, 2C. Se Quantificati Total Expected Value Impact \$0.00 0.60	dule	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
Lov 1.0	Low 1.00	job P Most Likely	consistently with Phase 2 ost-Respons High 3.00 Monitoring Risk Aging	h their project sche 2A, 2B, 2C. Se Quantificati Total Expected Value Impact \$0.00 0.60	dule	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval
Lov 1.0	Low 1.00	job Most Likely	consistently with Phase 2 ost-Respons High 3.00 Monitoring Risk Aging	h their project sche 2A, 2B, 2C. Se Quantificati Total Expected Value Impact \$0.00 0.60	dule	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated
Lov 1.0	Low 1.00	job Most Likely	consistently with Phase 2 ost-Respons High 3.00 Monitoring Risk Aging	h their project sche 2A, 2B, 2C. Se Quantificati Total Expected Value Impact \$0.00 0.60	dule	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las
Lov 1.0	Low 1.00	job Most Likely	consistently with Phase 2 ost-Respons High 3.00 Monitoring Risk Aging	h their project sche 2A, 2B, 2C. Se Quantificati Total Expected Value Impact \$0.00 0.60	dule	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 nterval Date MC Las Updated



Project	L	ower Baker Da	m	1	Risk ID	LBK LBKDSF	R CTR 50.01
Sub-Project	Lower Bake	er Dam Seepag	e Reduction	į –	Status	Act	ive
				Procurement procurement			
Risk Trigger				Flowcha	rt Activity	21	0
Depend	iency & 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
10%	]	- 1		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	
	1	P	Pha ost-Respons	n high demand) ma ase 2A. Se Quantificati	y delay procuremen i <b>on</b>		
Probability	Availability of st		Pha	ase 2A.		Additional Cost to Respond	Date Post Las Updated
Probability 10%	1	P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
Probability	1	P	Pha ost-Respons	ase 2A.		Additional Cost	Date Post Las Updated 10/11/2021
Probability 10% Cost (\$M)	Low	P Most Likely	Pha ost-Respons High 6.00	se Quantificati Total Expected Value Impact \$0.00	ion     	Additional Cost to Respond	Updated
Probability 10% Cost (\$M)	Low	P Most Likely	Oost-Respons High 6.00 itor progress and Monitoring	se Quantificati Total Expected Value Impact \$0.00 0.32	ion     	Additional Cost to Respond	Updated
Probability 10% Cost (\$M) Schedule (Mo)	Low 1.00 Vner	P Most Likely	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	ion     	Additional Cost to Respond Strategy	Updated
Probability 10% Cost (\$M) Schedule (Mo)	Low 1.00 Vner	P Most Likely	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 From	ion	Additional Cost to Respond Strategy	Updated 10/11/2021 nterval
Probability 10% Cost (\$M) Schedule (Mo)	Low 1.00 Vner	P Most Likely	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 From	ion	Additional Cost to Respond Strategy Strategy	Updated 10/11/2021 nterval
Probability 10% Cost (\$M) Schedule (Mo)	Low 1.00 Vner	P Most Likely	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 From	ion	Additional Cost to Respond Strategy	Updated 10/11/2021 nterval Date MC Las Updated 10/11/2021



Project Lower Baker Dam Seepage Reduction Status Active Schedule performance CTrigger Provements Provements Cost Value Institution Pre-Response Quantification Pre-Response Quantification Dependency & Correlation Pre-Response Quantification Schedule Program Rank Program Rank Program Rank Program Rank Program Rank Program Rank Schedule Date Pre Las Updated St (SM) Status Not Likely High Total Expected Cost Schedule Post-Response Quantification Schedule Schedu	Project		ower Baker Da	m	í	Risk ID	LBK LBKDSF	CTR 60.01
K Trigger       Flowchart Activity       Walchlist         Dependency & Correlation         Pre-Response Quantification         obability       Low       Most Likely       High       Total Expected       Program Rank Cost       Date Pre Las Updated         st (\$M)       S0.00       Project Rank Schedule       Project Rank Schedule       Date Pre Las Updated         st (\$M)       S0.00       12       29       12       29         Attractor may take longer to complete work for their own reasons, resulting in delayed delivery of project. Increased PSE cost to provide contract administration staff for longer duration. Watchlist risk at this time.         Dependency & Most Likely         Monitoring and Control         Monitoring and Control         Review Comments         Date Review Comments	Sub-Project							
Dependency & Correlation         Pre-Response Quantification         obability       Low       Most Likely       High       Total Expected       Program Rank Cost       Program Rank Schedule       Date Pre Las Updated         st (\$M)				Schedule	performance			
Pre-Response Quantification         obability       Low       Most Likely       High       Total Expected       Program Rank Cost       Program Rank Schedule       Date Pre Las Updated         ist (\$M)       \$0.00       Project Rank Cost       Project Rank Schedule       12       29       0         dule (Mo)       0.00       12       29       0 <td< th=""><th>Risk Trigger</th><th></th><th></th><th></th><th>Flowchai</th><th>rt Activity</th><th>Watc</th><th>hlist</th></td<>	Risk Trigger				Flowchai	rt Activity	Watc	hlist
Obability       Low       Most Likely       High       Total Expected Value impact       Program Rank Cost       Program Rank Schedule       Date Pre Las Updated         st (\$M)        S0.00       Project Rank Cost       Project Rank Schedule       Project Rank Schedule       Date Pre Las Updated         dule (Mo)        0.00       12       29       0         tractor may take longer to complete work for their own reasons, resulting in delayed delivery of project. Increased PSE cost to provide contract administration staff for longer duration. Watchilst risk at this time.       Date Prest Las Updated         bbability       Low       Most Likely       High       Total Expected Value impact       Additional Cost to Respond       Date Post Las Updated         st (\$M)        S0.00       Strategy       0.00       0.00       Strategy         est (\$M)        S0.00       Strategy       0.00       0.00       Strategy         PSE construction management team monitor and work with LBC to reduce delays during work progress.       Monitoring and Control       Total Expected       Total Expected       Total Expected       10/11/2021         Michael Genduso       Risk Aging       From       Status Interval       Total Expected       Total Expected       10/11/2021	Depend	ency & Correla	ition					
