**TABLE J1.1**

KIEWIT INFRASTRUCTURE WEST CO.
KLAMATH RIVER RENEWAL PROJECT

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

<table>
<thead>
<tr>
<th>Description</th>
<th>Page</th>
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</thead>
<tbody>
<tr>
<td>PFMA Report</td>
<td>J1.2-1</td>
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<tr>
<td>Description of Project Structures</td>
<td>J1.2-80</td>
</tr>
<tr>
<td>Construction History</td>
<td>J1.2-113</td>
</tr>
<tr>
<td>Standard Operating Procedures</td>
<td>J1.2-171</td>
</tr>
<tr>
<td>Geology and Seismicity</td>
<td>J1.2-189</td>
</tr>
<tr>
<td>Hydraulics and Hydrology</td>
<td>J1.2-223</td>
</tr>
<tr>
<td>Dam Safety Surveillance and Monitoring Report</td>
<td>J1.2-239</td>
</tr>
<tr>
<td>Stability and Stress Analyses</td>
<td>J1.2-293</td>
</tr>
<tr>
<td>Spillway Gates</td>
<td>J1.2-316</td>
</tr>
<tr>
<td>Pertinent Correspondence Related to Safety of Project</td>
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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).
## TABLE J2.1

KIEWIT INFRASTRUCTURE WEST CO.
KLAMATH RIVER RENEWAL PROJECT

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

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<td>Construction History</td>
<td>J2.2-84</td>
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<td>Standard Operating Procedures</td>
<td>J2.2-90</td>
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<tr>
<td>Geology and Seismicity</td>
<td>J2.2-98</td>
</tr>
<tr>
<td>Hydraulics and Hydrology</td>
<td>J2.2-106</td>
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<td>Stability and Stress Analyses</td>
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<td>Spillway Gates</td>
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Print May/11/22 9:16:36
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).
FIGURE J3.1

KIEWIT INFRASTRUCTURE WEST CO.
KLAMATH RIVER RENEWAL PROJECT

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

<table>
<thead>
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<th>Page</th>
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<tr>
<td>Series 000 - Copco 2 Hydro Plant Overview</td>
<td>J3.2-1</td>
</tr>
<tr>
<td>Series 600 - Water Delivery System Description</td>
<td>J3.2-9</td>
</tr>
<tr>
<td>Dam Safety Correspondence</td>
<td>J3.2-26</td>
</tr>
</tbody>
</table>
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

INTRODUCTION........................................................................................................................................... 4
1.0 PLANT OVERVIEW .................................................................................................................................. 5
2.0 SYSTEM OPERATING PROCEDURE...................................................................................................... 7
3.0 REVISION HISTORY .................................................................................................................................. 8
4.0 REFERENCES.............................................................................................................................................. 8

List of Figures:

Figure 1- Copco 2 Powerhouse
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 is 1095 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:

<table>
<thead>
<tr>
<th>System</th>
<th>Series</th>
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</thead>
<tbody>
<tr>
<td>1. Turbine Lube Oil System</td>
<td>Series 100</td>
</tr>
<tr>
<td>2. Service Air System</td>
<td>Series 200</td>
</tr>
<tr>
<td>3. Governor Oil System</td>
<td>Series 300</td>
</tr>
<tr>
<td>4. Cooling Water System</td>
<td>Series 400</td>
</tr>
<tr>
<td>5. Fire Protection System</td>
<td>Series 500</td>
</tr>
<tr>
<td>6. Water Delivery System</td>
<td>N/A</td>
</tr>
<tr>
<td>7. Culinary Water System</td>
<td>Series 700</td>
</tr>
<tr>
<td>8. Turbine System</td>
<td>Series 800</td>
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<tr>
<td>9. Vacuum System</td>
<td>N/A</td>
</tr>
<tr>
<td>10. AC Electrical System</td>
<td>Series 1000</td>
</tr>
<tr>
<td>11. Excitation System</td>
<td>Series 1100</td>
</tr>
<tr>
<td>12. Generator System</td>
<td>Series 1200</td>
</tr>
<tr>
<td>13. DC Electrical System</td>
<td>Series 1300</td>
</tr>
<tr>
<td>14. Protective Relaying System</td>
<td>N/A</td>
</tr>
<tr>
<td>15. Pumps and Motors System</td>
<td>N/A</td>
</tr>
<tr>
<td>16. Boiler System</td>
<td>N/A</td>
</tr>
<tr>
<td>17. Sewer System</td>
<td>1700</td>
</tr>
<tr>
<td>18. Switchyard System</td>
<td>N/A</td>
</tr>
<tr>
<td>19. Tagout Procedures</td>
<td>N/A</td>
</tr>
<tr>
<td>20. HVAC System</td>
<td>N/A</td>
</tr>
<tr>
<td>21. Air Brake &amp; Jacking System</td>
<td>Series 2100</td>
</tr>
<tr>
<td>22. Automatic Grease System</td>
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<tr>
<td>23. Station Drainage System</td>
<td>Series 2300</td>
</tr>
</tbody>
</table>
2.0 System Operating Procedure
3.0 Revision History
Revision 0 - Initial Write-up

