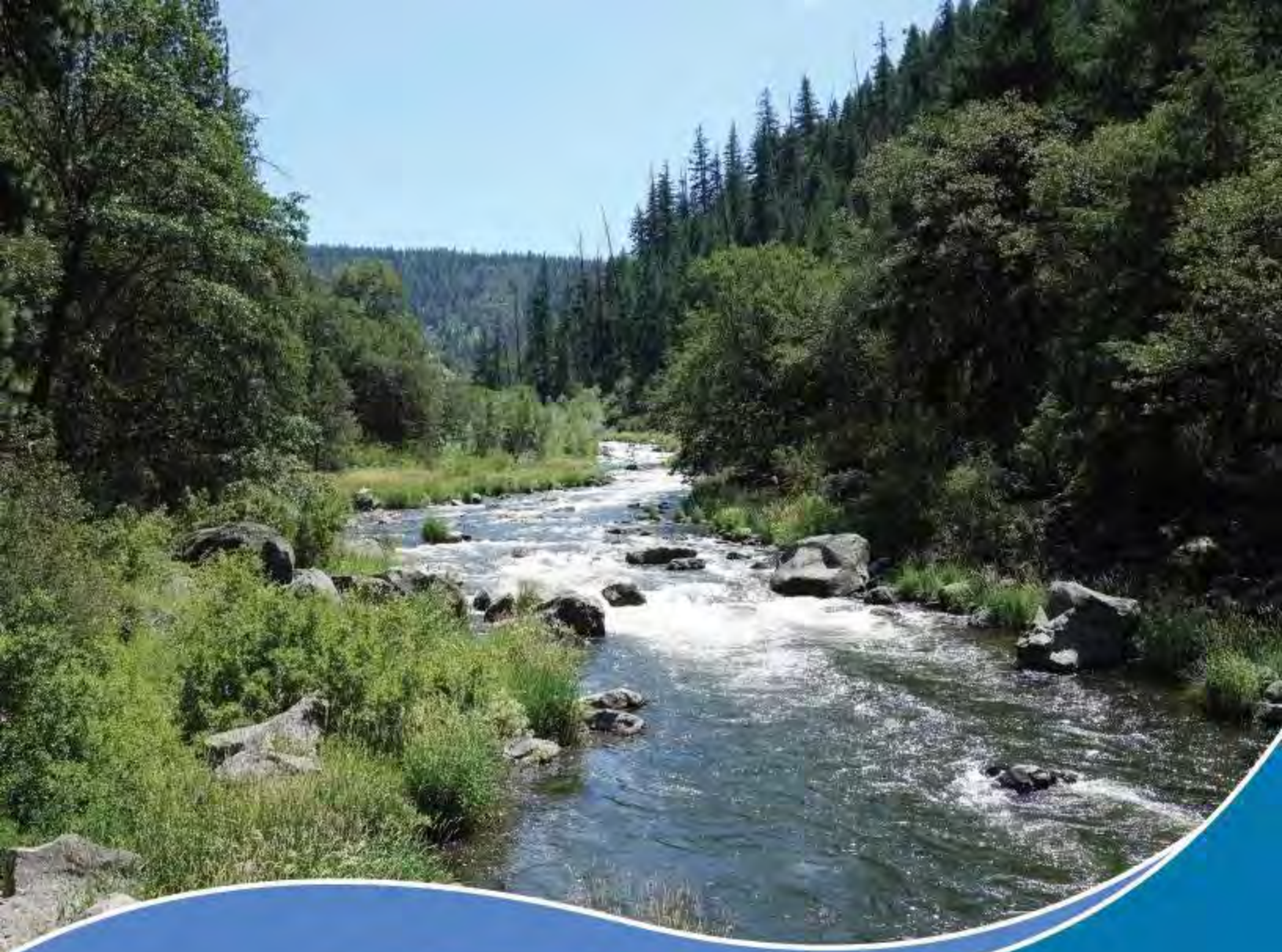
Attachment B

AECOM, Amended Risk Management Plan (July 2019)



Definite Plan for the Lower Klamath Project

Appendix A – Amended Risk Management Plan

July 2019

KLAMATH
RIVER RENEWAL
CORPORATION

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Acronyms and Abbreviations

BOC	Board of Consultants
CCIP	Contractor-Controlled Insurance Program
CEQA	California Environmental Quality Act
CPL	Contractor's Pollution Liability
FERC	Federal Energy Regulatory Commission
GMP	Guaranteed Maximum Price
ID	Identification
KRRC	Klamath River Renewal Corporation
KHSA	Klamath Hydroelectric Settlement Agreement
LTC	Liability Transfer Corporation
NEPA	National Environmental Policy Act
OCIP	Owner-Controlled Insurance Program
PDB	Progressive Design-Builder
PFMA	Potential Failure Modes Analysis
PLL	Pollution Legal Liability
RES	Resource Environmental Solutions, LLC
USFWS	United States Fish and Wildlife Service

Chapter 1: Plan Objectives and Background

1. PLAN OBJECTIVES AND BACKGROUND

1.1 Plan Objectives

The Klamath River Renewal Corporation's (KRRC) objective is to manage risks to assure performance as required by any license surrender order and other permits, and to further manage risks of property damages as required by the Klamath Hydroelectric Settlement Agreement (KHSA). This amended plan was developed in conjunction with the amended Estimate of Project Costs report (KRRC 2019), where cost impacts associated with all risks were categorized and quantified.

The implementation of any project comes with uncertainty and risk that can affect schedule, budget, and project performance. This is even more applicable to large, multi-disciplinary and high-profile projects. Successful implementation includes planning to identify and manage those uncertainties and risks. Section 7.2 of the KHSA, as amended, sets forth the essential elements of a risk management plan to be included in and implemented as part of the Definite Plan. These elements include the following:

- Insurance, performance bond, or similar measures as required by Appendix L to the KHSA;
- Accounting procedures that will result in the earliest practicable disclosure of any actual or foreseeable cost overrun;
- Appropriate mechanisms to modify or suspend performance of any task subject to such cost overrun; and
- Measures to reduce risks of cost overruns, delays, or other impediments to dam removal.

This plan addresses these requirements as follows:

- Section 2 summarizes KRRC's selected progressive design-build project delivery method and the process utilized to select the preferred Progressive Design-Builder (PDB), and finalize the Project Agreement
- Section 3 identifies the insurance, bonds and other surety arrangements to be secured by the KRRC in compliance with Appendix L to the KHSA
- Section 4 includes a design and construction risk register and measures to reduce risks of cost overruns, delays, or other impediments to dam removal

The objective of this Risk Management Plan is to provide the tools and processes to identify and quantify the design and construction risks that are particular to the Lower Klamath Project (Project), assign those risks to the appropriate party, develop design and construction risk management strategies to reduce or eliminate the risk, and to manage and re-evaluate the risks as the KRRC progresses through the project lifecycle.

1.2 Changes Since Previous Plan

Modifications to this Risk Management Plan fall into several categories and are summarized below:

1. Phase of Project: Several risks were associated with a phase of the project that is now complete (e.g. procurement), and those risk have therefore been retired. If any of these risks impacted cost or schedule, that is now incorporated into the latest estimate of project costs and implementation schedule.

2. Latest Project Understanding: Over the past year, risk management strategies have been implemented, project details have been refined, and informal agency consultations have allowed a more comprehensive understanding for some of the included risks, and the register and associated data now incorporates this latest understanding.

3. Input from Insurance and Liability Transfer Entities: The KRRC has contracted with companies in the past year to obtain refined input into the question of project insurance and liability transfer. This input is summarized in the sections herein, and in many cases has informed the risk register and associated data.

4. Input from Progressive Design-Builder: The KRRC has contracted with a progressive design-build contractor to complete the final design and construction for the project. Input from the design-builder in many cases has informed the risk register and associated data.

1.3 Project Background & Overview

The proposed Project is described in Sections 4 through 7 of the Definite Plan, and generally includes the decommissioning and full removal of four dam developments (Iron Gate, Copco No. 1 and No. 2, and J.C. Boyle) on the Klamath River approximately 200 miles from the Pacific Ocean in the states of Oregon and California by the KRRC. Figure 1.3-1 provides an overview of the Klamath River watershed and the locations of the four dams. The Project objectives are to restore free-flowing river conditions and volitional fish passage by the complete removal of dams, power generation facilities, water intake structures, canals, pipelines, and ancillary buildings. The Definite Plan also describes a partial removal alternative which is presented for purposes of environmental review. Under the partial removal alternative, the objectives of a free-flowing river conditions and volitional fish passage would be achieved, but portions of each dam would remain in place, along with ancillary buildings and structures such as powerhouses, foundations, and pipes.

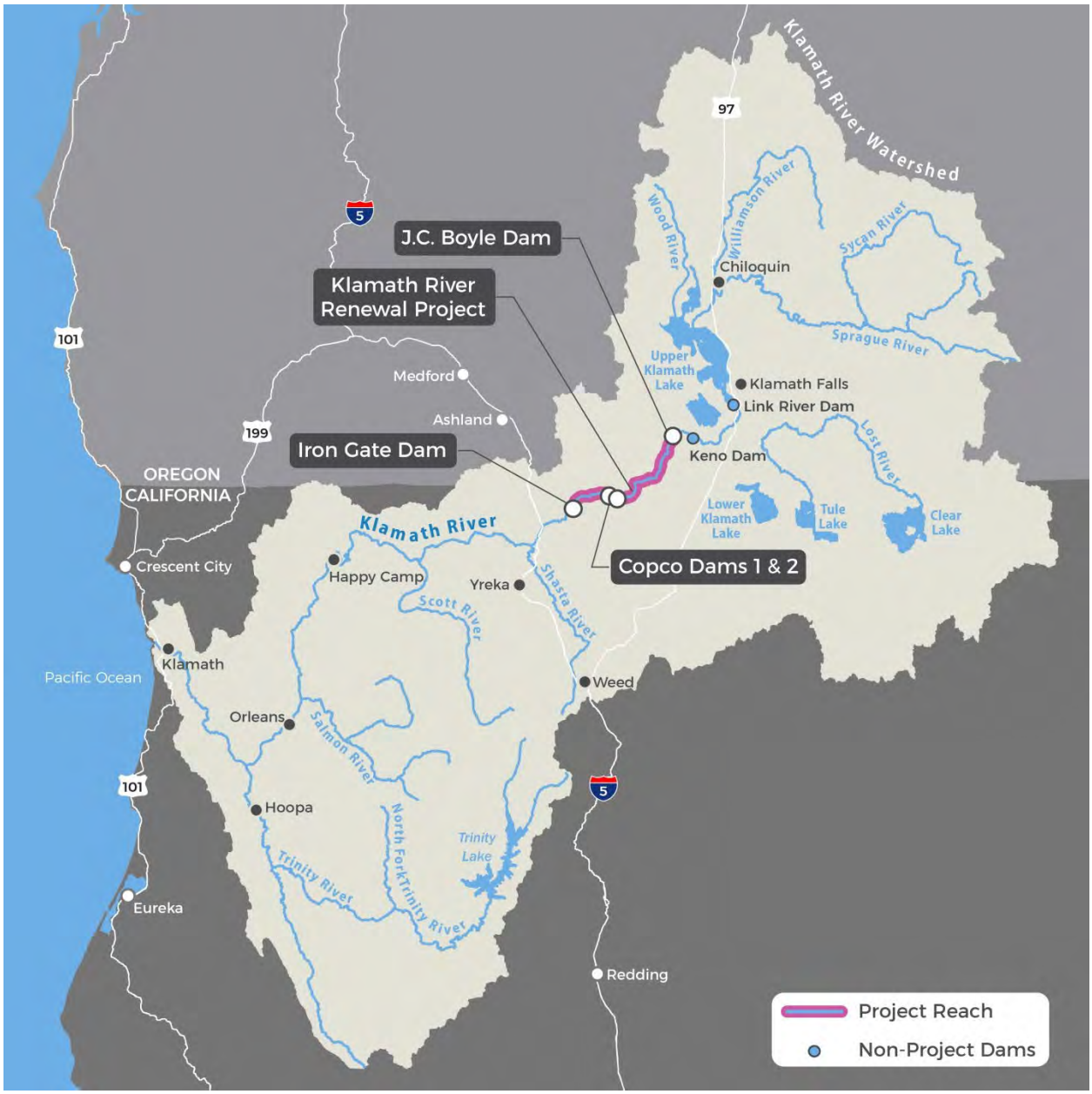

Figure 1.3-1 Klamath River Watershed and Facilities Locations

Prior to removal of the dams and hydropower facilities, the KRRC will drawdown the water surface elevation in each reservoir as low as possible to facilitate accumulated sediment evacuation and to create a dry work area for facility removal activities. To meet drawdown timing and duration, specific infrastructure modifications are required at Iron Gate and Copco No. 1 dams in advance of drawdown. In general, drawdown will begin on January 1 of the drawdown year, and will extend through March 15 of the same year.

After drawdown is accomplished, dam and hydropower facility removal will begin, and the KRRC will stabilize remaining reservoir sediments to the extent feasible. Full reservoir area restoration will begin after drawdown, and extend throughout the year, and possibly into the subsequent year. Vegetation establishment could extend several years.

Other key project components include measures to address aquatic and terrestrial resources, road and bridge improvements, relocation of the City of Yreka's pipeline across Iron Gate Reservoir and associated diversion facility improvements, flood improvements downstream, as well as demolition of various recreation facilities adjacent to the reservoirs.

1.4 Project Funding and Plan B

The financial capacity of KRRC is an integrated package consisting of: (1) $450 million in committed funding; (2) use of PDB contract to assure a single point of accountability; (3) engagement of best-in-industry project team; (3) requirement of a Guaranteed Maximum Price (GMP) before KRRC's acceptance of license transfer; (4) insurance, bond, and indemnity program that provides many hundreds of millions of dollars of risk protection; and (5) a project cost estimate at the industry standard P(80) level. As discussed below, the cash reserve will likely increase as the project proceeds, as current risks based on uncertainties are retired. Further, the States and PacifiCorp must agree to the sufficiency of the financial capacity before license transfer.

The KRRC has the financial capacity to move forward with Project implementation, and to do so from a position of strength. However, like any licensee that is responsible to meet its license obligations, unforeseen and remote circumstances theoretically could arise that would require the KRRC, if the Commission approves license transfer, to raise additional funds. Facing these circumstances, how would the KRRC respond?

The KRRC would evaluate value engineering opportunities.[1] This is a best practice in any complex construction project. Prior to construction, the Kiewit team will identify such opportunities to reduce costs and risks that could arise after construction begins, consistent with the project purpose and any permit terms for protection of environmental quality and public interest. The KRRC will examine these opportunities on an iterative basis as construction proceeds. The Renewal Corporation has received authorization for such adjustments in Oregon's water quality certification and will seek such authorization in other permits.[2]

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1 KHSA section 7.2.1.A(5).

2 Oregon Department of Environmental Quality ("ODEQ"), "Clean Water Act Section 401 Certification for the License Surrender and Removal of the Lower Klamath Project" (September 7, 2018), Condition 7 at 6 (authorizing a "Remaining Facilities and Operations Plan"). See also California State Water Resources Control Board ("SWRCB"), "Draft Water Quality Certification" (September 23, 2018), Condition 6 at 28 ("Remaining Facilities"). Of course, the Renewal Corporation will expect to receive the Commission's approval of any such adjustment as specified in a license surrender order.

Additionally, under KHSA sections 7.2.1.A(5) and 8.7, parties will meet-and-confer to address and resolve any such circumstances that could arise after license transfer or surrender (in this case, after construction begins). Further, while its financial capacity of $450 million is created and limited by the state cost cap, the KRRC has a duty to seek, and the other parties have a duty to support, third-party funding as appropriate to supplement that capacity.[3] Specifically, the parties are contractually committed to "identify potential partnerships to supplement funds generated pursuant to this Settlement."[4]

In sum, the KRRC reasonably expects to secure additional funds if necessary, taking into consideration the strength of the project team, and the active support of the States and other parties for completion of Project implementation as an essential step in restoration of basin ecosystem. Finally, the KRRC may continue accruing interest on the customer funds in excess of the $28 million assumed in the cost cap.[5]

[3] KHSA section 7.3.8.B; see June 24, 2017 AIR Response, item 10; December 4, 2017 AIR Response, item 3; June 28, 2018 AIR Response, Item 3(c).

[4] KHSA section 7.3.8.B.

[5] KHSA section 7.3.8.A.

Chapter 2: Project Delivery Method

2. PROJECT DELIVERY METHOD

2.1 Overview of Progressive Design-Build Delivery Method

KRRC executed a PDB contract (the Project Agreement) in April 2019 with Kiewit Infrastructure West Co. (Kiewit). Kiewit is currently developing their detailed design packages. The KRRC and Kiewit intend to negotiate and agree to a GMP by February 2020 and subsequently execute the Project Implementation Contract Amendment to begin physical work, following FERC approval. By the time the GMP is negotiated, the circumstances that most often lead to cost overruns for which the owner remains responsible - unknown site conditions – while not eliminated, will have been significantly narrowed even beyond where it is today. As a result, final pricing will be determined prior to KRRC's acceptance of the project license.

The Project Agreement stipulates that the Kiewit team will complete both design and deconstruction on an integrated basis and will assure that, absent contractually defined uncontrollable circumstances, the work will be performed with minimal cost overruns. Thus, any project costs incurred within the defined work scope that are in excess of the GMP will be the responsibility of Kiewit, not KRRC. In addition, daily liquidated damages will be payable to KRRC for unexcused delays, and KRRC will not be responsible for any cost overruns except those caused by predetermined risks that are outside of Kiewit's ability to reasonably manage and control. A qualified construction-management entity will oversee the performance of the dam decommissioning and removal work under the Project Agreement.