DDablity       Low       MOST LIKely       Hign       Total Expected       Cost       Schedule       Date Pre Las         vst (\$M)       12       29       Updated         ist (\$M)       0.00       Project Rank       Schedule       Updated         dule (Mo)       0.00       12       29         ttractor may take longer to complete work for their own reasons, resulting in delayed delivery of project. Increased PSE cost to provide contract administration staff for longer duration. Watchlist risk at this time.       Additional Cost to provide contract administration staff for longer duration.         value Impact       0.00       State Schedule       Date Pre Las         value Impact       0.00       12       29         value Impact       Most Likely       High       Total Expected       Additional Cost to Provide Cost to Provide Cost to Provide Cost to Provide Cost to Respond         value Impact       0.00       Strategy       0.00       0.00         dule (Mo)       0.00       Strategy       0.00       0.00       0.00         PSE construction management team monitor and work with LBC to reduce delays during work progress.       Monitoring and Control       To       0.00         Risk Owner       Risk Aging       From       Status Interval       0.010       0.010       0.010       0.010 <th></th> <th></th> <th>F</th> <th>Pre-Respons</th> <th>e Quantificatio</th> <th>on</th> <th></th> <th></th>			F	Pre-Respons	e Quantificatio	on		
ist (\$M)       \$0.00       Project Rank Schedule       Project Rank Schedule         dule (Mo)       0.00       12       29         itractor may take longer to complete work for their own reasons, resulting in delayed delivery of project. Increased PSE cost to provide contract administration staff for longer duration. Watchlist risk at this time.       Increased PSE cost to provide contract administration staff for longer duration. Watchlist risk at this time.         Post-Response Quantification       Additional Cost to Respond       Date Post Las Updated         st (\$M)       \$0.00       Strategy         dule (Mo)       0.00       Strategy         PSE construction management team monitor and work with LBC to reduce delays during work progress.       Monitoring and Control         Risk Aging       From       Status Interval         Michael Genduso       Risk Aging       From       Status Interval         Updated       10/11/2021       10/11/2021       10/11/2021	Probability	Low	Most Likely	High				
str (\$M)       30.00       Cost       Schedule         dule (Mo)       0.00       12       29         stractor may take longer to complete work for their own reasons, resulting in delayed delivery of project. Increased PSE cost to provide contract administration staff for longer duration. Watchilst risk at this time.       Increased PSE cost to provide contract administration staff for longer duration. Watchilst risk at this time.         Post-Response Quantification         additional Cost to Respond         bbability       Low         Most Likely       High         Total Expected         Value Impact       Date Post Laso         Updated         Interview Comments         Monitoring and Control         Review Comments         Date MC Las Updated         Update MC Las Updated								
dule (Mo)       0.00       12       29         stractor may take longer to complete work for their own reasons, resulting in delayed delivery of project. Increased PSE cost to provide contract administration staff for longer duration. Watchlist risk at this time.       Post-Response Quantification         bability       Low       Most Likely       High       Total Expected Value Impact       Additional Cost to Respond       Date Post La: Updated         st (\$M)       \$0.00       \$trategy       Image: Construction management team monitor and work with LBC to reduce delays during work progress.       PSE construction management team monitor and work with LBC to reduce delays during work progress.         Monitoring and Control       Total Expected       Total Expected       Image: Control Control         Risk Owner       Risk Aging       From       Status Interval       Image: Control Control Control         Michael Genduso       Risk Aging       Total Control       Total Control       Image: Control Control Control Control Control       Total Control Control Control Control       Total Control Co	Cost (\$M)				\$0.00			
contract administration staff for longer duration. Watchlist risk at this time.         Post-Response Quantification         obability       Low       Most Likely       High       Total Expected       Additional Cost to Respond       Date Post La Updated         st (\$M)       0.00       \$0.00       Strategy       Image: Construction management team monitor and work with LBC to reduce delays during work progress.       PSE construction management team monitor and work with LBC to reduce delays during work progress.         Monitoring and Control         Risk Owner       Risk Aging       From       Status Interval         Michael Genduso       Date Monitoring and Control       Date MC Last       Updated         Image: Comments       Last Review       Date MC Last       Updated	Schedule (Mo)				0.00	12	29	
