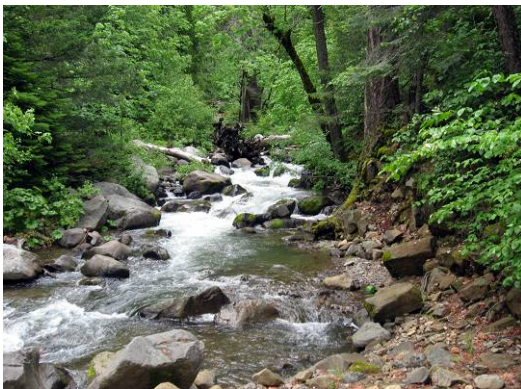


**Appendix A**

**Proposed Decommissioning Plan**

**PACIFIC GAS AND ELECTRIC COMPANY**

**Kilarc-Cow Creek Hydroelectric Project  
FERC Project No. 606**



**Proposed Decommissioning Plan**

**DRAFT**

**September 4, 2008**



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PACIFIC GAS AND ELECTRIC COMPANY

**Kilarc-Cow Creek Hydroelectric Project**

**FERC Project No. 606**

**PROPOSED DECOMMISSIONING PLAN**

DRAFT

**September 4, 2008**



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**KILARC-COW CREEK HYDROELECTRIC PROJECT**  
**FERC PROJECT NO. 606**

**PROPOSED DECOMMISSIONING PLAN**

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## **Attachments**

### **Attachment A - Kilarc-Cow Creek Project Agreement**



**GLOSSARY OF TERMS, ACRONYMS AND ABBREVIATIONS**

<b>Term</b>	<b>Definition</b>
<b>A</b>	
abutment	A mass or structure for resisting the pressure of water on a dam
ACB	air circuit breaker
af	acre feet
Agreement	Kilarc-Cow Creek Project Agreement
amperes	A unit of electric current in the meter-kilogram-second system
anchor bolts	Bolts used to secure a structure
aquatic	Operating, living or growing in water
<b>B</b>	
backfill	Material used to refill an excavated area
baffle	A device that regulates the flow of water
berm	A mound or bank of earth, used especially as a barrier
breaching	To make a hole or gap in; to break through
<b>C</b>	
CA	California
canal	An artificial waterway or artificially improved river used for travel, shipping, or irrigation
capacity	The maximum sustainable amount of power that can be produced by a generator or carried by a transmission facility
capped	Protectively covered or sealed
cat bridge	A narrow elevated walkway
catwalk	A narrow, often elevated walkway
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
cfs	cubic feet per second - a unit of measurement pertaining to flow or discharge of water. One cfs is equal to 449 gallons per minute
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
coffer dam	An enclosure beneath the water constructed to allow water to be displaced by air for the purpose of creating a dry work environment



<b>Term</b>	<b>Definition</b>
conduit	A pipe, tube, or the like, for conveying water
confluence	The junction where two rivers, streams, etc. flow together
corrugated	Shaped into alternating parallel grooves and ridges
crest	The highest point or level
culvert	A sewer or drain crossing under a road or embankment
<b>D</b>	
decommission	To deactivate; to shut down
diversion dam	A dam that diverts all or a portion of the flow of a river from its natural course
DLSA	Draft License Surrender Application
<b>E</b>	
<b>F</b>	
FERC	Federal Energy Regulatory Commission
fish ladder	Structures on or around artificial barriers (such as dams and weirs) to facilitate fish migration. Also known as fishways or fish passes.
fish screen	A barrier designed to prevent fish from swimming or being drawn into an aqueduct, cooling water intake, dam, or other diversion on a waterway where water is taken for human use
flume	An artificial channel or trough for conducting water
footers	Cutoff walls
forebay	The portion of the reservoir at a hydroelectric plant which is immediately upstream of the generating station
foundation pier	A base built on posts upon which some structure rests
FSCD	First State Consultation Document
<b>G</b>	
generator	A machine that converts one form of energy into another, esp. mechanical energy into electrical energy
geomorphic	Pertaining to the form of the earth or the forms of its surface
grading	To reduce to a smooth horizontal or gently sloping surface
grate	A framework of parallel or crossed bars, used as a partition, guard or cover
gross	Without deductions; total



**Kilarc-Cow Creek Hydroelectric Project, FERC No. 606**  
**Proposed Decommissioning Plan**

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<b>Term</b>	<b>Definition</b>
ground flush	Wear down by abrasion to become level with the surface
<b>H</b>	
hauler	A vehicle used to pull or drag forcibly
HP	Horsepower
hydraulic	Of, involving, moved by, or operated by water under pressure
hydroelectric	The production of electric power through use of the gravitational force of falling water
<b>I</b>	
inlet	A narrow passage of water
intake	The entrance to a conduit through a dam or water facility
<b>J</b>	
<b>K</b>	
kVA	kilovolt-amperes
kW	Kilowatt
kWh	kilowatt hour(s)
<b>L</b>	
Licensee	Pacific Gas and Electric Company
LSA	License Surrender Application
<b>M</b>	
Megawatt	One million watts, a measure of electrical power
mi <sup>2</sup>	square miles
MSL	mean sea level
MW	megawatts
<b>N</b>	
NEPA	National Environmental Policy Act
NOAA Fisheries	National Oceanic and Atmospheric Administration, formerly National Marine Fisheries Service (NMFS)
NOI	Notice of Intent