This integrated project-delivery approach will be particularly useful for the Project because it will mitigate several elements of project-completion risk, in addition to mitigating the general price risk inherent in all construction projects. Integrated project delivery involves a mostly self-selected team (in this case led by Kiewit) of highly qualified firms whose business interests are aligned, thus decreasing the risk of disputes among team members. By addressing multiple aspects of the work in a single contract, integrated project delivery also has the key advantage of creating one point of accountability for the Project, allowing KRRC to bring a claim against a single entity for any flawed work. Additional benefits of integrated project delivery include accelerated project delivery and improved project quality.

2.2 Risk Transfer to Design-Builder

In general, the selected delivery method makes Kiewit responsible for correcting any errors in design and/or construction. Specific risks transferred to Kiewit under the project agreement include the risk of errors or omissions in their work products; unexcused delays; unexpected work that Kiewit needs to perform to carry out the basic work scope; unavailability of materials; non-compliance with the decommissioning plan; adherence to applicable law and governmental approvals; intellectual property infringement; and the risk of exacerbating any existing known hazardous substances or other pollution conditions. KRRC will retain the risk of any delays caused by (i) uncontrollable circumstances (such as changes in law, force majeure, the discovery of cultural relics, and dam conditions unknown at the time the contract is entered into); (ii) any work scope changes directed by KRRC; and (iii) the inaccuracy of any reliance document information

provided by KRRC or its subcontractors to Kiewit that formed the basis of the decommissioning plan and that could not reasonably be verified by Kiewit.

The risk register included in Attachment A provides additional clarity as to who owns what risk. Depending on the risk, the associated liability may be covered by Kiewit, insurance (see Section 3.2), the Specialty Corporate Indemnitor (see Section 3.4), the Local Impact Mitigation Fund (see Section 3.5) or may be retained by KRRC (see Section 2.8).

2.3 Contractor Selection Process

Kiewit was selected as the PDB using two-stage qualifications-based-selection (QBS) process. The first stage involved a request for qualifications (RFQ), and the second stage involved a request for proposals (RFP). QBS standards during the RFQ included:

- Past performance of similar projects in scope, magnitude (complexity and size, such as but not limited to performance of work at multiple locations at the same time), and type (waterway work; environmentally regulated, etc.)
- Sufficient financial strength, including basic financial metrics such as corporate net worth and profitability
- Experience with federally regulated permitting processes
- Longevity in industry

KRRC then invited three pre-qualified firms to make project submittals on a competitive proposal basis in response to an RFP issued by KRRC. KRRC set forth the requirements for making project proposals in the RFP and based them on the terms of the Definite Plan. KRRC selected the proposer submitting the best value proposal (best overall price and technical merit) to perform the work. The states of California and Oregon (States) and PacifiCorp were given the opportunity to review and comment on the selection process and resulting project agreement to assure that their interests were protected and that the project work would be properly carried out.

2.4 Performance Security and Indemnities

Sections 3.3 and 3.4 address bonds and the special corporate indemnitor in further detail. Kiewit will furnish a conventional performance bond from a financially sound surety company, further assuring KRRC that Kiewit will perform the project agreement as required. In addition, Kiewit is providing a parent company guaranty securing performance of the project agreement. KRRC retains the right to call upon any such guaranty or to draw on any such letter of credit if Kiewit fails to perform and use the proceeds to pay any non-performance damages it is owed under the project agreement. Kiewit will also indemnify KRRC for any loss or expense incurred by third parties resulting from an unexcused breach of the contract or any

negligence or willful misconduct by Kiewit. Each party, as is conventional in contracts of this nature, will waive the right to make a claim for punitive or consequential damages.

Kiewit has a stellar track record with large-scale and technically challenging civil projects, including most recently, the emergency reconstruction of the Oroville Dam spillway, which involved removal and repair of both the main flood control and emergency spillways in less than 18 months as well as extensive debris and sediment removal, development of access roads, and other work. Kiewit has also undertaken projects such as the Folsom Dam Spillway Construction (Phases II & IV), East Toba and Montrose Hydroelectric Design-Build and the Kwalsa and Upper Stave Hydroelectric Design-Build. Kiewit brings relevant experience working with the states of California and Oregon, PacifiCorp as well as other business relationships that will greatly enhance the KRRC project team.

2.5 Construction Management

AECOM will provide oversight of Kiewit, including detailed design review and full construction-management services throughout the duration of the project agreement. The owner's representative will participate in Kiewit's design development meetings and will review all final design documents developed by Kiewit. KRRC anticipates detailed reviews at the 30%, 60%, 90% and 100% completion levels, as well as review of final Construction Documents (plans, specifications, design report and cost estimate). The construction manager will be involved in recurring activities such as progress meetings, pay estimates, weekly progress reporting, and schedule updates. These recurring activities are the basic machinery for transferring information, making decisions, and identifying potential risks during construction. The construction manager will meet weekly with Kiewit to review the status of completed work onsite. Kiewit will prepare and KRRC will review and approve a written safety plan that Kiewit is required to follow, thus providing a uniform approach toward project safety.

2.6 Post-Construction

While certain project construction risks will remain the responsibility of Kiewit through the Project Agreement warranty and establishment requirements, many of the longer-term post-construction risks will be managed by the Specialty Corporate Indemnitor, per the agreement discussed in Section 3.4. In general, the Specialty Corporate Indemnitor will indemnify the KRRC, States, and PacifiCorp against all harm associated with post-construction impacts to natural resources, in addition to assuring compliance with all post-construction permit requirements related to natural resources. KRRC will continue to consult post-construction as provided in the KHSA.

2.7 Independent Board of Consultants

In accordance with the FERC letter dated May 22, 2018 regarding approval of the Board of Consultants (BOC), the BOC will review project documents as well as dam removal schedules, plans and specifications, staging sequence, and supporting engineering studies as directed. KRRC will consider any recommendations with respect to the various design submittals.

2.8 Retained Risk and Project Contingency

If accurate information is supplied to the project contractor, no scope changes are requested by KRRC after contract execution, and no uncontrollable circumstances occur, the Kiewit will be obligated to complete the Project for the GMP (which is based on competitively bid elements of the construction work) established at the GMP Amendment signing. On the other hand, if any of the risks retained by KRRC occur, KRRC as the project owner will bear the costs. Accordingly, the project budget will include an appropriate contingency reserve for any such risks, and KRRC will use insurance and other mechanisms such as contingency and reserve funds to manage these risks. In addition, the KRRC will set up a Local Impact Mitigation Fund to manage and bear the costs of certain retained risks as defined in Section 3.5.

Section 2.6 of the amended Appendix P (Estimate of Project Costs; July 2019) of the Definite Plan (KRRC 2019) discusses the calculated Project contingency, based on updated construction costs and Project risks. Contingency was analyzed using a Monte Carlo analysis on any retained risks that were not covered by insurance and were not transferred to Kiewit, Specialty Corporate Indemnitor, or managed through the Local Impact Mitigation Fund. The current Project implementation estimate can accommodate a P80 Contingency, in addition to an approximately $18 million reserve below the current funding limits.

Chapter 3: Insurance, Bonds and Other Surety Arrangements

3. INSURANCE, BONDS AND OTHER SURETY ARRANGEMENTS

3.1 Overview

The KRRC will insure against all insurable risks, at a level of coverage sufficient to cover the risks. This section of the Risk Management Plan identifies the insurance, bonds and other surety arrangements that KRRC will maintain in fulfillment of its obligations under Appendix L of the KHSA and prudent business practices. KRRC developed this plan with specialized guidance and advice from Aon and Resource Environmental Solutions, LLC. (RES).

Aon is a global professional services firm and its Commercial Risk Solutions' division provides risk advisory, risk transfer and structured solutions to reduce the client's total cost of risk[6]. Working with Aon as its insurance and risk advisor, KRRC has established and will maintain a robust insurance program to minimize first-party and third-party risks associated with the Project. The insurance program is designed to protect all the key stakeholders and KRRC.

RES is the nation's only fully scaled operating company providing comprehensive ecological restoration and water resource solutions, as well as risk management and corporate indemnification solutions[7]. Working with RES as its corporate indemnitor advisor, KRRC has developed a liability transfer program that will allow them to fulfill their unique obligations under Appendix L of the KHSA.

3.2 Insurance

3.2.1 Overview

The KRRC received a Risk and Insurance Due Diligence Report from Aon in June 2019, which is attached to this plan as Attachment B. The insurance recommendations included herein come from this Aon report.

KRRC will maintain two insurance programs, each of which will be designed to address different insurance needs and requirements throughout the evolution of the Project. Prior to the commencement of dam removal activities, the insurance currently maintained by KRRC is best viewed as a corporate insurance program that covers KRRC's general business risks (discussed below as the Corporate Insurance Program).

[6] Additional information regarding this firm may be found at https://www.aon.com

[7] Additional information regarding this firm may be found at https://www.res.us

The insurance that will be maintained for final design and construction (Kiewit tasks) will fully comply with the KHSA and Appendix L to the KHSA but will be procured by KRRC and/or Kiewit, as summarized below.

3.2.2 Timing

KRRC's corporate insurance program is in place and is described below.

Kiewit insurances are also summarized below. The actual insurance policies will be put in place in coordination with the beginning of the design or construction activities to which they relate, including certain preliminary site work. For example, insurance for design work was in place at the time the Project Agreement became effective. Insurance for the actual construction may not be in place until construction is ready to commence.

3.2.3 Corporate Insurance Program

KRRC's corporate program includes the following coverages summarized in Table 3.2-1:

Table 3.2-1 KRRC Current Corporate Insurance Summary

Type of Coverage	Effective Date	Limits	Carrier
General Liability	6/30/19 – 6/30/20	$1M occ/$1M prod comp ops/$2M general policy agg	RSUI Indemnity
Auto Liability – Hired & Non-Owned	6/30/19 – 6/30/20	$1M CSL	CNA
Workers Compensation and Employer's Liability	6/30/19 – 6/30/20	Statutory and $1M	CNA
Property	6/30/19 – 6/30/20	Various but includes limits for off-site coverage	CNA
D&O/E&O	6/30/19 – 6/30/20	$5M	PGU
D&O/E&O	6/30/19 – 6/30/20	$5M	Validus Specialty

3.2.4 Project Insurance Program

In structuring the Project insurance program for KRRC, Aon focused on two key factors: (1) protection of the Project and the Stakeholders and (2) delivering the best value. With those guiding principles in place, Aon recommended several modifications to previously proposed insurance programs. The first change is to have Kiewit procure the general liability and workers compensation under a contractor-controlled insurance program ("CCIP"). The reasons for switching from an owner-controlled insurance program ("OCIP") to a CCIP include the following:

1. the fact that KRRC is a special purpose entity with no long-term operational history whereas Kiewit is a 135-year-old construction and engineering company with a proven track record of success;

2. Kiewit's purchasing power in the insurance market is greater than that of KRRC, which means it can obtain more competitive pricing and terms and conditions; and

3. KRRC will eventually sunset after license surrender is effective, whereas Kiewit's operations will continue. This will allow Kiewit to manage any long-tail claims associated with the Project.

The second modification to the previously proposed insurance program is that Kiewit is being permitted to use its corporate professional liability policy. Aon has reviewed the policy and it complies with all the requirements that were set forth in the current Aon specifications. This saves the Project over $2M in costs given that a project specific policy does not need to be purchased.

The last modification was to have the contractor's pollution liability ("CPL") and pollution legal liability ("PLL") with linked limits and written with the same insurer. The reason that this is important is that claims often trigger coverage under both policies, and having one carrier, whose limits are linked, avoids coverage disputes. Aon has also recommended, based upon its actuarial analysis and industry expertise, to purchase a limit of $50M vs. two $100M policies to avoid paying for coverage that will likely not be triggered.

Table 3.2-2 summarizes the proposed KRRC Project insurance program:

Table 3.2-2 KRRC Recommended Project Insurance Program

Type of Coverage	Effective Date	Limits	Carrier
Builder's Risk	Upon start of construction activities	Probable Maximum Loss	Kiewit
CCIP for general liability, workers compensation/employer's liability and excess liability	Upon start of construction activities	$200M for the GL and Excess Statutory for WC and $1M for employer's liability	Kiewit
Auto Liability	Upon start of construction activities	$5M CSL	Kiewit's corporate policy
CPL/PLL	Upon start of construction activities	$50M linked limits	KRRC
Professional Liability	Upon start of construction design	$25M	Kiewit's corporate policy
Aircraft and Watercraft Liability	If aircraft and watercraft are used	$5M for watercraft, aircraft and drones over 10 kg $10M for helicopters	Kiewit's corporate policy

3.2.5 Independent Board of Consultants

The BOC have reviewed the KRRC suggested Project Insurance Program list of insurance policies and insured limits. The BOC includes a member or members with expertise in insurance coverage and bonding for large and complex civil construction projects.

3.2.6 Ongoing Evaluation

KRRC and Aon will review all policies of insurance on a not-less-than-annual basis to make sure that they are sufficient and cost effective relative to other insurance products and risk management tools as may subsequently become available. If certain risks evolve, the insurance will be modified, as appropriate.

3.3 Bonds

3.3.1 Requirements and Timing

Appendix L to the Amended KHSA addresses bonding requirements. Bond requirements include bid bonds, performance bonds (in an amount equivalent to original contract value) and payment bonds (in an amount equivalent to original contract value). These bonds will be secured in connection with awarding the Project Agreement to undertake decommissioning activities. Kiewit will maintain these bonds in addition to a parent company guaranty. In the Project Agreement, the KRRC requires that all bonds be obtained from financially sound surety companies. Bonds do not cover uncontrollable circumstances.

3.3.2 Performance Bond

The performance bond securing the contractor's performance under the Project Agreement will be in the full amount of the dam removal contract. The contractor's surety company issuing the bond will determine the form of bond: however, AIA Form 312 is the predominant form in use at this time. To the extent alternate forms are used, they are expected to be substantively similar.

3.3.3 Independent Board of Consultants

The BOC have reviewed the bonding requirements in the Project Agreement. Because the performance bond backstops the dam removal contractor's performance, it cannot be issued until the dam removal construction contract is in place and will be issued at that time.

3.3.4 Ongoing Evaluation

As with insurance, KRRC and Aon will periodically review the amount and form of bonds (and/or parent company guaranty or standby letter of credit) to make sure that they are sufficient and cost effective relative to other products and risk management tools as may subsequently become available.

3.4 Specialty Corporate Indemnitor

3.4.1 Overview

Appendix L to the KHSA requires KRRC to identify and contract with a specialty corporate indemnitor (a Liability Transfer Corporation, or LTC) to protect the States, as well as PacifiCorp from potential liabilities that are not covered contractually by insurance or other risk mitigation strategies (e.g. PDB Agreement, Local Impact Mitigation Fund, etc.). KRRC will fulfill this requirement in consultation with the States and PacifiCorp and in connection with the design and implementation of the insurance and bonding program discussed above. KRRC will use this risk management tool to address certain risks not covered by the proposed insurance program. Parameters established by the KHSA to assess the sufficiency of a corporate indemnitor include:

- Appropriate capitalization (as agreed to by the States and PacifiCorp)
- Performance in projects of similar scope, magnitude, complexity and type
- Experience with federally regulated permitting processes
- Longevity in the industry

The specialty corporate indemnitor will be structured contractually, through third-party indemnities or potentially with additional special insurance products. As described in more detail below, the specialty corporate indemnitor will perform certain portions of the Project and will assume responsibility for various project risks, both during project execution and post-project (including the fulfillment of any long-term mitigation obligations established by the Definite Plan or regulatory approvals).

The KRRC received a liability transfer plan from RES and will implement the proposed structure for addressing risks that occur after the dams are removed and are not otherwise covered by insurance or other contractual indemnification. These risks include (1) certain natural resources risks, (2) certain risks associated with cultural resources and (3) risks related to property damages arising without fault of Kiewit.

For the first two categories of risk listed above (natural resources and cultural resources), the current intent of the parties is that RES will serve as the LTC and will indemnify the KRRC, PacifiCorp and the States against harm associated with those risks for a fee, through an indemnification agreement. This agreement would also require RES, as LTC, to complete all activities (monitoring, maintenance, reporting, and responding to unforeseen conditions) associated with natural resource-related permitting, California

Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA) requirements, as well as cultural resource inadvertent discoveries.

"Natural resource-related permitting" includes all requirements included in natural resource-focused permits, including, but not limited to, the United States Army Corps of Engineers Clean Water Act Section 404 permit, the Endangered Species Act Section 7 Consultation (Biological Opinion), the Wild and Scenic Rivers Act, Section 7 (Consistency Determination), the Oregon Clean Water Act Section 401 (Water Quality Determination), the Oregon Endangered Species Act Incidental Take Permit, the Oregon Department of Fish and Wildlife Fish Passage Approval, the California Clean Water Act Section 401 (Water Quality Certification), the California Department of Fish and Wildlife Section 1602, and the California Endangered Species Act Take Permit. In addition, all natural resource-related requirements in any federal, state or local permit or Memorandum of Understanding, will be the responsibility of RES, who will indemnify the KRRC, PacifiCorp and the States against any damages associated with related compliance.

For the third category of risk above (property damages arising without fault of Kiewit), a RES entity or, potentially, the KRRC will implement a Local Impact Mitigation Fund to proactively address mitigation and associated risks. The Local Impact Mitigation Fund is discussed in more detail below in Section 3.5.

3.4.2 Timing

KRRC expects to fulfill this requirement concurrently with the execution of the GMP Amendment for dam removal construction.

3.4.3 Independent Board of Consultants

The BOC have reviewed the KRRC identified risks that will be transferred to a specialty corporate indemnitor. KRRC's final decision on how best to use this risk management tool is, however, subject to the approval of the States and PacifiCorp, in consultation with the Federal Parties, whose approval may not be unreasonably withheld.

