

KLAMATH HYDROELECTRIC PROJECT

[FERC No. 2082]

REQUEST FOR DETERMINATION OF ELIGIBILITY



Copco No. 1, c1915
PacifiCorp Archives Photo

for PacifiCorp, Portland, OR

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DETERMINATION OF ELIGIBILITY FOR THE NATIONAL REGISTER

Property Name: KLAMATH HYDROELECTRIC PROJECT

Date of Construction: 1903-1958

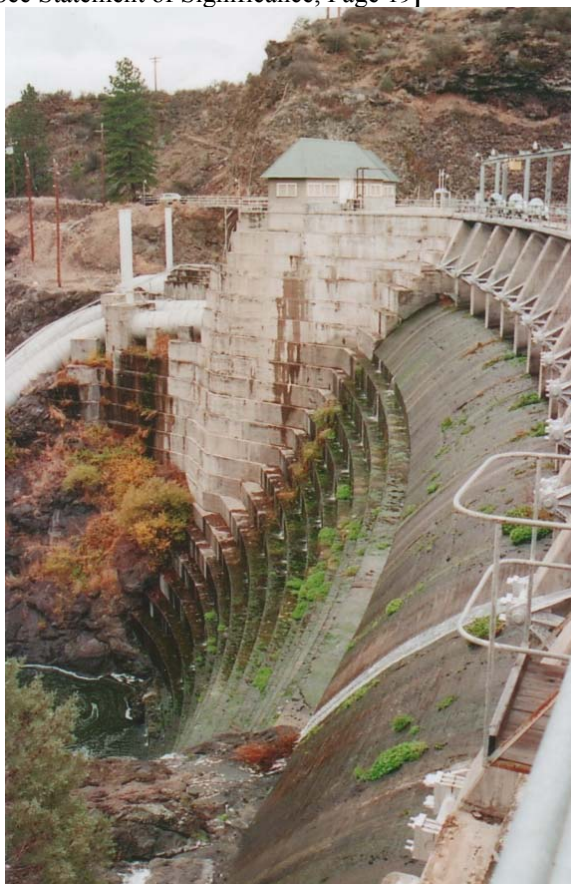
Address: N/A

**County: Klamath, Oregon
Siskiyou, California**

Original Use: Hydroelectric Generation Current Use: Hydroelectric Generation

**Style: Utilitarian/Industrial
Theme: Commerce/Industrial**

PRIMARY SIGNIFICANCE: The resources of the Klamath Hydroelectric Project were built between 1903 and 1958 by the California Oregon Power Company and its various pioneer predecessors and are now owned and operated by PacifiCorp under Federal Energy Regulatory License No. 2082. The resources of the project are strongly associated with the early development of electricity in the southern Oregon and northern California region and played a significant role in the area's economy both directly, as a part of a regionally-significant, locally-owned and operated, private utility, and indirectly, through the role that increased electrical capacity played in the expansion of the timber, agriculture, and recreation industries during the first six decades of the 20th century. The Klamath Hydroelectric Project is considered regionally significant and eligible for listing in the National Register of Historic Places under Criterion "A" for its association with the industrial and economic development of southern Oregon and northern California. [See Statement of Significance, Page 19]



Copco No. 1, Dam and Gatehouse, 2002

In my opinion, the property ___ meets ___ does not meet the criteria for listing in the National Register of Historic Places.

Signature of Certifying SHPO Official/Title

Date

Comments/Request for Additional Information:

LOCATION:

The Klamath Hydroelectric Project in Klamath County, Oregon and Siskiyou County, California, spans a linear corridor that follows the course of the Klamath River in this mountainous and, for the most part, sparsely populated, region. The formal project boundary begins at the Link River Dam, in Klamath Falls, Oregon, and continues in a roughly southwesterly direction along the Klamath River through the unincorporated community of Keno, Oregon and then the development at John Boyle, originally known as Big Bend. Crossing the Oregon-California border, the river and the project continue through rugged mountainous canyons of Siskiyou County, California Copco 1 and Copco 2, before reaching the development at Iron Gate Dam, the project terminus. As shown in the attached project map, this area encompasses lines spans roughly forty miles of the Klamath River passing through multiple townships and ranges within the two state project area defined by FERC License No. 2082.

PERIOD OF SIGNIFICANCE: 1903-1958

Although the development of hydroelectric generation facilities in the Klamath River area begins in 1895, the earliest standing resource within the project area are those at Fall Creek (ID No. 6.0), begun in 1902 and completed in 1903. As a result 1903 serves as the beginning of the Period of Significance for the evaluation of historic resource.

The closing date of a period of significance for "...activities begun historically that continue to have an importance," is generally subject to the so-called "50-year rule" of the National Register of Historic Places process (NPS, 1990:42). Based on the 2006 FERC license renewal for the Klamath Hydroelectric Project, the period of significance would typically end in 1956, including all the main generation resources built prior to WWII and defining both the J. C. Boyle and Iron Gate developments, dated from 1958 and 1962, respectively, as non-historic. There is precedence in FERC-license situations, which by nature continue the Federal undertaking as defined by 36 CFR 800 over a long period of time subsequent to the actual date of re-licensing, to extend the 50-year requirement so as to include properties that will achieve that status within the license period. At this point the Boyle development, first envisioned as early as 1911 and completed in 1958 (48 years old in 2006) is considered appropriately included, reflecting the important post-war development of the Klamath Hydroelectric Project as detailed in this Request. Iron Gate Dam, although planned as a component of the initial development of the Klamath River in 1911, was not completed until 1962. Iron Gate has been previously determined *Not Eligible* for listing in the National Register of Historic Places by the State of California (See Attachment 1).

The period of significance for the Klamath Hydroelectric Project is established as 1903-1958.

PHYSICAL DESCRIPTION:

The Klamath Hydroelectric Project consists of a series of seven hydroelectric generation facilities and the various diversion dams, support structures, linear elements such as flumes, canals and tunnels, as well as other related resources located upon the Klamath River and its tributaries in southern Klamath County, Oregon and northern Siskiyou County, California. The Fall Creek Powerhouse is located on Fall Creek, a tributary of the Klamath in Siskiyou County, just north of Copco 2.

From an organizational standpoint, resources within the Klamath Hydroelectric Project are documented in geophysical order between the Link River and Iron Gate dams, following the flow of water from project beginning to end. The linear nature of the project and the concentration of

resources in specific groups or “nodes” of activity creates the basic identification structure with seven individual project complexes that define the project’s built resource concentrations. These are;

1. Link River [Klamath Falls]
2. Keno
3. J. C. Boyle
4. Copco No. 1
5. Copco No. 2
6. Fall Creek
7. Iron Gate

It should be obvious within a linear resource system that re-uses water both within the Klamath River channel proper and augmented by various water conveyance systems that divert flow from point-to-point or complex to complex, that certain project resources such as flumes or pipelines serve to connect project components rather than existing entirely within one or another. Such connections, entirely typical within an interconnected system such as the Klamath Hydroelectric Project, are documented here at their *starting point* for convenience.

Within the seven project complex areas, individual resources are identified numerically in order, again following the flow of water through the system. For example, the Link River Dam, the northeastern-most resource in the Link River Complex, is documented as 1.1 while the communications building, located just downstream from the dam, is documented as resource 1.2 and so forth. Sub-components or other multiple resources categorized within a single heading are identified as such (i.e. 1.3.1, 1.3.2, etc.).¹

The following itemized catalog of major built resources within the Klamath Hydroelectric Project briefly documents the various components of the project and summarizes their construction and development. This brief material is supplemented by the more detailed individualized inventory forms included as attachments to this submittal. Like any industrial system development over more than a century of use, the Klamath Hydroelectric Project contains dozens, if not hundreds, of seemingly discrete but essentially inter-connected elements and a comprehensive catalog of each and every one of these elements is beyond the scope or intent of this Request. That stated, it is the intended purpose of this document to provide data for the evaluation of the major project components that form the essential operational and character-defining elements of the Klamath Hydroelectric Project today. Individual resources are categorized using standard National Register evaluation terminology (*Historic Contributing, Historic, Non-Contributing and Non-Historic, Non-Contributing*) in the item header to ease review. More detailed information on individual project elements, including site-by-site photographs, are included within the Inventory Forms found in the Attachments 2 and 3.

1.0 Link River Complex (Klamath Falls, Oregon)

¹ Separate components generally occur with the water conveyance systems while some support resources (warehouses, residences) include multiple structures of similar design and development history. Some non-standard numbering occurs in an effort to maintain identification consistency between this Determination and the previously prepared inventory forms that are included in Attachments 2 and 3.

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The Link River Complex begins at the Link River Dam, owned by the Bureau of Reclamation but operated by PacifiCorp, and continues downstream to include the locations of the original H. V. Gates and Moore Brothers developments that first generated commercial electricity in Klamath County during the late 19th century. Link River dam is not within the Klamath Hydroelectric Project boundary but is described here for context.

1.1. **LINK RIVER DAM**²

BUILT: 1920-21

EVALUATION: **HISTORIC CONTRIBUTING**

The Link River Dam is a 435 foot long concrete gravity structure with an average height of 16 feet. Though not part of the FERC licensing, the dam provides water control for both hydroelectric and irrigation and includes several connected elements; a 40-foot wide gated West Side canal intake structure, a 40' wide gated concrete weir spillway, a 260-foot wide ungated spillway and the 48-foot wide East Side intake structure. Fish passage facilities have recently been upgraded (July 2003).

1.2. Link River Communication Building

Built: c1993

Evaluation: Non-Historic, Non-Contributing

This small concrete block structure contains equipment that connects the Link River Dam with the project control facilities at Merwin Dam.

1.3. **EAST SIDE WATER CONVEYANCE FEATURES**

BUILT: 1924

EVALUATION: **HISTORIC CONTRIBUTING**

Water is conveyed along the east side of the Link River via a series of connected elements cataloged under this main heading. Beginning at the East Side Intake of the dam, water enters the East Side Forebay (1.3.1), a 670 foot long mortar and stone flume. An abandoned fish by-pass (1.3.2) runs parallel to this wall. Exiting the forebay, water enters a 12-foot diameter wooden penstock line (1.3.3) and continues for 1,729 feet before joining a 1970-1980 steel replacement penstock (1.3.4) that is 1,361 feet in length, continuing to the powerhouse. A concrete and riveted steel surge tank (1.3.5) is located atop the penstock line.

1.4. **EAST SIDE POWERHOUSE NO. 3**

BUILT: 1924

EVALUATION: **HISTORIC CONTRIBUTING**

The site of H. V. Gates' original development in Klamath County in 1895, Charles and Rufus Moore built a second powerhouse on this site in 1917 which stood until construction of the present structure. East Side Powerhouse No. 3 is a substantial poured concrete volume with industrial type steel sash windows and pyramidal roof. The first remotely-controlled unit in the Klamath Project (it was first controlled from the West Side Powerhouse, just across the river), the East Side Powerhouse No. 3 remains largely as constructed.

² To aid use of this document individual resources determined to be of historic significance are formatted as "**RESOURCE NAME**" while non-historic and non-contributing resources are formatted as "resource name"
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1.5. **WEST SIDE WATER CONVEYANCE FEATURES**

BUILT: 1908, 1921, 1973

EVALUATION: **HISTORIC CONTRIBUTING**

Beginning from the six cast iron slide gates on the west end of the Link River Dam, the West Side Water system consists of a mile-long (5,575-foot) flume (1.5.1) with both concrete lined and unlined sections. This flume runs from the dam to the concrete penstock intake structure (1.5.2). Near this structure is a concrete overflow spillway (1.5.3) built in 1921 and rebuilt in 1973. The penstock itself is 7-foot diameter steel pipe (1.5.4) approximately 140-feet in length that continues to the West Side Powerhouse.

1.6. **WEST SIDE POWERHOUSE**

BUILT: 1908, c1920s

EVALUATION: **HISTORIC CONTRIBUTING**

The West Side Powerhouse consists of two adjoining volumes — a concrete main structure similar in plan to the East Side Powerhouse that was constructed in the 1920s and a rear, wood-framed, building that is probably a portion of the original 1908 powerhouse built on this site.

1.7. **Operator's Residence/Sheds**

Built: c1940s

Evaluation: **Non-Historic, Non-Contributing**

Located downriver from the powerhouse, the operator's residence (1.7) is either a circa 1950s ranch-style single story dwelling or a massive remodel of an earlier, circa 1920s structure that was located in this same general area. The house has been serially remodeled with window replacements, applied siding and metal roofing along with other changes, negatively effecting its integrity. Two wood-framed outbuildings, a small shed (1.7.2) believed to have originally been a chicken coop, and a garage/barn (1.7.3) are located to the rear of the house. Both these outbuildings appear to pre-date the house in construction data but, as essentially minor structures, are considered non-contributing.

2. Keno Dam Complex (v. Keno, Oregon)

This area was initially developed for hydroelectric development in association with a timber mill in the early 20th century and by 1911 was in operation by the Keno Power Company, a competitor that was purchased and absorbed into Copco in 1920. The original facilities were replaced in 1931 by the first Keno Regulating Dam, which itself was replaced by PacifiCorp after the end of the Period of Significance. Though the facilities generated power at one time, the 1966 reconstruction did not include generation facilities.

2.1 **Keno Dam**

Built: 1966

Evaluation: **Non-Historic, Non-Contributing**

The Keno Dam, including the fish ladder, was built in 1966. The structure is a 723-foot long concrete gravity dam with six gates and a maximum height of 25-feet. The Keno Dam is used to control reservoir levels at Keno reservoir/Lake Ewanua and river flows downstream but has no generation facilities itself. A multiple switch-back fish ladder and related features are located at this site.

2.2 Keno Communications Building

Built: c1966

Evaluation: Non-Historic, Non-Contributing

The Keno Communications Building is a small single story concrete block structure with little exterior detail of any sort. Like the similar structure at Link River, this building houses equipment that connects the project with the Merwin Dam control center. T

3. J. C. Boyle Complex (Klamath County, Oregon)

Originally developed and known as Big Bend, the J. C. Boyle dam and powerhouse complex was re-dedicated to honor the pioneer hydroelectric engineer who was responsible for the design of virtually all of the Klamath Hydroelectric Project.

3.1 J. C. BOYLE DIVERSION DAM

Built: 1956-58

EVALUATION: **HISTORIC CONTRIBUTING**

The Boyle Diversion Dam includes several sections (earth-fill, concrete gravity, intake and spillway) that combine to form an overall crest length of 714.3 feet with a height of 68-feet. The concrete spillway portion contains three gates and forms the J. C. Boyle Reservoir. Fish screens, fish ladder, and related features are also present at the site.

3.2 Boyle Communications Building

Built: c1995

Evaluation: Non-Historic, Non-Contributing

This is a modern structure with vinyl and metal walls, and metal roof materials, located adjacent to the dam and serving the same connection function as similar structures at Link River and Keno.

3.3 Boyle Fire Protection Building

Built: c1995

Evaluation: Non-Historic, Non-Contributing

This is a small modern structure built of rough faced concrete block with a shall shed roof.

3.4 Boyle "Red Barn"

Built: c1958 (modified c1978)

Evaluation: Historic, Non-Contributing

Originally built as a barn during the initial construction and operation period at Boyle, this single-story wood frame building has been severely modified with applied siding and roofing, window replacements, and similar modifications. It no longer effectively relates its original development or design.

3.5 Boyle Maintenance Shop

Built: 1991

Evaluation: Non-Historic, Non-Contributing

This large modern metal structure was built in 1991 and is used as a maintenance shop.

3.6 Boyle Residences

Built: c1985

Evaluation: Non-Historic, Non-Contributing

These two residences (3.6.1 and 3.6.2) were constructed circa 1985.

3.7 BOYLE WATER CONVEYANCE SYSTEM

BUILT: 1958

EVALUATION: **HISTORIC CONTRIBUTING**

Beginning at the dam, the water conveyance system at Boyle begins with a 14-foot diameter steel pipe (3.7.1) that runs for 616-feet before passing through a new flume headgate (3.7.2) that was installed in 2002-2003. From here water enters an 11,484 foot long open canal/flume system (3.7.3) comprised of both one and two-wall concrete construction (the one wall system utilizes rock on the opposite face). A concrete headgate structure (3.7.4) is located at the flume terminus, as water enters the forebay with two spill gates (3.7.5). A small spillway house is of newer but undated construction (3.7.6). A 16-foot diameter tunnel (3.7.7) runs for 1,662 feet to the surge tank (3.7.8). The surge tank, 30-feet in diameter and 56-feet tall leads to the two massive penstocks (3.7.9) 10.5 feet and 9 feet in diameter respectively, that drop 925 feet down the slope to the powerhouse.