# Kilarc-Cow Creek Hydroelectric Project, FERC No. 606

## Proposed Decommissioning Plan

Term	Definition
<b>O</b>	
outlet	A way or passage outwards, or for releasing
<b>P</b>	
PDP	Proposed Decommissioning Plan
penstock	A conduit for conveying water to a power plant
PG&E	Pacific Gas and Electric Company
pothole	A hole or pit, especially one in a road surface
powerhouse	An electricity generating station
PPDP	Preliminary Proposed Decommissioning Plan
Preliminary Plan	Preliminary Proposed Decommissioning Plan
Project	Kilarc-Cow Creek Project, FERC No. 606
Project Area	The geographic area defined in the license issued by FERC for the Project as needed for Project operations and maintenance
Project Vicinity	The area extending to about five miles from the Project Boundary
<b>Q</b>	
<b>R</b>	
rebar	A steel bar or rod used to reinforce concrete
reseed	Seed again or anew
riparian	The banks of a river or stream
rip-rap	Loose stones and boulders used to control erosion of banks
RM	river mile
rpm	revolutions per minute
rubble	A loose mass of angular fragments of rock or masonry crumbled by natural or human forces
runoff	The occurrence of surplus water exceeding the limit or capacity
<b>S</b>	
saw cut	Cut with a saw
scarify	To break up (a road surface) or loosen (soil)
shaft	A long, generally cylindrical bar that rotates and transmits power, as the drive shaft of an engine
shotcrete	Concrete conveyed through a hose and pneumatically projected at high velocity onto a surface



# Kilarc-Cow Creek Hydroelectric Project, FERC No. 606

## Proposed Decommissioning Plan

Term	Definition
siphon	To convey, draw, or pass through
spawning gravel	Suitable gravel upon which fishes lay their eggs and sperm
spillway	A passageway through which surplus water escapes from a reservoir, lake or dam
stakeholders	Resource agency personnel and anyone with an interest in the Project
Stewardship Council	Pacific Forest and Watershed Lands Stewardship Council
surge tower	The above ground, upright section of a penstock
SWDU	Statements of Water Diversion and Use
switchyard	A location where electrical current is moved from one conductor to another
SWRCB	State Water Resources Control Board, Division of Water Rights
Synergics	Synergics Energy Developments, Inc
<b>T</b>	
tailrace	The channel for conducting tailings or refuse away in water
tapered	To become gradually narrower or thinner toward one end
telemetry	Automatic transmission and measurement of data from remote sources
thermal	Using, producing, or caused by heat
transformer	An electrical device by which alternating current of one voltage is changed to another voltage
trash bars	Bars placed over the entrance to an enclosed waterway to catch trash
truss	A rigid framework of wooden beams or metal bars designed to support a structure
turbine	Machinery that converts kinetic energy of a moving fluid, such as falling water, to mechanical or electrical power
tributary	A stream that flows to a larger stream or other body of water
turbidity	A measure of the optical clarity of water, which depends on the light scattering and absorption characteristics of suspended and dissolved material in the water
<b>U</b>	
USFWS	U.S. Fish and Wildlife Service
<b>V</b>	
VELB	Valley Elderberry Longhorn Beetle



Term	Definition
<b>W</b>	
waterway	A conduit through which water flows
<b>X</b>	
<b>Y</b>	
<b>Z</b>	





## **Section 1.0 Introduction**

---

Pacific Gas and Electric Company (PG&E), the Licensee for the Kilarc-Cow Creek Hydroelectric Project, FERC No. 606 (Project), is applying to the Federal Energy Regulatory Commission (FERC) to surrender the license for the Project. As part of the surrender process, PG&E proposes to decommission and remove the Project works as described in this Proposed Decommissioning Plan (PDP).

The current license for the Project was issued by FERC on February 8, 1980, with an effective date of February 1, 1980 and an expiration date of March 27, 2007. As discussed below, PG&E declined to file an application for a new license by the statutory deadline of March 27, 2005. The Project is located in Shasta County, California, approximately 30 miles east of the city of Redding, near the community of Whitmore. The Project consists of two developments constructed between 1904 and 1907: the Kilarc Development on Old Cow Creek (Figure 1-1) and the Cow Creek Development on South Cow Creek (Figure 1-2). Old Cow Creek and South Cow Creek are tributaries to the Sacramento River. The Project comprises several small diversion dams, approximately 7 miles of water conveyance facilities and two powerhouses with a total installed capacity of 5 megawatts (MW) with approximately 70% from the Kilarc Development. The Kilarc Development diverts water from North and South Canyon Creeks and Old Cow Creek. The Cow Creek Development diverts water from Mill Creek and South Cow Creek. The water is diverted for generating power through a canal system to the Kilarc and Cow Creek forebays, where penstocks direct the water to the powerhouses (Figure 1-3).

PG&E initially sought a new license for the Project, filing with FERC in 2002 a Notice of Intent (NOI) to relicense the Project. However, after performing initial relicensing studies and consulting with resource agencies and other interested parties, PG&E ultimately concluded that the likely cost of providing the necessary level of protection, mitigation and enhancement for the resources affected by the Project would outweigh the economic benefit of generation at the Project over the life of a new license, and would result in the Project no longer being an economic source of power for PG&E's electric customers. Consequently, in March 2005, PG&E entered into the Kilarc-Cow Creek Project Agreement (Agreement) signed by eight resource agencies and interested parties (Appendix B). Pursuant to the Agreement, PG&E agreed, among other things, not to file an application for a new license by the statutory deadline of March 27, 2005, and instead agreed to support decommissioning of the Project.