3.5 Local Impact Mitigation Fund

3.5.1 Overview

The Local Impact Mitigation Fund would be a pool of capital independently administered by a third party following a methodology for compensating parties impacted by the removal of the dams, and covering funds for defense of claims, as necessary. Based on discussions with persons who have successfully administered such funds, RES believes a fund would be a cost-effective way to address potential litigation, and for this Project, could address all the property impacts, while containing a reserve for litigation.

RES identified five key areas of property damage where insurance or indemnification (through the specialty corporate indemnitor) was not available, and where a Local Impact Mitigation Fund would be a cost-effective

solution to manage associated risks: (1) the potential for increased flooding, (2) impacts associated with the release of sediment, (3) the potential for instability around reservoir rims, (4) impacts to groundwater wells and (5) the potential for diminution in land value and similar claims.

3.5.2 Timing

KRRC expects to develop the fund and begin management of the fund within the next 6 to 12 months, to allow sufficient time to complete associated outreach, negotiation, detailed design (where applicable) and execution of agreements prior to the start of construction.

3.5.3 Independent Board of Consultants

The BOC have reviewed the KRRC identified risks that will be addressed through the Local Impact Mitigation Fund and have provided their initial comments. KRRC's final decision on how best to use this risk management tool is, however, subject to the approval of the States and PacifiCorp, in consultation with the Federal Parties, whose approval may not be unreasonably withheld.

Chapter 4: Risk Register

4. RISK REGISTER

4.1 Overview

This section identifies planning, design and construction risks (in the form of a risk register) and estimates their likelihood and consequences of occurrence, ranking those risks to determine which pose the greatest risk to the Project, and developing risk management strategies for the highest-ranking risks. Input from Aon (on insurance) and RES (for Liability Transfer) have been considered in development of certain information contained within the risk register (e.g. probability, impact), and were used to populate the risk "owner" and "contingency carrier" columns, where appropriate.

The risk register will be a living document prepared with the participation of the full project team (KRRC, consultants, stakeholders, etc.) eventually including Kiewit. This plan is based on the Project as it has been described and developed in the Federal Energy Regulatory Commission (FERC) Definite Plan for Decommissioning (KRRC 2018) (Definite Plan).

The plan will be updated periodically by the full project team to add newly identified risks and adjust risks that have been previously identified either upward or downward.

The risk register identifies planning, design and construction risks as they are recognized throughout the duration of the Project, and the KRRC is prepared to address all identified risks in the risk register in the course of implementing a license surrender order. As described in more detail below, the KRRC has identified an owner for each risk and is accounting for costs associated with each risk through one of the surety arrangements summarized in Section 3, or through project contingency reserves, which have been calculated using a Monte Carlo analysis and are documented in the amended Estimate of Project Costs report (KRRC 2019).

KRRC has assigned each identified risk its own unique Risk identification (ID) number and categorized into one of eleven risk categories, which are described in further detail in Section 4.3. Risk ID numbers are not necessarily sequential, since they were derived from an initial broader list that may not have all moved forward. The register also includes specific information and data associated with each risk as follows:

- A description of the risk
- The root cause(s) of the risk
- The phase of the project when the risk would be actualized
- The likelihood (probability) that the risk will occur
- A rating of the impact or consequence if the risk event occurred

- A risk score (rating) by combining the likelihood and related consequence
- The selected risk management strategy
- A summary of risk management measures
- The assigned owner of the risk
- The primary and secondary carriers of risk costs
- The risk status

As the risk register is further developed and implemented, responsible parties from the KRRC and Kiewit will be assigned to further define and implement risk management measures identified for each risk. As risks are avoided or mitigated, or as new relevant information is obtained, risk category, score and rating will be updated to reflect the latest information.

Since the risk register will evolve and KRRC will update it throughout the life of the Project, ongoing assessment and reporting will be necessary. Reporting and other continuing risk management activities are discussed in Section 4.8.

4.2 Related Risk Guidelines

FERC has developed interim guidelines for risk-informed decision making (FERC 2016) and the United States Department of Homeland Security has published a resource for estimating economic consequences for dam failure scenarios (DHS 2011). While both references are specific to dam facilities currently in operation (which will remain PacifiCorp's risk through completion of the Operations and Maintenance Agreement), the considerations are relevant when considering risks associated with dam removal. Both references, in addition to several dam failure case studies, were reviewed while identifying and estimating consequences associated with dam safety risks during the removal process. Dam safety risks specific to dam removal will be further developed through FERC's Potential Failure Modes Analysis (PFMA) process, and the risk register will be updated at that time, as appropriate.

A PFMA is a dam and project safety evaluation tool developed by FERC to be used in the Part 12, Subpart D, program of dam and safety evaluations for FERC regulated projects. For dams that will be undergoing major modifications, remedial work or are scheduled to have substantial changes which can include removal, FERC's Engineering Guidelines indicate that Supplemental PFMAs shall be conducted to evaluate the recommended dam removal plan prior to de-construction. The PFMA process typically includes the following Steps, which will be completed for this Project prior to GMP finalization:

1. Collection of Background Data (complete)
2. Selection of the PFMA Core Team

3. Site Visit and Review
4. Comprehensive Data Review
5. PFMA Session
6. Evaluation of Surveillance and Monitoring
7. Documentation

4.3 Risk Category

KRRC has categorized each risk into one of the following general categories:

1. Environmental & Permitting – These are design and construction risks primarily related to environmental, compliance and permitting aspects of the Project. Environmental aspects and associated risks could involve existing or future biological, cultural or other environmental conditions/species, potential construction related effects such as air quality or noise, or potential downstream environmental effects. Permitting includes process-related considerations, requirements associated with compliance and acquisition of all necessary regulatory permits.
2. Right-of-Way or Easements – Risks that primarily relate to acquiring access to other properties or construction within existing easements on the project site.
3. Procurement – Risks that relate to the negotiation of the GMP.
4. Design – These are risks primarily related to development of the project design and subsequent performance of associated Project features. Risks could involve performance failures as a result of incorrect assumptions or calculations, incomplete or inaccurate drawings and specifications, etc.
5. Field Conditions – Risks that primarily relate to field conditions that may occur or be discovered during construction.
6. Construction - Risks primarily related to actual construction of the Project including labor, equipment, material, existing conditions, subsurface conditions, site safety, etc. Construction related risks could involve Kiewit's quality of work or production, as well as health and safety.
7. Reservoir Drawdown – Risks primarily related to the drawdown operation prior to dam removal.
8. Contractor Performance – Risks associated with the performance or quality during construction.
9. Dams, Powerhouses, Reservoirs – Risks primarily associated with the site improvement or the facilities and their removal.

10. Yreka Water Supply Pipeline – Risks primarily associated with the construction of the relocated pipeline.

11. External Events – These are risks primarily related to events or conditions outside of the control of the Project, such as unforeseen site conditions, forces of nature (e.g. floods and wildfires), etc.

4.4 Phases

Each identified risk will exist during particular phases of the Project. The Project phases include the following:

1. Design: Design is the period during which the detailed and final design of the Project is performed by Kiewit. Activities during this phase include field investigations for final design, final design, permitting activities, and regulatory review and approval of the final design documents.

2. Construction: The period during which construction activities to implement the final design take place. Activities during the Construction Phase include mobilization, preparation of the site, pre-reservoir drawdown construction activities, other early construction activities, dam and appurtenances demolition activities, followed by site restoration.

3. Post-Construction: The period following dam removal and site restoration.

The risk register identifies the phase when each risk would be actualized. Risks associated with regulatory compliance will be mitigated throughout the required regulatory monitoring period.

4.5 Risk Score and Rating

The risk score and rating are a function of the probability of the risk occurring and the consequence if the risk were to occur. Probability of occurrence is broken into five different categories to provide sufficient ranges of likelihood, as listed below:

- Probability Score of 5: Risk has a 60% or greater probability of occurrence, meaning it is very likely to occur

- Probability Score of 4: Risk has a 40 to 59% probability of occurrence, meaning it is likely to occur

- Probability Score of 3: Risk has a 20 to 39% probability of occurrence, meaning it is less likely to occur

- Probability Score of 2: Risk has a 10 to 19% probability of occurrence, meaning it is unlikely to occur

- Probability Score of 1: Risk has a less than 10% probability of occurrence, meaning it is very unlikely to occur

Consequence of the risk occurring is also broken into five different categories to provide sufficient ranges for the consequences of impact. Since impacts for various risks can apply to one or more aspects, it can be difficult to quantify all risks using the same metric (e.g. cost increase in dollars, etc.). For that reason, engineering and management judgment is involved when assigning consequence of impact scores. A high level of coordination and collaboration among key project decision makers is necessary for assigning consequence of impact scores. Table 4.5-1 provides some general guidance on consequence of impact scores under relevant aspects.

The risk score is calculated by multiplying the probability of risk by the consequence of impact, and then categorizing or rating the risk as low, moderate, or high as shown on the risk score matrix in Table 4.5-2. As shown in the risk score matrix, any risk that has a consequence of impact score of 5 is categorized as a very high risk.

Table 4.5-1 Consequence of Impact Definition for Various Aspects

	CONSEQUENCE OF IMPACT				
PRIMARY ASPECT	Very Low (1)	Low (2)	Moderate (3)	High (4)	Very High (5)
Schedule	No or little impact to schedule	Schedule delay of less than 3 months	Schedule delay of 3 to <6 months	Schedule delay of 6 to 12 months	Schedule delay of more than 12 months
Cost	<$1M	$1M-$5M	$5M-$10M	$10M-$30M	≥$30M
Safety	No or little impact to public safety	Number of individuals exposed to minor safety risk less than 5	Number of individuals exposed to minor safety risk greater than 5	Number of individuals exposed to serious safety risk less than 5	Number of individuals exposed to serious safety risk more than 5, or any life-threatening risk (1 or more)
Environmental Impact	No significant impact to any environmental resource	Short-term impact that is insignificant	Short-term impact that is significant. Long-term impact that is insignificant.	Long-term significant impact to non-listed species	Long-term significant impact to fisheries or listed species

Table 4.5-2 Risk Score and Ranking Matrix (green=low, yellow=medium, red=high)

Probability of Occurrence	5 (60-100%)	5	10	15	20	25
	4 (40-59%)	4	8	12	16	20
	3 (20-39%)	3	6	9	12	15
	2 (10-19%)	2	4	6	8	10
	1 (1-9%)	1	2	3	4	5
		1	2	3	4	5
		Consequence of Impact				

4.6 Risk Management Strategy

During development and implementation of the Project, KRRC will assign the risk strategy to identified risks using the following codes:

1. Manage: Risk management seeks to reduce the likelihood of the risk occurring and/or the consequence of the risk, should it occur.

2. Avoid: Avoidance of the risk eliminates the likelihood of the risk occurring and/or the consequence of the risk, should it occur.

3. Transfer: Transference of the risk makes the risk either partially or completely another party's responsibility.

4. Accept: Acceptance of the risk recognizes that the risk cannot be fully managed, avoided, or transferred.

5. Shared: Shared risk means that the liability associated with the risk can be partially transferred (as described above), but certain aspects of the risk remain with the KRRC and will need to be managed, avoided or accepted.

KRRC will secure insurance, bonds, and indemnities before accepting license transfer and becoming owner, to manage all relevant risks in the risk register.

4.7 Risk Status

As the Project develops and is implemented, the status of identified risks will be assigned using the following codes:

1. Open: risks that continue to pose a threat for the Project. These are risks that may or may not have occurred that will not expire until some future date

2. Managed: risks which have had risk management measures implemented such that the likelihood of occurrence or consequences of occurrence has been reduced to a level that the Project can accept in the event the risk occurs

3. Expired: risks that may, or may not, have occurred but no longer pose a threat to the Project. When a risk expires, the probability becomes zero thereby making the risk score zero

4.8 Continuing Risk Management

As mentioned above, KRRC will update the risk register throughout the life of the Project, with ongoing assessment and reporting. The project team will manage and track the risk register through all phases of the Project.

Now that Kiewit has begun their work on Preliminary Services (investigation and design), they are developing their own risk register, which will focus solely on the design and construction phases of the Project. The KRRC will work proactively with Kiewit to identify and manage all risks associated with design, permitting and construction, while continuing to manage any risks outside of Kiewit's scope of work.

KRRC will secure insurance, bond, and indemnity before accepting license transfer and becoming owner, to manage all relevant risks in the risk register.

4.8.1 Risk Workshops

After the initial identification of risks, KRRC will conduct a series of risk workshops at strategic points throughout the Project duration. The goal of these risk workshops will be to further update and refine risks, conduct evaluations and explore mitigation opportunities, while engaging new partners in the Project and the risk management process. Likely times for subsequent risk workshops include:

- After completion of Kiewit's Preliminary Services risk workshop
- After key permits are issued (e.g. FERC Surrender order)
- Prior to first commencement of significant construction activities
- Midpoint of construction, or prior to significant phase(s) of construction

4.8.2 Monitoring and Control

During each risk management meeting, the attendees will review status, risk score and risk management opportunities for all active risks. Output of the risk management meeting will be an updated risk register for distribution.

Project monthly progress reports will include a list of open risks, the status of associated risk management actions, and any changes to action completion dates. A narrative will explain any significant exceptions to risk management action completion dates. KRRC will report any new risks.

KRRC will not delete expired risks (i.e. those that have occurred but no longer pose a threat to the Project) – these will remain on the risk register as closed items, or they will be transferred to a register of expired risks for documentation purposes.

Design Phase

At a minimum, KRRC will complete quarterly updates throughout the detailed design phase.

Construction Phase

KRRC and Kiewit will hold routine risk management meetings at least once every two months. The owners assigned to risks in the current project phase will attend these meetings.

4.8.3 Closing Risk Registers and Lessons Learned

Closing risk registers involves documenting all managed risks and final impacts on the overall Project. Impacts include, but are not limited to, impacts on project costs and schedule. KRRC will similarly document monitored but unmitigated risks. This information will be available for use on future projects and can be used to adjust severity and probability indices, better define risk tolerance levels and improve risk management efforts.

KRRC will prepare a Lessons Learned Report when the risk register is closed. The primary focus will be to identify activities which were highly effective, effective, partially effective, or not effective, and to recommend ways to improve overall effectiveness for risk management activities.

4.9 Risk Register

The current risk register is included as Attachment A. Each risk is categorized by project phase, and the root cause of each such risk is identified. The risk register identifies probability, impact and weight, and provides an overall ranking for each risk, as well as a strategy for managing each risk, and risk management measures, where appropriate. Finally, the risk register identifies the risk owner and the status of each risk. As noted above, the risk register will evolve and be updated throughout the life of the Project, involving ongoing assessment and reporting.

Chapter 5: References

5. REFERENCES

Federal Energy Regulatory Commission 2016. Interim Guidance, Risk-Informed Decision Making (RIDM), Risk Guidelines for Dam Safety, Version 4.1. March 2016.

KRRC 2018. Definite Plan for the Lower Klamath Project, Klamath River Renewal Corporation. June 2018.

KRRC 2019. Amended Appendix P, Estimate of Project Costs, to the Definite Plan for the Lower Klamath Project, Klamath River Renewal Corporation, July 2019.

United States Department of Homeland Security 2011. Dams Sector: Estimating Economic Consequences for Dam Failure Scenarios. September 2011.

United States Fish and Wildlife Service 2016. "Penobscot River Restoration Project Celebrates Final Milestone, Reconnects River to the Sea" (June 14, 2016), available at https://www.fws.gov/news/ShowNews.cfm?ID=4F928157-CED5-9E63-1D41C23A5AC7707F.

