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TABLE J1.1

KIEWIT INFRASTRUCTURE WEST CO.
KLAMATH RIVER RENEWAL PROJECT

100% DESIGN REPORT
APPENDIX J1.2 TABLE OF CONTENTS - J.C. BOYLE

Print May/11/22 9:16:36

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	27MAY'22	ISSUED WITH REPORT VA103-00640/01-9	HW	SDR

ATTACHMENT A

100% FINAL Design Report_Appendix J1.2_May 28

REDACTED: 100% FINAL Design Report_Appendix J1.2_May 28 consists in its entirety of information about the location, character, or ownership of historic resources that, if disclosed, may cause a significant invasion of privacy; cause a risk of harm to the historic resource; or impede the use of a traditional religious site by practitioners. The file is marked confidential in accordance with 18 C.F.R. § 388.112, 18 C.F.R. § 388.107 and 36 C.F.R. § 800.11(c).

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TABLE J2.1

KIEWIT INFRASTRUCTURE WEST CO.
KLAMATH RIVER RENEWAL PROJECT

100% DESIGN REPORT
APPENDIX J2.2 TABLE OF CONTENTS - COPCO NO. 1

Print May/11/22 9:16:36

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	27MAY'22	ISSUED WITH REPORT VA103-00640/01-9	HW	SDR

ATTACHMENT A

100% FINAL Design Report_Appendix J2.2_May 28

REDACTED: 100% FINAL Design Report_Appendix J2.2_May 28 consists in its entirety of information about the location, character, or ownership of historic resources that, if disclosed, may cause a significant invasion of privacy; cause a risk of harm to the historic resource; or impede the use of a traditional religious site by practitioners. The file is marked confidential in accordance with 18 C.F.R. § 388.112, 18 C.F.R. § 388.107 and 36 C.F.R. § 800.11(c).

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TABLE J3.1

KIEWIT INFRASTRUCTURE WEST CO.
KLAMATH RIVER RENEWAL PROJECT

100% DESIGN REPORT
APPENDIX J3.2 TABLE OF CONTENTS - COPCO NO. 2

Print May/11/22 9:16:36

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	27MAY'22	ISSUED WITH REPORT VA103-00640/01-9	HW	SDR

PLANT OVERVIEW
SYSTEM DESCRIPTION
SERIES 000
(CO2-SERIES 000-SD)
PACIFICORP
COPCO 2 HYDRO PLANT

December 27, 2002

PREFACE

This Hydro Plant Overview has been designed to assist you in meeting the requirements of Copco 2 Hydro Plant Operator Training. It contains information about the Copco 2 Hydro Plant Overview. This includes plant description, and details about major components and their operation.

You should review the objectives and in doing so you will be better prepared to learn the required information. You should also walk down the systems and identify the components and controls. Should you have additional question about the system, ask a knowledgeable co-worker.

Detailed operations of the Copco 2 Hydro Plant Systems, where provided, are by PacifiCorp.

COPCO 2 HYDRO PLANT OVERVIEW
TABLE OF CONTENTS

List of Figures:

Introduction

Chapter Objectives

Describe the purpose of the Copco 2 Hydro Plant.

1. State, from memory, an overview of the Copco 2 Hydro Plant.
2. State, from memory, the names and purpose of the overview components of the Copco 2 Hydro Plant.

Figure 1 – Copco 2 Powerhouse

1.0 Plant Overview

Copco 2 Water Conveyance System:

Water for the Copco 2 plant comes from the diversion dam. The intake is located at the south end of the diversion dam. The following describes the flow of water through the water conveyance system from the dam to the power plant.

Water flows through the trashracks, then through the Caterpillar Head Gate and then directly into a 16 ft. diameter horseshoe shaped lined tunnel for a distance of 2440 ft. It then enters a wood stave pipe that is 1345 ft. long with a 16 ft. diameter. The wood stave pipe then connects to a second tunnel that has the same horseshoe shape that is1095 ft. long. In this section of the water conduit, there is a spill tunnel that spills the water over a rock cliff and back to the river in case the plant has a unit load rejection. The flow out of the second tunnel connects to two (2) parallel steel penstocks that are approximately 405.53 ft. and 410.6 ft. long with 13.5 ft. diameters that deliver water to Units 1 and 2, respectively.

Water normally flows through the generating units. The total unit hydraulic capacity is 3,000 cfs. There is an electrically operated butterfly valve (turbine isolation valve) on each penstock.