3.8 **BOYLE POWERHOUSE**

BUILT: 1958

EVALUATION: **HISTORIC CONTRIBUTING**

Located five river miles downstream of the dam, the Boyle Powerhouse has two outdoor generation units sited below a open steel gantry crane system. Substructure elements of the powerhouse, housing the turbines, are of concrete. The project went online as the Big Bend Powerhouse in October 1958 and was rededicated in honor of John Christie Boyle on June 25, 1962. A bronze plaque commemorating that event and documenting Boyle's role in the development of the Klamath system is located near the powerhouse site. An outdoor substation (3.8.1) is located near the powerhouse site.

3.9 Boyle Residential Sites

Built: 1950 (razed 1995)

Evaluation: Non-Historic, Non-Contributing

Located downstream from the substation and powerhouse, the Boyle Complex was initially developed with five operator and related workers houses on the site. Historic images show these to have been modest single-story "Ranch" type houses typical of those at other project facilities during the Post-WWII era. Following the automation of the Boyle Powerhouse these structures were unneeded and as a result were razed in 1995. Perimeter foundations, concrete walkways and other similar remnants remain on the site but do not retain sufficient integrity to relate the historic period.

3.10 **BOYLE WAREHOUSE**

BUILT: 1957

EVALUATION: **HISTORIC CONTRIBUTING**

This Armco pre-fabricated metal-clad gable roof structure was constructed in 1957 as an element of the original development at Big Bend. It is of wood-frame construction with a concrete slab foundation.

4. COPCO No. 1 Complex (Siskiyou County, California)

The first of the project resources located in California, approximately 35 miles downstream of the Oregon border, Copco No. 1 was also the first project developed on the river following the formation of the California-Oregon Power Company that formally joined several smaller, local, providers into a broader regional operation. Copco No. 1 went into service in 1918 after a lengthy and challenging construction process and was expanded just four years later, in 1922, to its present capacity. A large construction camp/worker's village was historically located on the flat area above (north) of the river.

4.1 COPCO NO. 1 DAM

BUILT: 1912-18, 1922

EVALUATION: HISTORIC CONTRIBUTING

Initially known and referred to the "Ward's Canyon" dam or project, construction of Copco No. 1 was initiated by the Siskiyou Electric Light and Power Company in 1910 and struggled against environmental and financial obstacles that ultimately led to the reorganization of power companies in the entire region. This resulted in the creation of the California-Oregon [Hyphen] Power Company and brought the well-financed McKee interests of San Francisco to the region. The McKee's, along with several other San Francisco-based investors, would play an important role in the area through connection with both COPCO, and later Pacific Power and Light, from then on. Copco No. 1 Dam (4.1) is a concrete gravity arch structure of interesting "stepped" construction on the downstream face and was initially completed in 1918 and then enlarged in 1922. The dam is 126 feet high with an overall crest length of 415 feet, including the spillway section. Two gate houses (4.1.2 and 4.1.3) are incorporated into the design at the north abutment, both with poured concrete walls and copper-clad hipped roofs. The crest of the dam is the location of a single track railroad first used during the construction period and later modified for use as a part of the gate hoist system (4.1.4). This element was repaired and updated in 1981.

4.2 COPCO NO. 1 WATER CONVEYANCE SYSTEM

BUILT: 1912-18, 1922

EVALUATION: HISTORIC CONTRIBUTING

There are two steel penstocks that lead from the Copco Dam to the powerhouse. One, a double penstock (4.2.1), runs from Gatehouse #1 and is 172-feet long on the east leg and 194-feet long on the west with a diameter that begins at 10-feet and reduces to 8-feet before entering the powerhouse. The second, single, penstock (4.2.2) was added in 1922 as part of the expansion, and is 228 feet long. The second penstock is 14-feet in diameter at the gatehouse, reducing to 8-feet at the powerhouse.

4.3 COPCO NO. 1 POWERHOUSE

BUILT: 1918

EVALUATION: HISTORIC CONTRIBUTING

The Copco No. 1 Powerhouse is a concrete and steel gable roof volume located just downstream from the Dam, nestled against the rock wall of Wards Canyon. The powerhouse has a gable roof with a central "monitor" or clerestory and a small projecting shed extension to the river-side. Large industrial-type steel sash windows provide interior light. As shown in historic photos, the southwest elevation was initially partially open with large windows and has been re-sided and somewhat modified. Overall, however, the building retains substantial integrity to its original design.

4.4 COPCO GUESTHOUSE [REMAINS]

BUILT: c1917

EVALUATION: HISTORIC CONTRIBUTING

The Guest House, sometimes referred to the John Boyle House, was built as the manager's dwelling during the initial construction period of Copco No. 1 and figures prominently in period accounts and historic photographs documenting the project. John Boyle, along with his family, is known to have occupied the house during construction and the facility was additionally used by visiting company officials and other dignitaries. Built on a foundation of natural stone and sited to offer a commanding view of the river channel and the Copco No. 1 development, the superstructure of the Copco Guesthouse was of wood with a full wrap-around porch or veranda. Although the wood portions of the building were removed, probably in the 1980s or later, the stone foundation and chimney remain with sufficient integrity to relate the historic period.

4.5 COPCO No. 1 HOUSE 1

BUILT: c1922

EVALUATION: HISTORIC CONTRIBUTING

One of two residential buildings surviving from the original worker's housing village built at Copco No. 1, this structure is a small single-story wood frame bungalow. Vinyl siding has been applied over the original horizontal wood and doors and windows have been replaced with aluminum. Although somewhat modified, the siting and general character remain sufficient to relate the original development period and association with the expansion of Copco No. 1 in 1922. A small garage of similar construction is located to the rear of the house and is assumed to also date from 1922.

4.6 COPCO No. 1 HOUSE 2

BUILT: c1922

EVALUATION: HISTORIC CONTRIBUTING

Identified as 21600 Copco Road, this structure is of similar design to House 1 but retains slightly higher integrity, including original 1/1 wood sash windows, wood entry door and other features. This structure too retains a matching garage.

4.7 GARAGE/WAREHOUSE

BUILT: c1922

EVALUATION: HISTORIC CONTRIBUTING

Although of unknown use, this single-story wood frame volume is believed to date from the 1922 expansion of Copco No. 1 or, perhaps, earlier. The exterior is of 8" wide lapped siding and wood and glass doors appear original, with the singular exception of an aluminum slider on the rear elevation. The building is constructed over a wood post and pier foundation that is open, taking advantage of a small slope, to create a "service area" below the heavy-timbered wooden floor that may have provided access for under-carriage auto or truck repair..

5. COPCO No. 2 Complex (Siskiyou County, California)

Designed to operated in complete synchronization with Copco No. 1 and, with no active water storage of its own, the Copco No. 2 system was, in many ways, the first of the facilities to utilize the pattern of repeated water use on the Klamath and North Umpqua rivers pioneered by John Boyle. The facility went into commercial operation in 1925, just three years after the expansion of Copco No. 1. Today Copco No. 2 and the adjacent "Copco Village" serve as the primary support and operations center of the Klamath Hydroelectric Project.

5.1 COPCO NO. 2 DAM

BUILT: 1925

EVALUATION: **HISTORIC CONTRIBUTING**

Located approximately ¼ mile downstream from Copco No. 1, the Copco No. 2 dam is a concrete gravity structure and includes a 145-foot long gated spillway. The dam is 33 feet tall with a 278-foot long crest.

5.2 COPCO NO. 2 WATER CONVEYANCE SYSTEM

BUILT: 1925

EVALUATION: **HISTORIC CONTRIBUTING**

The water conveyance system below the Copco No. 2 dam is controlled by a rebuilt headgate (5.2.1.) that controls flows into 53-foot long tunnel intake (5.2.2.). A concrete lined tunnel 2,440 feet in length (5.2.3) connects to a 1,313 foot long wood stave pipeline (5.2.4) a 1,110 foot long concrete lined tunnel (5.2.5) and then, finally, two steel penstocks (5.2.6) that lead to the powerhouse. The concrete lined tunnels and wood stave pipeline are 16 feet in diameter while the penstocks, which are 16 feet at the start, constrict to half that dimension (8 foot) at the powerhouse.

5.3 COPCO NO. 2 TIMBER CRIBBING

BUILT: 1924

EVALUATION: **HISTORIC CONTRIBUTING**

This wood log cribbing is built into the hillside just above the Copco No. 2 dam site and was apparently a component of the original development and construction period although the initial function is somewhat unclear. Like the coffer dam below, this feature may have been related to the crusher plant or was simply constructed as an abutment of some sort to solidify a weak portion of the canyon wall at this point. Looming above the dam and clearly visible, the timber cribbing remains an unusual and rare element of the mechanics of hydroelectric construction in second decade of the 20th century.

5.4 COPCO NO. 2 COFFER DAM

BUILT: 1924

EVALUATION: **HISTORIC CONTRIBUTING**

The remains of this timber wing or coffer dam are located in the Klamath River channel between Copco No. 1 and Copco No. 2, and apparently provided a diversion function during the initial construction of Copco No. 2 in 1924-1925 and were abandoned in place upon the project's completion. It is possible, though not conclusive, that this feature was developed to power the "crusher plant" used to mill gravel during the construction as shown in several available historic photographs. Today the wooden elements of the dam extend from the southern bank of the river and are generally protected and submerged below the waterline, becoming visible during periods of low water flows. The coffer dam provides a clear indication of the construction challenges encountered by Copco during this early period in the Klamath River Hydroelectric Project's development history and remains a rare and somewhat unusual remnant of its construction remaining from the original construction period of the project.

5.5 COPCO NO. 2 POWERHOUSE

BUILT: 1925

EVALUATION: **HISTORIC CONTRIBUTING**

The Copco No. 2 Powerhouse is a large gabled volume of bearing poured concrete walls with engaged columns and other details typical of industrial architecture of the period. Original steel-sash multi-light window systems illuminate the interior and engaged surface decoration including stringcourse bands and a detailed parapet highlight the exterior. The Copco No. 2 Powerhouse has some modest alteration from its near 80-years of use but in general retains very high integrity. Nearby, south of the powerhouse, is an early-appearing mortared and coursed-stone retaining wall (5.5.1) that dates from the period of significance and was expanded in 1996.

5.6 Copco Control Center/Office

Built: c1980

Evaluation: Non-Historic, Non-Contributing

Located west of the powerhouse, the Copco No. 2 Control Center is a single story metal-clad building that houses project offices, meeting rooms, and similar functions as well as system operations. Not specifically dated, this structure was probably built in the mid-1980s.

5.7 Copco No. 2 Maintenance Bldg

Built: 1991

Evaluation: Non-Historic, Non-Contributing

This large metal garage/shop building is located to the west of the Control Center and was constructed in 1991.

5.7.1³ Copco No. 2 Substation

Built: unknown (c1970s)

Evaluation: Non-Historic, Non-Contributing

A large outdoor substation is located to the west of the Control Center, behind a chain link enclosure. Presumed to be a replacement or substantial augmentation/alteration of an earlier feature, this structure was probably built c1970 or later, after the end of the period of significance.

5.8 **COPCO NO. 2 OIL AND GAS STORAGE HOUSE**

BUILT: c1925

EVALUATION: **HISTORIC CONTRIBUTING**

This small wood-frame, corrugated-metal clad, building is located northeast of the maintenance building. It has a log or timber foundation and appears to date from the original development period.

5.9 **COPCO NO. 2 COOKHOUSE/BUNK HOUSE**

BUILT: c1925

EVALUATION: **HISTORIC CONTRIBUTING**

This two-story wood frame building likely dates from the original construction camp use on this site and was converted into a permanent feature in the workers housing/support village after Copco No. 2 went into operation. Although somewhat modified from its original design as documented in available historic photographs, the Cookhouse/Bunkhouse retains sufficient integrity to relate its original development.

5.10 Copco No. 2 Modern Bunkhouse

Built: c1960

Evaluation: Non-Historic, Non-Contributing

This low pitched gable single story wood building has a project central gable over the entry. Of mixed siding and window types, it is not specifically dated but was apparently built in the mid-1960s for use as a bunkhouse.

5.11 Garage/Accessory Bldg

Built: Unknown, c1960

Evaluation: Non-Historic, Non-Contributing

This single-story wood-frame building is not directly associated with any specific residential resource and appears to provide extra storage, accessed via twin roll-up garage doors. Of seemingly modern construction, it was likely built in the 1960s.

³ This number is added here not to reflect connection with the Maintenance Shed but to maintain consistency with the number scheme of the Inventory Sheets in the attachments.
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5.12 Copco No. 2 Ranch Houses

Built: c1965

Evaluation: Non-Historic, Non-Contributing

There are several (three/four, **5.12.1**, **5.12.2**, and **5.12.3**) ranch style residential structures at Copco 2 Village that were originally built to provide worker housing at the facility but are now predominately unoccupied or used only sporadically. Single story shallow-pitched gable dwellings, most have fixed, sliding, or louver-type aluminum windows and other details that indicate construction during the mid-1960s.

5.13 **Copco No. 2 Bungalows/Garages**

BUILT: c1925

EVALUATION: **HISTORIC CONTRIBUTING**

Facing the main access road into Copco 2 are a group of there small bungalow-style dwellings (**5.13.1**, **5.13.2**, and **5.13.3**), built during the original development period of the site. Of wood frame, one-and-one half story construction with small projecting porch coverings, these buildings are each of similar design and have matching gable-roof garages to the rear. While modified, some with window replacements, they retain sufficient integrity and effectively relate their appearance during the period of significances.

5.14 Copco No. 2 Modular Residences

Built: c1985

Evaluation: Non-Historic, Non-Contributing

There are three modern prefabricated or manufactured dwellings (**5.14.1**, **5.14.2**, and **5.14.3**) at Copco 2, all dated c1985 when they were built for operator housing.

5.15 Copco No. 2 School House

Built: 1965

Evaluation: Non-Historic, Non-Contributing

Now used as a community center/training facility, this single story building was completed in 1965 and replaced the original Copco No. 2 school that stood near the Fall Creek Powerhouse.

6. Fall Creek Complex (Siskiyou County, California)

The Fall Creek Complex, including the powerhouse and dam, was initially developed by the Churchill interests of Yreka, California and were operated by the Siskiyou Electric Power and Light Company, the pioneer power provider in the Yreka/Siskiyou County area, prior to the formation of the original California-Oregon Power Company in 1911. Fall Creek, still in use more than a century from its development, is the oldest unit of the PacifiCorp system and is among the oldest continuously operated hydroelectric facilities in the western United States.

6.1 **FALL CREEK DAM**

BUILT: **1902-3, AS MODIFIED**

EVALUATION: **HISTORIC CONTRIBUTING**

An earth fill structure with an open-weir concrete spillway and flashboards, the Fall Creel Dam has a crest of 95 feet. Built in 1902-1903 a part of the initial development of the project, the dam was reconstructed in 1970 and improved to its current condition in 1988.

6.2 **FALL CREEK WATER CONVEYANCE SYSTEM**

BUILT: **1902-3, AS MODIFIED**

EVALUATION: **HISTORIC CONTRIBUTING**

Beginning at the dam from an 18-foot long waterway intake (**6.2.1**), the conveyance system continues through a cast iron slide gate to a 9-foot wide by 3-foot deep earthen canal that runs for 4.560 feet (**6.2.2**).

A concrete intake structure (6.2.3) then connects to a 2,834 foot long steel penstock (6.2.4) that ranges in diameter from 3.5 feet to 2.5 feet. A penstock valve structure (6.2.5) is located just north of the transformer building, and is used to regulated the flow to the powerhouse.