Once the statutory deadline passed for PG&E to file an application for new license, FERC issued a public notice on March 7, 2005 inviting other entities to file NOIs to seek a new license for the Project. One entity did so: Synergics Energy Development, Inc. (Synergics) filed a notice on June 7, 2005. Synergics, however, failed to file an application for new license by the December 27, 2006 deadline established by FERC, and FERC denied Synergics' request to extend the deadline.



After Synergics failed to timely file an application for new license for the Project, PG&E, as directed by FERC, began the process of preparing a License Surrender Application for the Project.

PG&E held local public meetings in March, May, September, and November of 2007 to explain its decision not to seek a new license for the Project, to explain the license surrender process, and to seek public input regarding Project decommissioning. Notices for the meetings were placed in the local newspapers and letters were sent to resource agencies, local governments, Indian tribes, non-governmental organizations, members of the public, and other likely to be interested in the license surrender proceedings (Interested Parties). During the meetings, PG&E solicited comments from the Interested Parties to assist it in identifying issues with decommissioning. PG&E also hosted a public site visit of the Project facilities in June 2007.

PG&E used the comments received from Interested Parties, and the Agreement in conjunction with environmental, cultural, and recreational resource information collected during the initial phase of PG&E's relicensing process to develop a Preliminary Proposed Decommissioning Plan (PPDP). PG&E presented the PPDP at a public meeting on September 12 and 13, 2007, followed by a 30-day public comment period, closing October 12, 2007. PG&E reviewed the comments and held public and agency meetings on November 7 and 8, 2007 to discuss the scope of decommissioning and the resource issues to be addressed in this DLSA. Based on these meetings, PG&E finalized the scope for additional resource studies and for the DLSA. Additional studies considered necessary to ensure that environmental resources are adequately protected during deconstruction activities were performed in spring and summer 2008. Study results and a revised Proposed Decommissioning Plan (PDP) are included in this DLSA.

The PDP is based on consultation with Interested Parties, including resource agencies, and landowners; the results of resource studies; and the economic and liability considerations that underlay PG&E's decision to surrender the Project license. PG&E developed its decommissioning plan with two main objectives: 1) achieving specific "Desired Conditions" once decommissioning is complete, as identified in the Agreement; and 2) addressing potential resource issues associated with decommissioning the Project. Specific decommissioning actions were developed in consultation with affected landowners.

Other alternatives considered for decommissioning of Project facilities ranged from abandoning facilities in place to removing all facilities<sup>1</sup>. It was determined that these extremes did not adequately address potential resource issues. For instance, abandoning the diversions in place

---

<sup>1</sup> On September 17, 2007 and August 1, 2008, Davis Hydro filed with FERC what PG&E understands to be two proposals for the continued operation of the Project facilities. The Federal Power Act and FERC's regulations preclude PG&E from obtaining a new license to operate the Project since PG&E declined to file an application for a new license. 16 U.S.C.A. Section 808; 18 CFR Section 16.24. In addition, the Federal Power Act and FERC's regulations preclude a third party, like Davis Hydro, from assuming operations of Project facilities from PG&E for power generation where that third party missed applicable deadlines to do so. 16 U.S.C.A. Section 808; 18 C.F.R. Section 16.25(b). Therefore, PG&E did not consider any alternatives for continued operations in the development of the PDP



would not allow fish passage, yet removing all facilities could increase erosion at the diversion dam abutments.

The PDP is organized as follows:

- **Section 1 – Introduction.** This section provides background information on the Project and events to date related to the decommissioning process, a summary of the development and the rationales and consultation for the development of the decommissioning plan and the DLSA.
- **Section 2 – Decommissioning Proposal.** This section describes the Project features and proposed decommissioning actions for each feature. The section also provides information on potential environmental effects associated with decommissioning activities and the final disposition of the facilities after decommissioning.

Other sections previously included in the Preliminary PDP have been superseded by this Draft LSA.

- **Section 3 – Measures Addressing Potential Resource Issues.** This section identified potential resources that might be affected by decommissioning and measures to be implemented to protect them. These resources are described in Exhibit E.2; impacts to them are addressed in E.3; and measures that protect, mitigate, or enhance them are described in E.4.
- **Section 4 – Decommissioning Costs.** This section presented the preliminary estimated cost to decommission the Project facilities. Costs are addressed in Exhibit D.
- **Section 5 – Water Rights.** This section discussed PG&E water rights and the current proposal for their disposition after decommissioning. This information is updated in Exhibit E (hydrology and water resources).
- **Section 6 – Land Rights and Landownership.** This section described PG&E land rights and landownership for operation and maintenance of the Project and their disposition following decommissioning. This information is updated in Exhibit E (land use).
- **Section 7 – License Surrender Application Schedule.** This section discussed the License Surrender Application process and provides a schedule for the process. The schedule is presented in Exhibit C.





## Section 2.0 Decommissioning Proposal

---

This section presents PG&E's decommissioning proposal by Project feature. The Kilarc and Cow Creek developments are presented separately since they are independent developments located in different watersheds. The Kilarc Development, located in the Old Cow Creek watershed, is described first followed by the Cow Creek Development located in the South Cow Creek watershed. PG&E will obtain all federal, state, and local permits required to decommission the Project.