sst (\$M)       \$0.00         dule (Mo)       0.00         PSE construction management team monitor and work with LBC to reduce delays during work progress.         PSE construction management team monitor and work with LBC to reduce delays during work progress.         Monitoring and Control         Risk Owner       Risk Aging         From       Status Interval         Michael Genduso       To         Review Comments       Date MC Last Qupdated         10/11/2021       10/11/2021			contract administra	ition staff for long	ger duration. Watch	hlist risk at this time		cost to provide
dule (Mo)       0.00         PSE construction management team monitor and work with LBC to reduce delays during work progress.         Monitoring and Control         Risk Owner       Risk Aging         Michael Genduso       To         Review Comments       Date MC Last Review         Updated       10/11/2021	Probability		contract administra	ition staff for long	ger duration. Watch se Quantificati Total Expected	hlist risk at this time	Additional Cost	Date Post La:
PSE construction management team monitor and work with LBC to reduce delays during work progress.			contract administra	ition staff for long	ger duration. Watch se Quantificati Total Expected Value Impact	hlist risk at this time	Additional Cost to Respond	Date Post Las
Michael Genduso  Review Comments  Last Review  Date MC Las  Updated  10/11/2021	Probability Cost (\$M) Schedule (Mo)		contract administra	ition staff for long	ger duration. Watch se Quantificati Total Expected Value Impact \$0.00	hlist risk at this time	Additional Cost to Respond	Date Post Las
Michael Genduso   Review Comments  Last Review Date MC Last Updated  10/11/2021	Cost (\$M) Schedule (Mo)	Low	Most Likely	ost-Respons High am monitor and	ger duration. Watch Se Quantificati Total Expected Value Impact \$0.00 0.00 work with LBC to re-	on	Additional Cost to Respond Strategy	Date Post Las
Last Review Date MC Last Updated	Cost (\$M) Schedule (Mo)	Low PSE constructio	Most Likely	ost-Respons High am monitor and Monitoring	ger duration. Watch se Quantificati Total Expected Value Impact \$0.00 0.00 work with LBC to re g and Control From	on	Additional Cost to Respond Strategy g work progress.	Date Post La Updated
10/11/2021	Cost (\$M) Schedule (Mo)	Low PSE constructio	Most Likely	am monitor and Monitoring Risk Aging	ger duration. Watch se Quantificati Total Expected Value Impact \$0.00 0.00 work with LBC to re g and Control From	on	Additional Cost to Respond Strategy g work progress.	Date Post Las Updated
	Cost (\$M) Schedule (Mo)	Low PSE constructio	Most Likely	am monitor and Monitoring Risk Aging	ger duration. Watch se Quantificati Total Expected Value Impact \$0.00 0.00 work with LBC to re g and Control From	on	Additional Cost to Respond Strategy g work progress. Status I	Date Post Las Updated
Next Review Risk Assignmen	Cost (\$M) Schedule (Mo)	Low PSE constructio	Most Likely	am monitor and Monitoring Risk Aging	ger duration. Watch se Quantificati Total Expected Value Impact \$0.00 0.00 work with LBC to re g and Control From	on	Additional Cost to Respond Strategy g work progress. Status I	Date Post Las Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CTR 900.01
Sub-Project		er Dam Seepag			Status	Act	
				nstrumentation Intation data			
Risk Trigger				Flowcha	rt Activity	Wate	hlist
Depend	ency & 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
				value impact	12	29	opuateu
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)				0.00	12	29	
Difficulty getting in:	strumentation		control sys Pha	, and ATMS integra tem. Watchlist ase 1A.		istrumentation and	monitoring and
Difficulty getting in:	strumentation		control sys Pha	tem. Watchlist ase 1A. se Quantificati Total Expected		Additional Cost	Date Post La
		P	control sys Pha ost-Respons	tem. Watchlist ase 1A. se Quantificati		Additional Cost	
		P	control sys Pha ost-Respons	tem. Watchlist ase 1A. se Quantificati Total Expected		Additional Cost	Date Post La
Probability		P	control sys Pha ost-Respons	tem. Watchlist ase 1A. se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post La
Probability Cost (\$M) Schedule (Mo) Requirement for des Risk Ow	Low ign and testing	P Most Likely	control sys Phi ost-Respons High ation integration group Monitoring	tem. Watchlist ase 1A. Se Quantificati Total Expected Value Impact \$0.00 0.00 with the grout cont outing. g and Control From	on	Additional Cost to Respond Strategy	Date Post La Updated
Probability Cost (\$M) Schedule (Mo) Requirement for des	Low ign and testing	P Most Likely g of the instrumenta	control sys Phi ost-Respons High ation integration gro Monitoring Risk Aging	tem. Watchlist ase 1A. Se Quantificati Total Expected Value Impact \$0.00 0.00 with the grout cont outing. g and Control	on	Additional Cost to Respond Strategy ed to be completed	Date Post La Updated
Probability Cost (\$M) Schedule (Mo) Requirement for des Risk Ow	Low ign and testing	P Most Likely	control sys Phi ost-Respons High ation integration gro Monitoring Risk Aging	tem. Watchlist ase 1A. Se Quantificati Total Expected Value Impact \$0.00 0.00 with the grout cont outing. g and Control From	on	Additional Cost to Respond Strategy ed to be completed	Date Post La: Updated
Probability Cost (\$M) Schedule (Mo) Requirement for des Risk Ow	Low ign and testing	P Most Likely g of the instrumenta	control sys Phi ost-Respons High ation integration gro Monitoring Risk Aging	tem. Watchlist ase 1A. Se Quantificati Total Expected Value Impact \$0.00 0.00 with the grout cont outing. g and Control From	on	Additional Cost to Respond Strategy ed to be completed	Date Post La Updated
Probability Cost (\$M) Schedule (Mo) Requirement for des Risk Ow	Low ign and testing	P Most Likely g of the instrumenta	control sys Phi ost-Respons High ation integration gro Monitoring Risk Aging	tem. Watchlist ase 1A. Se Quantificati Total Expected Value Impact \$0.00 0.00 with the grout cont outing. g and Control From	on	Additional Cost to Respond Strategy ed to be completed Status I	Date Post La Updated