In the event that the plant trips off and cannot be immediately returned to service, Merwin HCC personnel, or plant personnel if available, must reduce load or shutdown units at Copco 1 powerhouse to match cfs discharge at Copco 2, or spill through the C-2 Diversion Dam spillgates and old river channel.

Copco 2 Powerhouse:

The Copco 2 powerhouse is a reinforced concrete structure. It is located on the south bank of the river.

It houses two (2) units. The turbines are Vertical-Francis types. Originally, both turbines were Allis Chalmers Type FV producing 20,000 horsepower at 171.5 rpm and 140 feet of head. Unit 1 has been refurbished by American Hydro and now produces 26, 285 horsepower at the same

speed and head. Each generating unit is rated at 16,000 kW. The total generating capacity is 32,000 kW.

Copco 2 Hydro Plant has the following major systems that are listed below:

1. Turbine Lube Oil System – Series 100
2. Service Air System – Series 200
3. Governor Oil System – Series 300
4. Cooling Water System – Series 400
5. Fire Protection System – Series 500
6. Water Delivery System – N/A
7. Culinary Water System – Series 700
8. Turbine System – Series 800
9. Vacuum System – N/A
10. AC Electrical System – Series 1000
11. Excitation System – Series 1100
12. Generator System – Series 1200
13. DC Electrical System – Series 1300
14. Protective Relaying System – N/A
15. Pumps and Motors System – N/A
16. Boiler System – N/A
17. Sewer System – 1700
18. Switchyard System – N/A
19. Tagout Procedures – N/A
20. HVAC System – N/A
21. Air Brake & Jacking System Series 2100
22. Automatic Grease System – N/A
23. Station Drainage System – Series 2300

2.0 System Operating Procedure

3.0 Revision History

Revision 0 - Initial Write-up

4.0 References

Rogue River Operations Guidelines5-2002

WATER DELIVERY SYSTEM
SERIES 600
SYSTEM DESCRIPTION
PACIFICORP ENERGY
COPCO 2 HYDRO PLANT

September 28, 2007

PREFACE

This Hydro Plant Overview has been designed to assist you in meeting the requirements of the Copco 2 Hydro Plant Operator Training. It contains information about the Copco 2 Hydro Plant Water Delivery System – Series 600. This includes system description, and details about major components and their operation.

You should review the objectives and in doing so you will be better prepared to learn the required information. You should also walk down the systems and identify the components and controls. Should you have additional question about the system, ask a knowledgeable co-worker.

SERIES 600 - WATER DELIVERY SYSTEM DESCRIPTION

TABLE OF CONTENTS

List of Figures:

Introduction

Chapter Objectives

Describe the functions of the Water Delivery System.

1. State from memory the purpose of the Water Delivery System.
2. State from memory the names and purpose of the major components in the Water Delivery System.
3. List the normal operating parameters of pressure, temperature and flow for the major components of the Water Delivery System.

1.0 Water Delivery System

The Water Delivery System provides a means to store, maintain, and deliver water to the Copco 2 Hydro Plant. This is accomplished by having a dam hold back and divert water. The system is able to regulate water flow and pass it downstream with a minimum effect to the area downstream of the diversion dam and plant.

Major components of the Water Delivery System are:

. Reservoir (Forebay)
. Dam
. Spillway
. Headgate
. Waterway
. Penstocks
. Turbine Isolation Valves

1.1. Copco 2 Reservoir Description

Water is supplied to Copco 2 Hydro Plant from Copco 2 Forebay. The forebay was created when the Copco 2 Diversion Dam was constructed at approximately the same time as Copco 1 Dam (1910-1912). It is located approximately ¼ mi. downstream from Copco 1 Power House. The Copco 2 development was completed in 1925.

1.1.A. Reservoir Data

At a normal maximum water surface elevation of 2483 feet (msl) there is no active storage in the Copco 2 forebay.

1.1.B. Reservoir Controls

The forebay is monitored by a pond level transmitter that sends level readings to Copco 1 Plant, Copco 2 Plant, Control Room, and Merwin HCC. If forebay inflow exceeds unit capacity outflows, spillgate(s) must be opened to pass excess water. Spillgate #3 can be remotely operated by Merwin HCC. During normal operation, one of the units at Copco 2 Plant will be put on float control to maintain normal maximum water elevation.

1.2. Dam Description

The Copco 2 Diversion Dam was constructed on the Klamath River approximately ¼ mi. downstream of the Copco 1 Power House. The dam retains the water that passes through Copco 1 plant and diverts it to the Copco 2 Hydro Plant there by making more efficient use of the water impounded behind the Copco 1 Dam. Construction of the diversion dam coincided with the construction of the Copco 1 dam.