6.3 **FALL CREEK POWERHOUSE**

BUILT: 1902-3, AS MODIFIED

EVALUATION: **HISTORIC CONTRIBUTING**

This structure was completed in 1903 and originally operated with a single unit, augmented with the second in 1906-1907. A third and final unit was installed in Spring 1910 and all three of these pioneer generation units remain in operation. The Fall Creek Powerhouse is a steel framed structure clad with corrugated metal and remains essentially unchanged from its original design and appearance.

6.4 **FALL CREEK TRANSFORMER/OFFICE BLDG**

BUILT: 1902-3, AS MODIFIED

EVALUATION: **HISTORIC CONTRIBUTING**

Similar in design to the powerhouse, this structure too dates from the original development period but is of wood-frame construction, though still clad in corrugated metal. Originally housing interior transformers, these features were removed and replaced by the outdoor units now located in front of the building, a change that represents the single greatest modification to generation system at Fall Creek. Today the Transformer/Office Building houses portions of the water filtration system.

6.5 Fall Creek Residence/Garage

Built: c1960

Evaluation: Non-Historic, Non-Contributing

During the early years of the 20th century there was an active community associated with the Fall Creek project including a school, boardinghouse and at least five operators cottages, none of which survive. This non-historic ranch-style single story dwelling and its associated garage are located to the east of the powerhouse and is similar to structures built at Copco No. 2 in the 1960s.

6.6 Fall Creek School Site

Built: 1923 (razed)

Evaluation: **Historic, Non-Contributing**

The former site of the Fall Creek School is defined by a concrete slab foundation (6.6.1) and a small accessory structure or garage (6.6.2). This building is a single story wood frame structure with a metal roof and asbestos siding. Nearby a concrete wall (6.6.3) and small concrete dam-like structure (6.6.4) located in Fall Creek also are assumed to remain from the school house use but neither features demonstrates any significant association or retains sufficient integrity to relate the original development.

6.7 **FALL CREEK FISH HATCHERY**

BUILT: 1919

EVALUATION: **HISTORIC CONTRIBUTING**

Located opposite the powerhouse site, the Fall Creek Fish Hatchery and rearing ponds were built in 1919 and represent an early effort at fish management in association with hydroelectric development. Operated until 1948, the hatchery was essentially abandoned and remained unused until it was restored and re-opened for use in 1979. The Hatchery is now operated by the California Department of Fish and Wildlife.

7.0 Iron Gate Complex (Siskiyou County, California)

Completed in 1962 and the final element of the Klamath Hydroelectric Project on the Klamath River both geographically and temporally, the Iron Gate Complex includes the dam and powerhouse as well as the related fish hatchery facilities operated by the California Department of Fish and Wildlife. As an element of Section 106 regulated work on the dam in 2001-2002, the Iron Gate Dam was determined *not eligible* for listing on the National Register (see Attachment 1).

7.1 Iron Gate Dam

Built: 1962

Evaluation: Non-Historic, Non-Contributing

Iron Gate Dam is an earth embankment dam with a rock-fill face and compact clay core. It is 173 feet high with a crest length of 740 feet. A 730-foot long ungated concrete spillway (7.1.1) is located at the north abutment and is a modification to the original design. A concrete lined diversion tunnel (7.1.2) remains from the construction period to the north of the spillway and is no longer functional.

7.2 Iron Gate Water Conveyance System

Built: 1962

Evaluation: Non-Historic, Non-Contributing

The water system at Iron Gate begins with a 27-foot long water way that includes trash racks and the intake gate (7.2.1) and continues to a 182-foot 12-foot diameter concrete encased pipeline (7.2.2) and then a steel penstock 499 feet long and 12 feet in diameter (7.2.3) before reaching the powerhouse.

7.3 Iron Gate Powerhouse

Built: 1962

Evaluation: Non-Historic, Non-Contributing

An outdoor type powerhouse with a single unit, the Iron Gate Powerhouse is a concrete reinforced construction located at the south bank of the river near the base of the dam.

7.4 Iron Gate Communication Bldg

Built: unknown, c1980

Evaluation: Non-Historic, Non-Contributing

This is a small metal-glad gable building located directly east of the powerhouse

7.5 Iron Gate Restroom Bldg

Built: unknown, c1980

Evaluation: Non-Historic, Non-Contributing

Located at the western end of the site, this is a single-story metal clad gable building. Both this structure and the similar Communications Building, above, appear to post-date the completion of the Iron Gate Dam itself.

7.6 Iron Gate Dam Fisheries Facilities

Built: 1962

Evaluation: Non-Historic, Non-Contributing

Related to the hatchery complex documented below, these facilities consist of six holding tanks located at the base of the dam (7.6.1), as well as a spawning building (7.6.2), a fish ladder (7.6.3) and an aerator (7.6.4). All of these facilities are components of the fish migration process that functions in lieu of a typical fish passage system at the Iron Gate project.

7.7 Iron Gate Fish Hatchery Complex

Built: 1962

Evaluation: Non-Historic, Non-Contributing

This complex, operated by the California Department of Fish and Game, was constructed in 1962 in connection with the original development of Iron Gate. It includes several buildings; the hatchery (7.7.1), warehouse (7.7.2), office (7.7.3), four worker's houses (7.7.4 through 7.7.7), the fish rearing ponds (7.7.8) and a fish ladder (7.7.9), all located within the main complex area. A Visitors Center, a small kiosk style building (7.7.10) is located near the entrance to the site.

SUMMARY:

Located at seven "nodes" of activity related to the generation of hydroelectricity along the Klamath River, the Klamath Hydroelectric Project as documented above contains a total of 110 resources. Of these 60, or about 55% were built between 1902 and 1958, the defined period of significance, and retain sufficient integrity to relate their association with the project. Fifty resources (46% of the total) were constructed after 1958 or have been so altered that they are no longer considered historic. Twenty-three of these non-historic resources are located at the Iron Gate Dam Complex, which was added to the project in 1962 and, as such, are categorically, not-eligible. Eliminating Iron Gate, 60 of the 87 resources identified on the Klamath Hydroelectric Project between Link River and Copco No. 2, or nearly 70% of the total, were constructed during the period of significance and retain integrity with the associations that make them significant under Criterion "A" for eligibility to the National Register of Historic Places.

The following table provides a summary of the project resources, date of construction and evaluation.

ID Number	Description	Date	Evaluation
1.0 Link River Complex			
1.1	Dam	1920-1921	Historic Contributing
1.2	<i>Communication Building</i>	<i>c1993</i>	<i>Non-Contributing</i>
1.3	East Side Water Conveyance Features	1924	
1.3.1	East Side Forebay		Historic Contributing
1.3.2	Mortar & Stone Flume		Historic Contributing
1.3.3	Wooden Penstock Line		Historic Contributing
1.3.4	Steel Penstock Line		Historic Contributing
1.3.5	Surge Tank		Historic Contributing
1.4	East Side Powerhouse No. 3	1924	Historic Contributing
1.5	West Side Water Conveyance Features	1908,1921, 1973	
1.5.1	Flume	1908,1921, 1973	Historic Contributing
1.5.2	Penstock Intake	1908,1921, 1973	Historic Contributing
1.5.3	Overflow Spillway	1908,1921, 1973	Historic Contributing
1.5.4	Steel Pipeline	1908,1921, 1973	Historic Contributing
1.6	Powerhouse, turbine, generator	1908, ca.1920s	Historic Contributing
1.7	<i>Operator's House</i>	<i>C1940</i>	<i>Non Contributing</i>
1.7.1	<i>Small shed</i>	<i>C1920s</i>	<i>Non-Contributing</i>
1.7.2	<i>Garage/Barn</i>	<i>C1920s</i>	<i>Non-Contributing</i>

2.0 Keno Dam Complex			
2.1	<i>Dam</i>	<i>1966</i>	<i>Non-Contributing</i>
2.2	<i>Communication Building</i>	<i>C1966</i>	<i>Non-Contributing</i>
3.0 J.C. Boyle Diversion Dam Complex			
3.1	<i>Dam</i>	<i>1956-1958</i>	<i>Historic Contributing</i>
3.2	<i>Communications Building</i>	<i>C1995</i>	<i>Non-Contributing</i>
3.3	<i>Fire Protection Building</i>	<i>C1995</i>	<i>Non-Contributing</i>
3.4	<i>Red Barn</i>	<i>ca.1958, altered 1978</i>	<i>Non-Contributing</i>
3.5	<i>Maintenance Shop</i>	<i>1991</i>	<i>Non-Contributing</i>
3.6	<i>Residences</i>	<i>C1985</i>	
3.6.1	<i>Residence 1</i>	<i>C1985</i>	<i>Non-Contributing</i>
3.6.2	<i>Residence 2</i>	<i>C1985</i>	<i>Non-Contributing</i>
3.7	<i>Water Conveyance Features</i>	<i>1958</i>	
3.7.1	<i>Steel Pipe</i>	<i>1958</i>	<i>Historic Contributing</i>
3.7.2	<i>Flume Headgate</i>	<i>2002</i>	<i>Non-Contributing</i>
3.7.3	<i>Open flume/Concrete</i>	<i>1958</i>	<i>Historic Contributing</i>
3.7.4	<i>Headgate structure</i>	<i>1958</i>	<i>Historic Contributing</i>
3.7.5	<i>Forebay/spillgates</i>	<i>1958</i>	<i>Historic Contributing</i>
3.7.6	<i>Spillway House</i>	<i>C1958</i>	<i>Historic Contributing</i>
3.7.7	<i>Tunnel</i>	<i>1958</i>	<i>Historic Contributing</i>
3.7.8	<i>Surge Tank</i>	<i>1958</i>	<i>Historic Contributing</i>
3.7.9	<i>Penstocks</i>	<i>1958</i>	<i>Historic Contributing</i>
3.8	<i>Powerhouse</i>	<i>1958</i>	<i>Historic Contributing</i>
3.8.1	<i>Substation</i>	<i>1958</i>	<i>Historic Contributing</i>
3.9	<i>Residential site</i>	<i>C1950/1995</i>	<i>Non-Contributing</i>
3.10	<i>Armco warehouse</i>	<i>1957</i>	<i>Historic Contributing</i>
4.0 COPCO No. 1 Complex			
4.1	<i>Dam</i>	<i>1912-1918, 1921-1922</i>	
4.1.1	<i>Dam</i>	<i>1912-1918, 1921-1922</i>	<i>Historic Contributing</i>
4.1.2	<i>Gatehouse 1</i>	<i>1918</i>	<i>Historic Contributing</i>
4.1.3	<i>Gatehouse 2</i>	<i>1922</i>	<i>Historic Contributing</i>
4.1.4	<i>Gate Hoist System/Rails</i>	<i>1918</i>	<i>Historic Contributing</i>
4.2	<i>Penstocks</i>	<i>1912-1918, 1921-1922</i>	
4.2.1	<i>Double Penstock</i>	<i>1912-1918</i>	<i>Historic Contributing</i>
4.2.2	<i>Single Penstock</i>	<i>1921-1922</i>	<i>Historic Contributing</i>
4.3	<i>Powerhouse</i>	<i>1918</i>	<i>Historic Contributing</i>
4.4	<i>Copco Guesthouse (remains)</i>	<i>1917, 1980s</i>	<i>Historic Contributing</i>
4.5	<i>House/Garage 1</i>	<i>ca.1922</i>	<i>Historic Contributing</i>
4.6	<i>House/Garage 2 (21600 Copco Rd)</i>	<i>ca.1922</i>	<i>Historic Contributing</i>
4.7	<i>Garage/Warehouse</i>	<i>ca.1922</i>	<i>Historic Contributing</i>

5.0 COPCO No. 2 Complex			
5.1	Dam	1925	Historic Contributing
5.1.1	Mortared stone wall	1925	Historic Contributing
5.2	Water Conveyance Features	1925	
5.2.1	Headgate	1925 (rebuilt)	Historic Contributing
5.2.2	Tunnel Intake	1925	Historic Contributing
5.2.3	Concrete-lined Tunnel	1925	Historic Contributing
5.2.4	Wood Stave Pipeline	1925	Historic Contributing
5.2.5	Concrete Tunnel	1925	Historic Contributing
5.2.6	Steel Penstocks	1925	Historic Contributing
5.3	Timber Cribbing	1925	Historic Contributing
5.4	Coffer Dam	1925	Historic Contributing
5.5	Powerhouse	1925, 1996	Historic Contributing
5.6	<i>Control Center/Office</i>	<i>C1980</i>	<i>Non-Contributing</i>
5.7	<i>Maintenance Building</i>	<i>1991</i>	<i>Non-Contributing</i>
5.8	Oil and Gas Shed		Historic Contributing
5.9	Cookhouse/Bunkhouse	C1925	Historic Contributing
5.10	<i>Modern Bunkhouse</i>	<i>C1960</i>	<i>Non-Contributing</i>
5.11	<i>Garage/Accessory Bldg</i>	<i>C1960</i>	<i>Non-Contributing</i>
5.12	Ranch Housing	C1965	
5.12.1	<i>Ranch House 1</i>	<i>C1965</i>	<i>Non-Contributing</i>
5.12.2	<i>Ranch House 2</i>	<i>C1965</i>	<i>Non-Contributing</i>
5.12.3	<i>Ranch House 3</i>	<i>C1965</i>	<i>Non-Contributing</i>
5.13	Bungalow Housing	C1925	
5.13.1	Bungalow/Garage 1	C1925	Historic Contributing
5.13.2	Bungalow/Garage 2	C1925	Historic Contributing
5.13.3	Bungalow/Garage 3	C1925	Historic Contributing
5.14	Modular Residences	1985	
5.14.1	<i>Modular 1</i>	<i>1985</i>	<i>Non-Contributing</i>
5.14.2	<i>Modular 2</i>	<i>1985</i>	<i>Non-Contributing</i>
5.14.3	<i>Modular 3</i>	<i>1985</i>	<i>Non-Contributing</i>
5.15	<i>School House/Community Center</i>	<i>1965</i>	<i>Non-Contributing</i>
6.0 Fall Creek Complex			
6.1	Dam	1902-1903, 1970, 1988	Historic Contributing
6.2	Water Conveyance System	1902-1903	
6.2.1	Intake	1902	Historic Contributing
6.2.2	Earthen Canal	1902	Historic Contributing
6.2.3	Intake	1902	Historic Contributing
6.2.4	Penstock	1902	Historic Contributing
6.2.5	Penstock Operator valve	1902	Historic Contributing
6.3	Powerhouse	1902-1903, 1906, 1910	Historic Contributing
6.4	Transformer house/Office	1903	Historic Contributing
6.5	<i>Residence/Garage</i>	<i>ca.1960</i>	<i>Non-Contributing</i>
6.6	<i>School Site</i>	<i>1923 (razed)</i>	<i>Non-Contributing</i>
6.7	Fish Hatchery	1919	Historic Contributing

7.0 Iron Gate Dam Complex			
7.1	<i>Dam</i>	<i>1960-1962</i>	<i>Non-Contributing</i>
7.1.1	<i>Spillway</i>	<i>C1980</i>	<i>Non-Contributing</i>
7.1.2	<i>Diversion Tunnel</i>	<i>1960-1962</i>	<i>Non-Contributing</i>
7.2	<i>Water Conveyance System</i>	<i>1960-1962</i>	
7.2.1	<i>Water Way/Trash Racks</i>	<i>1960-1962</i>	<i>Non-Contributing</i>
7.2.2	<i>Pipeline</i>	<i>1960-1962</i>	<i>Non-Contributing</i>
7.2.3	<i>Penstock</i>	<i>1960-1962</i>	<i>Non-Contributing</i>
7.3	<i>Powerhouse</i>	<i>1960-1962</i>	<i>Non-Contributing</i>
7.4	<i>Communication Building</i>	<i>C1980</i>	<i>Non-Contributing</i>
7.5	<i>Restroom Building</i>	<i>C1980</i>	<i>Non-Contributing</i>
7.6	<i>Dam Fisheries Facilities</i>		
7.6.1	<i>Holding Tanks</i>	<i>1962</i>	<i>Non-Contributing</i>
7.6.2	<i>Spawning Building</i>	<i>1962</i>	<i>Non-Contributing</i>
7.6.3	<i>Fish Ladder</i>	<i>1962</i>	<i>Non-Contributing</i>
7.6.4	<i>Aerator</i>	<i>1962</i>	<i>Non-Contributing</i>
7.7	<i>Fish Hatchery</i>	<i>1965, ca.1994</i>	
7.7.1	<i>Hatchery Building</i>	<i>1962</i>	<i>Non-Contributing</i>
7.7.2	<i>Warehouse</i>	<i>1962</i>	<i>Non-Contributing</i>
7.7.3	<i>Office</i>	<i>1962</i>	<i>Non-Contributing</i>
7.7.4	<i>Workers Housing 1</i>	<i>1962</i>	<i>Non-Contributing</i>
7.7.5	<i>Workers Housing 2</i>	<i>1962</i>	<i>Non-Contributing</i>
7.7.6	<i>Workers Housing 3</i>	<i>1962</i>	<i>Non-Contributing</i>
7.7.7	<i>Workers Housing 4</i>	<i>1962</i>	<i>Non-Contributing</i>
7.7.8	<i>Fish Rearing Ponds</i>	<i>1962</i>	<i>Non-Contributing</i>
7.7.9	<i>Fish Ladder</i>	<i>1962</i>	<i>Non-Contributing</i>
7.7.10	<i>Visitors Center</i>	<i>1962</i>	<i>Non-Contributing</i>

STATEMENT OF SIGNIFICANCE:

The history of southern Oregon and northern California is closely linked with that of the California Oregon Power Company. This company, with home offices in at Medford...serves this area, extending 275 miles in length and 100 miles in width, embracing 54 cities and communities

Oregon Journal, 4-June-1939

The Klamath Hydroelectric Project was developed, owned, and operated during the entire Period of Significance by the California Oregon Power Company and its various pioneer predecessors. "COPCO," as the company was universally known, was a powerful regional force that provided a structural linkage between these two remote corners of the two states. The Copco service area was roughly coincident with the mythical "State of Jefferson," a century and half old concept that stems from long-shared interests, economic ties, and inter-related concerns of this bi-state region.