Probability Cost (\$M) Schedule (Mo) Requirement for des Risk Ow	Low ign and testing	P Most Likely g of the instrumenta	control sys Phi ost-Respons High ation integration gro Monitoring Risk Aging	tem. Watchlist ase 1A. Se Quantificati Total Expected Value Impact \$0.00 0.00 with the grout cont outing. g and Control From	on	Additional Cost to Respond Strategy ed to be completed Status I	Date Post La Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CTR 900.03
	Lower Bake	er Dam Seepag	e Reduction	j	Status	Acti	ve
		Ge	neral - Decisi	ion Making Pro	cess		
Risk Trigger				Flowcha	rt Activity	22	0
Depende	ency & 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 La Updated
25%				value impact	12	22	opuated
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)	0.25	0.25	0.25	0.06	12	22	
PSE, PSE team me	mbers, unable	mix P	changes, in-hole Pha	ng approval of work testing, hole addit ase 2B. se Quantificati	lions).		) program (e.g
Probability	mbers, unable	mix	changes, in-hole Pha	e testing, hole addit ase 2B.	lions).	Additional Cost	
Probability 25%		mix P	changes, in-hole Pha ost-Respons	testing, hole addit ase 2B. <b>Se Quantificati</b> Total Expected Value Impact	lions).	Additional Cost to Respond	Date Post La Updated
Probability		mix P	changes, in-hole Pha ost-Respons	e testing, hole addit ase 2B. se Quantificati Total Expected	lions).	Additional Cost	Date Post La
Probability 25% Cost (\$M) Schedule (Mo) Establish decision pro	Low 0.25 Docess and pro prior to start	mix P Most Likely 0.25 tocols prior to start	changes, in-hole Phi ost-Respons High 0.25 of test grouting odate as ground	testing, hole addit ase 2B. Se Quantificati Total Expected Value Impact \$0.00 0.06 program. Establisi conditions and ope	on	Additional Cost to Respond Strategy Strategy uting program decis ting advance.	Date Post La Updated 10/11/2021 sions and actic
Probability 25% Cost (\$M) Schedule (Mo)	Low 0.25 Decess and pro prior to start	mix P Most Likely 0.25 tocols prior to start	changes, in-hole Phi ost-Respons High 0.25 of test grouting odate as ground	se Quantificati Total Expected Value Impact \$0.00 0.06 program. Establisi conditions and ope	on on     	Additional Cost to Respond Strategy	Date Post La Updated 10/11/2021 sions and actic
Probability 25% Cost (\$M) Schedule (Mo) Establish decision pro	Low 0.25 Decess and pro prior to start	mix P 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	se Quantificati Se Quantificati Total Expected Value Impact \$0.00 0.06 program. Establisi conditions and ope g and Control From	on on     	Additional Cost to Respond Strategy Strategy uting program decis ting advance.	Date Post La Updated 10/11/2021 sions and actic
Probability 25% Cost (\$M) Schedule (Mo) Establish decision pro	Low 0.25 Decess and pro prior to start	mix P 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	se Quantificati Se Quantificati Total Expected Value Impact \$0.00 0.06 program. Establisi conditions and ope g and Control From	on on     	Additional Cost to Respond Strategy Strategy uting program decis ting advance.	Date Post La Updated 10/11/2021 sions and actic
Probability 25% Cost (\$M) Schedule (Mo) Establish decision pro	Low 0.25 Decess and pro prior to start	mix P 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	se Quantificati Se Quantificati Total Expected Value Impact \$0.00 0.06 program. Establisi conditions and ope g and Control From	on on     	Additional Cost to Respond Strategy Strategy uting program decise ding advance.	Date Post La Updated 10/11/2021 sions and actic nterval Date MC La Updated
Probability 25% Cost (\$M) Schedule (Mo) Establish decision pro	Low 0.25 Decess and pro prior to start	mix P 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	se Quantificati Se Quantificati Total Expected Value Impact \$0.00 0.06 program. Establisi conditions and ope g and Control From	on on     	Additional Cost to Respond Strategy Strategy uting program decise ding advance.	Date Post La Updated 10/11/2021 sions and actio nterval Date MC La



Project	1	ower Baker Da	m	1	Risk ID	LBK LBKDSF	DES 10.02
		er Dam Seepag	5422		Status	Acti	
				ertical Tiedowns uipment selecti			
Risk Trigger				Flowcha	rt Activity	100, 20	0, 210
Depende	ency & Correl	ation		Equ	al weight to each a	activity	
		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
30%				Tante Impact	12	4	opuncu
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	
Contractor's design	and equipme	could	delay operation Phase ost-Respons	ctivity has not yet b and project by ext 1A, 1B, 2A. se Quantificati	ension.		sign/approach
Probability	n and equipme Low	could	delay operation Phase	and project by ext 1A, 1B, 2A.	ension.	tion to complete de Additional Cost to Respond	
Probability 30%		could	delay operation Phase ost-Respons	and project by ext 1A, 1B, 2A. se Quantificati Total Expected Value Impact	ension.	Additional Cost to Respond	Date Post La: Updated
Probability		could	delay operation Phase ost-Respons	and project by ext 1A, 1B, 2A. se Quantificati Total Expected	ension.	Additional Cost	Date Post Las
Probability 30% Cost (\$M) Schedule (Mo)	Low 1.00	P Most Likely	delay operation Phase ost-Respons High 3.00 erify all concerns through submitt	and project by extr 1A, 1B, 2A. se Quantificati Total Expected Value Impact \$0.00 0.60 s are addressed in al review and RRM	on on submittal. Ensure t	Additional Cost to Respond	Date Post Las Updated 10/11/2021
Probability 30% Cost (\$M) Schedule (Mo) Track submittal sch	Low 1.00 hedule and LE	P Most Likely	delay operation Phase ost-Respons High 3.00 erify all concerns through submitt	and project by extr 1A, 1B, 2A. Se Quantificati Total Expected Value Impact \$0.00 0.60 s are addressed in al review and RRM g and Control	on on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Date Post Las Updated 10/11/2021 and approach