The dam is a concrete gravity structure with a tunnel intake and a 145 foot long Tainter Gated spillway section with 5 gates. The overall Crest length is 278 feet and the Crest Elevation is 2493.28 feet(msl). The dam crest is 9 feet wide and 33 feet above streambed. An ungated corrugated metal pipe provides minimum instream releases in the Klamath River downstream of the dam. Constructed on the South side of the dam is a 53 foot long Intake Structure consisting of Trashracks and a roller-mounted (Caterpillar) Headgate with an electric motor-driven wire rope hoist.

The Power House is located approximately ¾ mi. downstream from the dam. With Turbine Centerline Elevations of 2338 feet (msl) and a normal tailwater of 2328 feet (msl) the 2 units at Copco2 have a net effective head of 140 feet.

1.2.A. Dam Data

Type	Concrete Gravity
Crest at Elevation (msl)	2493.28 ft.
Height (above streambed)	33 ft.
Length at Crest	278 ft.
Width at Crest	9 ft.
Width at Base	33 ft.

1.2.B. Dam Controls

The Diversion Dam has 2 moveable electric operated gate hoists. One hoist is normally left connected and positioned at gate #3. This hoist can be remotely operated by Merwin HCC, but there is no gate opening indication available, so forebay level adjusted by monitoring the forebay level.

Fig. 1 Diversion Dam, Spillgates, and Intake Structure

1.3. Spillway Description

The purpose of the spillway is to provide a controllable means by which excess inflows into the reservoir can be regulated and controlled during periods of high water. The spillway is located in the center of the diversion dam and contains 5 Tainter type radial spillgates. There are 2 movable electric operated gate hoists one of which is always left positioned and connected to # 3 spillgate.

In the event of a power outage there is an emergency stand-by generator located at the North end of the dam to provide power to the spillgate hoists, and the Intake Slide Gate Hoist.

1.3.A. Spillway Data

Type	Concrete Ogee
Crest Elevation	2473 ft
Crest Length	145 ft.
Length at Gates	130 ft.
Width at Crest	9 ft.
No. of Gates/Type	5 Radial Tainter type
Spillgate Width	26 ft.
Capacity at El. 2483 ft (1 gate)	612 cfs.
Capacity at El. 2483 ft (5 gates)	3060 cfs.

1.3.B. Spillway Controls

Water passing through the spillway is controlled by opening any one of the spillway gates. If more than 2 spillway gates need to be opened the spillgates that are opened can be blocked at the desired opening and the hoist(s) moved to another spillgate.

Fig. 2 Downstream Side of Spillgates and Spillway

1.4. Intake Structure Description

Incorporated into the South end of the diversion dam is the Intake Structure where the Intake Slide Gate and Trashracks are located.

1.4.A. Intake Structure Data

Deck Elevation	2487.28 ft.(msl)
Upstream Invert Elevation	2455 ft (msl)
Downstream Invert Elevation	2456 ft (msl)
Length at Base	53 ft
Width at Mouth	54 ft
Width at Gate	20 ft

1.4.B. Trashracks Data

Width	48 ft
Heigth	36.25 ft
Rack Bars, Steel	4 x ½ in
Bar Spacing	2 in
Rake	Custom
Hoist	2-Ton Chain Hoist

1.4.C. Intake Structure Controls

There are no controls for the Intake Structure.

1.5. Intake Slide Gate Description

There is one Roller-Mounted (Caterpillar Type) gate with an electric motor driven wire rope hoist that is used to close off the entrance to the Diversion Tunnel.

The Slide Gate has a Trashrack in front of it to prevent large debris from entering the diversion tunnel. Debris that enters the diversion tunnel can cause damage to the woodstave flowline, get caught in turbine wicket gates or in the turbine runner and inhibit flow, cause turbine vibration, or break a wicket gate shear pin.

1.5.A. Intake Slide Gate Data

Type	Roller-Mounted Caterpillar
Sill Elevation	2455.3 ft (msl)
Top Elevation (closed)	2475.75 ft (msl)
Width (approx)	260 in
Operator	Motor Driven Wire Rope Hoist
Hoist Capacity	50,000 lb

1.5.B. Intake Slide Gate Control

The Intake Slide Gate may be opened or closed from a push button station at the Intake Structure. Limit switches stop the gate at full open, or at full closed. There is currently no remote operation of the Slide Gate.