### 2.1 Desired Conditions and Potential Resource Issues

PG&E developed its PDP with two main objectives: 1) achieve specific "Desired Conditions" once decommissioning is complete, as identified in the Agreement; and 2) address potential resource issues associated with decommissioning the Project.

Attachment A to the Agreement contains a list of subjects to be addressed through the decommissioning process, for example, the disposition of canals. For each of these subjects, the Agreement lists "Desired Conditions," (Desired Conditions) for example, stable drainage of runoff, which were intended to help frame how the subjects were ultimately addressed. As noted, PG&E considered these Desired Conditions in developing its PDP for the Project features. PG&E also identified potential resource issues associated with decommissioning Project features and attempted to address those issues in its PDP. The Desired Conditions are discussed below by Project feature, and the potential resources issues are described in Exhibit E of the Draft License Surrender Application.

- **Diversion Structures.** With respect to the disposition of diversion structures, PG&E considered the following Desired Conditions: (1) safe, timely, and effective fish passage both upstream and downstream of the diversion; (2) a geomorphically stable stream channel above, below, and at the diversions; (3) retention of as much spawning gravel as possible in active channels during deconstruction activities; and (4) address safety issues for both the public and wildlife.
- **Canals and Spillways.** With respect to the disposition of canals and spillways (including waterways, tunnels, and flumes), PG&E considered the following Desired Conditions: (1) stable drainage of runoff to natural waterways, including safe, timely and effective fish passage; maintaining good water quality; and preventing contributions of sediment to drainages and streams; (2) preservation of riparian habitat during and after deconstruction wherever possible; (3) maintaining floodplain connectivity; and (4) addressing safety issues for both the public and wildlife.
- **Forebays.** With respect to the disposition of forebays, PG&E considered the following Desired Conditions: (1) maintain geomorphically stable sediment conditions; and (2) conduct appropriate fish and wildlife rescue and/or salvage prior to deconstruction activities.



- **Penstocks.** With respect to penstocks, PG&E's considered the following Desired Condition to address safety issues for both the public and wildlife.
- **Powerhouses.** With respect to the powerhouses, PG&E's considered the following Desired Conditions are to (1) address safety issues for both the public and wildlife; (2) preserve historical and/or cultural values; and (3) preserve options for future reuse of structures.
- **Access Roads.** With respect to the roads and access routes, PG&E considered the following Desired Condition: best management practices for retiring roads where possible to minimize sediment.
- **Deconstruction Activities.** More generally with respect to general decommissioning activities, PG&E considered the following Desired Conditions (1) where practicable, prevent net loss in the health of riparian and aquatic habitat areas; (2) allow for natural revegetation; (3) schedule decommissioning activities to avoid adverse effects on fish and wildlife; (4) ensure minimal water quality impairment during deconstruction and immediately thereafter, including minimizing turbidity and deposition of settleable and suspended solids; and (5) conduct appropriate fish and wildlife rescue and/or salvage prior to deconstruction activities.

## **2.2 Kilarc Development Decommissioning Proposal**

The Old Cow Creek watershed encompasses approximately 80 square miles, including 25 square miles located upstream from the Kilarc Diversion Canal Diversion Dam. The average yearly runoff at the dam is 48,900 acre-feet; on average, approximately 55 percent of the annual run-off is diverted from the stream to the Kilarc Powerhouse.

Kilarc Development features include:

- North Canyon Creek Diversion Dam and Canal
- South Canyon Creek Diversion Dam and Canal
- Canyon Creek Siphon
- Kilarc Main Canal Diversion Dam and Kilarc Main Canal (including tunnel, elevated flumes, and spillways)
- Kilarc Forebay and Forebay Dam
- Kilarc Penstock
- Kilarc Powerhouse
- Kilarc access roads

The North Canyon Creek Canal diverts water from North Canyon Creek to South Canyon Creek. Water from South Canyon Creek is diverted to South Canyon Creek Canal, which enters Canyon



Creek Siphon and then the Kilarc Main Canal. Water from Old Cow Creek is also diverted to the Kilarc Main Canal, which flows to Kilarc Forebay. From Kilarc Forebay, water flows through the penstock to Kilarc Powerhouse; near the powerhouse, the water is returned to Old Cow Creek.

### **2.2.1 North Canyon Creek Diversion and Canal**



Photograph 2.1.1-1a North Canyon Creek – Diversion



Photograph 2.1.1-1b North Canyon Creek – Wooden Structure to Removed





Photograph 2.1.1-1c North Canyon Creek – Canal

### **Description**

Water is diverted from North Canyon Creek into the canal at the diversion dam. The dam is a timber structure, 9.9-feet in length, 1-foot in height, with a crest elevation of 3,939.5 feet above Mean Sea Level (MSL).

The canal is unlined, 3 feet in width by 1.5 feet in depth, and has a total length of 0.35 mile, with a capacity of 2.5 cubic feet per second (cfs) and an average grade of 0.0021. The canal delivers water to a point just upstream of the South Canyon Creek Diversion Dam.

### **Proposal for Decommissioning**

#### ***Diversion***

- Remove wooden stream bank supports and bottom boards.
- The small wooden structure will remain in place to minimize site disturbance caused by difficult access.



### *Canal*

- Several options are available for decommissioning the earthen canal from abandon in-place to filling the canal, by excavating one-half of the height of the canal berm and using the excavated materials as fill (the canal is constructed of native material and has no lining). If abandoned in-place the canal would be strategically breached to address storm runoff to avoid potential erosion/sediment issues. If filled, the surface will be graded to drain rainwater and snowmelt; erosion control consistent with Best Management Practices and project specific PM&E measures will be implemented.