The concept of a "State of Jefferson" was first formally revealed in 1852 when a bill was introduced in the California State Legislature meeting at Vallejo. This bill died in committee and the proposal was never acted upon. The issue, however, was far from over (Rock, 1998).

Various other attempts at formation of the State of Jefferson continued through the late 19th century, coupled with California-led efforts to create a state named "Shasta" and southern Oregonian-led efforts to create a state named Siskiyou, which had a abortive start in 1909. The most dramatic attempt to form the State of Jefferson, in 1941, was based upon a joint Oregon-California effort that stemmed at root from frustration over the poor roads in the area and the feeling that disinterest from Salem and Sacramento was the primary cause. Garnering national coverage after the Yreka Chamber of Commerce voted to "investigate the possibility of forming a new state" on November 18, 1941, the secession movement benefited greatly from coverage in the *San Francisco Chronicle*, who sent Stanton Delaplane, then a young reporter, north to cover the action⁴.

With the early 20th century development of the California-Oregon Power Company as the dominant provider of electric power throughout almost all of the State of Jefferson, the area was also sometimes referred to as "Copcoland," a reference not entirely without basis. As a locally-owned and managed corporation that maintained a very visible, and influential, position throughout the area, Copco officials served in numerous capacities on local boards and the company was by far the largest employer in the region, playing a powerful economic role. Copco leadership were generally respected and the company enjoyed a largely positive reputation.

Although the power generated by the Klamath River Hydroelectric Project would have regional implications in terms of industrial and economic development the two counties within which the

⁴ The 1941 effort reached a crescendo when partisans blockaded US Highway 99 at the entrance to the new "State" and offered passports to motorists passing through. This publicity stunt, while successful, was poorly timed in early December and was soon pushed off the front page by the bombing of Pearl Harbor and the U.S. entry in WWII. Today the "State of Jefferson" survives as a local marketing vehicle, with parades in Klamath County. Many local businesses that serve the region incorporate the concept into their name, the most prominent of these being the National Public Radio affiliate at Southern Oregon University, known as "Jefferson Public Radio," and serving the entire area, from Lakeview to the coast, Redding to Roseburg.

project is located, Klamath County, Oregon and Siskiyou County, California are most directly related to its development, construction and operational history.

KLAMATH COUNTY, OREGON

The Oregon Legislature created Klamath County by partition from Lake County, to the east, in October 1882. With 6,135 square miles, Klamath is the fourth largest county in Oregon, slightly larger than the state of Connecticut.

Klamath County is a series of broad level basins encased by high mountain ranges...Lands in the basins are fertile and the soil is deep. The mountain streams furnish abundant water for irrigation (State of Oregon, 1915:176).

Klamath's "broad level basins," former lake beds, are fed with water from several large lakes, particularly in the mountainous northern portion of the county where Crater Lake, in Oregon's only National Park, is located. Upper Klamath Lake, flows through the Link River into Lake Ewauna, and ultimately into the Klamath River. Upper Klamath Lake, with a surface acreage of 58,922 acres, is the largest lake in Oregon. First settled by Euro-Americans in the mid-19th century, Klamath County developed an economy based on ranching and agriculture and eventually became one of the largest timber-producing counties in the nation. The county's major settlements began surrounding Fort Klamath and the Klamath Indian Reservation in the mid-19th century.

To the south of the reservation, Linkville was established on the shores of Lake Ewauna in 1867 by George Nurse and soon grew to become the principal town in the region. Linkville was named the county seat with the creation of Klamath County in 1882 and by 1893 town leaders had come to the conclusion that "...the connotation of the name Linkville was as a small town. A new charter in 1893 shows Klamath Falls was adopted as the new name to *show nearness of water power...*" (KCHS, 1984:2, emphasis added). While the population of Klamath County grew more than 60% between 1890 and 1900, from 2,444 to 3,970, the county still remained largely rural, with a sparsely populated series of ranches and timber camps surrounding Klamath Falls (State of Oregon, 1915:143).

SISKIYOU COUNTY, CALIFORNIA

First settled following gold strikes in the early 1850s, Siskiyou County was formed by the California Legislature in 1852 and the mining camp of Yreka was designated as the county seat (Wells, 1881:64). Yreka City, as it was first known, developed quickly and became an important trading center and hub for the surrounding region. Incorporated in 1857, even today Yreka, remains the only town of any size in the county's 6,287 square mile territory, fifth largest in California.

Extending from the ridge that lies between the Salmon and Trinity rivers on the west, the lava beds on the east, and from the Sacramento divide to the Siskiyou mountains on the north, the county of Siskiyou contains a total area of over three thousand square miles. It is essentially a region of mountains (Wells, 1881:28)

Economically tied to the Rogue River Valley in southern Oregon by first the Oregon-California wagon road, then an established stage line, and after 1887 by the Southern Pacific Railroad, Siskiyou County remained significantly isolated from the population centers of Sacramento and San Francisco and naturally gravitated towards the more populous communities to its north,

including Ashland and Medford in Oregon. Linked by the river to Klamath Falls, these two growing, if isolated, resource-rich communities would share similar development and interests during the late 19th and early 20th centuries, with regular reports of business and personal doings in their respective newspapers regarding progress in the region.

REGIONAL ECONOMIC AND INDUSTRIAL DEVELOPMENT

With the exception of the early Yreka-area mining boom, both Siskiyou and Klamath counties retained almost entirely rural, agricultural-based, economies throughout most of the latter 19th century. Klamath County in particular held huge potential in the untapped forests of northern mountains along with under-developed wheat or ranching uses in the broad river bottoms that characterize much of its southern portions. Both awaited development, and ready markets. Klamath was at this time what was considered an “interior county,” meaning one isolated by its lack of a railroad or other easy transport routes. To grow Klamath would require improved transportation and, as would become readily apparent by late 19th century, more water, and electricity.⁵

The forests of this country lead natural resources and are the source of great future wealth and industrial activity. Irrigation has more than doubled the past year and has worked wonders in transforming miles of sagebrush plains into fields of luxuriant alfalfa and grain (*Oregonian*, 1-January-1902).

Interest in irrigation, and more specifically “reclamation,” took on a new fervor with President Theodore Roosevelt’s signing of the Reclamation Act in 1902. In 1903 government engineers John T. Whistler and H. E. Green toured the Klamath Basin, looking for potential lands to develop into irrigated farms under the new act.

They found Klamath Falls to be a frontier town of 450 residents, isolated, with few roads, no railroads, supported by a few ranches, some irrigated farm land and a struggling timber industry...the basin floors were level and appeared to be very adaptable to irrigation...(KCHS, 1984:19).

Soon petitions were sent encouraging a government role in irrigation and by 1905 Secretary of the Interior E. A. Hitchcock authorized the “Klamath Project,” the twelfth in the nation under the 1902 Reclamation Act. Subject to a complicated series of development and legal issues that still characterize this issue today, the Klamath Project and its various related developments would ultimately provide water to more than 200,000 acres in the Klamath Basin, allowing major agricultural development in both ranching and farming that continue to form an important element in the regional economy. The growth of irrigation, which would aide the agricultural community, brought with it a huge demand for increased electricity.

And there will soon be another immense help to Klamath county, which will build it up and make it one of the greatest counties in the state, for the enterprise of using electrical power for irrigation purposes. This is so easy to be done, the benefit so great, and the cost so little, that is cannot fail to

⁵ Klamath County had a rather extensive network of ship transport plying Upper Klamath Lake but, obviously, such a system was of little utility in transporting goods outside the region. Horses, then the county’s major “export” were sent over the mountains to the Rogue River Valley for sale but the barrier of the Cascade Mountains generally limited shipment of any other goods (meaning goods that couldn’t walk out of the county under their own power) to outside markets.

meet with the approval of every citizen...(Klamath Evening Herald, 8-August-1901, 3:1)

The first “immense help” referred to in the above portion of an editorial entitled “Railroads and Irrigation” was the coming end of Klamath’s lamentable status as an “interior county.” By 1900, drawn by the seemingly endless forests of the northern portion of the county, the Klamath-Siskiyou region had begun to attract well-financed Midwestern lumbermen such as Weyerhaeuser, Yawkey and others to compliment its earlier locally-funded and generally smaller scale, operations. Such firms were, in particular, interested in the lands of the Klamath Indian Reservation which alone held one of the largest stands of timber in the country. “With the opening of Oregon and California’s untouched timber lands, [the large companies] were quick to move in and secure all available timber land at a very early date” (Helfrich, 1980:26). Largely as the result of large scale timber development, and the steady freight it would generate, Klamath Falls was soon the focus of fierce interest from several competing rail lines.

Between 1890 and 1931 Klamath Falls went from the unfortunate position of a town no railroad would serve to the agreeable status of a railroad “hub” — served by six lines radiating out in different directions. By no coincidence, these were also the years that saw Klamath Falls emerge as one of the major lumber-producing centers in the nation (Tonsfeldt, 1989:10).

Lumber mills were established along the shore of Lake Klamath and Lake Ewauna where the main Southern Pacific Railroad and Great Northern Railroad provided direct connection to distant markets. The competition for Klamath between these two railroads became what industrial historian Tonsfeldt calls “...a battlefield in the great commercial war between E. H. Harriman and James J. Hill — two men whose ambition and energy shaped the U. S. west of the Mississippi” (Tonsfeldt, 1989:10).⁶ Klamath County was initially bypassed by the Southern Pacific, which ran its main line from California to the west through Montague, California and then over the Siskiyou Mountains into Jackson County, Oregon. In 1926 Southern Pacific opened the Natron Cut-off and moved the primary north-south rail line in Oregon through Klamath Falls, reconnecting with the Willamette Valley in Eugene, a route that remains Oregon’s main rail connection to California. “Harriman had what must be regarded as a personal enthusiasm for the Klamath Basin...he maintained a summer lodge on Upper Klamath Lake, near Pelican Bay (where) he spent summers with his family...” (Tonsfeldt, 1989:11).

Collectively the arrival of railroads allowed Klamath Falls’ mills to successfully service a huge surrounding area, extending across the California border in many cases. Lines to Pokegama, Algoma and elsewhere in both Klamath and Siskiyou counties, including the Klamath Logging Railroad which was ultimately purchased by Copco for use as a rail connection to both Copco One and Two, all played an important role in the region’s industry and development in the pre-WWII era.

The entrance of railway facilities into Klamath Falls marked the beginning of a remarkable period of development in the Klamath Basin. Since that time the town of Klamath Falls has grown from a mere village of 2,000 inhabitants to the proportions of an industrial city of 16,000...[T]he lumbering industry has

⁶ Edward H. Harriman gained control of both Union Pacific and Southern Pacific railroads in the late 19th century and until his death in 1910 was a key figure in the expansion of the line throughout the State of Jefferson area, building new depots and branch lines. James J. Hill, of the Great Northern Railroad, was an initially well-financed threat to the dominant Harriman-controlled lines..

increased from two small sawmills with a daily capacity of only a few thousand feet of sawed lumber to 26 modern plants capable of turning out 1,500,000 feet...every day (Hayden, 1933).

Other areas in Copcoland, including Siskiyou County and Jackson County, also developed or expanded industries in agricultural and timber during the early 20th century period. In Medford population between 1900 and 1910 grew 395%, one of the fastest rates of growth in the nation. Here orchard crops, predominately pears, benefited from new irrigation districts (which also required electricity for pumping) and resulted in a so-called “Orchard Boom” that was every bit as instrumental in defining this area’s character as was timber and railroads in Klamath a decade later. Siskiyou County enjoyed growth in timber as well, but unlike its Oregon neighbors had a more balanced growth, fostered by not only timber but agriculture and mining. In all these industries the plentiful electricity of locally-based Copco played an acknowledged role.

Electricity has stimulated the recent development of Siskiyou County to a marked degree. Several hydro-electric plants of high potentiality supply the mines and mill towns with power to operate at the lowest possible cost...Electricity is widely used in hundreds of up-to-date homes for domestic purposes while every town is abundantly illuminated (French, 1915:9).

Although less influential, particularly in the long-term, recreation also played a role in the economy of Klamath and Siskiyou counties during the period when electricity was first available. Klamath Lake was the site of several nationally-regarded resorts in addition to the Pelican Bay lodge favored by Edward Harriman of the railroads. Both counties, with extensive forests and natural areas in addition to streams, offered hunting and fishing. “The Klamath country cannot be excelled for summer camping — no excessive heat, cool nights always, and pure, cold water in abundance everywhere (Klamath County Chamber, 1923:14). Scenic wonders such as Crater Lake, designated one of America’s earliest National Parks in 1902, nearby Mount Shasta and the Klamath and Salmon rivers all became tourist sites along with the developed resort facilities at Shasta Springs, Pelican Lodge, Eagle Ridge, Rocky Point and others.

Direct military construction saw Camp White, a 100,000 person U. S. Army Cantonment built just east of Medford and a U.S. Marine Barracks in Klamath Falls, both of which required additional power and brought thousands of new residents to the area in addition to the actual military personnel. At the war’s end the Veteran’s Housing Act and the rapid population growth throughout the western United States coincided with massive development in the timber industry, most notably the rapid acceptance of plywood and the growing standardization of kiln-dried (as opposed to “air-dried”) lumber products. Most kilns were electric-powered. These, combined with new, larger, and more powerful mill equipment, and a demand for timber that kept mills opened around-the-clock, all led to brown-outs and serious electrical power shortages throughout Copcoland (PacifiCorp, 1994:4.3-1:21-22).

At each critical juncture in the economic development of southern Oregon and northern California, whether it be agriculture and irrigation, timber processing, mining, or the population growth that resulted from the development of an industrial base and the tourism that the region’s natural scenery logically attracted, the development of electrical power would play a key role. An area that transitioned from its pioneer isolation to a major exporter of a variety of products, “Copcoland” grew to a mature regional economy at the same time that electricity became an accepted and necessary component in the American culture. As the *Oregon Journal* noted, the

history of Copco and its spreading service region were surely “closely linked” (Oregon Journal, 4-June-1939).