KLAMATH RIVER RENEWAL CORPORATION

Attachment A Risk Register

											Owner				
											Owner / Force Majeure				
											PDB				
											Owner / PDB				
											Owner / PDB / Force Majeure				
											Owner's Egr				
											Owner's Egr / PDB	Post-GMP Contingency	Post-GMP Contingency		
						5 Very High					Owner / Owner's Egr / PDB	Pre-GMP Contingency	Pre-GMP Contingency		
					5 Very Likely (60-100%)	4 High			Avoid		LTC	LTC	LTC		
				Any time	4 Likely (40-59%)	3 Moderate			Transfer		PDB / LTC	Local Impact Mitigation Fund	Local Impact Mitigation Fund		
				Design	3 Less Likely (20-39%)	2 Low			Manage		Owner / PDB / LTC	PDB	PDB	Open	
				Construction	2 Unlikely (10-19%)	1 Very Low			Accept		Owner / LTC	Insurance	Insurance	Managed	
				Post-Construction	1 Very Unlikely (1-9%)	0 No impact			Share		PacifiCorp	-	-	Expired	

Risk Identification					Risk Assessment (for Risk Management)				Risk Mitigation			Risk Costs Coverage		
Risk ID	**Risk Category**	**Risk Description**	**Root Cause(s)**	**Phase When Actualized**	**Probability (P)**	**Impact (I)**	**Risk Weight (P x I)**	**Overall Rating**	**KRRC Management Strategy**	**Risk Management Measure**	**Risk Owner**	**Primary Contingency Carrier**	**Secondary Contingency Carrier**	**Risk Status**
Environmental & Permitting														
4	Environmental & Permitting	**Unanticipated FERC/DSOD Requirements** Unanticipated Project requirements from agencies, FERC, or DSOD (including through BOC or PFMA processes) may cause delays to the project and increase costs.	Agency, FERC, DSOD, BOC, or PFMA reviews result in unanticipated requirements	Design	2 Unlikely (10-19%)	2 Low	4	Low	Manage	Close coordination where possible with referenced agencies; Prepare technical assessments that can hold up to scrutiny. Proactive agency coordination and field studies are underway.	Owner	Pre-GMP Contingency	-	Open
8	Environmental & Permitting	**Unanticipated Other Permit Requirements** Unanticipated permit requirements that increase contract price if not known at time of preparation of the Guaranteed Maximum Price (GMP).	Permitting agencies require offsite mitigation or any other requirements beyond anticipated requirements	Design	4 Likely (40-59%)	3 Moderate	12	Med	Manage	Early consultation with agencies; Sound approach to restoration. Proactive agency coordination and field studies are underway.	Owner / LTC	Pre-GMP Contingency	LTC	Open
15	Environmental & Permitting	**KRRC-Managed Permitting Delays** There may be delays to acquire permits (e.g. Corps 404, ESA Sec 7, CDFW MOU, Siskiyou County MOU)	Agency unable to process permit to allow for required construction start date	Design	3 Less Likely (20-39%)	2 Low	6	Med	Manage	Ongoing early consultation with agencies and early permit application submittal. Proactive agency coordination and field studies are underway.	Owner	Pre-GMP Contingency	-	Open
76	Environmental & Permitting	**FERC Process Delays** FERC process (including NEPA) may take longer than anticipated, resulting in Project delay.	FERC schedule delays	Design	4 Likely (40-59%)	3 Moderate	12	Med	Accept	Proactive response to FERC requests and strict adherence to FERC standard protocol and processes.	Owner	Pre-GMP Contingency	-	Open

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	KRRC Management Strategy	Risk Management Measure	Risk Owner	Primary Contingency Carrier	Secondary Contingency Carrier	Risk Status
93	Environmental & Permitting	**Listed Species - Western Pond Turtle** Western Pond Turtle becomes Federally listed during permitting process. This may result in additional cost.	Project effect on listed species	Any time	4 Likely (40-59%)	3 Moderate	12	Med	Manage	Proactive coordination with appropriate regulatory agencies on likely requirements and associated field work; Address contingency in consultations. Proactive agency coordination and field studies are underway.	Owner / LTC	Pre-GMP Contingency	LTC	Open
112	Environmental & Permitting	**Permit Reopener** Changes during construction that require an amendment to a permit.	Unforeseen or changed site condition requires altering planned construction and project impacts which require a change to a permit. Design change by PDB to save costs or time.	Construction	2 Unlikely (10-19%)	3 Moderate	6	Med	Transfer	Flexible project descriptions that allow for design options; Comprehensive field investigation and documentation.	PDB / LTC	LTC	LTC	Open
27	Environmental & Permitting	**Construction Permits** PDB may be unable to obtain construction permits (e.g. County encroachment permits) in time for construction. This may lead to schedule delays.	Poor planning, insufficient communication, difficulty negotiating requirements	Design	3 Less Likely (20-39%)	2 Low	6	Med	Share	Owner coordination with Contractor for proactive communication with Counties; Contingency planning for delayed start during first year of construction.	PDB	PDB	-	Open
37	Environmental & Permitting	**Special-Status Species Presence** Special-status species (incl. bald and golden eagles) presence delays construction	Unanticipated species found onsite cause stop work	Construction	4 Likely (40-59%)	2 Low	8	Med	Transfer	Additional surveys to identify nest locations in the years leading up to construction; Implementation of the avoidance and minimization measures identified in the Definite Plan; Effective transfer of risk through Contract terms to Design-Builder. Pre-construction surveys; Design planning; Require work areas to be cleared prior to nesting season; Proactive surveys for nesting activity during nesting season; Proactive nesting mitigation measures during nesting season.	LTC	LTC	Insurance	Open
40	Environmental & Permitting	**Permit Requirements Not Satisfied** Mitigation measures or permit requirements may not be satisfied. This may lead to delays and additional costs.	Responsible party (PDB or LTC) does not meet expectations of permitting agencies in meeting permit requirements	Post-Construction	4 Likely (40-59%)	1 Very Low	4	Med	Transfer	Coordination between Designer, Contractor, and permitting agencies; Satisfy permit requirements.	LTC	LTC	-	Open
42	Environmental & Permitting	**Cultural Resource Damage** Known cultural resource may be damaged during construction. This may lead to a cost impact.	Mitigation measures fail to protect resource	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Transfer	Identification of existing cultural resources to the extent feasible; Ongoing coordination with tribes and local historical societies to assess potential damage and identify measures.	PDB / LTC	Insurance	LTC	Open
68	Environmental & Permitting	**Downstream Biological Resource Damage** Greater than anticipated effect on downstream biological resources may lead to additional costs.	Effect of suspended sediment causes greater than anticipated impact to given species	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Transfer	Develop appropriate aquatic resource measures through coordination with the regulatory agencies; Implement risk management measures to address effect on downstream resources.	PDB / LTC	LTC	Insurance	Open
70	Environmental & Permitting	**Protected Species Loss** Coho or Bald and Golden Eagle net loss within 5 years of construction completion may lead to additional cost in fines.	Mitigation and rehabilitation measures provide insufficient protection	Post-Construction	2 Unlikely (10-19%)	2 Low	4	Low	Transfer	Proactively monitor species before and during construction; Implement additional risk management measures.	LTC	LTC	Insurance	Open

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	KRRC Management Strategy	Risk Management Measure	Risk Owner	Primary Contingency Carrier	Secondary Contingency Carrier	Risk Status
71	Environmental & Permitting	**Bat Loss** Bat roosts do not meet success criteria requiring additional mitigation, which may lead to additional cost in fines.	Predictive model of bat roost effectiveness is incorrect	Post-Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Transfer	Agency input into performance requirements in DB contract and design; Proactive QA/QC during construction. Cost estimates should assume prudent amount of replanting or other habitat maintenance.	PDB / LTC	LTC	Insurance	Open
72	Environmental & Permitting	**Habitat Restoration** Unanticipated maintenance or repair required during regulatory monitoring and reporting period (e.g. plant establishment, tributary passage blockage, etc.). Habitat restoration may lead to additional cost.	Constructed project component does not meet agency expectations	Post-Construction	2 Unlikely (10-19%)	2 Low	4	Low	Transfer	Agency input into performance requirements in DB contract and design; Proactive QA/QC during construction. Cost estimates should assume prudent amount of replanting or other habitat maintenance.	PDB / LTC	LTC	Insurance	Open
86	Environmental & Permitting	**Restoration Materials Unavailable** Local restoration materials (seed, plants) may not be available. This may lead to schedule delays and increased costs.	Insufficient quantities available for collection or insufficient quantities produced by propagation	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Share	Early collection of seed and nursery propagation of plants for restoration prior to award of DB contract.	PDB	PDB	-	Open
88	Environmental & Permitting	**Flood Mitigation Delays** Flood mitigation improvements delay reservoir drawdown.	Implementation of downstream flood improvements take longer than anticipated and are not completed prior to reservoir drawdown	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Manage	Complete early outreach to residents and owners in affected areas; Evaluate decision to proceed with drawdown even if there are holdouts that do not allow flood improvements.	Owner	Local Impact Mitigation Fund	Insurance	Open
96	Environmental & Permitting	**Proliferation of Weeds** Weeds outcompete native plants and site restoration goals are not met. This may lead to a cost impact for the project. More monitoring at the end of tail end.	Proliferation of weeds	Post-Construction	2 Unlikely (10-19%)	2 Low	4	Low	Transfer	Contract warranty period; Post-construction maintenance requirements in contract.	PDB / LTC	LTC	PDB	Open
Right-Of-Way or Easements														
28	ROW	**Easement Restrictions** ROW/construction easements may be denied for modification of access roads or other improvements	Insufficient communication and compromise with property owner	Any time	4 Likely (40-59%)	1 Very Low	4	Med	Manage	Proactive communication with access road owners; Contingency planning for use of access roads without modification.	Owner	Post-GMP Contingency	-	Open
83	ROW	**Adjacent Properties Impacted** Unforeseen impact to adjacent properties during construction.	Unanticipated impacts during roads work or downstream mitigations	Construction	3 Less Likely (20-39%)	2 Low	6	Med	Share	Contractor required to develop final design that considers adjacent properties; Early identification of property impacts.	Owner / PDB	Local Impact Mitigation Fund	Insurance	Open
106	ROW	**Property Restrictions** The title search may uncover easements or other property instruments that affect the implementation of the work.	Difficulty in completing the title report in a timely manner and/or research reveals challenge to design or construction	Design	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Manage	Work proactively to manage this task so that it does not become critical path.	Owner	Pre-GMP Contingency	-	Open

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	KRRC Management Strategy	Risk Management Measure	Risk Owner	Primary Contingency Carrier	Secondary Contingency Carrier	Risk Status
Procurement														
18	Procurement	**Guaranteed Maximum Price Agreement** Failure to agree to GMP during detailed design. This may lead to a schedule delay.	Disconnect between DB and Owner	Design	3 Less Likely (20-39%)	2 Low	6	Med	Manage	Robust Engineer's estimate to include Monte Carlo analyses; Independent review of Engineer's estimate, Include adequate contingency for project risk; Utilize project delivery method that provides Contractor's progress cost estimates to control budget (PDB). Close coordination and transparency on costs and associated assumptions during progress cost estimated prepared by DB; Provide contract exit strategy that Owner can terminate for convenience and implement alternate delivery approaches.	Owner	Pre-GMP Contingency	-	Open
Design														
13	Design	**Increased development** Increased development within the floodplain beyond mitigations already included requires additional flood mitigation beyond what is planned	City/county allows construction permits to be issued to developers	Design	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Accept	Coordination with appropriate agencies; Consider an early CLOMR application to Counties.	Owner / Force Majeure	Post-GMP Contingency	Local Impact Mitigation Fund	Open
17	Design	**Disputes** DB Designer and Contractor disputes may lead to schedule delays and cost increases	Breakdown in PDB team relationship	Design	2 Unlikely (10-19%)	2 Low	4	Low	Transfer	Consider contractual measures to maximize design/contractor collaboration such as require Designer to be a partner rather than a subcontractor and provisions that oblige Contractor to continue work even when dispute arises.	PDB	PDB	-	Open
25	Design	**Errors and Omissions** Design errors or omissions lead to Project delays or cost overruns	Designer error	Construction	3 Less Likely (20-39%)	2 Low	6	Med	Transfer	Comprehensive design review; proactive QA/QC.	PDB	Insurance	PDB	Open
Field Conditions														
19	Field Conditions	**Field Conditions** General changed field condition (geotechnical, existing utilities, hazardous materials, and biological resources) leads to redesign, project delays and/or cost overruns.	Field condition differs from documented findings	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Manage	Comprehensive field investigation and documentation.	Owner / PDB / LTC	Post-GMP Contingency	Insurance	Open
29	Field Conditions	**Quantity Overruns** Quantity overruns on earthwork, concrete demolition, etc.	Existing as-built data, exploratory data not adequate or accurate	Construction	1 Very Unlikely (1-9%)	2 Low	2	Low	Manage	Obtain new topographic and bathymetric data for use by Designer and Contractor; Rigorous QA by Owner on design calculations and assumptions related to earthwork volumes.	Owner	Post-GMP Contingency	-	Open
36	Field Conditions	**Sediment Access** Reservoir sediment may be more difficult to access than anticipated, causing construction delays (restoration)	Lack of material properties understanding	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Transfer	Comprehensive investigation and testing during planning and detailed design phase (with PDB).	PDB / LTC	LTC	Insurance	Open
41	Field Conditions	**Non-burial Related Discoveries** Unanticipated non-burial related cultural resources (foundations, barns, etc.) discovered during reservoir drawdown or construction (beyond current allowance). Costs exceed allowances	Non-burial cultural resource not disclosed or already known about	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Transfer	Identification of existing cultural resources to the extent feasible; Ongoing coordination with Native American groups and local historical societies; Development of treatment measures that would implemented following drawdown or during construction.	Owner / LTC	LTC	Post-GMP Contingency	Open

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	KRRC Management Strategy	Risk Management Measure	Risk Owner	Primary Contingency Carrier	Secondary Contingency Carrier	Risk Status
43	Field Conditions	**Burial Related Discoveries** Unanticipated burial related conditions may exist. Including sites, human remains, or funerary items discovered within reservoir areas during reservoir drawdown - requiring cessation of construction activities for a long duration. Discovery impacts ability to perform construction - primarily Yreka waterline, Fall Cr Hatchery, Iron Gate Hatchery, and bridges	Burial site not disclosed or already known about	Construction	4 Likely (40-59%)	3 Moderate	12	Med	Transfer	Identification of existing cultural resources to the extent feasible; Ongoing coordination with Native American groups and local historical societies; Development of an Inadvertent Discovery Plan, Monitoring Plan, and NAGPRA Plan of Action, and rapid response plan to address the possibility of burial sites becoming exposed during drawdown.	Owner / LTC	LTC	Post-GMP Contingency	Open
91	Field Conditions	**Fish Barriers** Unknown fish passage barriers are found during drawdown. Their discovery will lead to additional cost.	Unknown pre-existing barriers exposed during drawdown	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Transfer	Review of historic documents for evidence of barriers; Require Contractor to develop contingency plan to evaluate for barriers following reservoir drawdown and actions to remove barriers during dam removal.	LTC	LTC	Insurance	Open
Construction														
33	Construction	**Cofferdam Failure** Failure of temporary cofferdams result in demolition delays	Unconservative design of cofferdams; unanticipated foundation conditions	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Transfer	Comprehensive field investigation, review of original construction, and design review	Owner / PDB	Insurance	PDB	Open
35	Construction	**Hazardous Material - Unforeseen Condition** Discovery or release of unknown hazardous material (other than from construction activities) to river during construction (unforeseen condition) may lead to cost impacts.	Project results in unanticipated release of hazardous material into river	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Transfer	Completion of the Phase 1 hazardous material assessments and follow-up evaluations, appropriate health and safety qualifications, experience and other requirements during the procurement process, implementation of BMPs to avoid or contain the release of hazardous material, as well as active overview and enforcement of the Contractor's Hazardous Material Management Plan.	PDB	Insurance	PDB	Open
51	Construction	**Diversion Blockage** Rapid-drawdown causes slope instability leading to rock slope failure, blocking the diversion intake. This failure will lead to schedule delays and significant cost impacts.	Design analyses unable to cover all geologic conditions and slope geometries; insufficient data	Construction	2 Unlikely (10-19%)	2 Low	4	Low	Share	Comprehensive field investigation and design review; Develop slope monitoring plan for implementation during drawdown; Stockpile riprap for repairs of slope if local failures occur.	Owner / PDB	Post-GMP Contingency	Insurance	Open
82	Construction	**Hazardous Material - Construction Activities** Discovery or release of hydraulic oil or other hazardous material from construction equipment or remediations may be released into the river during construction. This may lead to additional costs.	Contractor mechanical equipment failure results in unanticipated release of hazardous material into river	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Transfer	Contractor required to develop a Spill Prevention, Control, Countermeasure (SPCC) Plan and active overview and enforcement of the SPCC Plan.	PDB	Insurance	PDB	Open
Reservoir Drawdown														
34	Drawdown	**Dam Failure** Dam or similar structure fails during drawdown, leading to additional costs.	Failure mode not investigated or analyzed properly	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Transfer	Rigorous detailed design analysis surrounding dam safety during drawdown; Completion of the FERC Potential Failure Modes Analysis process; Close coordination with the FERC regional office and state dam safety authorities; Implement FERC Emergency Action Plan, as appropriate.	PDB	Insurance	PDB	Open