### **2.2.2 South Canyon Creek Diversion and Canal**



Photograph 2.2.2-1a South Canyon Creek – Diversion and Canal Inlet



Photograph 2.2.2-1b South Canyon Creek – Canal Flumes



Photograph 2.2.2-1c South Canyon Creek – Canal and Spillway





Photograph 2.2.2-1d South Canyon Creek – Canal Siphon Inlet



Photograph 2.2.2-1e South Canyon Creek – Canal Siphon Release To Kilarc Main Canal



## **Description**

Water is diverted from South Canyon Creek into the canal at the diversion dam. The dam is a concrete structure, 37.8-feet in length and 3-feet in height, with a crest elevation of 3,893.6 feet above MSL.

The canal has a total length of 0.74 mile with a capacity of 7.5 cfs and an average grade of 0.0021. The conduit consists of 0.71 mile of unlined canal, 4-feet wide by 2-feet deep, and 0.03 mile of flume, 2-feet wide by 1.8-feet deep.

Water from the canal flows into the Canyon Creek Siphon. The siphon consists of a 0.17 mile 12-inch diameter pipe which then conveys the water into the Kilarc Main Canal.

## **Proposal for Decommissioning:**

### ***Diversion***

- Work includes removing diversion walls, gate, operating mechanism, and all segments.

### ***Flume***

- Work includes removing wooden and corrugated metal pipe structures.

### ***Canal***

- Several options are available for decommissioning the earthen canal from abandon in-place, to filling the canal by excavating one-half of the height of the canal berm and using the excavated materials as fill (the canal is constructed of native material and has no lining). If abandoned in-place the canal would be strategically breached to address storm runoff to avoid potential erosion/sediment issues. If filled the surface will be graded to drain rainwater and appropriate erosion controls will be implemented. For the concrete spillway and concrete gate slots will be removed and backfilled with excavated berm material.

### ***Siphon***

- Work includes removing trash bars and concrete wing walls, collapsing a rubble wall and burying it with excavated berm material.
- Work includes removing all above-grade pipe and installing a cast in place concrete block at the vertical intake. Buried portions of the siphon will be abandoned in place.





### **2.2.3 Kilarc Diversion Dam**



Photograph 2.2.3-1a Kilarc Diversion Dam (View from Upstream Side of Gate)



Photograph 2.2.3-1b Kilarc Main Canal Intake (View from Downstream Side of Gate)



Photograph 2.2.3-1c Kilarc Main Canal – Diversion Dam

### **Description**

Water is diverted from Old Cow Creek into the canal at the dam. The dam is a concrete structure, 83-feet in length, 8-feet in height, with a crest elevation of 3,814-feet MSL.

### **Proposal for Disposition**

- Work includes removing the structures, guide walls, the diversion gate and frame, the gate operator, and the removal of debris from the site.
- A temporary cofferdam or diversion may be required.
- The diversion dam appears to be constructed on a natural barrier. The concrete portion that was added to construct the diversion will be removed.





#### **2.2.4 Kilarc Main Canal**



Photograph 2.2.4-1a Kilarc Main Canal – Concrete Section





Photograph 2.2.4-1b Kilarc Main Canal – Shotcrete-Lined Section



Photograph 2.2.4-1c Kilarc Main Canal – Wooden Flume





Photograph 2.2.4-1d Kilarc Main Canal – Steel Flume



Photograph 2.2.4-1e Kilarc Main Canal – Tunnel





Photograph 2.2.4-1f Kilarc Main Canal – Earthen Section

### **Description**

The Kilarc Main Canal has a total length of 3.65 miles with a capacity of 52 cfs and an average grade of 0.0021. The conveyance system consists of 2.03 miles of canal, 1.44 miles of metal and wood flume, and 0.18 mile of a 6 foot by 7 foot wood-lined tunnel.

### **Proposal for Disposition**

- For the earthen canal sections several options are available for decommissioning from abandon in-place to filling the canal. A canal would be filled by excavating one-half of the height of the canal berm and using the excavated materials as fill (the canal is constructed of native material and has no lining). If abandoned in-place the canal would be strategically breached to address storm runoff to avoid potential erosion/sediment issues. If filled the surface will be graded to drain rainwater and appropriate erosion controls will be implemented.
- For the concrete and shotcrete-lined canal sections, several options are available for decommissioning depending on accessibility to the canal section. If the canal is easily accessible for heavy equipment, the concrete walls and bottom will be broken up and pushed into canal bottom. If there is little to no accessibility for heavy equipment to the



canal section, the canal will be abandoned in place. Abandoned in place sections will be strategically breached to address storm run off and avoid potential erosion/sediment issues. Concrete sections with the downhill wall exposed may be hand cut, broken along the bottom edge, and pushed into the canal bottom. If excess native material is readily available, the canal will be filled with excavated berm material and graded, and erosion control measures implemented. Final disposition of sections not accessible by construction equipment will be determined on a case by case basis and the practicality of hand removal options will be considered.

- The flumes would be removed to their foundations, anchor bolts would be saw cut or ground flush and foundation piers would be left in place.
- Work includes removing mechanical equipment, a shed, concrete sections, grading, and installing rip-rap, if required.
- Broken concrete will be used for rip-rap if required where removal of structure damages the slope.
- Work includes removing gates, frames, gate operators, support structures, catwalk, and guidewalls.
- Work includes demolishing the overflow spillway, filling and grading the spillway, and implementing appropriate erosion control measures.
- The thermal electric generator and building would be removed.