Probability 30% Cost (\$M) Schedule (Mo) Track submittal sch Risk Own	Low 1.00 hedule and LE	P Most Likely	delay operation Phase ost-Respons High 3.00 erify all concerns through submitt	and project by extr 1A, 1B, 2A. Se Quantificati Total Expected Value Impact \$0.00 0.60 are addressed in al review and RRW g and Control From	on on submittal. Ensure t	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 and approach
Probability 30% Cost (\$M) Schedule (Mo) Track submittal sch	Low 1.00 hedule and LE	Could P Most Likely 2.00 C performance. Vo	delay operation Phase ost-Respons High 3.00 erify all concerns through submitt Monitoring Risk Aging	and project by extr 1A, 1B, 2A. Se Quantificati Total Expected Value Impact \$0.00 0.60 s are addressed in al review and RRM g and Control	on on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Date Post Las Updated 10/11/2021 and approach
Probability 30% Cost (\$M) Schedule (Mo) Track submittal sch Risk Own	Low 1.00 hedule and LE	P Most Likely	delay operation Phase ost-Respons High 3.00 erify all concerns through submitt Monitoring Risk Aging	and project by extr 1A, 1B, 2A. Se Quantificati Total Expected Value Impact \$0.00 0.60 are addressed in al review and RRW g and Control From	on on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Date Post Las Updated 10/11/2021 and approach
Probability 30% Cost (\$M) Schedule (Mo) Track submittal sch Risk Own	Low 1.00 hedule and LE	Could P Most Likely 2.00 C performance. Vo	delay operation Phase ost-Respons High 3.00 erify all concerns through submitt Monitoring Risk Aging	and project by extr 1A, 1B, 2A. Se Quantificati Total Expected Value Impact \$0.00 0.60 are addressed in al review and RRW g and Control From	on on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Date Post Las Updated 10/11/2021 and approach nterval Date MC Las
Probability 30% Cost (\$M) Schedule (Mo) Track submittal sch Risk Own	Low 1.00 hedule and LE	Could P Most Likely 2.00 C performance. Vo	delay operation Phase ost-Respons High 3.00 erify all concerns through submitt Monitoring Risk Aging	and project by extr 1A, 1B, 2A. Se Quantificati Total Expected Value Impact \$0.00 0.60 are addressed in al review and RRW g and Control From	on on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Date Post Las Updated 10/11/2021 and approach nterval Date MC Las Updated



Project	1	ower Baker Da	m		Risk ID	LBK LBKDSF	DES 50 01
Sub-Project		er Dam Seepac			Status	Acti	
				ertical Tiedowns ironmental cont			
Risk Trigger				Flowcha	t Activity	21	0
Depend	ency & Correl	ation	-	<u></u>			
		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
10%				· une impuer	12	24	opuutou
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	
	Inadequat		Pha	to permit violation, ase 2A. <b>Se Quantificati</b>	resulting in delay to		
Probability	Inadequat		Pha	se Quantificati		o operation. Additional Cost to Respond	21111111111111111111111111111111111111
10%		P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Updated
10% Cost (\$M)		P	Pha ost-Respons	se Quantificati		Additional Cost	21111111111111111111111111111111111111
10% Cost (\$M) Schedule (Mo)	Low 0.25	P Most Likely	Ost-Respons High 0.50	se Quantificati Total Expected Value Impact \$0.00 0.05	on submittal. Ensure t	Additional Cost to Respond	Updated 10/11/2021
10% Cost (\$M) Schedule (Mo)	Low 0.25	P Most Likely	Philost-Response High 0.50 erify all concerns through submitt	se Quantificati Total Expected Value Impact \$0.00 0.05 are addressed in al review and RRM	on submittal. Ensure t	Additional Cost to Respond Strategy	Updated 10/11/2021
10% Cost (\$M) Schedule (Mo)	Low 0.25	P Most Likely	Philosophic Philos	se Quantificati Total Expected Value Impact \$0.00 0.05	on submittal. Ensure t	Additional Cost to Respond Strategy	Updated 10/11/2021 and approach
10% Cost (\$M) Schedule (Mo) Track submittal sc	Low 0.25 Chedule and LE	P Most Likely	Philost-Response High 0.50 erify all concerns through submitt	se Quantificati Total Expected Value Impact \$0.00 0.05 are addressed in al review and RRM g 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 sc Risk Ow	Low 0.25 Chedule and LE	P Most Likely	Ost-Respons High 0.50 erify all concerns through submitt Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.05 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	10/11/2021 and approach
10% Cost (\$M) Schedule (Mo) Track submittal sc Risk Ow	Low 0.25 Chedule and LE	P Most Likely 0.50 C performance. V	Ost-Respons High 0.50 erify all concerns through submitt Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.05 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% Cost (\$M) Schedule (Mo) Track submittal sc Risk Ow	Low 0.25 Chedule and LE	P Most Likely 0.50 C performance. V	Ost-Respons High 0.50 erify all concerns through submitt Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.05 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
10% Cost (\$M) Schedule (Mo) Track submittal sc Risk Ow	Low 0.25 Chedule and LE	P Most Likely 0.50 C performance. V	Ost-Respons High 0.50 erify all concerns through submitt Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.05 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



oject	L	ower Baker Da	im 🛛		Risk ID	LBK LBKDSR	DES 900.01
		er Dam Seepag	(24-54)		Status	Acti	
				atform w and approval			
Frigger				Flowchar	t Activity	10	0
Dependenc	cy & Correla	ition				I	
		F	Pre-Respons	e Quantificatio	on		
ability	Low	Most Likely	High	Total Expected Value Impact	Program Rank Cost	Program Rank Schedule	Date Pre Las Updated
0%				value impact	12	11	opuateu
:(\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
ule (Mo)	0.75	1.00	2.00	0.23	12	11	
onal analysis ar	nd design n		Pha	ng block and rock s ase 1A. Se Quantificati		meet permanent se	eismic criteria.