1.6. Waterway Description

Water is diverted from the Diversion Dam to the Penstocks through a 2440 foot long horseshoe shaped concrete lined tunnel, 1313 foot of wood stave flowline, and an additional 1110 foot long horseshoe shaped concrete lined tunnel. At the end of the second tunnel, a surge chamber was constructed with a side outlet that allows water to drain back to the river. The diameter of both tunnels and the woodstave flow line is a constant 16 feet inside.

1.6.A. Waterway Data

Tunnel (upstream)

Type	Concrete Lined
Shape	Horseshoe
Length	2440 ft
Diameter (inside)	16 ft

Flowline

Type	Wood-Stave
Shape	Round
Length	1313 ft
Diameter (inside)	16 ft

Tunnel (downstream)

Type	Concrete Lined
Shape	Horseshoe
Length	1110 ft
Diameter (inside)	16 ft.

Surge Chamber

No data available

1.6.B. Waterway Controls

There are no controls on the waterway

1.7. Penstock Description

At the end of the downstream tunnel 2 steel penstocks convey the water to the Turbine Isolation Valves of the 2 units at Copco 2 Power House.

Prior to entering the Power House a tap is taken off Unit #2's penstock to provide Fire Water protection for the Copco 2 housing project. Immediately upstream of the Turbine Isolation Valve on Unit #2 another tap is taken off to provide cooling water for bearings, lube oil skids, and transformers.

1.7.A. Penstock Data

Unit # 1

Type	Riveted Steel
Length	405.53 ft.
Diameter (at tunnel exit)	13.5 ft.
Diameter (at Isolation valve)	11.5 ft.
Diameter (at scroll case)	8 feet

Unit # 2

Type	Riveted Steel
Length	410.6 ft
Diameter (at tunnel exit)	13.5 ft
Diameter (at Isolation valve)	11.5 ft.
Diameter (at scroll case)	8 ft.

1.7.B. Penstock Controls

The penstocks have no controls.

Fig. 3 Penstocks Exiting Tunnel

Fig. 4 Penstocks Entering Plant

1.8. Turbine Isolation Valves Description

At the inlet to the scroll case of each unit at Copco 2 is an 11-feet 6-inch diameter motor-operated
Isolation valve. These valves are butterfly type and are normally operated by an electric motor, but can be operated manually with a handwheel.

Each butterfly valve has a manual bypass valve that is normally kept open. The normal means for isolating the turbines is with the wicket gates. Upon a unit trip, however, the butterfly valves go closed. To facilitate re-opening the valves, the bypass valves are left open to equalize pressure across the large butterfly valve discs.

1.8.A. Turbine Isolation Valve and Bypass Valve Data

Isolation Valve	
Type	Butterfly
Operator	Electric Motor-Driven
Size	11-feet 6-inches
Bypass Valve	
Type	Gate
Operator	Manual Handwheel
Size	12-inch

1.8.B. Turbine Isolation Valve and Bypass Valve Controls

The Turbine Isolation Valves are motor operated and have disconnects locally at there operators.\, and controls on the operator control panel in the control room and the control panel in the power house. The controls consist of OPEN-STOP-CLOSE switches. In either the OPEN or CLOSE position the valve will stroke fully in the selected position and is stopped by limit switches.

The Bypass Valves are manually operated, and have no controls.

2.0 System Operating Procedure

2.1. Precautions, Limitations, and Setpoints:

NOTE: BEFORE DEWATERING CONTACT PACIFICORP FERC ANALYST

2.1.A. The operator will maintain all equipment in accordance with the station rounds checklist.

2.1.B. Maintain forebay level at 2483 ft (msl)

2.1.C. Check trashracks daily-clean as necessary.

2.1.D. Check dam for cracks, leaks, and excess vegetation.

2.1.E. Check spillgates for excess leakage, cinder if necessary.

2.1.F. Full Tagout necessary for maintenance crews working on either unit.

2.1.G. Spillway gate capacity (assumes normal forebay level)

1 Gate full open	612 cfs.
5 gates full open	3060 cfs.

2.1.H. Unit flow capacity (assumes normal forebay level)

1 Unit at 15 MW's	1386 cfs.
2 Units at 15 MW's ea.	2786 cfs.

2.2. Startup and Filling:

Still under composition.

2.3. Shutdown and Draining:

2.3.A. Normal Shutdown

- Normal Shutdown the turbine wicket gates close and the turbine isolation valve remains open, ready for start-up. If a unit trips, the wicket gates will close, and the turbine isolation valve will close. The intake gate remains open.

2.3.B. Draining (Plant De-Watering Procedure)

- Transfer C-2 auto bank cooling water to domestic source per procedure.