### 2.2.5 Kilarc Forebay



Photograph 2.2.5-1a Kilarc Forebay



Photograph 2.2.5-1b Kilarc Forebay – Intake





Photograph 2.2.5-1c Overflow Spillway



Photograph 2.2.5-1d Kilarc Forebay – Outlet Structure to Penstock



Photograph 2.2.5-1e Kilarc Picnic Area

### **Description**

The dam at Kilarc Forebay is earth-filled and has a maximum height of 13 feet, a maximum base width of 43 feet, and a crest length of 1,419 feet at 3,782.4 MSL. The spillway is 10.0-feet wide, 3-feet deep, and has a rated capacity of 50 cfs with 1.6 feet of freeboard. The intake structure has a 48-in slide gate, with a manual lift, protected by a trash rack, over the opening to the Kilarc Penstock.

### **Proposal for Disposition**

Work on the Kilarc Forebay Dam would include:

- Removing the intake trash rake, telemetry, and electrical equipment; demolishing and removing fencing and structures; and backfilling the culvert when the canal is backfilled.
- Filling the forebay with excavated bank material, seeding and grading for drainage, and implementing appropriate erosion control measures in accordance with PM&E measures.
- Demolishing the overflow spillway, filling, and grading the spillway (as part of reservoir fill work), and implementing appropriate erosion control measures.
- Disassembling and removing the bridge and platform, removing control equipment, and cutting the shaft off at the bottom of the reservoir.





- The picnic tables and site furnishing will be removed. The restroom buildings will be demolished and removed. The toilet vaults would be pumped, backfilled and abandoned in-place.

### **2.2.6 Kilarc Penstock - Penstock**



Photograph 2.2.6-1 Kilarc Penstock

#### **Description**

The Kilarc Penstock is a 4,801-foot-long buried pipe made of riveted steel with a diameter that varies from 48 inches to 36 inches; plate thickness varies from 0.19 inches to 0.25 inches. The maximum flow capacity is 43 cfs.

#### **Proposal for Disposition**

- Work includes plugging the upper and lower ends of the penstock with concrete and grading to cover the exposed section at the surge tower. Removal of the buried pipe would cause significant site disturbance at a significant cost.



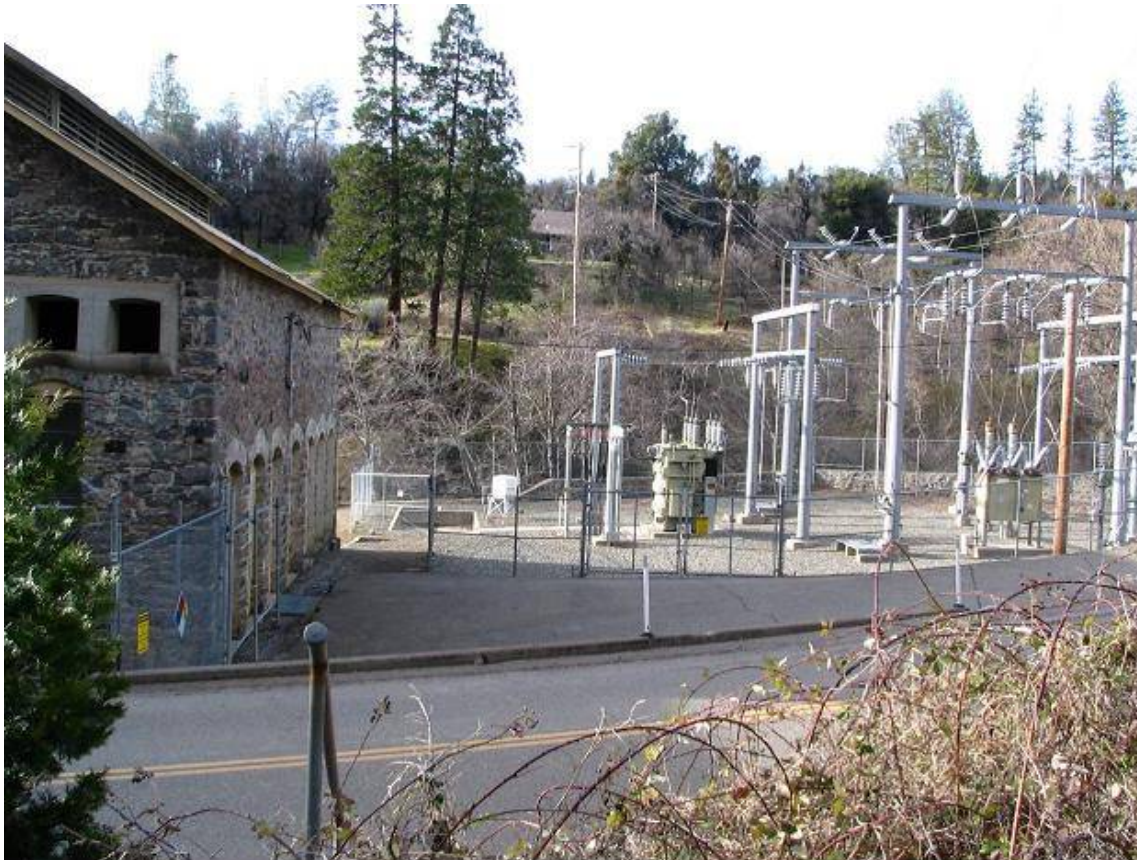
- Work also includes cutting off the surge tower and removing it; the opening will be covered with a welded steel plate.