ability	Ind design n		Pha	ase 1A. se Quantificati Total Expected		meet permanent se Additional Cost to Respond	Date Post La:
ability		P	Pha ost-Respons	se Quantificati Total Expected Value Impact		Additional Cost to Respond	Date Post Las Updated
ability		P	Pha ost-Respons	ase 1A. se Quantificati Total Expected		Additional Cost	Date Post Las
ability 0% : (\$M) ule (Mo)	Low 0.75	P Most Likely	Ost-Respons High 2.00	se Quantificati Total Expected Value Impact \$0.00 0.23	on	Additional Cost to Respond	Date Post Las Updated 10/11/2021
ability 0% : (\$M) ule (Mo)	Low 0.75	P Most Likely	Pha ost-Respons High 2.00 performance. Inte flexibility to	se Quantificati Total Expected Value Impact \$0.00 0.23 emal project level n	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021
ability 0% : (\$M) ule (Mo)	Low 0.75 tractor's des	P Most Likely	Pha ost-Respons High 2.00 Deerformance. Inte flexibility to p	se Quantificati Total Expected Value Impact \$0.00 0.23 emal project level n mitigate impact.	on	Additional Cost to Respond Strategy	Date Post La: Updated 10/11/2021 ilize schedule
ability 0% : (\$M) ule (Mo) ty monitor Cont	Low 0.75 tractor's des	P Most Likely 1.00 ign and planning p	Pha ost-Respons High 2.00 Deerformance. Inte flexibility to a Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.23 emal project level m mitigate impact. g and Control	on	Additional Cost to Respond Strategy	Date Post La: Updated 10/11/2021 ilize schedule
ability 0% (\$M) ule (Mo) vy monitor Cont	Low 0.75 tractor's des	P Most Likely	Pha ost-Respons High 2.00 Deerformance. Inte flexibility to a Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.23 emal project level m mitigate impact. g and Control From	on	Additional Cost to Respond Strategy	Date Post Las Updated 10/11/2021 ilize schedule nterval
ability 0% (\$M) ule (Mo) vy monitor Cont	Low 0.75 tractor's des	P Most Likely 1.00 ign and planning p	Pha ost-Respons High 2.00 Deerformance. Inte flexibility to a Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.23 emal project level m 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
ability 0% (\$M) ule (Mo) vy monitor Cont	Low 0.75 tractor's des	P Most Likely 1.00 ign and planning p	Pha ost-Respons High 2.00 Deerformance. Inte flexibility to a Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.23 emal project level m mitigate impact. g and Control From	on	Additional Cost to Respond Strategy	Date Post La: Updated 10/11/2021 ilize schedule nterval Date MC Las
ability 0% (\$M) ule (Mo) vy monitor Cont	Low 0.75 tractor's des	P Most Likely 1.00 ign and planning p	Pha ost-Respons High 2.00 Deerformance. Inte flexibility to a Monitoring Risk Aging	se Quantificati Total Expected Value Impact \$0.00 0.23 emal project level m 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



Project	L L	ower Baker Da	m	1	Risk ID	LBK LBKDSR	CNS 900.19
Sub-Project		er Dam Seepag			Status	Reti	
				g - Bedrock nedule			
Risk Trigger				Flowchar	rt Activity		
Depend	lency & Correl	ation				I	
		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
	]			value impact	12	29	opuateu
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	10/11/2021
Schedule (Mo)				0.00	12	29	
		s increases grout v	olume, requires			ule delays. Watchli	st risk
Concent		s increases grout v	olume, requires	additional holes, an se Quantificati Total Expected	nd results in sched		Date Post La
Probability	rated high flows	s increases grout v	olume, requires	additional holes, an se Quantificati Total Expected Value Impact	nd results in sched	Additional Cost to Respond	
	Low	s increases grout v	olume, requires	additional holes, an se Quantificati Total Expected	nd results in sched	ule delays. Watchlis Additional Cost	Date Post La
Probability Cost (\$M)	Low	Most Likely	olume, requires ost-Respons High tablished bid iter	additional holes, an se Quantificati Total Expected Value Impact \$0.00 0.00	on	Additional Cost to Respond	Date Post La
Probability Cost (\$M)	Low	Most Likely	olume, requires ost-Respons High tablished bid iter Monitoring	additional holes, an additional holes, and additional holes, and add	on	Additional Cost to Respond	Date Post La Updated
Probability Cost (\$M) Schedule (Mo)	Low	Most Likely	olume, requires ost-Respons High tablished bid iter	additional holes, an se Quantificati Total Expected Value Impact \$0.00 0.00 ms and contract pro	on	Additional Cost to Respond Strategy	Date Post La Updated
Probability Cost (\$M) Schedule (Mo)	Low	Most Likely	olume, requires ost-Respons High tablished bid iter Monitoring Risk Aging	additional holes, an 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
Probability Cost (\$M) Schedule (Mo)	Low	Most Likely	olume, requires ost-Respons High tablished bid iter Monitoring Risk Aging	additional holes, an 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



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CTR 900.02
Sub-Project	Lower Bake	er Dam Seepag	ge Reduction		Status	Reti	red
		* 100 K		nstrumentation on responsibilit	у		
Risk Trigger	2			Flowchar	rt Activity		
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 Las Updated
				value impact	12	29	opuateu
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	
Schedule (Mo)				0.00	12	29	
		issignment of resp	onsibility for revi Pha		900.01, retire risk tion data results in On	confusion.	