EARLY ELECTRIC DEVELOPMENT, 1890-1910

According to George “Buck” Taylor, long-time company employee who prepared an internal report called “History by Years of the California-Oregon Power Company” during the latter part of 1964, the first step toward development of hydroelectric power in what would become the Klamath Hydroelectric Project area occurred in 1882, when a canal was constructed “...to carry water out of Link River...to operate a flour mill by water power...this canal was later known as the Keno Canal” (Taylor, 1964:1).⁷

Yreka early realized the benefit of electrification and in March 1890 the local newspaper stated:

...[Y]reka needs more light as well as water. It would not require a very great additional power to generate electricity for lights sufficient to light up every street and house in Yreka. Then running the engine from sundown to sunrise for lights it would serve double purpose of supplying Yreka with all the light and all the water needed. Only one plant would thus be required and regular force of three men... [Rippon 1985:23, (13-Mar-1890)].⁸

In April, apparently taking the paper’s advice, James Quinn “....commenced making preparations to establish his electric light plant for supplying Yreka with electric lights by placing a water power wheel in Shasta River Canyon, below the mouth of Yreka Creek” (Rippon/Journal, 29-Apr-1891). In October 1891 Quinn’s plant was tested and then, on October 17th, put into commercial operation.

About 5:30 P.M., the whole town was lighted up, as if by magic, all the lights burning within lighting, if not turned off, and as the shades evening grew darker, the lights become more brilliant...The light is a beautiful white light without the least flicker...(Rippon/Journal, 17-Oct-1891).

While Yreka was now ablaze with modern electrical lamps, Klamath Falls was not too far behind. In 1895 the Klamath Falls Light and Water Company, under the direction of H. V. Gates, obtained a franchise to furnish that city with power.

Mr. Gates and his electricians, already having sockets for electric lights hung in most of the business houses and many of the private dwellings, are now busy at work with the transformers, making all things ready so that as soon as the wheel, which is on the road from Ohio, gets here, it will be but a short time till our county seat will be illuminated by electricity (*Klamath Star*, 19-Sept-1895 2:2)

In November 1895, Gates’ small power plant, housed in a wooden building located on the east side of the Link River, was completed and put into operation. “It turned on the first lights in Klamath Falls on November 1, 1895...(Boyle, 1976:27).

⁷ Buck Taylor started work for COPCO in 1924 as a timekeeper on Copco No. 2 and continued in various jobs until 1928 when he moved to the corporate office in Medford, Oregon to work as a construction job order clerk. He remained with the company as special accountant until after its 1961 merger with Pacific Power and Light (now PacifiCorp).

⁸ Detailed abstracts of early Siskiyou County newspaper accounts related to power development were compiled by Cy and Sally Rippon and published in *Pioneering with Electricity in Siskiyou County* (Weed, CA, 1985). Most articles are taken from the *Siskiyou Journal* and are arranged in Rippon’s work by date of publication. All subsequent citations from this work will be “Rippon/Journal” with the original date of publication as cited by the Rippsons.

Typical of the history of many pioneer power providers and the early plants they built, neither the Yreka Electric Light Works, as the Shasta River plant developed by Quinn was called, or what became known as Eastside No. 1 in Klamath Falls would remain sufficient to meet the rapidly growing demand for electricity in their respective communities. In 1901 a Yreka editor, obviously completely convinced of the value of electricity, and the city's need for more if it was to prosper, wrote the following laundry list of electricity's increased application.

Yreka, although it has electric lights, is in need of more electrical power, which would prove a paying investment, especially in connection with more lighting. With more power electric fans could be operated in homes, restaurants, hotels, saloons, etc., and cooking could be done avoiding oppressive heat in the summer. Mining machinery, pumping plants, machine shops tools etc., could be operated and to great benefit. Huge power plants run by river waters may soon be used to operate railroads by electricity in mountain areas...(Rippon/Journal, 23-July-1901).

In 1902 a group of Siskiyou County investors led by Jerome Jr. and Jesse Churchill, Alex Rosborough, and Hubert Steele announced plans for a seemingly huge new hydroelectric project that would serve the Yreka market and directly compete with Quinn's smaller Shasta River plant. The Siskiyou Electric Power Company began survey work above Fall Creek, in northern Siskiyou County east of the community of Ager, in August of that year. "Just above Fall Creek falls, the low dam will be built, leading water into the ditch, bringing water to about 200 feet of flume and the large penstock made of 2x8 planking, from which the large pipe will lead down the hills a lengthy ways to the power plant" (Rippon/Journal, 5-August-1902).

The Fall Creek Plant was under construction by the following month and was scheduled to go into operation in 1903. Looking toward the future, "The company also located a right to use Klamath River, should more power be needed" (Rippon/Journal, 23-September-1903).

Work on Siskiyou Electric Light and Power Company's (sic)⁹ Fall Creek project is advancing very rapidly....a camp has been set up on the flat near the flume and penstock...[the] Fall Creek Power Plant will be located on the North Bank wagon road upon the Klamath River...For natural advantages as a power site, none better can be found in this part of the State, and the company is doing all of its work in the most modern and substantial practice along these lines, making it one of the most unique power plants on the West coast (Rippon/Journal, 16-Dec-1902).

Faced with the new competition from Churchill and the Siskiyou Electric Power Company, James Quinn, developer of the earlier generation plant on the Shasta River, sold his interests to Edward T. Osborn and Edgar T. Wallace who initiated plans to improve the pioneer facility and increase service to the Yreka area. Work on Fall Creek continued and was nearing completion by Spring 1903.

⁹ Rippon generally refers to the Churchill-led company during this period as "Siskiyou Electric *Light and Power* Company," which is incorrect. The Siskiyou Electric *Power and Light* Company [SEPL] was incorporated in 1908. It absorbed the original Siskiyou Electric Power Company, incorporated in 1902, which had built Fall River. SEPL operated in the Yreka area as described above until merging with other pioneer entities in 1912.

Siskiyou Electric Light & Power Company (sic) has commenced erection of the steel frame and sheet iron power house at Fall Creek to have everything ready as soon as machinery is put together, power poles set up and wires strung (Rippon/Journal, 3-March-1903).

In May, still having produced not a watt of power, the well-financed Churchill interests sealed a deal to purchase the Ashland [Oregon] Electric Power and Light Company for \$40,000. Alex Rosborough, an officer of the company, stated that "...it is the policy of the company to absorb the smaller plants rather than make war upon them by a competition which would be unprofitable to all concerned...[and] that the inauguration of the company's plant will mean important development in manufacturing enterprises in this section..." (Rippon/Journal, 5-May-1903).

The Fall Creek Power Plant went into commercial service in mid-September 1903 and Siskiyou Electric Power Company quickly established its presence as the leading power provider in the region, with lines across the Siskiyou Mountains in Oregon, connecting its Oregon and California operations. In October 1903 the company secured franchises for street lights and electric power in the California towns of Henley and Hornbrook along with other communities near its Fall River plant such as Ager, Klamathon, and all of the Scott Valley, west of Yreka, including the towns of Etna, Fort Jones and Greenview. True to Mr. Rosborough's statement of 1903, favoring consolidation rather than competition, the Siskiyou Electric Power Company purchased the former Quinn interests in July 1905. (Rippon/Journal, 26-July-1905).

Meanwhile, in Klamath Falls, a similar competition and eventual consolidation process was occurring.¹⁰ In 1906 the Gates company that had developed the original Eastside No. 1 powerhouse was challenged by the formation of the Klamath Light and Power Company, controlled by Rufus and Charles Moore. The Moore brothers owned a successful lumber mill on the Link River and in 1908 completed a power plant almost directly opposite Gates' development — the "Westside" plant. In 1910 the Moores purchased Gates' operation and re-organized the combined venture as the Klamath Power Company (Taylor, 1964:4). Two years later, in the best Rosborough tradition, the Klamath Power Company, the Siskiyou Electric Power & Light Company, and ten additional local power providers including the Rogue River Electric Company, were joined as the Siskiyou Electric Power and Light Company, a firm largely under the control of the same Churchill-led interests¹¹ that had developed the Fall Creek Plant only a decade earlier.¹²

Recently the Moore's announced the sale of the Electric Light and Power Plant and Water Works to the Siskiyou Electric Light & Power Company (sic). This will mean considerable [improvement] for Klamath Falls, in so much that it will combine the electric light and power facilities of Klamath Falls with that of the Siskiyou Electric Power & Light Company, who are

¹⁰ This basic pattern would repeat itself through much of the West. In the Rogue River Valley, from Ashland to Grants Pass, Oregon, the Condor Electric Company, which evolved into the Rogue River Electric Company, by 1910 would emerge as the leading provider by purchasing or merging with virtually all its competition.

¹¹ Officers in the reorganized company included Jerome Churchill, Sr., J.P. Churchill, Jesse W. Churchill, Alec Rosborough, Hubert Steel, Count DeTristan, P. B. McKay and Mr. Osborne. Senior staff who would long play important roles in the company that were part of this transition included O.G. Steele and, most notably John C. Boyle.

¹² The three major elements of the new firm were the Churchill's Siskiyou County company and in Oregon the Moore operation in Klamath County and Ray interests (Condor Power and the Rogue River Electric Company) in Jackson and Josephine counties.

now generating a large amount of electricity at their Fall Creek and other power plants.. (*Siskiyou Semi-Weekly News*, 15-June-1911)

Siskiyou Electric Power and Light [SEP&L], in total, combined the generation and transmission facilities of 27 different companies that had been providing power to a region that spanned from Grants Pass, Oregon in the north, to Dunsmuir, California in the south, Etna, California in the west and Klamath Falls, Oregon in the east, a bi-state region that forms the heart of the State of Jefferson. Almost immediately SEP&L was re-organized into the California-Oregon Power Company, or Copco, reflecting the bi-state service area that would soon become colloquially known as “CopcoLand”(Taylor 1964:4-6).

COPCO: 1911 TO WORLD WAR II

The “hyphen” company, as the California-Oregon Power Company was subsequently known to differentiate it from a successor entity, this first Copco continued to consolidate its holdings and expand its service area while embarking on new development to meet the growing demand for electricity in its region. As relates to the Klamath Hydroelectric Project the most notable of these activities was the initiation of work first planned by Siskiyou Electric Power & Light for the construction of a large generation facility on the Klamath River — utilizing the water rights secured concurrently with the development of the Fall Creek plant in 1902-1903.¹³

Work on the first Klamath River generation project, which would be called “Copco No. 1,” had begun in Spring 1909 when SEP&L had begun the preliminary survey for an entire series of plants on the Klamath. The first project was to be focused on a Klamath River site near the Fall Creek Power Plant. “The plant will be located a ways down Ward’s Canyon from its eastern end..” (*Siskiyou Semi-Weekly News*, 4-March-1909). By 1911 SEP&L had completed sufficient survey work to develop a long-term development program for the Klamath River. This 1911 plan, which identified dam sites along the entire length of the project, including both John Boyle and Iron Gate, which would not be built from more than half a century, effectively served as the primary blueprint for today’s Klamath River Hydroelectric Project.¹⁴

In 1910 John Christie Boyle (1887-1979), born in Ft. Jones, in Siskiyou County was hired by the Churchills immediately after his graduation from the engineering department at the University of California, Berkeley. First hired as a field surveyor on the Copco No. 1/Ward’s Canyon project, by 1916 he was in charge of its construction. In 1913, though still only a junior member of the company’s engineering department under the direction of Sydney Sprout, Boyle penned an extensive article on the project for publication in the *Journal of Electricity Power and Gas* (22-February-1913, Volume XXV, No. 8).

The site is near the geological center of the 10,000 square mile territory in Southern Oregon and Northern California in which the company now distributes 20,000 horsepower, which will eventually be increased by a great amount...(Yreka Journal, 9-July-1913).

Construction complications, notably the lack of “regular” sand in the area and, apparently, some financial considerations, slowed the pace in Ward’s Canyon.

¹³ The other large generation project COPCO embarked upon was at Prospect, on the Rogue River, completing work begun by the Ray interests of Rogue River Electric Company.

¹⁴ See SEP&L, Klamath River Project, (Noel Graves, Engineer & Delineator), PacifiCorp Archive #18222. This plan also including a generation facility at “Salt Caves,” in Klamath County.
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The new year found the company with an uncompleted power plant at Copco, on the Klamath River, on which more than \$1,000,000 had been expended, while the earnings of 1915 had run about \$1,000 a month below the fixed charges for the year. Under the circumstances the company was compelled to default on its January interest coupon on the \$3,165,000 California-Oregon power 40-year 5% first and refunding mortgage gold bonds although the interest on the \$1,206,000 of underlying issues had been paid regularly (*Klamath Evening Herald*, 11-Feb-1916, 1:6-7).

In early 1916 COPCO was re-organized with the infusion of large amounts of capital from a group of San Francisco investors.

....these financial arrangements have been accompanied by a reorganization of the company with some of the strongest financiers in California as executives. J. D. Grant of San Francisco, the new president, is a director of many banks with widespread commercial interests. John D. McKee, vice-president, is president of the Mercantile National Bank and director in other financial institutions. J. P. Churchill, of Yreka, former president, is now a vice president....Stocks and bonds of the company are largely held in San Francisco, northern California and southern Oregon. Power and light is supplied from Glendale, Oregon to Dunsmuir, Calif....(*Klamath Evening Herald*, 2-Mar-1916, 1:1).

“This marked the passing of control from Churchill to the McKee interests. The Churchills, Siskiyou County people, had pioneered and consolidated into an integrated company practically all of the power generating and distributing agencies in Northern California and Southern Oregon” (Boyle, 1976:13). The McKee group, with substantial new funding, rushed Copco No. 1 to completion and its first 10,000kw unit was put into commercial service in Spring 1918.

The formal dedication of the great Copco Dam and Power Plant in Ward’s Canyon at Copco on the Klamath River took place last Sunday, February 3, 1918...Ceremonies were conducted at the beautiful, rustic and spacious guest house, built on the edge of the bluff at Copco, overlooking the dam, powerhouse and lake...(Rippon/Journal, 6-February-1918).

The hyphen company continued to grow and acquire competitors in the region, expanding its existing plants, and dismantling or replacing early pioneer facilities with modern, significantly larger, capacity plants such as Copco No. 1. Paul and Donald McKee, the sons of John McKee, relocated to Medford in southern Oregon and took over the day-to-day control of the company with Paul designated General Manager. In 1920, working through W. B. Parker of the Klamath Development Company, an un-named “San Francisco capitalist” purchased the Keno Power Company, at Keno, on the Klamath River southwest of Klamath Falls.

The company owns about 20 miles of transmission line, covering all parts of the territory contiguous to Klamath Falls on the south and west sides of the city. Its plant on the Klamath River started in 1911 with a capacity of 250 horsepower which has been increased to a present capacity of 8509 horsepower and possesses possibilities of developing 2,250 horsepower under present conditions (*Klamath Evening Herald*, 7-April-1920, 1:1).

The Keno Power Company continued to operate as a separate utility until January 1, 1927, when its properties were merged into [COPCO]” (Taylor, 1964:8).

In 1920 the “hyphen” company was again re-organized and transformed into the California Oregon Power Company, without the hyphen, still referred to as “Copco.” This company, with headquarters in Medford, Oregon, would continue to grow and consolidate service in the region for the next 40 years. By the mid-1920s, through the purchase of existing providers and construction of transmission and inter-tie facilities, the Copco service area stretched north to Douglas County, Oregon, east to Lakeview and south to Redding, California. On the Klamath River, Copco’s development after 1920 was predominately focused on improving the pioneer facilities on the Link River, expanding Keno, and, most notably building a second large generation facility on the Klamath River, below Copco No. 1.

Copco No. 2 was originally envisioned during the survey work for Copco No. 1 but, likely hampered by the construction and financial issues that delayed construction of that first plant, was deferred for more than a decade. Construction of Copco No. 2 was begun in 1924 and also faced issues as the result of the unusual geology of the canyon but was completed and put into initial operation in July 1925, adding 30,000kw to the company system (Boyle, 1976:16-17).