### **2.2.7 Kilarc Powerhouse and Switchyard**



Photograph 2.2.7-1a Kilarc Powerhouse





Photograph 2.2.7-1b Kilarc Switchyard

### **Description**

The Kilarc Powerhouse is a 65-foot by 40-foot steel frame structure (plan dimensions), composed of rubble masonry walls and a corrugated iron roof. The powerhouse contains two turbines and generators and other electrical mechanical equipment.

The Kilarc Switchyard includes an oil-immersed outdoor type transformer. PG&E's interconnected transmission system passes through the powerhouse switchyard via a 7-foot long, 60 kilovolt amperes transmission line tap and will remain in-place.

### **Proposal for Disposition**

- Work includes removal of turbines and generators and all associated electrical and mechanical equipment associated with the powerhouse and abandoning the structure in place.
- Turbine pits will be filled with mass concrete or other suitable fill material and capped with concrete.
- All openings will be sealed and the tailrace backfilled to the confluence using local earth materials.



- Powerhouse structure will be secured and left in place during decommissioning; an option for future reuse of the structure will be preserved. The switchyard will be left in place as it is an integral part of the PG&E inter-connected transmission system.

## **2.3 Cow Creek Development Decommissioning Proposal**

The South Cow Creek watershed encompasses approximately 78 square miles, including 53 square miles located upstream from the South Cow Creek Diversion Dam. The average annual runoff at the dam is 79,500 acre-feet; on average, approximately 37 percent of the annual run-off is diverted to Cow Creek Powerhouse. The estimated dependable generating capacity of the Cow Creek development is approximately 400 kilowatts, and the estimated average annual energy generated is 12 million kilowatts per hour.

The Cow Creek Development features include:

- Mill Creek Diversion Dam
- Mill Creek-South Cow Creek Canal
- South Cow Creek Diversion Dam and Fish Ladder
- South Cow Creek Main Canal (including tunnel and spillways)
- Cow Creek Forebay Dam and Forebay
- Cow Creek Penstock
- Cow Creek Powerhouse
- Cow Creek Access Roads

The Mill Creek Diversion Dam located about 0.1 mile upstream of Mill Creek's natural confluence with South Cow Creek and diverts water from Mill Creek via the Mill Creek-South Cow Creek Canal to South Cow Creek. From South Cow Creek, the water is diverted to the South Cow Creek Main Canal and into Cow Creek Forebay. From Cow Creek Forebay, the water flows through a penstock to Cow Creek Powerhouse. The water is then discharged from the powerhouse to Hooten Gulch where it flows approximately 0.5 mile to South Cow Creek.



### **2.3.1 Mill Creek Diversion – Dam and Canal Intake**



Photograph 2.3.1-1 Mill Creek Diversion – Dam and Canal Intake

#### **Description**

Water is diverted from Mill Creek into the canal at the diversion dam. The dam is a concrete structure, 40.3 feet in length, 2.5 feet in height, with a crest elevation of 1,575.8 ft above MSL.

#### **Proposal for Disposition**

- Work includes the demolition and removal of materials from the site.
- Demolition may require construction of a temporary channel diversion.
- A temporary cofferdam may be required.





### **2.3.2 Mill Creek-South Cow Creek Canal**



Photograph 2.3.2-1 South Cow Creek Canal

#### **Description**

The Mill Creek-South Cow Creek Canal is an unlined 5-foot by 3.3-foot cross section and has a total length of 0.17 mile, with a capacity of 10 cfs and an average grade of 0.0021 percent.

#### **Proposal for Disposition**

- Abandoning the canal and filing with excavated dam material, where possible, is the preferred alternative of the private landowner to minimize environmental disturbance of the berm. Strategic breaching will also be implemented to prevent retention of runoff water, where necessary.





### **2.3.3 South Cow Creek Diversion Dam and Fish Ladder**



Photograph 2.3.3-1a South Cow Creek Diversion Dam



Photograph 2.3.3-1b South Cow Creek Diversion – Intake Structure and Fish Ladder



Photograph 2.3.3-1c South Cow Creek Diversion – Fish Screen Detail

### **Description**

Water is diverted from South Cow Creek into the canal at the diversion dam. The dam is a concrete capped steel bin wall and rock fill dam, 86.5-feet long, 12.3-feet wide, and 16-feet high with a crest elevation of 1,561.4 feet above MSL, built on top of independent up stream and downstream concrete cutoff walls (footers) that are embedded in the stream bed. Water diverted by the dam passes through a concrete intake structure, with a trash rack and control gate, into a transition section. In the transition section, water is split between the South Cow Creek Canal and the South Cow Creek Fish Ladder. Water going to the fish ladder passes through a control gate and down the ladder; water going to the canal passes through a fish screen and then a control gate before entering the canal.

### **Proposal for Disposition**

- 
- Dam removal will include removing the concrete top, removing fill, and removing the bin walls and interior baffles.
- A temporary cofferdam/diversion will likely be required.
- Some structures, connecting to the steep side slopes will be left in place to minimize disturbance to the slopes due to decommissioning activities and minimize potential future erosion. The preference of the private landowner is for structures near or below ground or typical grade level to be left in place..
- Work will include removing all equipment (e.g., electrical, metal, mechanical devices, gates, screens, exposed rebar, rakes, metal cables, and drainage pipes).