Probability		issignment of resp	onsibility for revi Pha	ewing instrumental ase 1A. <b>Se Quantificati</b> Total Expected	tion data results in		211 10 10 10 10 10 10 10 10 10 10 10 10 1
	Unclear a	essignment of resp	onsibility for revi Pha	ewing instrumental ase 1A. Se Quantificati Total Expected Value Impact	tion data results in	Additional Cost to Respond	Date Post La Updated
Probability Cost (\$M) Schedule (Mo)	Unclear a	essignment of resp	onsibility for revi Pha	ewing instrumental ase 1A. <b>Se Quantificati</b> Total Expected	tion data results in	Additional Cost	211 10 10 10 10 10 10 10 10 10 10 10 10 1
Cost (\$M) Schedule (Mo)	Unclear a	essignment of resp	onsibility for revi Phi ost-Respons High	ewing instrumental ase 1A. <b>Se Quantificati</b> Total Expected Value Impact \$0.00	tion data results in	Additional Cost to Respond Strategy	Updated
Cost (\$M)	Unclear a	essignment of resp	onsibility for revi Phi ost-Respons High	ewing instrumental ase 1A. Total Expected Value Impact \$0.00 0.00 0.00 g and Control From	tion data results in	Additional Cost to Respond	Updated
Cost (\$M) Schedule (Mo)	Unclear a	Most Likely	onsibility for revi Phi ost-Respons High Monitoring Risk Aging	ewing instrumental ase 1A. Control Expected Value Impact \$0.00 0.00 0.00 0.00	tion data results in	Additional Cost to Respond Strategy	
Cost (\$M) Schedule (Mo)	Unclear a	essignment of resp	onsibility for revi Phi ost-Respons High Monitoring Risk Aging	ewing instrumental ase 1A. Total Expected Value Impact \$0.00 0.00 0.00 g and Control From	tion data results in	Additional Cost to Respond Strategy	Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSF	DES 10.01
		r Dam Seepag			Status	Reti	
				ertical Tiedowns ptions inaccura			
Risk Trigger	Initial CPI	M and final pricing	submittal.	Flowcha	rt Activity		
Depende	ency & Correla	tion		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 Las Updated
5%				value impact	12	29	opuateu
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	
Desig		are inaccurate, ac	lditional design a Pha			to extended duratic	n.
Design		are inaccurate, ac	lditional design a Pha	and approval may b ase 2A.	e needed, leading		Date Post La
Probability	n assumptions	are inaccurate, ac	Iditional design a Pha	and approval may b ase 2A. se Quantificati Total Expected Value Impact	e needed, leading	Additional Cost to Respond	
	n assumptions	are inaccurate, ac	Iditional design a Pha	and approval may b ase 2A. se Quantificati Total Expected	e needed, leading	to extended duratic	Date Post La
Probability Cost (\$M) Schedule (Mo)	Low	P Most Likely	Iditional design a Phi ost-Respons High erify all concerns through submitt	and approval may be ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00 s are addressed in al review and RRM	on on submittal. Ensure t	Additional Cost to Respond	Date Post La Updated
Probability Cost (\$M) Schedule (Mo)	Low hedule and LB	P Most Likely	Iditional design a Phi ost-Respons High erify all concerns through submitt	and approval may b ase 2A. Se Quantificati Total Expected Value Impact \$0.00 0.00 s are addressed in	on on submittal. Ensure t	Additional Cost to Respond Strategy	Date Post La Updated
Probability Cost (\$M) Schedule (Mo) Track submittal sc	Low hedule and LB	P Most Likely	Iditional design a Phi ost-Respons High erify all concerns through submitt	and approval may be ase 2A. Se Quantification Total Expected Value Impact \$0.00 0.00 are addressed in fal review and RRM g and Control	on on submittal. Ensure t	Additional Cost to Respond Strategy here is a clear plan	Date Post La Updated
Probability Cost (\$M) Schedule (Mo) Track submittal sc	Low hedule and LB	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 Quantification Total Expected Value Impact \$0.00 0.00 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 La Updated
Probability Cost (\$M) Schedule (Mo) Track submittal sc	Low hedule and LB	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 Quantification Total Expected Value Impact \$0.00 0.00 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 La Updated
Probability Cost (\$M) Schedule (Mo) Track submittal sc	Low hedule and LB	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 Quantification Total Expected Value Impact \$0.00 0.00 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 La Updated and approach nterval Date MC La:
Probability Cost (\$M) Schedule (Mo) Track submittal sc	Low hedule and LB	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 Quantification Total Expected Value Impact \$0.00 0.00 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 La: Updated and approach nterval Date MC La: Updated