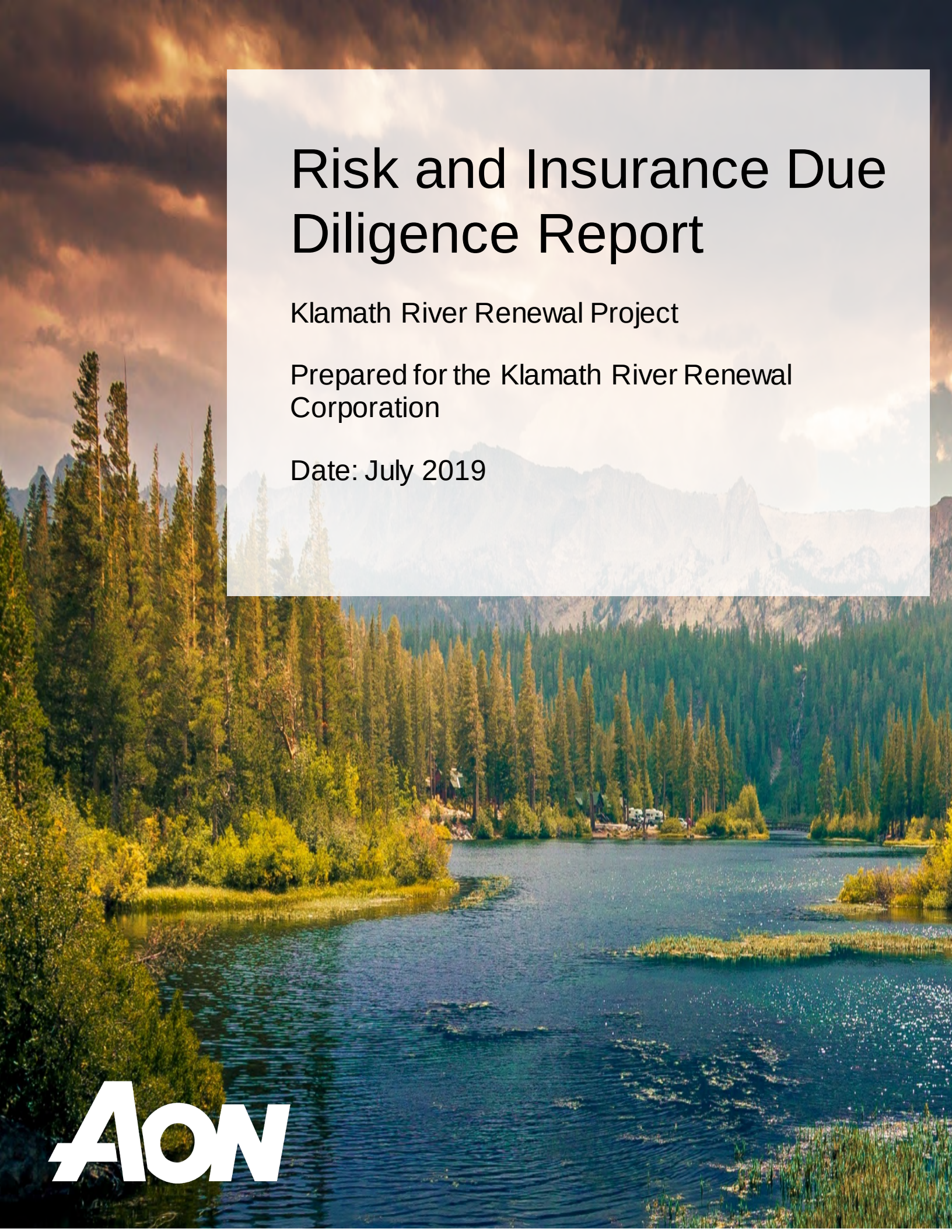
Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	KRRC Management Strategy	Risk Management Measure	Risk Owner	Primary Contingency Carrier	Secondary Contingency Carrier	Risk Status
45	Drawdown	**Regulatory Shutdown - Water Quality** Reservoir drawdown impacts water quality more severely than anticipated causing project regulatory shutdown, delaying the project.	Permit conditions and/or inadequate modeling of water quality; duration of drawdown extends past March due to extreme weather	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Transfer	Perform comprehensive water quality studies prior to construction; Implement risk management measures needed to comply with water quality requirements.	LTC	LTC	-	Open
46	Drawdown	**Unanticipated Erosion** Reservoir drawdown and subsequent operations results in a greater than anticipated level of erosion at bridges or along channel creating passage barrier. This is likely to lead to additional cost.	Local hydrodynamics result in greater than modeled erosion or scour	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Manage	Comprehensive design review; Design additional scour protection for bridges if determined to be needed; Develop monitoring and mitigation plan for during and post reservoir drawdown.	Owner / PDB	Local Impact Mitigation Fund	Insurance	Open
47	Drawdown	**Unanticipated Effects on Diversion Intakes** Reservoir dewatering and subsequent operations have greater than anticipated effects on diversion intakes for irrigation/livestock. This may lead to additional cost.	Greater than predicted suspended sediment and bedload movement	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Share	Comprehensive field investigation and design review; Develop plan for monitoring/mitigating intakes during reservoir drawdown.	Owner / PDB	Post-GMP Contingency	Insurance	Open
48	Drawdown	**Unanticipated Effects on Groundwater Wells** Reservoir dewatering and subsequent operation has greater than anticipated effects on groundwater wells. This may lead to additional cost.	Difficult to investigate and analyze groundwater relationships	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Accept	Comprehensive field investigation and design review; Implement Groundwater Well Management Plan for evaluating changes in groundwater post-reservoir drawdown and proactively mitigate impacted wells.	Owner	Local Impact Mitigation Fund	Insurance	Open
49	Drawdown	**Unanticipated Effects on Channel Flooding** Reservoir dewatering and subsequent operations have greater than anticipated effect on downstream channel aggradation/flooding. This may lead to additional cost.	Evacuated coarse sediment is greater than anticipated leading to increased channel aggradation and associated flooding	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Accept	Rigorous assessment on transport and flooding during detailed design; Monitoring post-drawdown; Raise awareness that active channel management program needed; Implement measures to manage channel aggradation and flood risk.	Owner	Local Impact Mitigation Fund	Local Impact Mitigation Fund	Open
50	Drawdown	**Downstream Public Safety** Public safety risk in downstream channel during the reservoir drawdown.	Outreach and public safety measures insufficient to keep out public creating potential risk to public safety during drawdown (increased flows)	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Share	Comprehensive education and outreach plan; Detailed review and QA of safety program; Development of a Reservoir Dewatering Awareness Plan that will include procedures for notifying public of the schedule and anticipated flows for reservoir drawdown.	Owner / PDB	Post-GMP Contingency	Insurance	Open
89	Drawdown	**Ice Impediment** Reservoir ice impedes sediment flushing during reservoir drawdown leading to cost increases.	Ice on one or more reservoirs during drawdown might impede sediment erosion	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Transfer	Incorporate management measures into design where possible.	PDB	PDB	-	Open

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	KRRC Management Strategy	Risk Management Measure	Risk Owner	Primary Contingency Carrier	Secondary Contingency Carrier	Risk Status
Contractor Performance														
26	Contractor Performance	**Construction Errors** Construction errors (quality control) may lead to additional costs.	EOR fails to properly inspect or direct work in the field; QC failures	Construction	4 Likely (40-59%)	1 Very Low	4	Med	Transfer	Clear contract requirements; Owner review and enforcement of Contractor QA/QC Plan and rigorous Owner audit and spot testing to confirm results.	PDB	Insurance	PDB	Open
84	Contractor Performance	**Labor Strike** Construction shutdown due to labor strike may impact schedule and cost	Labor conditions results in a strike by construction workers	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Share	Include Contract requirements for living conditions in camps and worker safety.	Owner / PDB	Post-GMP Contingency	Insurance	Open
Dams, Powerhouses, Reservoirs														
32	Dams	**Slope Failure** Copco lake reservoir rim or local slope failure along access roads may lead to additional cost and schedule delay.	Slope instability, inadequate access road condition assessment prior to construction. Design analyses unable to be made for all geologic conditions and slope geometries; insufficient data	Construction	3 Less Likely (20-39%)	4 High	12	Med	Share	Comprehensive field investigation and design review; Develop plan to address slope failures along Copco Road if they were to occur during reservoir drawdown.	Owner / PDB	Post-GMP Contingency	Insurance	Open
52	Dams	**Large Gate Procurement** Copco No. 1 and/or Iron Gate Dam large gate procurements delay gate installation resulting in delay of reservoir drawdown	Manufacturer requires additional information; (note: E&O covered elsewhere)	Design	4 Likely (40-59%)	2 Low	8	Med	Transfer	Early detailed design; Early involvement of the Contractor to initiate gate procurement activities including input from the gate fabricator; Contractual milestones with liquidated damages; Early Contractor input including planning underwater work to modify/demo the existing Iron Gate Dam gate structure.	PDB	Insurance	PDB	Open
53	Dams	**Tunnel Modifications** Copco. No.1 and Iron Gate Dam tunnel modifications are more difficult to construct causing schedule and cost overruns	Changed site condition or design omission	Construction	3 Less Likely (20-39%)	3 Moderate	9	Med	Transfer	Comprehensive field investigation and design review; Early Contractor input as well as transparent Contractor progress cost estimates based on proven means and methods.	PDB	Insurance	PDB	Open
54	Dams	**Dam Diversion Malfunction** Copco No. 1 or Iron Gate Dam diversion gate malfunctions during drawdown resulting in delay of reservoir drawdown	Faulty equipment or equipment failure (note E&O covered elsewhere)	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Transfer	Proactive QA/QC during design; Include backup systems for operating the gates in the design and construction including special inspections and testing of the gates prior to drawdown.	PDB	Insurance	PDB	Open
55	Dams	**Diversion Tunnel Intake Blocked** Copco No. 1 and/or Iron Gate Dam diversion tunnel intake blocked by debris during drawdown reducing flow capacity. This may lead to schedule delays and increased costs.	Debris within reservoir blocks intake	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Share	Maximizing the size of the intakes to match the size of the gates; Design debris grating for intake with ability to clear debris from grating.	Owner / PDB	Post-GMP Contingency	Insurance	Open
65	Dams	**Dam Failure** Iron Gate Dam or J.C. Boyle Dam overtopped during excavation by storm water flows in excess of 100-year event resulting in dam failure. This would lead to additional cost.	Climate change; increased variability in precipitation patterns	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Accept	Require that the dam height during excavation not be less than needed to safely pass a 100-year event through the diversion tunnel; Completion of the FERC Potential Failure Modes Analysis process; Implement EAP, if necessary; Close coordination with the FERC regional office and state dam safety authorities.	Owner / Force Majeure	Post-GMP Contingency	Insurance	Open

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	KRRC Management Strategy	Risk Management Measure	Risk Owner	Primary Contingency Carrier	Secondary Contingency Carrier	Risk Status
66	Dams	**Hatchery Delay** Iron Gate and/or Fall Creek Hatchery is not brought online in time to begin drawdown. This may lead to schedule delay.	PacifiCorp does not move forward with planning, designing, costing, and seeking approval for hatchery designs. Inadequate planning, equipment, staff, technical issues, or unfavorable weather	Construction	3 Less Likely (20-39%)	3 Moderate	9	Med	Manage	Rigorous design of replacement supply; Pilot treatment technology; Proactive QA/QC during construction.	Owner / PDB	Post-GMP Contingency	PDB	Open
Yreka Water Supply Pipeline														
74	Yreka	**Design Changes by City of Yreka** Design review by City of Yreka may result in changes to design. Coordination or other design delays related to City of Yreka water system design.	Lack of coordination or agreement on design process or details	Design	3 Less Likely (20-39%)	1 Very Low	3	Low	Manage	Proactive coordination with City engineers on process and design requirements; Strict adherence to schedule milestones and KRRC QA process; Keep Designer under KRRC/AECOM control so payments can be withheld due to schedule delays	Owner	Pre-GMP Contingency	-	Open
100	Yreka	**Yreka Water Supply Construction Delays** Yreka Water System Pipeline Crossing is not constructed in time for dam removal start. If this happens it pushes the dam removal to next calendar year. Differing Site Condition claim during Yreka Water Supply Pipeline Crossing Construction. On-site investigation shows much more complex.	Unforeseen seasonal flow condition in-river, and other unforeseen adverse conditions (e.g., geology) impacting construction schedule.	Construction	3 Less Likely (20-39%)	2 Low	6	Med	Manage	Consider obtaining permits early; consider approved in-river work window for fish protection and other potential risks to construction schedule in planning for contingencies - in order to complete construction in-time for the dam removal start.	Owner / PDB / Force Majeure	Pre-GMP Contingency	PDB	Open
External Events														
9	External Events	**Uncontrolled Circumstances** Uncontrollable circumstances (e.g. force majeure, war, terrorism)	Uncontrolled circumstances	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Accept	Prepare Emergency Response Plan (PERP) and require Contractor to prepare their own PERP	Owner / PDB / Force Majeure	Post-GMP Contingency	PDB	Open
20	External Events	**Wet Weather** Wetter-than-expected weather or flows higher than expected during instream construction window increases costs and causes delays.	Climate change; Hydrology	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Accept	Rigorous flow analyses during planning/design; Consider defining anticipated rain days in contract as a number greater than average; Define flow return period; Contract requirement for contractor plan for wetter-than-expected weather.	Owner	Post-GMP Contingency	-	Open
22	External Events	**On-site Fire** Fire in watershed causes on-site fire damage	Lightning; Accidental; Arson	Construction	3 Less Likely (20-39%)	1 Very Low	3	Low	Share	Fire Management Plan has been developed and Contractor will be required to prepare their own Fire Management Plan.	Owner / PDB	Insurance	-	Open
24	External Events	**Earthquake - During Construction** Earthquake damages temporary construction leading to additional cost and schedule delays.	Earthquake occurs near project	Construction	1 Very Unlikely (1-9%)	2 Low	2	Low	Transfer	Consider specifying a contract defined design earthquake for temporary construction.	Owner / PDB	Insurance	-	Open
31	External Events	**Onsite Public Safety** Public safety at construction site. Injuries or damage may lead to additional cost and schedule delays.	Public safety measures insufficient to keep out public	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Transfer	Development of appropriate health and safety qualifications, experience and other requirements during the procurement process, as well as active overview and enforcement of the Contractor's health and safety and site security plans. No public access to work areas.	PDB	Insurance	PDB	Open

Risk ID	Risk Category	Risk Description	Root Cause(s)	Phase When Actualized	Probability (P)	Impact (I)	Risk Weight (P x I)	Overall Rating	KRRC Management Strategy	Risk Management Measure	Risk Owner	Primary Contingency Carrier	Secondary Contingency Carrier	Risk Status
73	External Events	**Earthquake - Post Construction** Large seismic event up to design Maximum Credible Earthquake (MCE) occurs after project completion that results in blockage of Klamath River, leading to additional costs.	Large seismic event causes catastrophic landslide or slope failure	Post-Construction	2 Unlikely (10-19%)	3 Moderate	6	Med	Transfer	Develop clear design requirements for PDB contract; Work with dam safety authorities to set reasonable design criteria and associated durations.	LTC	LTC	Insurance	Open
79	External Events	**Domestic Terrorism** Domestic terrorism or actions to disrupt or stop project during construction may lead to schedule delays.	Extreme opposition to project	Construction	2 Unlikely (10-19%)	1 Very Low	2	Low	Accept	Develop site security plan that includes project response to different scenarios for disruption of project by domestic terrorists	Owner	Post-GMP Contingency	-	Open
104	External Events	**Wildfire** Wildfire ignited by construction activities spreads and affects other properties.	Hot work, or other activities during the dry months generate sparks or heat that ignite dry grass and brush around the project that then spreads to neighboring populated areas.	Construction	1 Very Unlikely (1-9%)	5 Very High	5	High	Transfer	Fire Management Plan has been developed and Contractor will be required to prepare their own Fire Management Plan.	PDB	Insurance	PDB	Open
111	External Events	**Extreme Weather** Hotter- or colder-than-expected weather causes work stoppage and schedule delays	Climate change	Construction	1 Very Unlikely (1-9%)	1 Very Low	1	Low	Accept	Weather analysis during construction planning needs to foresee heat/cold delays; consider including greater than average number of excessive heat/cold days; for hot weather, consider ways to increase night work without affecting noise levels	Owner / Force Majeure	Post-GMP Contingency	-	Open
114	External Events	**Confiscation by Governmental Body** Government confiscates resources or stops work	External events (disaster, etc.)	Construction	1 Very Unlikely (1-9%)	2 Low	2	Low	Accept	N/A	Owner / Force Majeure	Post-GMP Contingency	-	Open
115	External Events	**Circumstances Affecting Suppliers** External events (disaster, etc.) affect the ability of PDB to acquire supplies and materials	External events (disaster, etc.)	Construction	1 Very Unlikely (1-9%)	2 Low	2	Low	Accept	Early coordination with suppliers to avoid supply limitations	Owner / Force Majeure	Post-GMP Contingency	Insurance	Open

Attachment B Aon Risk & Insurance Due Diligence Report



Risk and Insurance Due Diligence Report

Klamath River Renewal Project

Prepared for the Klamath River Renewal Corporation

Date: July 2019

AON

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Reliance Statement

This report is prepared for the Klamath River Renewal Corporation (KRRC or Client) in respect to the procurement of the Klamath River Renewal Project (Project). It may be relied on by the following parties (Parties):

- Klamath River Renewal Corporation
- The State of California
- The State of Oregon

We confirm that the Parties may rely upon this report in connection with and for the purpose of:

- The provision or underwriting (as the case may be) of financial accommodation, equity, debt or hybrid investment, leasing finance or residual value guarantees to facilitate the Project
- Pre or post financial close debt financing or sale, transfer or assignment of the above financial accommodation, equity or debt investment, hybrids issues, including the issue of a disclosure document to finance the Project, leasing finance, residual value guarantees or underwriting positions which occurs within 12 months of financial close (together, the Financing)
- FERC license transfer to Klamath River Renewal Corporation

We confirm that the Parties are permitted to extract parts of the report to be inserted into any information memorandum and/or disclosure document (IM) used in connection with any Financing of the Project or any part of it, provided that:

- A full copy of the report is made available to each recipient of the IM
- Each extract is a complete and accurate transcription of the relevant part of the report
- It is clearly stated in the IM that the extract is an extract from the report
- It is clearly stated in the IM that the recipients may not rely upon the extract but only rely on the full Report and then subject to any limitations or disclaimers in the report

We also confirm that we are prepared to answer queries with respect to this report raised by any of the Parties or potential Financiers or underwriters in any syndication or sell down process, which may arise in the six-month period following financial close of the Project. We further confirm that we are prepared to answer queries with respect to this report raised by FERC, the State of California, or the State of Oregon which may arise in the six-month period following FERC license transfer.

For the purposes of this reliance statement, Financiers means each person who provides or participates in financing including:

a) Each arranger, underwriter, note holder or participant in the facilities related to the Financing and any agent or trustee (including any security trustee or security agent) acting for any of them
b) Each working capital facility provider
c) Each interest rate, foreign exchange or other hedge counterparty
d) Each person who provides Financing as a lessor under a financing or operating lease or as a residual value guarantor on or post financial close including each arranger, underwriter, dealer, participant or note holder in the Leasing Arrangements related to the financing or any agent or trustee acting for any of them
e) Any credit support provider to a borrower under a financing

in each case as at financial close; and

- Each and any person who becomes a substitute, transferee or assignee of any of the persons referred to in (a), (b) and (e) within 12 months of financial close.

This report is based upon the information that the Client and its representatives have provided. The Client is responsible for the accuracy and completeness of the information, and we accept no responsibility arising from the Client's failure to provide complete and accurate information.

Executive Summary

This report has been produced by Aon at the request of the Klamath River Renewal Corporation for the benefit of the KRRC and related parties (collectively referred to as the "Stakeholders"), involved in the Project. KRRC engaged Aon for certain Insurance Advisory services ("Insurance Services). This report is provided for the benefit of all Stakeholders and may be relied upon by the Stakeholders.