In October 1925 the McKee interests sold all of its common stock and most of the preferred stock in Copco to the Standard Gas & Electric Company, a subsidiary of the Chicago-based H. M. Byllesby Company. Byllesby, a pioneer electrical engineer, began his career working with Thomas Edison on some of the first electric light installations in the nation.¹⁵ The company he founded and directed until his death in 1924 evolved from a nationwide consulting role into a massive electrical power conglomerate with holdings from coast-to-coast. In many ways Byllesby’s operation was just a continuation of the Alec Rosborough’s 1903 policy for the Siskiyou Electric Power Company. Byllesby absorbed and consolidated smaller providers and eliminated competition, albeit on a significantly larger scale, in which Copco itself was only a minor element.¹⁶

Under Byllesby, or the “Chicago Interests” as they were referred to both internally and by the general populace, to the extent they were referred to at all, the “face” of Copco remained largely unchanged. Byllesby retained most of the Copco staff, the Medford headquarters, and Copco continued its purchase of other, smaller, providers and expanded the service area while appearing as a locally-owned utility.¹⁷ While new plants were constructed, and units added to existing generation facilities to increase their capacity, the only pre-WWII project in the Klamath region after Copco No. 2 was the construction of the new Keno Regulating Dam, completed in 1931 (Taylor, 1964:11).

¹⁵ See <http://www.jhalpin.com/metuchen/tae/ehlai18.htm> for information on Byllesby’s role with Edison.

¹⁶ Byllesby’s interests including, among many many others, Minneapolis General Electric, Northern States Power, Western States Gas and Electric, San Diego Gas and Electric, Alabama Power Company, Oklahoma Electric, Mountain States Power Company (in Oregon), the Appalachian Power Company and literally dozens and dozens of other large and small regional entities such as Copco from coast to coast.

¹⁷ Notable among the departures from Copco after the Byllesby purchase was Paul McKee, who left Copco as a vice-president in 1926. John Boyle, and many others including Harlan P. Bosworth, Frank Bash and A. S. Cummins, all of whom would long play important roles at COPCO, remained with the company. McKee eventually rose to the presidency of Pacific Power & Light and, as documented below, played a role in the consolidation of that company with Copco in 1961.

COPCO: WORLD WAR II TO 1961

During WWII Copco struggled to maintain service levels while meeting increased demand in the region as the result of military encampments in both Jackson and Klamath counties that brought more than 100,000 new users to the area. Pioneer power plants such as those at Gold Ray, near Medford, and Winchester, on the Umpqua River, north of Roseburg, were pushed back into service, as even their minuscule 5kW capacity was sorely needed.

John Boyle, since 1941 a vice-president and general manager in addition to being the Chief Engineer of the company, had long been interested in developing linear systems of generation facilities. Boyle's idea was to efficiently use waterflow in the non-navigable upper reaches of the major rivers that started in mountains of the Cascade Range that defined so much of the company's service area by building projects that would recapture flow to realize additional energy on a single stream.

At the end of WWII Copco operated four generation facilities on the Klamath, tapping what Boyle had long recognized as only a small portion of that river's capacity. Two large projects at Prospect and one small pioneer facility (at Gold Ray) were in place on the Rogue, fairly exhausting the potential of that river which ran through major cities and settled areas.¹⁸ In Douglas County, a major timber-producing region with rapidly growing power needs, only a single pioneer facility, at Winchester, was in place and so, almost immediately upon the war's end, Boyle began survey work for a massive inter-connected series of generation facilities on the North Umpqua River, entirely within the boundaries of the Umpqua National Forest.

The big development required an investment of \$57,000,000 and resulted in the addition of 208,600 kilowatts of generating capacity to the company's system...Plans called for eight separate plants...[and] construction was scheduled over a period of ten years beginning in 1947 (Dierdorff, 1971:276).

The North Umpqua Project, which effectively doubled the Copco's system capacity, was still insufficient to meet the growing demands of the region. "The company's growth continued at a rate in excess of anything anticipated a few years before, due to the rapid increase in population and industry in the Company's service area" (Taylor, 1964:16). The population of "Copcoland" grew substantially between 1940 and 1960, at a rate not seen since the first decade of the 20th century. This was especially true of the company's western area as opposed to the more rural Klamath, Lake, Modoc and Siskiyou county regions of the Klamath Basin.

In raw numbers, Copco in the two decades after WWII added nearly 150,000 more customers to its core service area, was contracted to provide generation capacity to other locales in California,¹⁹ and faced an ever-growing demand for electricity from a rapidly expanding industrial sector, particularly in the area of lumber and plywood manufacturing. By 1970 the population of the core six county service area would grow to nearly 300,000, essentially doubling in just three decades.

¹⁸ Early in this period several sources indicate Copco at least considered the possibility of plants on the lower Rogue River, though Hellsgate Canyon and other areas that are now a portion of the Wild and Scenic River section of the Rogue. None of these plans appear to have been seriously developed.

¹⁹ Long-standing agreements between Copco and Pacific Gas & Electric Company supplied power to the San Francisco area through an inter-connection facility at Delta, in southern Siskiyou County (Coleman, 1952:289).

In June 1947, as the construction and financing of the North Umpqua Project was underway, Standard Gas & Electric, the Byllesby subsidiary that had acquired Copco from the McKee interests in 1926, sold all its stock in the company to an Oregon-based investment corporation which in turn put the company into public ownership. Again in the hands of local investors, Copco would be based in Medford, Oregon for the remainder of its existence as an independent entity, continuing to benefit from the association of numerous long-time employees such as Boyle, Bosworth, Glenn Jackson, A. S. Cummins, Frank Bash and others (Taylor, 1964:16).

In 1951, as the various units coming online at Toketee were seen to be insufficient for the long-term needs of the region, Copco's leaders realized that it must develop even more generation capacity and so began scouting for appropriate hydroelectric opportunities.²⁰ First the company looked at a site on the McCloud River and filed for a possible project with the Federal Power Commission "However, Klamath Canyon was most attractive, being near the Copco load center where construction cost and transmission lines would be minimum. It was therefore decided to make another attempt to secure necessary water rights in Oregon sufficient to justify construction" (Boyle, 1976:53).

Still a contentious issue in the Klamath Basin, water rights and the conflicts between irrigators, fishermen, recreation interests and others stretching from northern Klamath County all the way to the Pacific Ocean have been a constant source of legal and political wrangling in the area for more than a century. The nature of the Klamath Basin in the early 20th century, a sparsely-settled area with fertile land and abundant natural and scenic resources, that span two states and are so subject to local laws, varied state agencies and ultimately the Federal government, often placed Copco and its various predecessor entities dating all the way back to the Moore brothers and the Churchills, at odds with this or that influential segment of the community.

Typical of the shifting alliances in the Klamath Basin are the events described by the *Klamath Herald*, a supporter of most things Copco did during the early 1920s and of the city's booming lumber and railroad-fueled economy, in a full banner headline published in mid-1925. The *Herald*, proclaiming "COPCO WATER THEFT BLOCKED" praised the stalwart actions of the Klamath Irrigation District in successfully halting the company's effort to divert additional waters from the Link River (*Klamath Herald*, 8-July-1925 1:1-8). As Boyle implies when stating that after WWII Copco determined to make "another attempt" in Klamath, such legal, political, and community wrangles in addition to the complicated nature of the regulatory system in the bi-state Klamath Basin area, likely played an important role in the fact that Copco initially looked elsewhere than the abundant flows of the Klamath River to build capacity after 1925 and the completion of Copco No. 2.

By January 1956, after a lengthy series of hearings and negotiations regarding the Klamath projects, Copco signed agreements with the Federal Power Commission, the Hydroelectric Commission of Oregon, and the Public Utility Commissions of both Oregon and California, in addition to other agreements with the Department of the Interior and the Bureau of Reclamation

²⁰ Throughout its entire history virtually all of Copco's electric capacity would be hydroelectric, a function of the abundant water systems throughout the service area. Other than a steam-fired plant Copco operated under a lease arrangement with the Mountain States Power Company on the Oregon coast (Mountain States was also a Byllesby Company) virtually all of the company's capacity was hydropower throughout its history.

that cleared the way for construction of the first new generation facility on the Klamath in three decades. “The Big Bend project was rushed to completion and 88,000kW were added to the Copco system by October 1, 1958” (Boyle, 1976:54). Big Bend was essentially constructed, and even named, in concert with the Siskiyou Electric Power and Light development plan for the Klamath River that was prepared in April 1911.

The final component of the Klamath Hydroelectric Project, both in terms of construction and, geographically, within the flow of water, is the Iron Gate project. Begun in 1960, it was completed and put into service on January 13, 1962. Just as at Big Bend, the name and location of Iron Gate were first identified in 1911 as part of the very first surveys of the hydroelectric potential of the Klamath River. With its construction, the development of electric generation facilities in the Klamath Basin, begun in the early 1890s, was at an end.²¹

MERGER- PACIFIC POWER & LIGHT, 1961-

By the late 1950s, having been a major element in the development of “Copcoland” for six decades, the California Oregon Power Company was both well known and highly regarded throughout the region. Locally owned, since the company had embarked upon a period of growth and expansion the end of World War II that for a small and still generally rural area, was staggering, investing over \$150 million dollars “...in plants and facilities to provide full and adequate service to meet the needs of its growing service area” (*Medford Mail Tribune*, 26-July-1959, 12:1-8).

Having weathered the post-war growth years and accomplished the planning, financing and construction of ten major power projects, including the two on the Klamath River, in just over a decade, the California Oregon Power Company was merged into its larger neighbor to the north, Pacific Power and Light. PP&L (later PacifiCorp) shared a similar history with Copco and the two companies had had strong business ties for many years. Paul McKee, son of John McKee who with other San Francisco investors had spearheaded the reorganization of the “hyphen” company and secured the funding to complete Copco No. 1 in 1918, remained in the power generation field after leaving Copco following its 1926 sale to the Chicago-based Byllesby. After a stint in South America, McKee became President of PP&L in 1933 and held that influential position until 1958 when he was made Chairman of the Board of Directors (Dierdorff, 1971:296). With the joining of Copco and PP&L in 1961, McKee’s long career in electric power came full circle. Copco and PP&L’s boards were merged, including not only McKee but A. S. Cummins, Copco President since 1941, Frank Bash, H. P. Bosworth, and John Boyle. All were made vice-presidents and continued with PP&L for the remainder of their careers.

John Christie Boyle, who had worked on virtually every hydroelectric project development of the Siskiyou Electric Power and Light Company and its various successor entities since 1910, including the planning and design of the Klamath Hydroelectric Project, was personally honored at the dedication ceremony of its last unit, Iron Gate, in 1962. At that event, hosted by PP&L’s McKee, who had first worked with Boyle nearly half a century earlier, it was announced that the Big Bend Plant on the Klamath River would be renamed in honor of its designer.

The largest electric power producer in the Copco system of Pacific Power &
Light Company was named the John C. Boyle Hydroelectric Project at a

²¹ Additional development sites identified by SEP&L and other Copco-predecessors also included the so-called Salt Caves Project, a controversial and still un-built development site near Klamath Falls.
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ceremony...Monday to honor the veteran utility industry leader who designed and built most of the southern Oregon's power plants...The choice of this key project to bear his name is appropriate...for it typifies the scope of the vision of John C. Boyle and the contributions he has made to the long-range planning for the full use of the water resources in the basin...(Oregonian, 25-June-1962).

A plaque was erected at Big Bend as it was formally rededicated in Boyle's name, unveiled by his grand-daughter Sue Anne Rutherford. Today the John C. Boyle Plant remains a vital component of PacifiCorp's on-going generation activities at the Klamath Project. Today, with generation units ranging from the Eastside Powerhouse to Iron Gate geographically, from the 1903 Fall Creek Power Plant to the 1962 Iron Gate project in terms of construction, spanning two counties, two states, and some nearly 40 miles of the Klamath River, the Klamath Falls Hydroelectric Project boasts a generation capacity of 151 megawatts.

SUMMARY:

The historic resources of the Klamath Hydroelectric Project were completed between 1903 and 1958 by the California Oregon Power Company and its various pioneer predecessors. These resources are strongly associated with the development of electricity in the southern Oregon and northern California region and played a significant role in the area's economy both directly, as a part of a regionally-significant, locally-owned and operated, private utility, and indirectly, through the role that increased electrical capacity played in the expansion of the timber, agriculture, and recreation industries during the first six decades of the 20th century. ***The Klamath Hydroelectric Project is considered regionally significant and eligible for listing in the National Register of Historic Places under Criterion "A" for its association with the industrial and economic development of southern Oregon and northern California.***

RESEARCHER:

George Kramer, M.S., Preservation Specialist, under contract to CH2M-Hill/PacifiCorp Date: October 2003

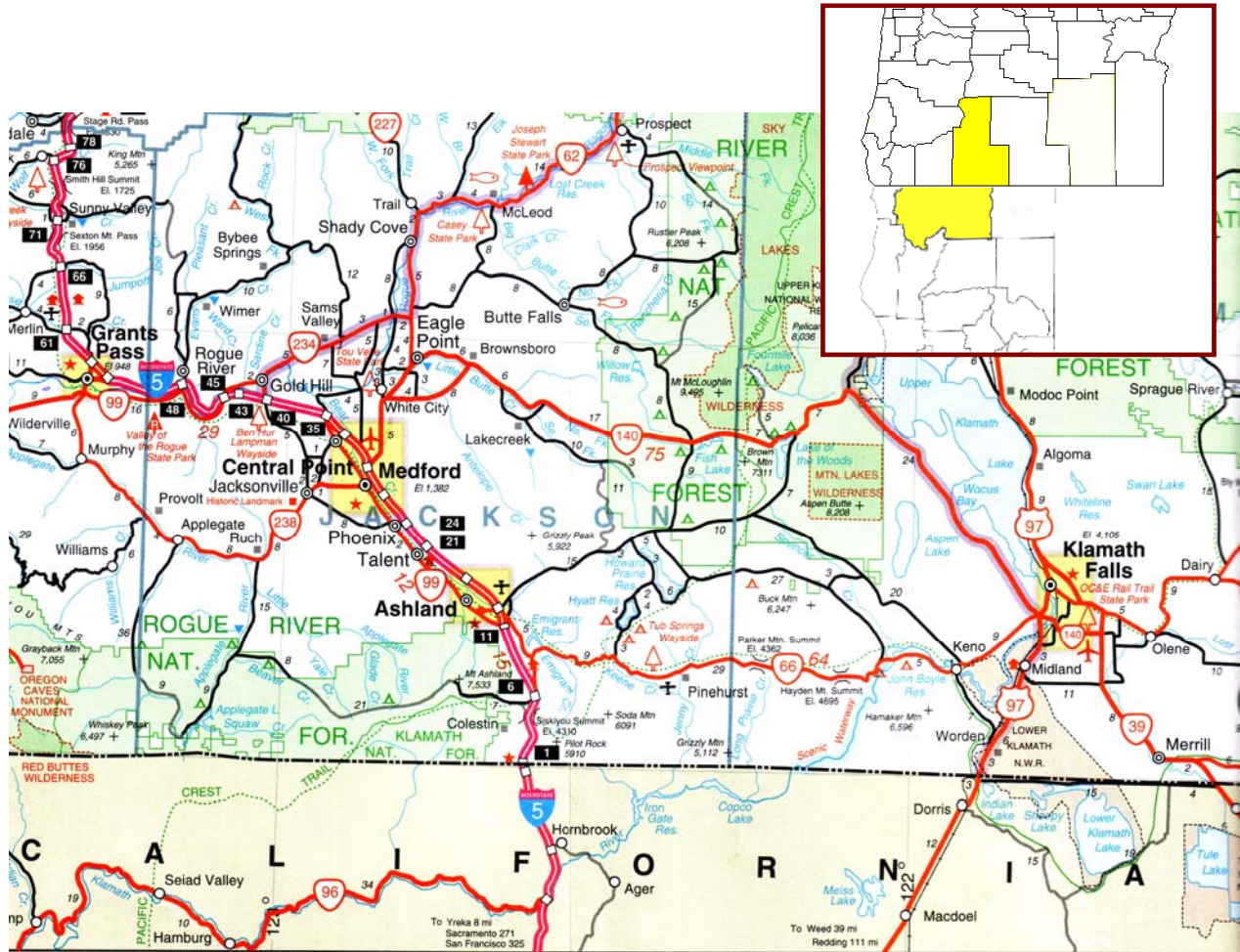
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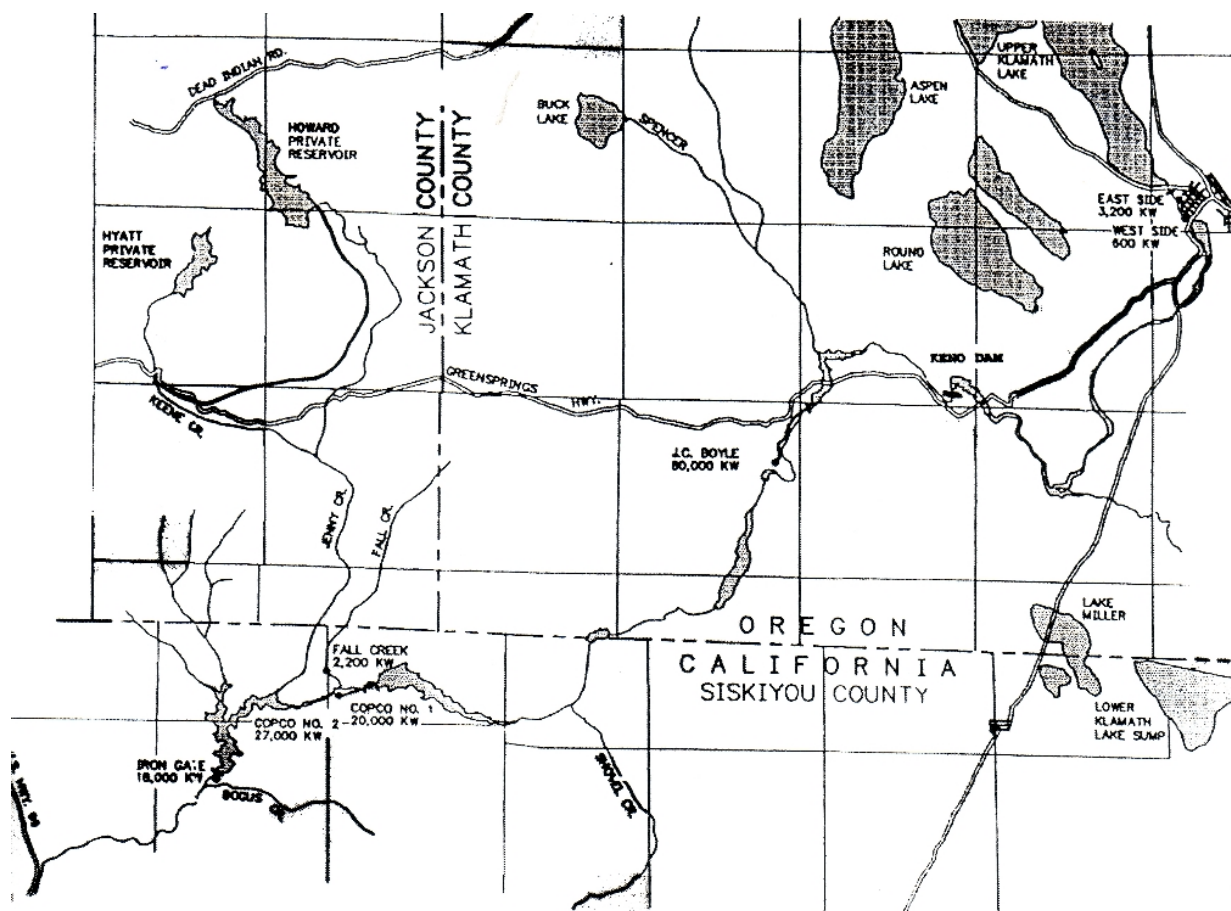
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GENERAL VICINITY MAP