Lower Baker Dam     Risk ID     LBK LBKDSR DES 1       aker Dam Seepage Reduction     Status     Retired       Platform - Alignment Contractor design     Contractor design	Risk ID		m	ower Baker Da	L	Project
			e Reduction	r Dam Seepag	Lower Bake	Sub-Project
Flowchart Activity	t Activity	Flowchar				Risk Trigger
relation				tion	ency & Correla	Depend
Pre-Response Quantification	n	e Quantificatio	re-Respons	F		
Most Likely High Total Expected Value Impact Program Rank Cost Program Rank Schedule Upd			High	Most Likely	Low	Probability
12 29	12	value impact				
\$0.00 Project Rank Schedule 10/11		\$0.00				Cost (\$M)
0.00 12 29	410000	0.00				Schedule (Mo)
Most Likely High Total Expected Value Impact Additional Cost to Respond Upd			High	Most Likely	Low	Probability
						Cost (\$M) Schedule (Mo)
\$0.00 Strategy 10/11						
	face	n survey of Dam sur	uire pre-erectior	Reg		
0.00	face			Req		
0.00       Require pre-erection survey of Dam surface       Monitoring and Control       From     Status Interval	face	and Control	Monitoring	Req	/ner	RiskOw
O.00       Require pre-erection survey of Dam surface       Monitoring and Control       Risk Aging       To	face	and Control	Monitoring Risk Aging			Risk Ov Michael Ge
O.00       Require pre-erection survey of Dam surface       Monitoring and Control       Risk Aging       From       Status Interval       To       Review Comments	face	and Control	Monitoring Risk Aging			
O.00       Require pre-erection survey of Dam surface       Monitoring and Control       Risk Aging       From       Status Interval       To       Review Comments       Last Review       Date N       Upd	face	and Control	Monitoring Risk Aging			
O.00       Require pre-erection survey of Dam surface       Monitoring and Control       Risk Aging       From       Status Interval       To       Review Comments	face	and Control	Monitoring Risk Aging			



Project	1	ower Baker Da	am l		Risk ID	LBK LBKDSR	DES 900.02
Sub-Project		er Dam Seepac			Status	Reti	
		FERC re		n - General proval - platform	(general)		
Risk Trigger	2			Flowchar	rt Activity		
Depend	ency & Correl:	ation				I	
		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
					12	29	
Cost (\$M)				\$0.00	Project Rank Cost	Project Rank Schedule	11/15/2021
Schedule (Mo)				0.00	12	29	
		P	ost-Respons	risk is covered in [ se Quantificati		Additional Cost	
Probability	Low					Additional Cost to Respond	Date Post Las Updated
	Low	P	ost-Respons	se Quantificati Total Expected Value Impact		to Respond	The second s
Probability Cost (\$M) Schedule (Mo)	Low	P	ost-Respons	se Quantificati			Date Post Las Updated
Cost (\$M) Schedule (Mo)		P Most Likely	ost-Respons High	Se Quantificati Total Expected Value Impact \$0.00 0.00	on	to Respond Strategy	Updated
Cost (\$M)		P Most Likely	ost-Respons High	Se Quantificati Total Expected Value Impact \$0.00 0.00 esign presentation to and Control From	on	to Respond	Updated
Cost (\$M) Schedule (Mo)		P Most Likely	bost-Respons High s and detailed de Monitoring Risk Aging	Se Quantificati Total Expected Value Impact \$0.00 0.00	on	to Respond Strategy	Updated
Cost (\$M) Schedule (Mo)		P Most Likely Through analysis	bost-Respons High s and detailed de Monitoring Risk Aging	Se Quantificati Total Expected Value Impact \$0.00 0.00 esign presentation to and Control From	on	to Respond Strategy	Updated



Project	L	ower Baker Da	m		Risk ID	LBK LBKDSR	CNS 900.30
Sub-Project		er Dam Seepag			Status	Acti	
			Bitume	n Grouting			
Risk Trigger				Flowcha	rt Activity	220	D
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 Las Updated
30% Cost (\$M)	\$1.50	\$2.50	\$3.50	\$0.75	Project Rank	Project Rank	11/15/2021
Schedule (Mo)	1.00	1.50	2.00	0.45	Cost	Schedule	
		50 1041	Ph	g - optional item to ase 2B <b>se Quantificati</b>			
Probability	Low	50 1041	Ph	ase 2B		Additional Cost	Date Post Las
Probability 30%	Low	P	Ph ost-Respons	ase 2B se Quantificati		Additional Cost to Respond	Date Post Las Updated
2000 000 000 000 00 <del>0</del> 0	Low \$1.50	P	Ph ost-Respons	ase 2B se Quantificati			
30%	]	P Most Likely	Ph ost-Respons High	ese 2B Se Quantificati Total Expected Value Impact		to Respond	Updated
30% Cost (\$M)	\$1.50 1.00	P Most Likely \$2.50	Ph ost-Respons High \$3.50 2.00	se Quantificati Total Expected Value Impact \$0.75		to Respond	11/15/2021
30% Cost (\$M) Schedule (Mo) Risk Ow	\$1.50 1.00	P 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		to Respond Strategy	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		to Respond Strategy	Updated 11/15/2021 nterval Date MC Las 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		to Respond  Strategy  Strategy  Status In	Updated 11/15/2021 nterval Date MC Las