This report summarizes the Insurance Services and provides certain recommendations based upon those Insurance Services including but not limited to:

- Risk Assessment including analytics and risk modelling:
  - The analytic and risk modelling reveals that the total exposure (general liability, errors and omissions, haul away auto, and workers compensation) at a 99.5% confidence level is $120.61M.
  - As seen in Appendix C, dam failure presents the greatest risk. At a 99.5% confidence level, the total estimated cost associated with a dam failure is $119.97M.
  - Wildfire does not present a significant risk and at a 99.99% confidence level the exposure is estimated to be $6.26.
  - The insurance program proposed by Aon will provide sufficient limits of insurance to cover these risks.

- Risk Assessment including Project Risk Register:
  - Working in conjunction with Aecom and the Stakeholders, Aon has attempted to identify all of the potential causes of loss.
  - Based upon the Project Agreement, Aon identified which party "owns' the risk and the risk mitigation tools available.
  - For those risks where insurance is "potentially available", the determination for whether insurance is available is based upon the facts associated with the loss (assumes that the loss is not otherwise excluded) and the damages being claimed.
  - Of the 39 risks for which insurance is not available:
    - 4 are ProjectCo (Kiewit risks) and 6 are shared ProjectCo/KRRC
    - 4 are associated with funding and should be known prior to license surrender
    - 12 will be known prior to license surrender
    - 4 will be transferred to the LTC
    - The remaining 9 are either low probability or included in the KRRC contingency.

- Risk Assessment including Project Insurance Program:
  - The Definite Plan made several insurance recommendations, including but not limited to:
    - A general liability only owner controlled insurance program (OCIP)
    - KRRC, Project Co/Kiewit, and all contractors procuring their own workers compensation insurance program
    - Builder's Risk /Inland Marine limit based upon 100% of the replacement value of any salvaged material or property and procured by KRRC
    - Professional Liability to be purchased by Project Co/Kiewit with limits as high as 20% - 40% of the construction value.
  - Aon recommends certain changes to the Project Insurance Program:
    - A contractor controlled insurance program (CCIP) which includes both the general liability, umbrella liability and workers compensation insurances. This will avoid gaps in coverage, allow for greater participation by minority owned business and most importantly, lower the cost of insurance based upon Kiewit's purchasing power in the marketplace.

- Builder's Risk/Inland Marine limit based upon the probable maximum loss ("PML") vs. replacement value and to be procured by ProjectCo/Kiewit. By utilizing the PML, the limit will account for the increased value in the roads, bridges and other project improvements
- Contractor's Pollution Liability and Pollution Legal Liability with linked limits of $50M and procured by KRRC. This will allow for a more seamless transfer of coverage to the LTC.
- Professional Liability limits of $25M and allow for Kiewit to use its corporate program to satisfy this requirement. This will provide the same protections as a project specific placement while eliminating the costs associated with a project specific placement.
- Watercraft and Aircraft Liability with $5M limits for each of the exposure, except helicopters which should be $10M: watercraft, aircraft, helicopters, and drones to the extent there is exposure. However, if the drones are under 10 kg, use of the general liability is permissible.

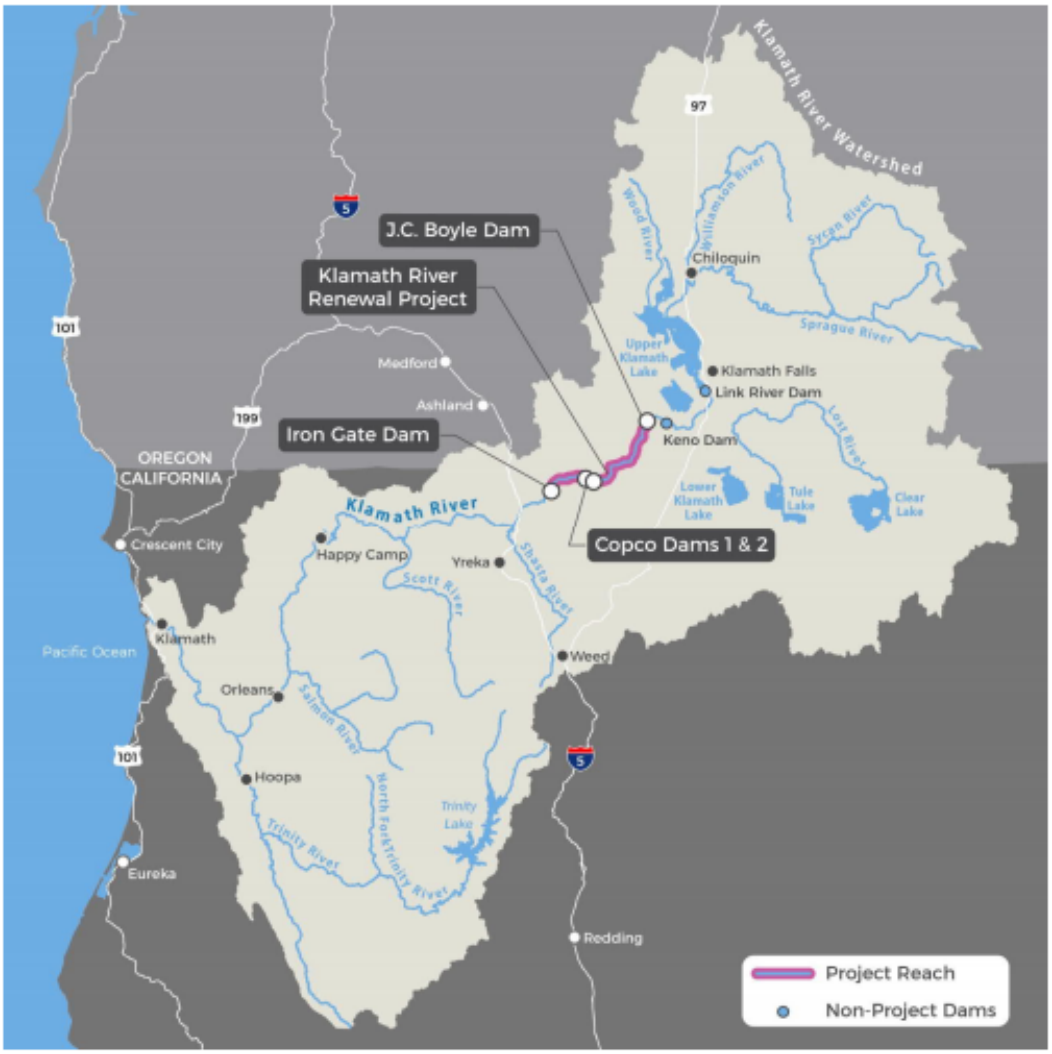
- The total premium cost associated with the Aon recommended program is estimated to be $8.2M.

It must be clearly understood that, at this time, no project insurances have been bound and no insurance premium costs have been incurred. KRRC does maintain its corporate insurance program, which was renewed on June 30,2019. The project insurances will be placed prior to Project Implementation Work.

Project Overview

The Klamath River Renewal Project (the "Project") comprises the removal of four dams on the Klamath River – J.C. Boyle, Copco 1, Copco 2, and Iron Gate, along with appurtenant structures. The Project is intended to restore the natural, free-flowing condition and restore volitional fish passage through river miles 193.1 to 234.1. In addition to the deconstruction activities, the Project Company will be responsible for remediating and restoring the reservoir sites, minimizing adverse impacts downstream, ensuring project completion with available funds, and avoiding damages and liabilities to PacifiCorp, the States, and third parties. The estimated cost of the progressive design-build contract is estimated to be $237.6M million. The estimated cost of project oversight, liability transfer, environmental compliance, technical support, construction management, mitigation measures and monitoring and reporting is estimated to be $133.3M with a contingency of $62.8M.

Project Map



Method of Approach

The review and commentary on insurance and risk management issues are based on the review of project documentation. This documentation includes the Definite Plan and other data as provided by the Klamath River Renewal Corporation and its advisors.

Specifically, Aon has reviewed the following documents:

- Klamath Hydroelectric Settlement Agreement dated February 18, 2010, Amended April 6, 2016 and November 30, 2016
- Definite Plan dated June 2018 and July 2, 2019
- Request for Proposal dated December 21, 2018
- Project Agreement dated April 24, 2019
- Operations & Maintenance Agreement dated September 20, 2017
- FERC Board of Consultants Letter Report No. 1 and KRRC Response Letter dated December 12, 2018

Risks that have been identified through the review of the above documentation and through consultation with Stakeholders, have been discussed and matched with solutions utilizing the following approach:

Aon has utilized its Project Enterprise Risk Assessment (PERA) approach in its analysis of the risks on the Project. PERA is a proprietary enterprise risk management solution which is tailored to complex construction projects. The PERA methodology involves the following:

- Risk Identification
- Map to potential risk solutions, including transfer by insurance, transfer by contract, transfer by alternative method, and risk controls
- Certain proposed solutions, if possible, could be vetted through meetings with various Stakeholders in order to test the integrity of the solution

This method will also attempt to address risks outside of the usual hazard quadrant and will provide the Stakeholders with a project wide “risk matrix” that includes identified risks and potential solutions. Some solutions may not involve transferring risk to insurance carriers, and Aon will discuss with Stakeholders techniques for implementing these solutions.

Aon’s risk matrices were then compared to the Aecom risk register to ensure that all risks were identified and properly classified. The combined risk matrix/risk register were then used to conduct the risk analytic and modelling and quantify the potential risk. This allowed Aon to determine the appropriate levels of insurance and avoid over insuring the project, which would not have delivered good value for money. Aecom utized the combined risk matrix/risk register to produce a roll-up contingency estimate.

Project Risk Commentary

Below Aon has provided a summary of critical risk clauses within the Definite Plan and the Project Agreement.

Key Project Risks

The following discussion of project risks explores the risks that were highlighted by Stakeholders during the February 19, 2019 risk workshop held at the Aon San Francisco office. The risks raised by Stakeholders were then quantified and analyzed by Aon Global Risk Consulting (AGRC) to provide estimates of the risk of potential losses by line of coverage and by risk. Below is a summary of potential losses by line of coverage:

	GL	E&O	Haul Away – AL	Workers Comp	Total Before Insurance	E&O – Hatchery
Average Loss	$6.19	$0.53	$1.15	$3.72	$11.58	$2.02
CAT Loss	$62.12	$10.62	$3.78	$12.37	$70.50	$56.79

Confidence Level	Years/Event					
10%		$0.26	$0.00	$0.39	$1.95	$3.62	$0.00
20%		$0.39	$0.00	$0.54	$2.26	$4.21	$0.00
30%		$0.53	$0.00	$0.67	$2.53	$4.74	$0.00
40%		$0.70	$0.00	$0.80	$2.78	$5.31	$0.00
50%	2	$0.93	$0.00	$0.94	$3.05	$6.04	$0.00
60%	2.5	$1.34	$0.00	$1.11	$3.36	$7.09	$0.00
70%	3.3	$2.26	$0.00	$1.31	$3.77	$9.19	$0.00
80%	5	$6.64	$0.00	$1.59	$4.40	$13.45	$0.00
90%	10	$16.93	$0.00	$2.09	$5.90	$24.48	$0.00
95%	20	$29.01	$0.00	$2.62	$8.04	$36.19	$0.00
99%	100	$67.92	$18.04	$4.28	$14.48	$78.72	$51.67
99.38%	161	$109.38	$25.71	$4.89	$17.05	$120.61	$92.20
99.5%	200	$125.98	$28.87	$5.27	$18.19	$135.36	$113.71
99.90%	1,000	$254.81	$69.71	$8.97	$28.27	$264.49	$320.70
99.95%	2,000	$303.28	$106.86	$11.75	$33.35	$308.11	$414.71
99.99%	10,000	$394.77	$195.56	$21.18	$46.28	$404.89	$705.41

Wildfire

Wildfire is the is one exposure that has risen to the top of the list for casualty insurers. Though the amount of work associated with disconnecting the electrical transmission lines from the hydroelectric dams is small in comparison to the overall project it is and will most certainly become a major concern from an underwriting

perspective. Unfortunately, starting with the San Diego brush fires to the recent fires in Southern California and most certainly Northern California, wildfire has now reached catastrophic stature in the industry and will become a driving force in the ability to place general liability coverage. Based on an analysis by KRRC's attorney's, of the three potential theories of liability for wildfire damage – negligence, trespass by fire, and inverse condemnation – inverse condemnation would not apply to KRRC as it is not an investor-owned regulated utility. Additionally, PacifiCorp maintains all operational risk until the dams are decommissioned. Consequently, KRRC or the Project Company would only be liable for damages due to negligence and trespass by fire and general liability policies should cover most potential claims for property damage and bodily injury. However, as KRRC's attorneys note, punitive damages cannot be covered by insurance under California law. According to the analysis done by Aon, the potential liability exposure from wildfire is relatively low with losses estimated to be $6.26M at a 99.99% confidence level. This is primarily due to the rural nature of the project area and PacifiCorp's historic wildfire losses.

Downstream Sediment Deposits

The potential for a negative impact on downstream water quality is of significant concern, especially if there are issues related to contamination of the sediments. There could also be a negative impact at the point at the Klamath empties into the ocean. Much of this risk should be covered by the pollution legal liability coverage.

Dam Failure

The product of the annual probability of dam failure from a particular failure mode and the magnitude of the resulting consequences. Statistically, over 50% of dam failures in the U.S. can be linked to geologic and geotechnical problems. Professional liability underwriters view any dam work substantially more challenging because of the potential for catastrophic loss. According to the analysis by Aon, the potential liability exposure from dam failure is somewhat significant, with projected losses estimated to be $119.97M at a 99.5% confidence level. However, PacifiCorp is responsible for all operational risks until decommissioning. Consequently, KRRC's exposure is limited to post-decommissioning through dewatering, a period which is estimated to be no more than four months.

Failure of the Substation

Damage to the substation during the period between license surrender by PacifiCorp and decommissioning could add significant costs to the project as substations not easily replaced. Also, should there be substation failure, there could be negative impacts to the environment. The potential losses from substation failure can arise from any time after the project starts to the last date of power generation. Aon estimates that losses at a 99.5% confidence level would be $20.79M. However, KRRC and/or ProjectCo/Kiewit would only be responsible for losses arising out of damage caused by the deconstruction of the dam, not the operational exposure.

Hatchery Failure or Fish Kill

If the water intake is compromised, there is the risk of losing endangered species. Additionally, there is a risk of loss through KRRC or contractor negligence that causes the hatchery work to fail. Aon estimates that losses at a 99.5% confidence level would be $113.71M. However, KRRC does not have responsibility for the operation of the hatcheries; this is the responsibility of the Department of Fish and Wildlife. As such, any losses associated with the operational exposure would not fall to KRRC.

Discovery of Tribal Cultural Resources

There is a good chance that during the decommissioning and facilities removal, a contractor will discover tribal cultural resources. If that occurs, work will have to immediately stop until an investigation can be

conducted. This investigation could prolong the construction period and depending on where in the facilities removal cycle process the discovery occurs, there may be a need for work not originally within the scope of work to ensure embankments are stable. This would be considered an uncontrollable circumstance.

Yreka Water Supply Pipeline Move

There is risk that KRRC or contractor negligence may cause the Yreka water supply pipeline to fail or fail to operate properly. Key inputs to understanding the liability implications of this risk would be the duration of the failure and the water usage by the citizens of Yreka. Aon estimates the losses at a 99.5% confidence level would be $49.49M.

Uncontrollable Circumstances

As defined in the Project Agreement, the Uncontrollable Circumstances are intended to ensure that project risks are transferred to the party best capable of managing, mitigating or transferring each risk. The Uncontrollable Circumstances are comprehensive and have the KRRC retaining risks that are typically retained by Owners on large, complex infrastructure projects. These risks are typically either in the relative control of the KRRC, such as errors, omissions, or insufficiencies in information provided on behalf of the KRRC; are uninsurable, such as labor disputes or strikes affecting specific trades at a regional or national level; or would be considered acts of God, such as earthquakes, fires, tornadoes, or floods. Having the KRRC carry responsibility for these foreseen events allows the Project Company to reduce some of the contingencies that they would otherwise be carrying in their bids. There are some risks that the Project Agreement is silent on that are often described in other project agreements for complex construction projects that may lead to delays and/or disputes in the project. Except for these silent risks, the Project Agreement generally transfers risk to the party best able to mitigate such risk.

Definite Plan and Project Agreement Insurance Requirements

Corporate Program

KRRC procured a corporate insurance program which is intended to address KRRC's general risks as a business entity and include the following coverages:

- $1,000,000 Commercial General Liability policy which is supplemented by a $5,000,000 Umbrella policy
- $10,000,000 Directors and Officers policy that protects the KRRC's board members
- Worker's Compensation and Employer's Liability policy with a $1,000,000 limit for the KRRC employee(s)
- Commercial Automobile policy with $1,000,000 in limits
- Commercial Property policy that covers the KRRC's scheduled property

KRRC's corporate insurance program was to name PacifiCorp, the State of Oregon, the State of California, and their respective officers, agents, employees, and members as additional insureds in accordance with the requirements of the Amended KHSA.