NOTE: It may be necessary to switch from domestic source to City of Yreka source as domestic water system won't provide the capacity for any extended period of time.

- If auto bank temp. can't be controlled with cooling water from the Yreka system the bank must be de-energized. (refer to procedure)
- C-21 & C-22 shutdown per normal procedure, float control off.
- Copco 1 units shutdown or on line spilling at C-2 diversion dam.
- Close C-2 caterpillar gate, check closed, control power off.
- Start one of the Copco 2 units and load to 2 MW's.
- Monitor penstock pressure at the plant.
- At 30 PSI, shutdown C-2 unit.
- C-21 & C-22 placed on Local/Manual.
- Open C-21 & C-22 scroll case drain valves to complete draining of the penstock and flowline.

3.0 Revision History

Revision 0 - Initial Write-up

Revision 1 – Biennial review – No changes

4.0 References

Generation Capability Assessment Report

Plant Procedures Series 400

Plant Procedures Series 800

Plant Procedures Series 1200

Plant Procedures Series 2500

Plant P & ID's Drawings No. PD-102655.004

102655.005

102655.007

102655.008

Table of Contents

Attachments: All correspondence from table 1

Note: all attachments (ref. All correspondence from table 1) are found only on the CD appendix to the Copco2 STID, which is pending further evaluation.

10.0 DAM SAFETY CORRESPONDENCE ** COPCO-2

11-12-13 EDITION

The following table summarizes the only the spillway gate certification correspondence. All other pertinent dam safety correspondence related to PacifiCorp's Copco No. 2 Development is pending further evaluation. Items are listed chronologically and the correspondence is included only on the attached CD.

Table 1

Date	Originator	Subject
	1973	
03/10/73	PacifiCorp	spillway gate cert
	1975	
01/13/75	PacifiCorp	1974 spillway gate cert
	1976	
01/05/76	PacifiCorp	1975 spillway gate cert
12/10/76	PacifiCorp	1976 spillway gate cert
	1978	
01/05/78	PacifiCorp	1977 spillway gate cert
	1979	
01/18/79	PacifiCorp	1978 spillway gate cert
	1980	
02/28/80	PacifiCorp	1979 spillway gate cert
	1981	
01/09/81	PacifiCorp	1980 spillway gate cert
	1982	
01/14/82	PacifiCorp	1981 spillway gate cert
01/26/82	PacifiCorp	1981 spillway gate cert - notarized
	1983	
01/04/83	PacifiCorp	1982 spillway gate cert
	1984	
03/27/84	PacifiCorp	1983 spillway gate cert
12/14/84	PacifiCorp	1984 spillway gate cert

		Note: documents for spillway gate certification, from 1985 thru 1991, are available only as hard copies. No PDF's have been made or provided.
1992		
12/30/92	PacifiCorp	1992 spillway gate cert
1994		
01/01/94	PacifiCorp	spillway gate certs
12/30/94	PacifiCorp	spillway gate certs
1995		
12/29/95	PacifiCorp	spillway gate certs
1997		
12/18/97	PacifiCorp	spillway gate certs
1998		
02/03/98	FERC	Review T-Gate Design, Inspection, Maintenance, and Lubrication Procedures
03/26/98	PacifiCorp	spillway gate maint sched
12/28/98	PacifiCorp	spillway gate certs
1999		
01/08/99	PacifiCorp	spillway gate certs rev1
12/27/99	PacifiCorp	spillway gate certs
2000		
12/28/2000	PacifiCorp	spillway gate certs
2001		
01/26/2001	PacifiCorp	spillway gate maint sched
01/30/2001	PacifiCorp	spillway gate certs supplement
12/28/2001	PacifiCorp	spillway gate certs
2002		
12/13/2002	PacifiCorp	spillway gate certs
2003		
11/24/2003	PacifiCorp	spillway gate certs
2004		
12/22/2004	PacifiCorp	spillway gate certs
2005		
12/13/2005	PacifiCorp	spillway gate certs
2006		
12/22/2006	PacifiCorp	spillway gate certs
2007		
01/18/2007	PacifiCorp	spillway gate certs
12/21/2007	PacifiCorp	spillway gate certs
2008		
07/10/2008	PacifiCorp	spillway gate certs
12/19/2008	PacifiCorp	spillway gate certs

2009		
12/23/2009	PacifiCorp	Spillway Gate Catagory1 Detailed Inspect
12/23/2009	PacifiCorp	spillway gate certs
2010		
12/10/2010	PacifiCorp	spillway gate certs
2011		
12/16/2011	PacifiCorp	Spillway gate Certs
2012		
12/12/2012	PacifiCorp	Spillway gate Certs
2013		

Leonard, Shannon

From: Ebert, Demian <Demian.Ebert@pacificorp.com>
Sent: Monday, June 26, 2017 9:01 AM
To: Till, Dustin; Leonard, Shannon
Cc: Hemstreet, Tim
Subject: RE: Klamath - AECOM Data request

Morning-
Regarding the STID for Copco #2, it is a low-hazard potential rated structure and therefore is not required to have a complete STID. We provided the information that PacifiCorp has prepared for the facility.