Map 1: KLAMATH HYDROELECTRIC PROJECT
Klamath County, Oregon and Siskiyou County, California
Source: *Oregon Department of Transportation Map, 2000-2001*

PROJECT MAP



VICINITY MAP
KLAMATH HYDROELECTRIC PROJECT
APPROXIMATE SCALE: 1"=30000'



Map 2: KLAMATH HYDROELECTRIC PROJECT
Source: CH2M-Hill

PHOTOGRAPHS:

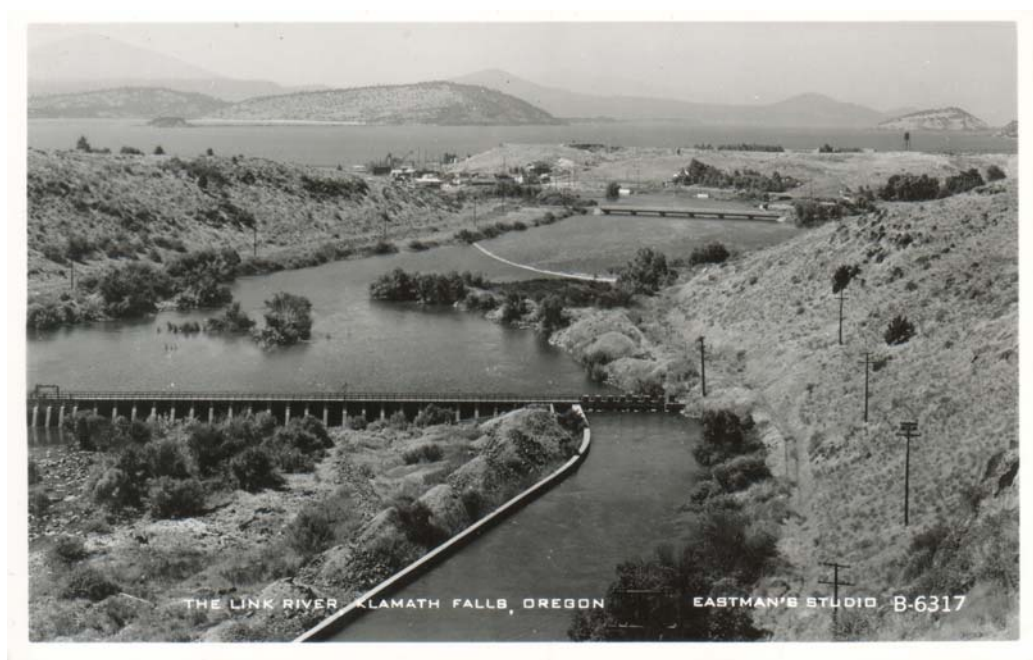


Photo 1. Historic Image
LINK RIVER DAM AND EAST SIDE CANAL, LOOKING NORTH, c1930
(Source: Postcard Image, Author Collection)

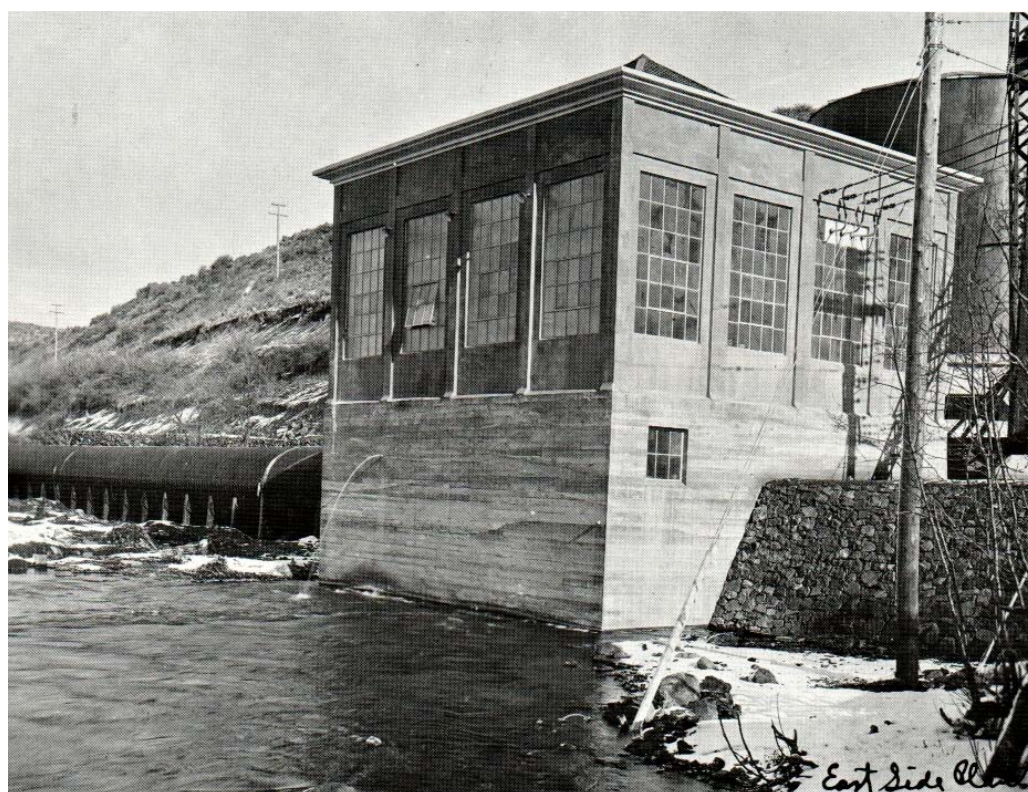


Photo 2. Historic Image
EAST SIDE POWERHOUSE, KLAMATH FALLS, c1924
(Source: PacifiCorp Archives)

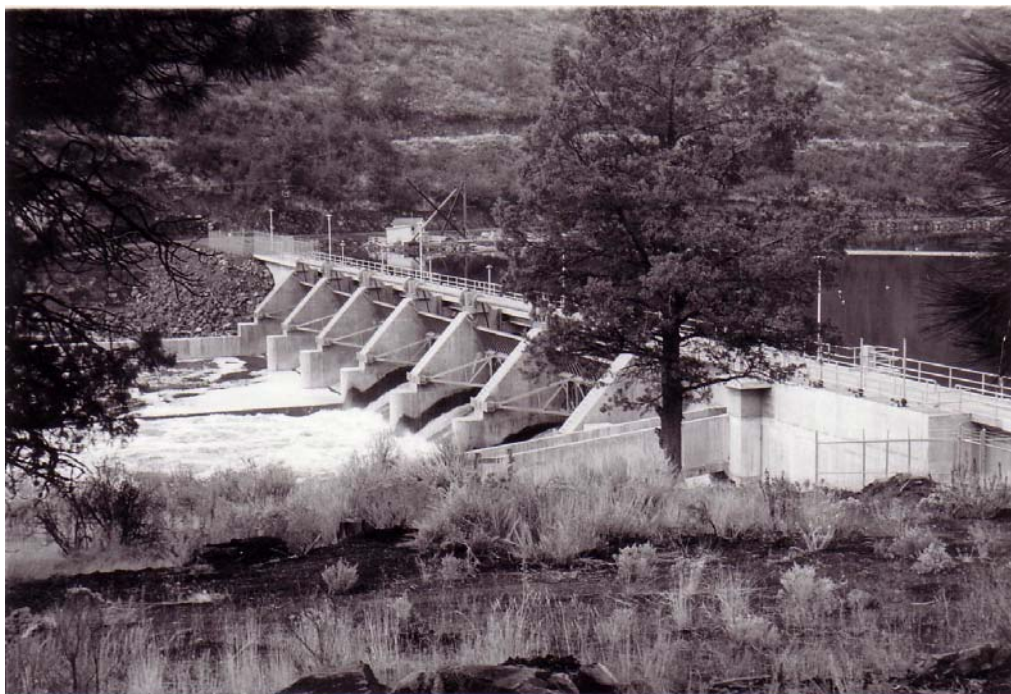


Photo 3. Historic Image
KENO REGULATING DAM, 1966
(Source: *PacifiCorp Archives*)

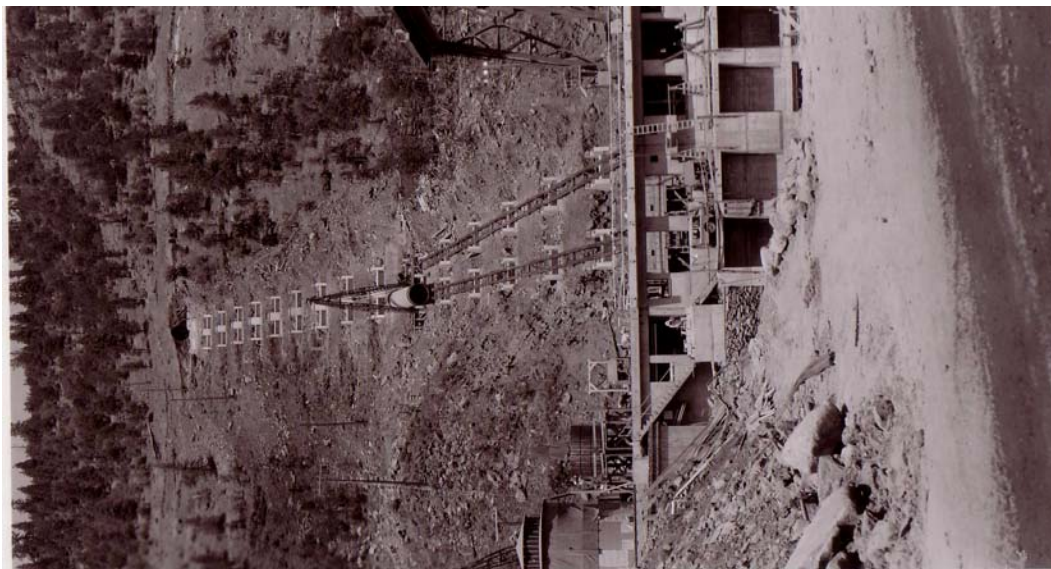


Photo 4. Historic Image
[vertical image mounted horizontally]
BIG BEND [BOYLE] PENSTOCK CONSTRUCTION, c1956
(Source: *PacifiCorp Archives*)

PHOTOGRAPHS:

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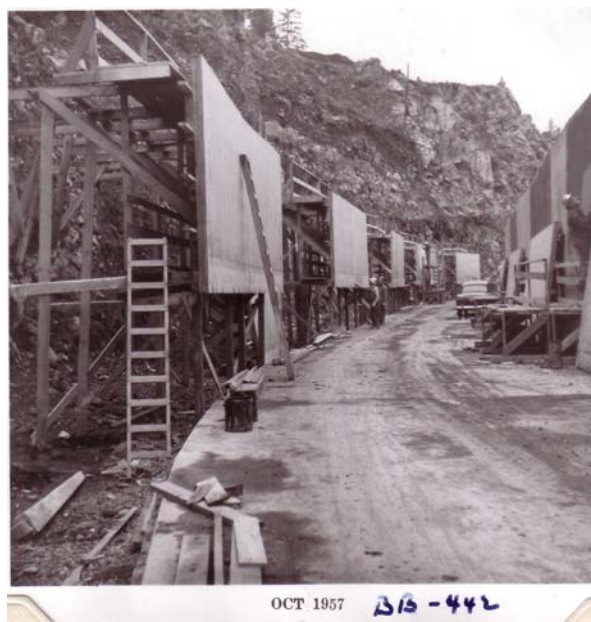


Photo 5. Historic Image
BIG BEND (BOYLE) CANAL CONSTRUCTION, OCT 1957
(Source: *PacifiCorp Archives*)



Photo 6. Historic Image
BIG BEND (BOYLE) DIVERSION DAM, SETTING THE GATES, c1957
(Source: *PacifiCorp Archives*)

PHOTOGRAPHS:



Photo 7. Historic Image
BIG BEND [AERIAL] VIEW, 1958
(Source: *PacifiCorp Archives*)

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Photo 8. Historic Image
BIG BEND (BOYLE) POWERHOUSE, SHORTLY AFTER COMPLETION, C1958
(Source: *PacifiCorp Archives*)