Policy Type	Definite Plan – Appendix A	Project Agreement – Appendix 9	Aon Commentary
CIP for General Liability Limits: $2M occurrence $4M general aggregate	Policy to cover KRRC, the dam removal contractor and all eligible subcontractors for their work at the Project. The goal was to provide a comprehensive, seamless, and efficient insurance program which: (1) precludes insurers from denying coverage based upon other available coverage; (2) removal of cross-litigation costs caused by multi-party losses on a construction project; (3) allows the project sponsor/owner to control and design the coverage it intends to procure and the costs of coverage.	Policy to cover liabilities that arise out of the performance of the Project Implementation Work Limits of $2M per occurrence, $4M products completed operations, and $4M aggregate limit A products completed operation period of 10 years following Project Final Completion or the Termination Date, whichever occurs first.	Neither the Definite Plan nor the Project Agreement address allowable deductibles and/or self-insured retentions. Appendix 9 provides that Project Co/Kieiwit will pay for deductibles/SIRs Our recommendation that the GL should be a CCIP and not an OCIP have been incorporated into Appendix 9. The reasoning for the change is explained later in this document. Our recommendation was that the products completed operations cover be maintained through the statute of repose or the period within which to file a lawsuit.
Umbrella/Excess Liability as part of the CCIP Limits: $200M	This policy is to follow form to the CGL and will cover all enrolled parties, which is an added value for smaller contractors who cannot afford these limits.	Policy to cover KRRC, the Project Company and all enrolled contractors of every tier. The limits are more specifically delineated as follows: $200M Combined Single Limit $200M General Aggregate for Enrolled Parties $200M Products Completed Operations	As set forth in the GL comments and later in Aon's Risk and Insurance Commentary, we believe there are greater advantages to having Project Company procure this coverage as a CCIP.

Policy Type	Definite Plan – Appendix A	Project Agreement – Appendix 9	Aon Commentary
		10 year products completed operations	
Worker's Compensation/Employer's Liability Limits: Statutory Requirement (WC) $1,000,000 (EL)	Requires all contractors and subcontractors to procure this coverage separate and apart from the CIP. The reasoning for not covering under an CIP is because the coverage is statutory.	The limits are more specifically delineated as follows: Worker's Compensation as required by law. Employer's Liability: $1M each accident $1M each disease (each employee) $1M for disease (policy limit) Requires USL&H when required by law	Neither the Definite Plan nor the Project Agreement address allowable deductibles and/or self-insured retentions. There are no statutory prohibitions to including the worker's compensation and employer's liability in the CCIP. As set forth in the GL comments and later in Aon's Risk and Insurance Commentary, we believe there are greater advantages to having Project Company procure this coverage as a CCIP
Commercial Auto Liability Limits: $1M CSL	Required of all contractors and subcontractors for all owned, leased, and non-owed vehicles used in connection with the work. Outside of the CIP	Required Limit of $5M CSL which could be met by a combination of primary and excess coverage to be procured by all contractors and subcontractors. Requires a Motor Carrier Act Endorsement	Given the exposure, Aon would recommend at least $5M if not $10M in coverage for the Project Company and then allow Project Company to determine the appropriate limits for its subcontractors but not less than $2M. Auto to include MCS 90 and CA 9948.
Builder's Risk/Inland Marine or Commercial Property 100% of the replacement value of any salvaged material or property	Applies a slightly unconventional analysis to the limit. Will be purchased by KRRC as a project specific property cover.	Insures against all risk of physical loss and/or damage including flood and earthquake, subject to normal policy limitations covering full insurable value of any salvage material or	Neither the Definite Plan nor the Project Agreement address allowable deductibles and/or self-insured retentions or if the Project Company and/or the enrolled contractors will be responsible for the

Policy Type	Definite Plan – Appendix A	Project Agreement – Appendix 9	Aon Commentary
		property at the Project Site. Also covers physical damage or loss of equipment and materials purchased in connection with the Early Works Package Amendment. Will cover contractors of any tier as additional insureds as their interests may appear.	deductible and/or self-insured retention. As explained in greater detail in Aon's Risk and Insurance Commentary, we believe there are greater advantages to having the Project Company procure the builder's risk coverage.
Contractor's Pollution Liability ("CPL") and Fixed Site Pollution Liability Limits: $50M linked limits	CPL to be purchased by KRRC and will cover all contractors and subcontractors at the project site.	Occurrence form Limits: $100M each pollution condition and $100M project aggregate Covers pollution caused by or exacerbate by Project Implementation Work and including coverage for clean-up, removal, transportation and disposal and for any sudden and accidental pollution. The policy will not exclude coverage for claims relating to injuries arising from the presence of lead or asbestos. The policy shall include products completed operations through the statute of repose.	Neither the Definite Plan nor the Project Agreement address allowable deductibles and/or self-insured retentions or if the Project Company and/or the enrolled contractors will be responsible for the deductible and/or self-insured retention.

Policy Type	Definite Plan – Appendix A	Project Agreement – Appendix 9	Aon Commentary
Professional Liability/ Errors and Omissions Limits: Up to $25M	To be purchased by Project Company Coverage limits may be as high as 20% - 40% of the construction value.	The limits are more specifically delineated as follows: $25M/claim $25M aggregate To cover liabilities due to error, omission, negligence, mistakes, or failure to take appropriate action in the performance of business or professional duties. Coverage to be maintained through the statute of repose following Milestone Final Completion for the Final Habitat Restoration Work. Retroactive date before commencement of any design. Shall not contain exclusions for joint ventures, partnerships or both.	Discussions have been had with Kiewit about their corporate program, and they have demonstrated that they have the same types and kinds of coverages as a CPPI. As such, it is permissible for Kiewit to use their corporate program. Aon agrees that the Project Company and all design professionals must carry professional liability coverage. Limits of 20% - 40% of the construction values could raise red flags for the insurers and raise the overall cost of coverage.
Watercraft and Aircraft Liability Limits: Watercraft - $5M per occurrence Aircraft - $5M per occurrence Helicopters - $5M per occurrence Drones - $5M per occurrence	The Definite Plan does not contain these insurances	If Project Company or any Subcontractors intend to use any watercraft, aircraft, helicopters, or drones as part of the Project Implementation Work, they must procure and maintain the requisite insurance.	If no other aircraft are being used, drones can often be scheduled on the general liability policy if they are below a certain size.

KRRC CIP Obligations

Each of these polices shall name PacifiCorp, the State of Oregon, the State of California, and their respective officers, agents, employees, and members as additional insureds.

Appendix 9 of the Project Agreement identifies the following excluded parties from the GL and Umbrella CIP coverage:

(a) Hazardous material remediation, removal, and/or transport companies and their consultants;

(b) Architects, surveyors, engineers, and soil testing engineers, and their consultants;

(c) Vendors, suppliers, off-site fabricators, material dealers, truckers, haulers, drivers, and others who merely transport, pick up, deliver, or carry materials, personnel, parts or equipment, or any other items or persons to or from the Project Site;

(d) Contractors or subcontractors performing day-to-day maintenance and operation work for plant operations;

(e) Any subcontractor of any tier that does not perform any actual labor on the Project Site; and

(f) Any other party or entity not specifically identified herein, that is excluded by the KRRC in its sole discretion, even if such party or entity is otherwise eligible.

Enrolled contractor's off-site operations are only covered if the CIP administrator provides a written acknowledgment of such coverage.

Project Company OCIP Obligations and Obligations for the Other KRRC-Provided Coverages

The Project Company shall enroll in the OCIP prior to the commencement of any Project Implementation Work at the Project Site. The Project Company shall ensure that its eligible Subcontractors enroll in the OCIP prior to their commencement of any Project Implementation Work. The Project Company shall, within 10 days of the KRRC's request, submit payroll records, policy rating pages, certified copies of insurance coverages, declaration pages of coverages, certificates of insurance, safety records and history, OSHA citations, construction cost estimates for the Project, and other data the KRRC, the OCIP Administrator, or the OCIP Insurers may request. The KRRC shall be responsible for all premiums associated with the OCIP Coverages as well as deductibles or self-insured retentions associated with the policies.

Project Company Obligations Under Project Company Provided Insurance

1. Maintenance of Insurance

Project Company must keep in force, or cause to be obtained and kept in force, the policies set forth in Appendix 9. Each policy shall be obtained prior and be in force prior to the performance of any work or commencement of any activity intended to be insured by each policy.

2. Insurer Eligibility

Each policy of insurance required to be obtained by the Project Company shall be issued by a company or companies with a rating of not less than "A-VIII" in the last available Best's Rating Guide unless otherwise

approved by the KRRC and be authorized to conduct and transact insurance business in Oregon and California.

3. *Verification of Coverage*

The Project Company shall deliver to the KRRC Contract Representative a copy of certificates of insurance and policy endorsements (i.e, additional insured CG 2010 and 2037, waiver of subrogation, notice of cancellation, primary and non-contributory coverage) provided by its insurance broker or agent for all insurance required within 10 days after receipt of notice of award of the Project Agreement. All such certificates and policy endorsements must be issued and approved by the KRRC prior to the issuance of a Notice to Proceed.

4. *Primary Coverage*

Each policy of insurance required to be obtained by the Project Company shall, with the exception of the professional liability, worker's compensation and employers liability, be non-contributing with and shall apply only as primary insurance and not excess to any other insurance, self-insurance, or other risk financing program available to the KRRC.

5. *Corporate vs. Project Specific Policies*

The Project Company may provide professional liability/errors and omissions liability insurance, commercial auto liability insurance, worker's compensation insurance, employer's liability insurance and insurance and watercraft and aircraft liability insurance through the general corporate policies of the Project Company or its Affiliates.

6. *Waivers of Subrogation*

The workers compensation and commercial automobile liability must each provide for a waiver of subrogation in favor of the KRRC and all other Indemnitees. The waiver of subrogation endorsement must be attached to the certificate of insurance in order to effectuate waiver of subrogation required. The Project Company shall require similar waivers by its Subcontractors.

7. *Coverage Trigger*

If any liability insurance purchased by the Project Company has been issued on a "claims made" basis, the Project Company shall agree to either provide certificates of insurance evidencing required coverages through the statute of repose after Milestone Final Completion for the Final Habitat Restoration Work with a retroactive date no later than the beginning of the Project Company's or Subcontractor's work under the Project Agreement. Or the Project Company shall purchase an extended (minimum three years) reporting period (ERP) endorsement for the policy or policies in force during the Term and evidence the purchase of the ERP endorsement by means of a certificate of insurance or a copy of the endorsement itself.

8. *Notice of Cancellation*

Each policy of insurance required to be obtained by the Project Company shall contain an undertaking by the insurers or the insurer's designated representative to notify the KRRC in writing not less than 30 days before any material change, cancellation or termination (except 10 days for non-payment of premium).

Definite Plan and Project Agreement Bond Requirements

Bond requirements include bid bonds, performance bonds, payment bonds and maintenance bonds which will be maintained by KRRC's vendors and contractors. KRRC will require that all bonds be obtained from financially sound surety companies. The performance bond will be in the full amount of the dam contract. AIA Form 312 is the predominant form in use at this time.

Specialty Corporate Indemnitor

Appendix L to the KHSA requires KRRC to identify and contract with a specialty corporate indemnitor (a Liability Transfer Corporation, or LTC) to protect the States or Oregon, California and PacifiCorp from potential liability that may be uninsurable or underinsured. The LTC can be structured contractually, through third-party indemnities or with potentially with additional special insurance products. The LTC may perform portions of the Project and will assume responsibility for various project risks, both during project execution and post-project.

Aon's Risk and Insurance Commentary

Builder's Risk

The unique deconstruction nature of the project leads to a challenge in identifying to adequate coverage requirements for the builder's risk policy. Builder's risk insurance is typically purchased to protect an asset that is increasing in value as the project continues whereas the Klamath River Renewal Project will be primarily focused on the removal of assets. For example, if a covered peril were to occur that causes substantial damage to the existing assets, such as a fire, the builder's risk would not necessarily step in to cover the costs of removal of the damaged assets as dam removal is a key aspect of the Project scope.

The current requirements in the Project Agreement require that the builder's risk policy cover the full value of any salvage material or property at the Project Site. Considerations for the recommended limits for the builder's risk policy should include the values of the road improvements, the Yreka water supply work, recreational facilities, and the revegetation work.

Additionally, the current requirements in the Project Agreement have the KRRC procuring the builder's risk policy. In assessing the efficiency of the KRRC taking this approach to the builder's risk policy, there may be some concern that insurance markets may not necessarily be interested in participating on the project. Our recommendation is to require the Project Company to purchase the builder's risk coverage. By doing so, KRRC and the other stakeholders should be able to take advantage of the Project Company's bargaining leverage with its insurers. This should provide more efficiency in terms of pricing for the project as well as fulsomeness of coverage if the project can be scheduled on the Project Company's master builder's risk policy.

If KRRC does procure the builder's risk policy, KRRC should consider how it the deductibles should be paid. There should be some, if not all, of the deductible responsibility assigned to the Project Company or contractor who caused the damage.

General Liability and Worker's Compensation/Employer's Liability Program Structure

While there are many exposures associated with this project, such as lowering the water level in the river so the chosen Project Company will work in dry conditions versus wet, there is one exposure that has risen to the top of the list and that is the wildfire exposure. Though the amount of work associated with disconnecting the electrical transmission lines from the hydroelectric dams is small in comparison to the overall project it is and will most certainly become a major concern from an underwriting perspective. Unfortunately, starting with the San Diego brush fires to the recent fires in Southern California and most certainly Northern

California, wildfire has now reached catastrophic stature in the industry and will become a driving force in the ability to place coverage for contractors and projects alike where there is exposure to wildfire.

From a casualty or third-party liability, inclusive of worker's compensation/employer's liability, perspective there are three ways to approach this project risk. The project can be insured utilizing: 1) an Owner Controlled Insurance Program or OCIP, 2) a Contractor Controlled Insurance Program or CCIP or 3) the use of the Project Company's Practice Program. Each of these approaches are valid ways in which to insure the risks associated with the Project and all three have proven to work over time. Neither one of these ways is necessarily the right or wrong way to approach insuring the Project. Each method has advantages and disadvantages from a KRRC perspective, which will be explored in detail below.

Controlled Insurance Programs Generally:

To understand why controlled insurance programs ("CIPs") are often chosen to insure a project, one must look to how insurance law has developed over the years.

The commercial general liability insuring agreement reads as follows:

> We will pay those sums that the insured becomes legally obligated to pay as damages because of "bodily injury" or "property damage" to which this insurance applies. We will have the right and duty to defend the insured against any "suit" seeking those damages. However, we will have no duty to defend the insured against any "suit" seeking damages for "bodily injury" or "property damage" to which this insurance does not apply.
>
> * * *
>
> This insurance applies to "bodily injury" and "property damage" only if:
> **(1)** The "bodily injury" or "property damage" is caused by an "occurrence" that takes place in the "coverage territory";
>
> **(2)** The "bodily injury" or "property damage" occurs during the policy period;

As such, for there to be coverage under the policy, the insured must prove:

1. That there was an "occurrence";
2. That there was "bodily injury" or "property damage" caused by the "occurrence";
3. That the "bodily injury" or "property damage" resulted in "damages";
4. That the insured is legal obligated to pay those damages;
5. That the "occurrence" took place in the "coverage territory"; and
6. That the "bodily injury" or property damage" occurred during the policy period.

The 'legally obligated' wording raises two legal issues: (1) joint and several liability and (2) anti-indemnity. California is a modified joint and several state which means that a defendant can be held 100% responsible for economic damages and severally liable for noneconomic damages. Oregon, with the exception of environmental torts, follows the rule of several liability only unless part of the judgment is uncollectible and then it may be reallocated. As for anti-indemnity, California Civil Code §2782 states that neither public nor private owner can force subcontractor to indemnify or insure another party for that other party's "active negligence or willful misconduct," for defects in the project's design provided to the subcontractor, or for claims arising out of the scope of the subcontractor's work. Oregon Revised Statute §30.140 prohibits intermediate indemnity, which is when the subcontractor assumes responsibility for the other's negligence in whole or in part.

Given these differences in law and the potential for KRRC to be sued in California or Oregon, this creates uncertainties as to whether KRRC is protected under the contractors' and subcontractors' insurance policies. A controlled insurance policy eliminates these uncertainties, to a certain extent, by having all parties insured under a single policy. The CIP will respond to claims against all enrolled contractors thereby eliminating the need for apportionment of fault and indemnification.

The "occurrence" requirement raises issues with respect to trigger of coverage and how the primary policies in effect will be exhausted. California is a continuous trigger state for environmental claims and there is a split in authority for construction defect, but the rulings are trending toward a continuous trigger. Oregon is an "injury-in-fact" state which means that coverage exists under every policy that is in effect during the time periods in which damage to property actually occurs. Since both "triggers" can implicate multiple policies, one must now look to how California and Oregon apply the "exhaustion of coverage" principle. In California, certain courts have adopted a horizontal exhaustion position, but the Supreme Court has yet to rule on the issue. Oregon has yet to rule on the issue. Horizontal exhaustion is the principle that all primary policies that could respond to a loss must be exhausted before each joint tortfeasor's excess policies can be tapped for defense and indemnity.

Trigger and exhaustion are moot when a CIP is placed because all enrolled contractors are insured under a single policy and the policy is for the term of the project.

Owner Controlled Insurance Program

Advantages

1) Control of coverage for both general liability and worker's compensation, although worker's compensation is not currently contemplated under the current OCIP.
2) Assurance all contractors working on the project will be insured and insured with the same coverage as all other contractors, consistency of coverage.
3) Project risks are addressed all in a single policy without the concern for a market renewal.
4) Complies with current Federal Regulators understanding of how the project will be insured.

Disadvantages

1) Financial obligations for the risk and losses under the program, (i.e. deductible payments) both during and after the completion of the project.
2) Project insurance costs (i.e. economies of scale)
3) Underwriter focused attention to the risks associated with this single project.