Demian

Demian Ebert
Principal Environmental Scientist, Pacific Power – Hydro Resources
(d) 503-813-6625 (c) 415-760-3537 demian.ebert@pacificorp.com

---

From: Till, Dustin
Sent: Monday, June 19, 2017 3:28 PM
To: Ebert, Demian <Demian.Ebert@pacificorp.com>
Cc: Hemstreet, Tim <Tim.Hemstreet@pacificorp.com>
Subject: FW: Klamath - AECOM Data request

And some more DRs from AECOM…

Dustin T. Till
Senior Counsel, Pacific Power
PacifiCorp
825 NE Multnomah St. Suite 1800
Portland, OR 97232
Direct: 503.813.6589
Mobile: 971.804.4743
E-mail: Dustin.Till@pacificorp.com

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From: Leonard, Shannon [mailto:shannon.leonard@aecom.com]
Sent: Monday, June 19, 2017 10:07 AM
To: Till, Dustin <Dustin.Till@pacificorp.com>; Gentzler, Seth <seth.gentzler@aecom.com>
Cc: Peter Okurowski (Peter@klamathrenewal.org) <Peter@klamathrenewal.org>; Kirk Marckwald <kirk@klamathrenewal.org>; Michael Carrier <michael@klamathrenewal.org>; Lester Snow

<lester@klamathrenewal.org>
Subject: [INTERNET] RE: Klamath - AECOM Data request

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Good Morning Dustin,
I have another follow up on the request from last week. I added comment #3 on item 1-8. This item is also critical to our work proceeding. I will follow up with a call later today.

Shannon E. Leonard
Senior Water Resources Engineer
D +1-510-874-3215
shannon.leonard@aecom.com

Please note our new address:
AECOM
300 Lakeside Drive, Suite 400
Oakland, CA 94612, USA
T +1-510-893-3600
aecom.com

From: Leonard, Shannon
Sent: Monday, June 12, 2017 2:01 PM
To: 'Till, Dustin'; Gentzler, Seth
Cc: Peter Okurowski (Peter@klamathrenewal.org); Kirk Marckwald; Michael Carrier; Lester Snow
Subject: RE: Klamath - AECOM Data request
Importance: High

Hi Dustin,
We have a follow up data request for items that we didn't receive in the previous requests. Please see comments on items 1-1 and 1-7 as well as the Third Phase list in the attached document. Items 1-1 and 1-7 are critical to our work proceeding. Thank you for your attention in this matter.

Shannon E. Leonard
Senior Water Resources Engineer
D +1-510-874-3215
shannon.leonard@aecom.com

Please note our new address:
AECOM
300 Lakeside Drive, Suite 400
Oakland, CA 94612, USA
T +1-510-893-3600
aecom.com

From: Till, Dustin [mailto:Dustin.Till@pacificorp.com]
Sent: Thursday, June 01, 2017 2:26 PM
To: Gentzler, Seth; Leonard, Shannon
Cc: Peter Okurowski (Peter@klamathrenewal.org); Kirk Marckwald; Michael Carrier; Lester Snow
Subject: RE: Klamath - AECOM Data request

Seth:

The second set of documents is shipping this afternoon, for delivery tomorrow.

Let me know if there are any questions.