4.0 References
Rogue River Operations Guidelines 5-2002
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

Introduction .................................................................................................................................... 4
1.0 Water Delivery System ........................................................................................................... 4
  1.1. Copco 2 Reservoir Description ....................................................................................... 4
  1.2. Dam Description ............................................................................................................. 5
  1.3. Spillway Description ..................................................................................................... 7
  1.5. Intake Slide Gate Description ....................................................................................... 10
  1.6. Waterway Description .................................................................................................. 11
  1.7. Penstock Description .................................................................................................... 12
  1.8. Turbine Isolation Valves Description ........................................................................... 14
2.0 System Operating Procedure ............................................................................................... 15
  2.1. Precautions, Limitations, and Setpoints: ....................................................................... 15
  2.2. Startup and Filling: ....................................................................................................... 15
  2.3. Shutdown and Draining: ............................................................................................... 16
3.0 Revision History .................................................................................................................. 17
4.0 References ......................................................................................................................... 17

List of Figures:

Fig. 1  Diversion Dam, Spillgates, and Intake Structure
Fig. 2  Downstream Side of Spillgates and Spillway
Fig. 3  Penstocks Exiting Tunnel
Fig. 4  Penstocks Entering Plant
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

<table>
<thead>
<tr>
<th>Type</th>
<th>Concrete Gravity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crest at Elevation (msl)</td>
<td>2493.28 ft.</td>
</tr>
<tr>
<td>Height (above streambed)</td>
<td>33 ft.</td>
</tr>
<tr>
<td>Length at Crest</td>
<td>278 ft.</td>
</tr>
<tr>
<td>Width at Crest</td>
<td>9 ft.</td>
</tr>
<tr>
<td>Width at Base</td>
<td>33 ft.</td>
</tr>
</tbody>
</table>

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

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

### 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
- **Height**: 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**

<table>
<thead>
<tr>
<th>Type</th>
<th>Roller-Mounted Caterpillar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sill Elevation</td>
<td>2455.3 ft (msl)</td>
</tr>
<tr>
<td>Top Elevation (closed)</td>
<td>2475.75 ft (msl)</td>
</tr>
<tr>
<td>Width (approx)</td>
<td>260 in</td>
</tr>
<tr>
<td>Operator</td>
<td>Motor Driven Wire Rope Hoist</td>
</tr>
<tr>
<td>Hoist Capacity</td>
<td>50,000 lb</td>
</tr>
</tbody>
</table>

### 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)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Concrete Lined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shape</td>
<td>Horseshoe</td>
</tr>
<tr>
<td>Length</td>
<td>2440 ft</td>
</tr>
<tr>
<td>Diameter (inside)</td>
<td>16 ft</td>
</tr>
</tbody>
</table>

**Flowline**

<table>
<thead>
<tr>
<th>Type</th>
<th>Wood-Stave</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shape</td>
<td>Round</td>
</tr>
<tr>
<td>Length</td>
<td>1313 ft</td>
</tr>
<tr>
<td>Diameter (inside)</td>
<td>16 ft</td>
</tr>
</tbody>
</table>

**Tunnel (downstream)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Concrete Lined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shape</td>
<td>Horseshoe</td>
</tr>
<tr>
<td>Length</td>
<td>1110 ft</td>
</tr>
<tr>
<td>Diameter (inside)</td>
<td>16 ft</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Unit # 1</th>
<th>Unit # 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Riveted Steel</td>
</tr>
<tr>
<td>Length</td>
<td>405.53 ft.</td>
</tr>
<tr>
<td>Diameter (at tunnel exit)</td>
<td>13.5 ft.</td>
</tr>
<tr>
<td>Diameter (at Isolation valve)</td>
<td>11.5 ft.</td>
</tr>
<tr>
<td>Diameter (at scroll case)</td>
<td>8 feet</td>
</tr>
<tr>
<td>Length</td>
<td>410.6 ft</td>
</tr>
<tr>
<td>Diameter (at tunnel exit)</td>
<td>13.5 ft</td>
</tr>
<tr>
<td>Diameter (at Isolation valve)</td>
<td>11.5 ft</td>
</tr>
<tr>
<td>Diameter (at scroll case)</td>
<td>8 ft</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th><strong>Isolation Valve</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Butterfly</td>
</tr>
<tr>
<td>Operator</td>
<td>Electric Motor-Driven</td>
</tr>
<tr>
<td>Size</td>
<td>11-feet 6-inches</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Bypass Valve</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Gate</td>
</tr>
<tr>
<td>Operator</td>
<td>Manual Handwheel</td>
</tr>
<tr>
<td>Size</td>
<td>12-inch</td>
</tr>
</tbody>
</table>

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

10.0 Dam Safety Correspondence ** Copco-2................................................................. 1

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

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Note: documents for spillway gate certification, from 1985 thru 1991, are available only as hard copies. No PDF’s have been made or provided.

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

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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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

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

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>; Kirk Marckwald <kirk@klamathrenewal.org>; Michael Carrier <michael@klamathrenewal.org>; Lester Snow <lester@klamathrenewal.org>  
Subject: [INTERNET] RE: Klamath - AECOM Data request

This message originated outside of Berkshire Hathaway Energy's email system. Use caution if this message contains attachments, links or requests for information. Verify the sender before opening attachments, clicking links or providing information.

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

300 Lakeside Drive, Suite 400
Oakland, CA 94612, USA
BLOCKEDaecom.comBLOCKED

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

---

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>; 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
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
Senior Counsel, Pacific Power
PacifiCorp
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Portland, OR 97232
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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
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

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

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

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

Please note our new address:  
AECOM  
300 Lakeside Drive, Suite 400
# TABLE J4.1

KIEWIT INFRASTRUCTURE WEST CO.
KLAMATH RIVER RENEWAL PROJECT

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

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Print May/11/22 9:16:36
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).