Though an Owner Controlled Insurance Program has certain advantages around control of coverage and limits, it does bring with it the financial obligation that potentially could happen post dissolution of KRRC. This financial obligation is a variable that could pose problems based on the structure of the OCIP. The greater concern is the issue of wildfire coverage and the ability to obtain a program with this coverage. Currently unknown to Aon is whether PacifiCorp's current liability program contains wildfire or excludes it. PacifiCorp may also maintain a separate wildfire only liability program and being an insured party in this program may cause problems in the placement of a dedicated project liability program, as carriers may go over line and not be able to support an OCIP. If we are ultimately required to place a GL only OCIP for this project, we would endeavor to place such coverage including wildfire and would attempt to eliminate any deductible obligations for KRRC post dissolution.

Contractor Controlled Insurance Program

Advantages

1) Relieves KRRC of the financial obligations for the risks and losses associated with the project.
2) Control of coverage can still be established via contract with the Project Company, (i.e. types of policies and coverage terms – certain coverages have to be included in the CCIP)

3) Project Insurance Costs – Project Company will likely have more influence in the marketplace due to the scale of its insurance program vs. that of a single KRRC placement.
4) Project risks are addressed all in a single policy without the concern for a market renewal.

Disadvantages

1) Underwriter focused attention to the risks associated with this single project. However, if the Project Company has a rolling CIP, it will not be as highly scrutinized.

A CCIP has advantages that may serve this project better than an OCIP. Foremost, it takes away the financial obligations with the potential to be slightly more expansive in coverage. Similar to the OCIP approach, the CCIP would address the project risk without the need for a market renewal eliminating the worry of a renewal and underwriters changing view to possibly insuring the project. While the CCIP approach will bring attention to the project and the associated risks, the Project Company will likely seek coverage from its current corporate insurer and have greater bargaining power. If the Project Company has a rolling CIP program, the project will likely get rolled into the program with little scrutiny.

Project Company's Practice Program

Advantages

1) Relieves KRRC of the financial obligations for the risks and losses associated with the project.
2) Control of coverage can still be established via contract with the Project Company, (i.e. types of policies and coverage terms – certain coverages have to be included in their practice program)
3) Project Insurance Costs – Project Company probably has greater bargaining power in the marketplace due to its economy of scale vs. a single KRRC placement.

Disadvantages

1) Project Company's insurance is subject to renewal every year which may have impact on pricing and coverage.
2) Reliance on Project Company's ability to manage subcontractors insurance and potential lack of consistent coverage.
3) Insurer unlikely to add KRRC as an insured on the policy, thus requiring an Owner's Interest policy.

The Project Company's Practice Program approach has the advantage that this project would just be one of many that the contractor has and would not necessarily receive the same direct underwriting scrutiny that would be done on a project specific basis, either OCIP or CCIP. One potential source of uncertainty in this approach is that the Project Company and its subcontractors will have to deal with their respective insurance renewals and possible changing market conditions during the Project Implementation Work. However, if they are contractual obligated to provide the required limits and coverages then KRRC has that to rely on but with the caveat that the terms required may not be able to be met in year 3 of the program as an example. The other concern is how the legal issues are addressed if there are multiple parties at fault with multiple policies

Owners Interest Liability Program

If a Project Company directed program is selected an option to consider would be to purchase a dedicated "Owners Interest" only liability program that would protect KRRC in the event KRRC is held legally liable for a loss that arises out of its sole negligence or willful misconduct. Though most liability will be driven through the Project Company's operations, such a policy would provide coverage for the unknown or unintended loss. Limits for an Owners Interest program should be evaluated based on how much direct involvement KRRC staff will have in overseeing the project.

Recommendation

As mentioned previously all three approaches to insuring the project will work. It is just deciding which one will work best for KRRC and the successful restoration of the Klamath River. With the river restoration being

KRRC's sole purpose and KRRC not existing beyond its charter, Aon believes that a contractor-directed approach to insuring the project, in lieu of an OCIP, is the better way to proceed. For the reasons previously stated and the fact that the Project Company has direct responsibility for project completion and safety, it seems best to place the insurance program in the hands of the Project Company.

The question is whether to approach this from a CCIP or the Project Company's and its subcontractor's practice program approach. Aon's recommendation is that the liability program should be structured as a CCIP (GL/WC and Excess) for the reasons outlined above. In addition to the advantages sighted above, it would be in all parties' best interest to include KRRC, PacifiCorp, and the State and Federal Parties as Named Insureds, not additional insureds on the CCIP GL and Excess policies. This will address any concerns over all interested parties having coverage under the project insurance program and should satisfy Federal Regulators. This approach will also eliminate any reason to purchase an Owners' Interest Liability Program.

If for KRRC chooses to pursue an OCIP, we recommend that it be able to collect any deductibles/SIRs from the Project Company or contractor, who causes the loss.

Auto Liability

Our only recommendation is that KRRC consider requiring higher limits ($10M) of Project Company and allow Project Company to determine the appropriate limit for its subcontractors, but not less than $2M.

Contractors Pollution Liability and Fixed Site Pollution Liability

While similar questions, as those posed in the casualty analysis, can be asked for the pollution cover, the difference is that Project Company will not take ownership of the site. As such, the responsibility for procuring fixed site pollution liability ("PLL") cover falls to KRRC. Therefore, we agree that KRRC should procure both the Contractor's Pollution Liability ("CPL") and the PLL cover and would seek to place at least the primary layer of both policies, and preferably the entire tower, with the same insurer. Environmental claims during the course of construction often fall to both the CPL and PLL (site pollution) and can result in additional complications when two or more insurers are involved. Additionally, it may ultimately be more advantageous for the two policies to have linked limits, as currently the policies have two separate $100 million towers specified. As Aon continues to analyze the risks and exposures of the Project, the two separate towers may be over-insuring of the Project, when perhaps a single $50 million may be adequate.

If Project Company is willing to do so, KRRC should work with Project Company to use Project Company's leverage in the insurance marketplace to negotiate coverage, terms and pricing.

We do recommend that KRRC be permitted to collect any deductible/SIRs from the Project Company or contractor who causes the loss.

Professional Liability Structure

Given the size of the project and the inherent, potential risk of a catastrophic loss resulting from the negligent rendering of professional services, the structure of the professional liability coverage will be critical to the success of the project. Aon has reviewed Kiewit's corporate program and it contains the same types and kinds of coverages that would be in a project specific Contractors Protective Professional Indemnity (CPPI). As such, use of Kiewit's corporate program is permissible.

Bonds Requirements

KRRC is requiring Project Company to fulfil the bonding requirements imposed upon it under the KHSA. These include performance, payment Bonds, and maintenance bonds. These are the types and kinds of bonds that would be required in a traditional construction project but, as has been highlighted earlier, this is not a traditional construction project. Any corresponding bonds that could be required in association with the upcoming work should also be passed on to the Project Company (Site Improvement, Road Use, License & Permit Bonds).

Aon has investigated the use of reclamation bonds and believes these bonds could be problematic. Unlike a construction project that may be completed within months or years, reclamation projects can go on for a very long time and the bond amounts can be substantial. A reclamation bond provides a financial guarantee that the disturbed land or water will be brought back to its approximate original state or an acceptable condition as agreed to by the Principal and the applicable State or Federal agency. A reclamation bond may be required by any operation that alters the land to a degree that the land may not recover on its own post operation. For this reason, it is not unusual for State Agencies or the Bureau of Land Management to require a bond or bonds for a substantial project.

The perpetuity exposure related to a reclamation bonds could be problematic. A contractor will not want to tie up their limited surety capacity on a potential large, long-term financial guarantee. As a Liability Transfer Company, ("LTC") any potential KRRC related indemnitor will not be a desirable credit for a surety company. The very nature of a LTC suggests that the surety liability will outlive the LTC. In addition, a LTC has a discreet pool of funds that will shrink over time. One can suspect that for a credit such as this one, a surety would want collateral, up to 100%, to support such a potential bond(s).

In addition, environmental exposures that may present themselves during the work should be reviewed closely. There are contractors that specialize in environmental remediation (Hydro and Soil) and they should be employed when possible and necessary. The surety market is very soft and there is sufficient capacity for environmental contract risks currently. However, if the market should harden, this capacity could become scarce. Environmental requirements that translate into long-term financial guarantees could be a challenge. Not unlike reclamation bonds, these are obligations that a contractor would be reluctant to engage in and the financial wherewithal of Transfer Liability Company ("TLC") would require a surety to require collateral, up to 100% of the bond penalty, to support such a risk.

When afforded the opportunity to transfer surety liability and risk to a third party, KRRC should take immediate advantage of the same. However, there are potential perpetual risks such as environmental and reclamation hazards, that a third party will be reluctant to accept. Our recommendation would be as follows:

1. Proactively look to secure bond waivers with the appropriate Obligors
2. Be prepared to put up collateral in support of these obligations
3. Investigate the funding of escrow with the Obligors over time to meet the Financial Assurance Requirements

Of course, should a surety challenge arise, Aon will make every effort to place a bond or bonds under the best terms and conditions possible.

Liability Transfer Corporation

Appendix L of the Klamath Hydroelectric Settlement Agreement requires that the KRRC contract with a specialty corporate indemnitor (LTC) that would protect the States and PacifiCorp against harm to persons, property, or the environment associated with Facilities Removal. This requirement requires KRRC to contract with an LTC that will protect the States and PacifiCorp from claims that include events that are not traditionally covered by insurance, including events such as third-party diminution in value land or property claims. Aon has worked with KRRC to identify potential companies to serve the role of LTC for the Project. A Request for Information (RFI) was issued to five LTC companies:

- ELT
- EIP

- The TBLS Group
- North Branch Global
- Commercial Liability Partners

Responses to the RFI are due back to the KRRC on March 4, 2019 with interviews scheduled for March 7, 2019. It is KRRC's intention that the ultimate LTC will be amenable to assuming environmental and other liabilities that are not covered by the proposed insurance programs.

As the project moves along KRRC will have better clarity as to what those items are for environmental, but in general risks that the CPL/PLL would not pick up that are classified as "environmental" via risk identification:

1) Replanting/restoration of vegetation
2) Dredging of any sediment that is required solely to facilitate navigation or bank improvements. The coverage would generally respond if sediment was required to be removed due to a contamination issue.
3) The costs to abate/remove asbestos or lead based paint
4) Fish kills/natural resources damage assessments due to non-pollution related events (i.e., lack of water at the fish hatchery)
5) Criminal fines and penalties. Civil fines and penalties only where allowable by law and only where said fines and penalties result from a pollution incident (i.e. not just a paperwork violation)
6) Liquidated damages/delay costs for construction, even if due to a pollution event (this may be able to be negotiated for limited situations, but let's go with the more conservative approach first)
7) Pollution claims not related to either the construction or on/at/under/migrating from a covered location. For example, KRRC is required to establish some alternative recreation areas to replace those that will no longer be usable after reservoir draw-down. Unless the locations are part of the CPL scope of work or listed on the site pollution policy, there will be no coverage for any pollution events that occur on, at, under these properties.
8) Pollution events caused by a contractor that has no written contract with the GC and/or KRRC
9) Willful, intentional, criminal events
10) The policy will have a 10-year policy term for site pollution and a maximum of a 15-year term (5 years of construction, 10 years completed operations) for CPL. The CPL could be an occurrence policy, but the site pollution is only claims-made. If we presume the worst and both policies are claims-made, there would be no coverage after policy expiration unless the policies were renewed (pending market availability).
11) Pollution conditions resulting from known underground storage tanks, unless the tanks are disclosed and scheduled on the site pollution policy
12) Contractual liability, unless we schedule the desired contracts for coverage

Risk Register

As discussed in the key project risks section of this report, there was a meeting in February 2019 with the States, PacifiCorp, KRRC and its consultants in which the group identified a variety of project risks. Aecom and Aon created a project risk register which incorporated the discussions from that meeting as well as the risks set forth in the Project Agreement. The Risk Register is attached as Appendix D to this report.

The risk register is divided into 3 specific sections: risks that are insurable, risks that are potentially insurable, and risks that are uninsurable. It is important to understand that coverage is extremely fact dependent and coverage cannot be guaranteed if the facts reveal that the cause is excluded or that there is some other type of limitation. In breaking the risks into insurable, potentially insurable and uninsurable, Aon has assumed that the insured has complied with all provisions of the policy and that the claim is not otherwise excluded.

For the potentially insurable risks, the facts and alleged damages become even more important in determining coverage. Builder's Risk and Property insurance is what is commonly referred to as a "first-party" coverage, which that the damage must be incurred by the named (or other) insureds. Additionally, for the delay in startup or contractor's continuing expense coverage to be triggered, there must be a loss caused by a peril not otherwise excluded. For the general liability insurance (3rd party coverage), as discussed in controlled insurance program section, there are 5 key factors that go into determining whether there is coverage for the loss. However, there are two key obligations under a general liability policy: defense and indemnification. The duty to defend is broader than the duty to indemnify (pay the damages). As such, often times a carrier will have a defense obligation but as the facts develop, may not have an indemnification obligation. The environmental (1st and 3rd party) and professional coverages (1st and 3rd party) have the same two duties and are also very fact dependent.

Conclusion

Aon has outlined certain recommendations with respect to the insurance program in Appendix A. We are recommending the following:

1. That Kiewit procure a Contractor Controlled Insurance Program for the general liability and Workers Compensation coverage. We believe that Kiewit's purchasing power will provide greater market efficiencies that KRRC would not have. We further believe that Kiewit is in a better position to manage the long-tail claims associated with these coverages versus KRRC because KRRC will sunset as a certain point in time. We further believe that a CCIP will allow for greater minority owned businesses, avoid gaps in coverage, obviate the trigger and exhaustion issues that often arise with respect to long-tail claims and provide the other efficiencies discussed in the CIP section of this report.

2. We recommend that Kiewit procure the Builder's Risk coverage because of its purchasing power and market relationships.

3. We recommend that Kiewit be permitted to use its Professional Liability insurance program as it complies with all of the required specifications.

4. We recommend that KRRC purchase the Contractor's Pollution Liability and Site Pollution Liability policies to assist in post-project completion transfer to the LTC.

Appendix A – Aon Proposed Insurance Plan

Insurance		Limit of Liability		Retention/Deductible		Comments
Policy Type	Recommended Procuring Entity	Baseline Minimum Requirements	Aon's Recommended Approach	Project Agreement Requirements	Aon's Recommended Approach	Relevant Notes
Builder's Risk	Kiewit	Limit to be determined	Builders risk limit to be subject to a Probable Maximum Loss analysis	No Requirements related to Retentions	The AOP deductible should be no higher than $1M Earthquake will have a percentage deductible Flood will have a percentage deductible	There will be multiple sublimits associated with the Project and those sublimits are being evaluated
CCIP for General Liability, Excess Liability & Workers Compensation	Kiewit	General Liability: $2,000,000 per occurrence, $4,000,000 products completed ops, $4,000,000 aggregate Excess: $200,000,000 WC/EL: Statutory/$1,000,000	General Liability: $2,000,000 per occurrence, $4,000,000 products completed ops, $4,000,000 aggregate Excess: $200,000,000 WC/EL: Statutory/$1,000,000	No Requirements related to Retentions	A deductible or SIR not greater than $1M	The specific forms and endorsements to be required will be added once KRRC decides on program structure
Commercial Automobile Liability	Kiewit	$5,000,000 CSL	Project Company should provide limits of $10M and be permitted to set limits for its subcontractors but the limit should not be less than $2M	No Requirements related to Retentions	N/A	In addition to MCS 90 and CA 9948, Aon will outline the specific forms and endorsements in the next draft of this report
Contractor's Pollution Liability/Pollution Legal Liability	KRRC	$100,000,000 per claim and in the aggregate	Aon recommends linking the CPL and PLL limits with limits of $50M	No Requirements related to Retentions	Not greater than $1M	The specific forms and endorsements to be required will be added once there is a better understanding as to limits and a combined CPL/PLL policy
Professional Liability	Kiewit	$25,000,000 per claim and in the aggregate	$25,000,000	No Requirements related to Retentions	Not greater than $1M	Kiewit's corporate program is sufficient
Watercraft and Aircraft Liability	Kiewit	$5,000,000 per occurrence and in the aggregate for watercraft, aircraft and drones $10,000,000 per occurrence and in the aggregate for helicopters	Still exploring exposure	No Requirements related to Retentions	TBD	TBD

Appendix B – Insurance Budget

Construction Period Insurances

Line of Coverage	Coverage Description	Limits	Retentions	Estimated Premium	Premium Responsibility	Deductible Responsibility	Cost Period
Builder's Risk	Covers damage to property in the Construction Period	Subject to a Probable Maximum Loss	Not greater than $1M	$488,750	Kiewit	TBD	Term
CCIP (GL, Excess & WC)	Covers 3rd party bodily injury and property damage, and injured employees in the course of their employment	GL: $2,000.000 per occurrence, $4,000,000 products completed ops and $4,000,000 general aggregate WC/EL: Statutory/$1,000,000 Excess: $200,000,000	Not greater than $1M	$6,500,000	Kiewit	TBD	Term
Commercial Automobile Liability	Covers liability from use of autos	$10,000,000 combined single limit	Not greater than $1M	$0 (Corporate program)	KRRC & Kiewit (corporate programs)	TBD	Annual
Contractor's Pollution Liability / Pollution Legal Liability	Covers liability arising from hazardous materials	$50,000,000 linked limits	Not greater than $1M	$1,200,000	KRRC	TBD	Term
Professional Liability	Covers liability arising out of design errors	$25,000,000 per claim and project aggregate	Not greater than $1M	$0 (use of corporate policy)	Kiewit	TBD	Term
Watercraft and Aircraft Liability	Covers liability from use of watercraft or aircraft	Depending on exposure	Not greater than $1M	TBD	Kiewit	TBD	Term
Total Estimated Annual Premium during Construction Period (2019 Dollars)				**$8,188,750**			

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