Thanks,
-DT

Dustin T. Till
Senior Counsel, Pacific Power
PacifiCorp
825 NE Multnomah St. Suite 1800
Portland, OR 97232
Direct: 503.813.6589
Mobile: 971.804.4743
E-mail: Dustin.Till@pacificorp.com

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From: Gentzler, Seth [mailto:seth.gentzler@aecom.com]
Sent: Wednesday, May 17, 2017 3:43 PM
To: Till, Dustin <Dustin.Till@pacificorp.com>; Leonard, Shannon <shannon.leonard@aecom.com>
Cc: Peter Okurowski (Peter@klamathrenewal.org) <Peter@klamathrenewal.org>; Kirk Marckwald <kirk@klamathrenewal.org>; Michael Carrier <michael@klamathrenewal.org>; Lester Snow <lester@klamathrenewal.org>
Subject: [INTERNET] RE: Klamath - AECOM Data request

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Dustin.
Thanks. Anything you can do to expedite the transfer of information is greatly appreciated. We are also happy to pay for overnight delivery services if that is an option.
Thanks,
-Seth

Seth Gentzler, PE
Vice President, Hydrology & Hydraulics Practice Manager
D: 510-874-3018

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Oakland, CA 94612, USA
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From: Till, Dustin [mailto:Dustin.Till@pacificorp.com]
Sent: Wednesday, May 17, 2017 2:47 PM
To: Gentzler, Seth; Leonard, Shannon
Cc: Peter Okurowski (Peter@klamathrenewal.org); Kirk Marckwald; Michael Carrier; Lester Snow
Subject: RE: Klamath - AECOM Data request

Seth:

We're finishing up the DR responses, and I expect to have them out in the mail to you by the end of the week.

Let me know if there are any questions I can answer.

-DT

Dustin T. Till
Senior Counsel, Pacific Power
PacifiCorp
825 NE Multnomah St. Suite 1800
Portland, OR 97232
Direct: 503.813.6589
Mobile: 971.804.4743
E-mail: Dustin.Till@pacificorp.com

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From: Gentzler, Seth [mailto:seth.gentzler@aecom.com]
Sent: Tuesday, May 16, 2017 8:20 AM
To: Till, Dustin <Dustin.Till@pacificorp.com>; Leonard, Shannon <shannon.leonard@aecom.com>
Cc: Peter Okurowski (Peter@klamathrenewal.org) <Peter@klamathrenewal.org>; Kirk Marckwald <kirk@klamathrenewal.org>; Michael Carrier <michael@klamathrenewal.org>; Lester Snow <lester@klamathrenewal.org>
Subject: [INTERNET] RE: Klamath - AECOM Data request

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Dustin.
I hope all is well.

I wanted to thank you for working with us on the near-term access for Kate and the permitting team next week. Much appreciated.

Also, I wanted to check in on the data requests. There are a few items that we really need asap to kick-off critical path field and technical analysis activities. I've updated the data request sheet with these items shown now in red (a few tracked changes for clarity). If there is any way to get us those (or any portion of those) items this week, it will allow us to continue to work toward several key schedule milestones.

Please feel free to give me a call or let me know if there is anything we can do to help. Happy to send someone up there to help with scanning, copying, processing, etc.

Thanks, and let me know your thoughts on the above request.
-Seth

Seth Gentzler, PE
Vice President, Hydrology & Hydraulics Practice Manager
D: 510-874-3018

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From: Till, Dustin [mailto:Dustin.Till@pacificorp.com]
Sent: Monday, May 01, 2017 3:09 PM
To: Leonard, Shannon
Cc: Peter Okurowski (Peter@klamathrenewal.org); Lloyd Lowy (LLowy@hawkins.com); Kirk Marckwald; Gentzler, Seth
Subject: RE: Klamath - AECOM Data request

Thanks Shannon. We're making good progress on both sets, and will hopefully have the first set ready to ship this week.

-DT

Dustin T. Till
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From: Leonard, Shannon [mailto:shannon.leonard@aecom.com]
Sent: Monday, May 01, 2017 1:35 PM
To: Till, Dustin <Dustin.Till@pacificorp.com>
Cc: Peter Okurowski (Peter@klamathrenewal.org) <Peter@klamathrenewal.org>; Lloyd Lowy (LLowy@hawkins.com) <LLowy@hawkins.com>; Kirk Marckwald <kirk@klamathrenewal.org>; Gentzler, Seth <seth.gentzler@aecom.com>
Subject: [INTERNET] RE: Klamath - AECOM Data request

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Hi Dustin, see our responses to your questions below.

Also, we have been getting additional requests in from our team, and need to expand our original request. Please see the updated data request with new items tracked. Thank you for getting these together.