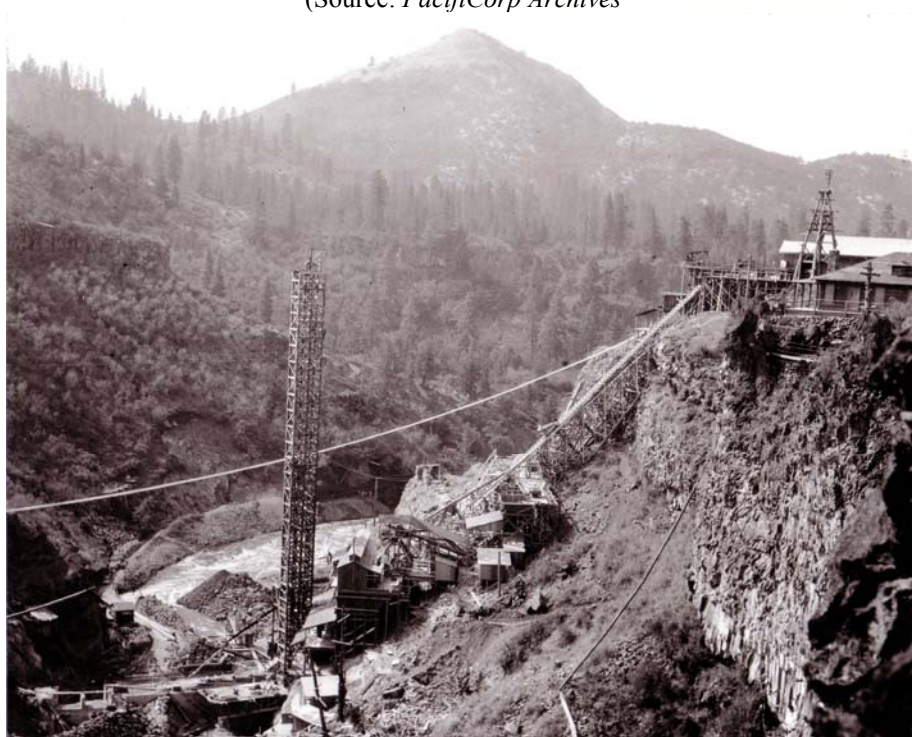


Photo 9. Historic Image
COPCO NO. 1 CONSTRUCTION (NOTE GUEST HOUSE), C1917
(Source: *PacifiCorp Archive*)

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Photo 10. Historic Image
COPCO NO. 1, GENERAL VIEW, LOOKING NE (CONSTRUCTION CAMP ABOVE), 1922-1957
(Source: *PacifiCorp Archives*)

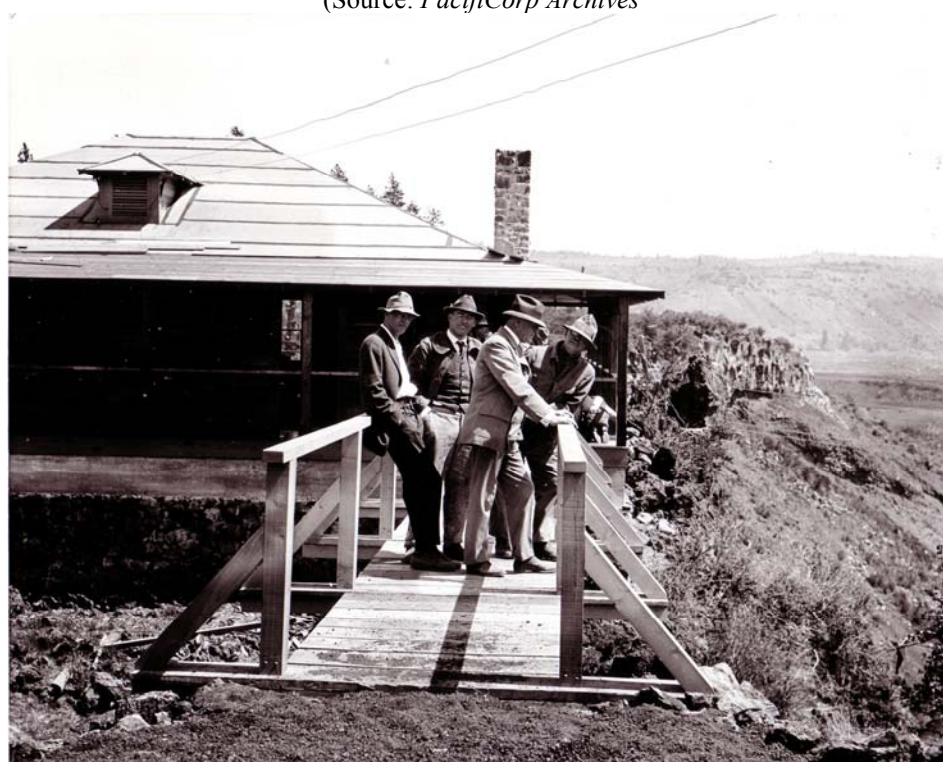


Photo 11. Historic Image
COPCO NO. 1 GUESTHOUSE, LOOKING EAST, c1922
(Source: *PacifiCorp Archives*)

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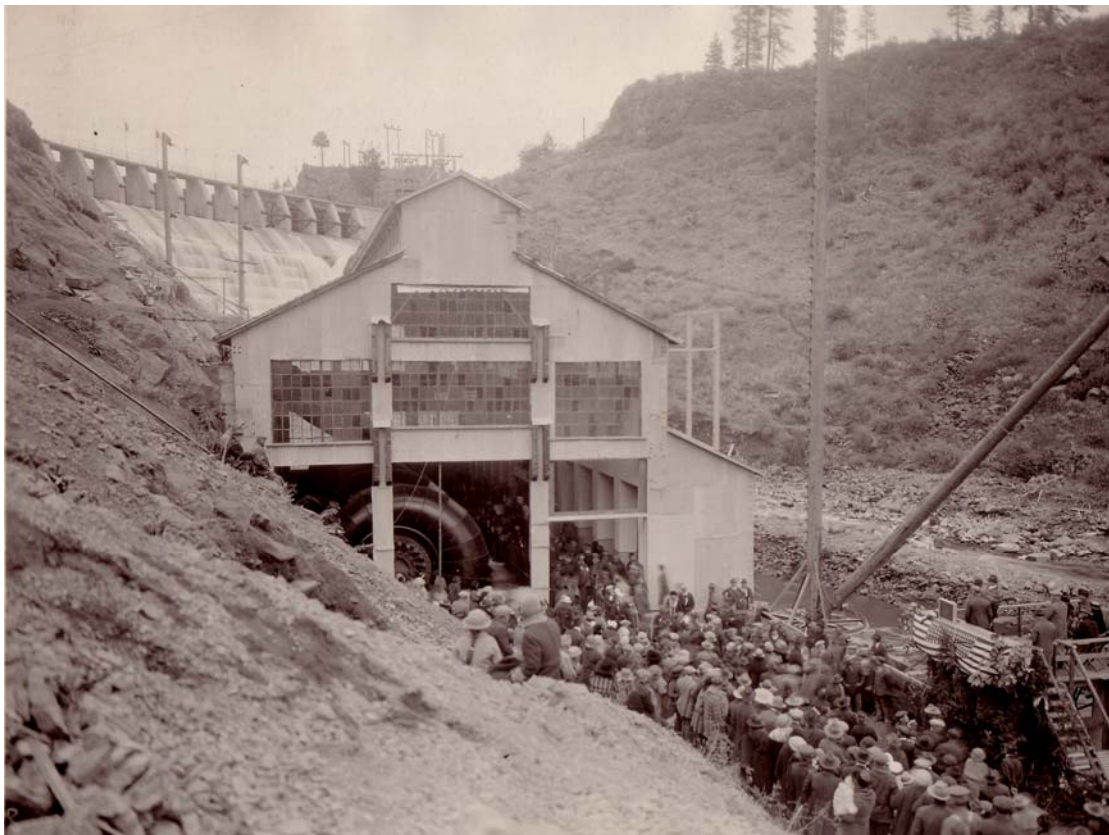


Photo 12. Historic Image
COPCO NO. 1, OPENING DAY, 1918
(Source: *PacifiCorp Archives*)

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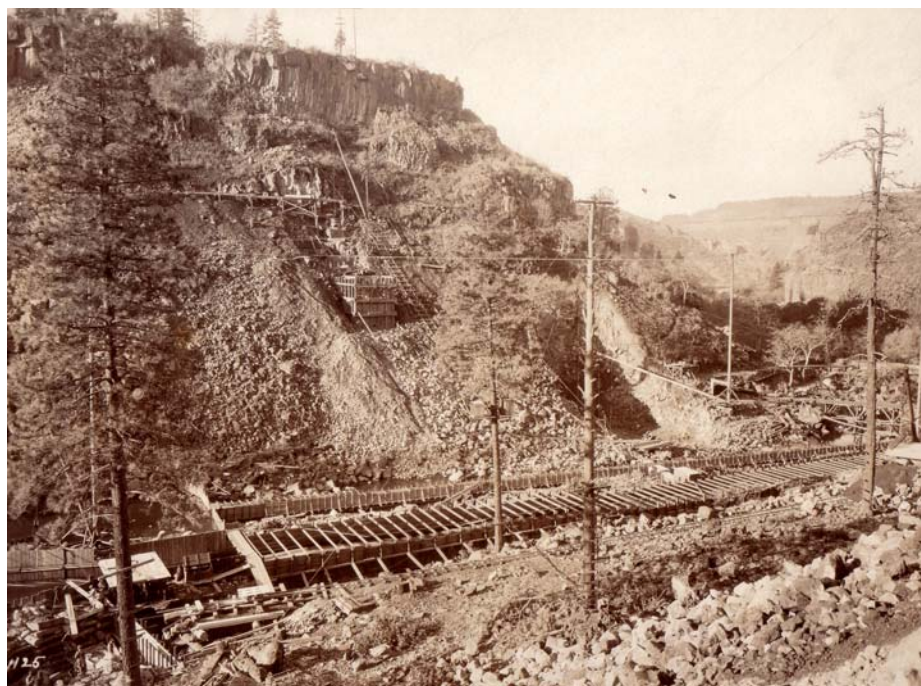


Photo 13. Historic Postcard Image
COPCO NO 2., CRUSHER MILL, c1922
(Source: *PacifiCorp Archives*)



Photo 14. Historic Image
COPCO NO. 2 COFFER DAM, c1960
(Source: *PacifiCorp Archives*)

PHOTOGRAPHS:



Photo 15. Historic Image
COPCO NO. 2 COOK AND BUNKHOUSE, 1942
(Source: *PacifiCorp Archives*)



Photo 16. Historic Image
COPCO NO. 2 EMPLOYEE HOUSING, c1940
(Source: *PacifiCorp Archives*)

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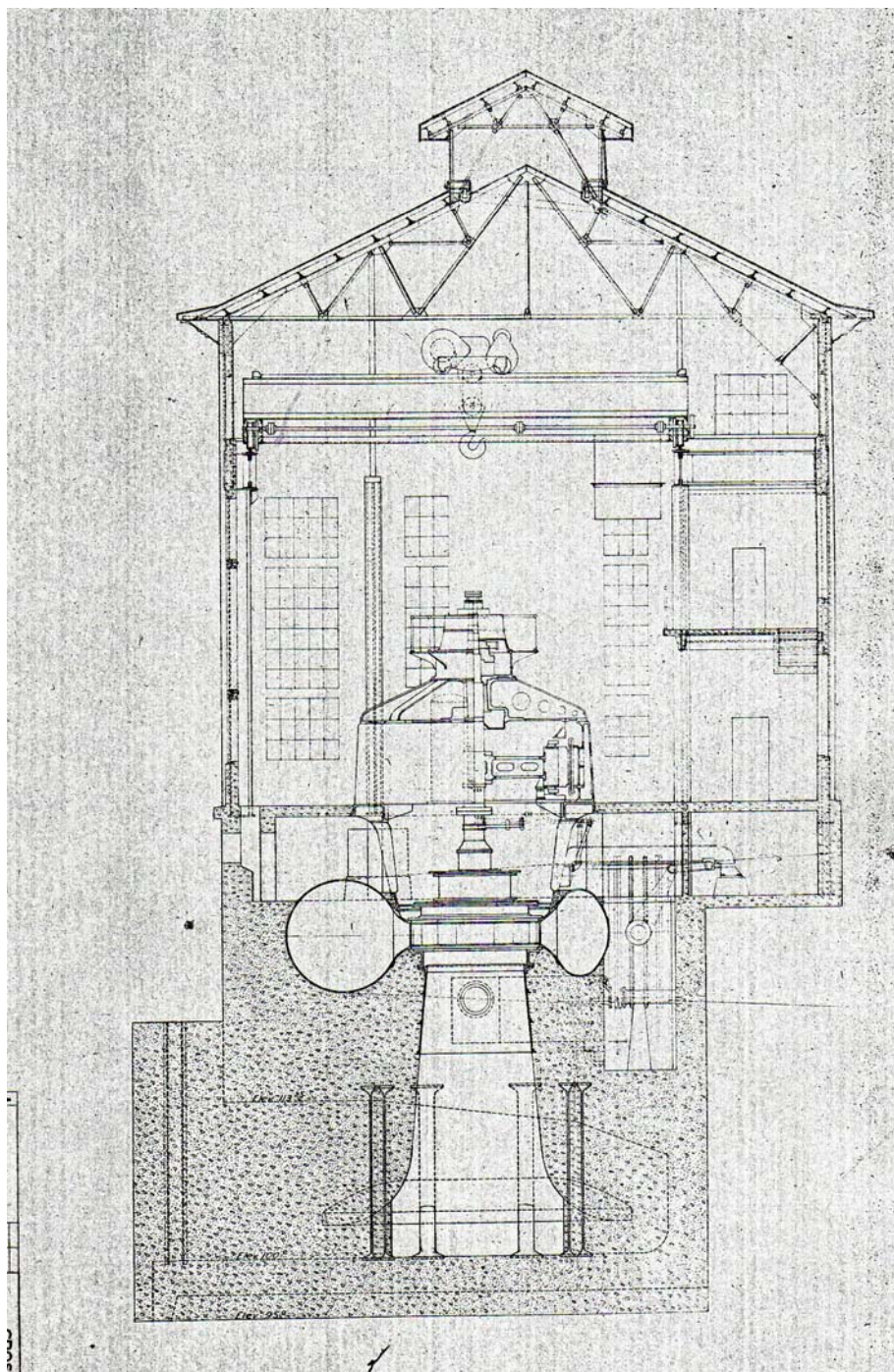


Photo 17. Historic Image
COPCO NO. 2 POWERHOUSE SECTION, c1925
(Source: *PacifiCorp Archives*)

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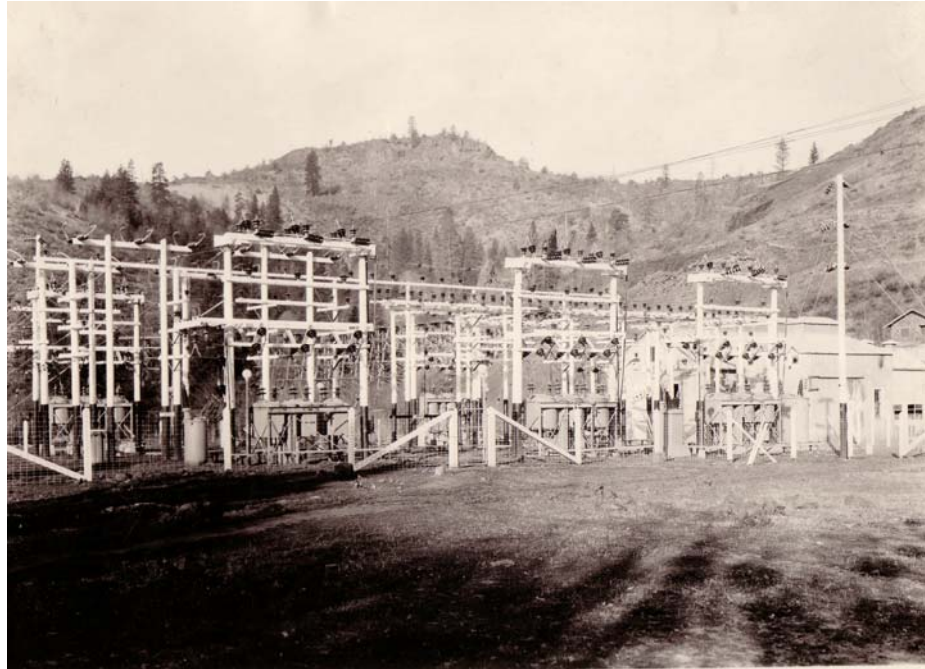


Photo 19. Historic Image
FALL CREEK, SUBSTATION (POWERHOUSE TO RIGHT), c1930s
(Source: *PacifiCorp Archives*)



Photo 20. Historic Postcard Image
[vertical image mounted horizontally]
FALL CREEK, CALIFORNIA, SISKIYOU ELECTRIC POWER'S WATER DITCH, c1910
(Source: *Author Collection*)