Shannon E. Leonard
Senior Water Resources Engineer
D +1-510-874-3215
shannon.leonard@aecom.com

Please note our new address:
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T +1-510-893-3600
aecom.com

From: Till, Dustin [mailto:Dustin.Till@pacificorp.com]
Sent: Wednesday, April 26, 2017 1:24 PM
To: Leonard, Shannon
Cc: Peter Okurowski (Peter@klamathrenewal.org); Lloyd Lowy (LLowy@hawkins.com); Kirk Marckwald; Gentzler, Seth
Subject: RE: Klamath - AECOM Data request

Shannon:

We're working on pulling the first tranche of documents. We'd appreciate if you could clarify a few things for us:

- For some of the reports, responsive documents could go back decades. Is it possible to limit the production of reports to a more discrete timeframe, like the previous three years? We would like all within the past 5 years or the most recent reports, if older than 5 years, in the 1st tranche. Please provide the remainder the full record of the dam safety and inspection (dam and underwater) reports in the 2nd tranche.
- For request 2.18, what does AMECOM mean by "intellectual property"? As drafted, that request would encompass a broad range of documentation, much of which is unrelated to the Klamath Hydroelectric Project. Clarity would be appreciated. This refers to information such as proprietary software used to store or analyze operational data regarding the dams, if that's what we would need to be able to read the data you are sending. If not, we can drop this from the list.
- For request 2.22, we'd appreciate clarity on what the expectations are for "active compliance plans". Shoreline Management Plans or other FERC approved management plans for purposes of understanding the FERC compliance requirements and how they might need to be transitioned during decommissioning

I should have an ETA on the first set of documents in the next day or so.

Thanks,
-DT

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From: Leonard, Shannon [mailto:shannon.leonard@aecom.com]
Sent: Wednesday, April 26, 2017 10:28 AM
To: Till, Dustin <Dustin.Till@pacificorp.com>
Cc: Peter Okurowski (Peter@klamathrenewal.org) <Peter@klamathrenewal.org>; Lloyd Lowy (LLowy@hawkins.com) <LLowy@hawkins.com>; Kirk Marckwald <kirk@klamathrenewal.org>; Gentzler, Seth <seth.gentzler@aecom.com>
Subject: [INTERNET] RE: Klamath - AECOM Data request

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Hi Dustin,
Just wanted to follow up and check in on the data request as I didn't hear back. Feel free to give me a call to discuss.

Also, thank you for sending the NDA back. We have accepted all your changes and should be able send you the signed NDA this week. Based on our reading, we assume a separate NDA will be required between PacifiCorp and each of our subs. Is that the intent? If so, I would like to get that rolling as well. I can start an email to that effect, if needed.

Shannon E. Leonard
Senior Water Resources Engineer
D +1-510-874-3215
shannon.leonard@aecom.com

Please note our new address:
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From: Leonard, Shannon
Sent: Thursday, April 13, 2017 1:15 PM
To: Dustin Till
Cc: Peter Okurowski (Peter@klamathrenewal.org); Lloyd Lowy (LLowy@hawkins.com); Kirk Marckwald; Gentzler, Seth (seth.gentzler@aecom.com)
Subject: Klamath - AECOM Data request

Hi Dustin,
I am working with Seth and Peter on the Klamath River Renewal Project. I believe Peter has given you a heads up that we have a large data and document request to support our technical activities for the KRRC. We have prepared a list of the types of data and documents we are looking for (see attached), and we have prioritized some of them for our immediate needs. We would like to get the priority items within the next couple of weeks, and the other documents a couple of weeks after that, if possible. Please take a look at the list and let me know if you have any questions or concerns. And also let us know if the timeline works for you.

What is the best way for you to transfer this information? We can send an external hard drive, or we can have someone come to you at your office. Whichever works better. Are all these files maintained in Portland, or are some of them kept on-site and the dams/hydropower facilities? Would we need to send drives or people to the sites as well?

Shannon E. Leonard
Senior Water Resources Engineer
D +1-510-874-3215
shannon.leonard@aecom.com

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Knight Piésold CONSULTING

TABLE J4.1

KIEWIT INFRASTRUCTURE WEST CO.
KLAMATH RIVER RENEWAL PROJECT

100% DESIGN REPORT
APPENDIX J4.2 TABLE OF CONTENTS - IRON GATE

Print May/11/22 9:16:36

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	27MAY'22	ISSUED WITH REPORT VA103-00640/01-9	HW	SDR

ATTACHMENT A

FINAL 100% Design Report_Appendix J4.2_May 28

REDACTED: FINAL 100% Design Report_Appendix J4.2_May 28 consists in its entirety of information about the location, character, or ownership of historic resources that, if disclosed, may cause a significant invasion of privacy; cause a risk of harm to the historic resource; or impede the use of a traditional religious site by practitioners. The file is marked confidential in accordance with 18 C.F.R. § 388.112, 18 C.F.R. § 388.107 and 36 C.F.R. § 800.11(c).