- Equipment access will minimize environmental damage to the surrounding vicinity.
- Above grade concrete structures, walls, baffles and exposed rebar will be removed.
- The preference of the private landowner is for broken concrete to be placed in the first reaches of the main canal and graded over with fill from within or sediment from behind the dam.
- Sediment from behind the dam may be used for backfill in canals or graded side slopes in vicinity of the dam.
- Backfilled areas will be capped with an impermeable layer if appropriate.

### **2.3.4 South Cow Creek Canal and Tunnel**



Photograph 2.3.4-1a South Cow Creek Canal



Photograph 2.3.4-1b South Cow Creek Tunnel



Photograph 2.3.4-1c South Cow Creek Canal-Earthen Section





Photograph 2.3.4-1d South Cow Creek-Shotcrete Section

### **Description**

The canal including the tunnel has a total length of 2.06 miles with a capacity of 50 cfs and an average grade of 0.0015. The canal section consists of 2.02 miles of 13-foot by 4.8-foot deep canal. Approximately the first 0.12 mile of the canal are lined with shotcrete and approximately 1.9 miles are unlined. The tunnel is about 200 feet long and is 6-feet by 6.8 feet. Main access to the canal is from the diversion structure area at the upstream end, a secondary access point is approximately two-thirds of the way down the canal at the “Cat Bridge.” There is limited elevation and watershed drainage above the canal with a significant percentage of that seasonal run-off crossing the canal on a single flume.

### **Proposal for Disposition**

- Abandoning the canal in place, with strategic breaching, is the preferred alternative of the private landowners. Strategic breaching will address storm runoff to avoid potential erosion/sediment issues.
- The cross canal drainage flume is a metal structure that can be easily removed. With the minimal amount of run-off from uphill sources and the difficulty of maintaining the structure after abandonment the recommendation is to remove the flume. Removal can be done primarily through unbolting or cutting metal connections.
- The Cat Bridge is a substantial structure tied into the walls of the canal. With the landowner preference for abandoning the canal in place the bridge should also be abandoned to allow access across the dry canal.
- Tunnel work includes plugging the upstream and downstream ends of the tunnel with concrete and abandoning the tunnel in place.



- Spillways (2 or 3) will be modified such that spill height elevation is that of canal bottom.

### **2.3.5 Cow Creek Forebay**



Photograph 2.3.5-1a Cow Creek Forebay and Outlet Structure



Photograph 2.3.5-1b Cow Creek Forebay – Intake



Photograph 2.3.5-1c Cow Creek Forebay – Spill Channel





Photograph 2.3.5-1d Cow Creek Forebay – Spill Outlet

### **Description**

Cow Creek Forebay has a gross and useable storage capacity of 5.4 acre-feet at an elevation of 1,537.2 feet above MSL, and a surface area of 1.0 acre.

The dam is earth-filled berm which has a maximum height of 16 feet, a maximum base of 54 feet, and a crest length of 653 feet at an elevation of 1,538.9 feet above MSL. The spillway is 49.7-feet wide, 1.7-feet deep, and has a rated capacity of 50 cfs with 1.2 feet of freeboard. The intake structure has a 42-in slide gate, hydraulically operated and protected by a trash rack.

The outlet structure has a 42-in slide gate, hydraulically operated and protected by a trash rack.

The intake consists of a concrete structure supporting a control gate and automated trash rake. The spillway is a side discharge overflow section of shotcrete reinforcement leading to a natural waterway with the upper portion also armored with shotcrete.

### **2.3.6 Cow Creek Forebay**

#### **Proposal for Disposition**

- Forebay will be dewatered and all removal work will occur in the dry.
- Work will involve removing the forebay by backfilling with the adjacent berm material, grading, and reseeded.





- Removal of the outlet structure will consist of removing structural steel elements, cutting off corrugated metal pipe flush with the bottom, breaking up concrete, and backfilling.
- Broken concrete will be placed in the forebay and covered with earth.
- Work includes removing the mechanical trash rake and the demolition and removal of concrete walls.
- Below-grade structures will be left in place and graded over.
- The spillway will be abandoned in place to minimize disturbance to the slope that would be caused removal.

### **2.3.7 Cow Creek Penstock**



Photograph 2.3.6-1 Cow Creek – Penstock

#### **Description**

The Cow Creek Penstock is a buried pipe 4,487 feet long. Beginning at the upstream end, the first 15 feet of the penstock consists of 0.19-inch thick steel pipe, with a diameter that tapers



from 42 inches to 36 inches. The next 766 feet consists of 36-inch diameter, 0.5-inch welded steel pipe. The final 3,706 feet is made of riveted steel with a 30-inch diameter and plate thickness that varies from 3/16 to 7/16 inch and includes a short, tapered section.

### **Proposal for Disposition**

- Upstream and downstream ends of the penstock will be plugged with an engineered concrete block.
- The remaining penstock is mostly buried and will be abandoned in place.
- Removing the buried penstock would cause significant site environmental disturbance and incur significant expense.

### **2.3.8 Cow Creek – Powerhouse and Switchyard**



Photograph 2.3.7-1a Cow Creek – Switchyard and Powerhouse



Photograph 2.3.7-1b Cow Creek Powerhouse

### **Description**

The Cow Creek Powerhouse is an approximately 53.5 feet by 35 feet steel truss structure (plan dimensions), and composed of cut-stone walls and a corrugated metal roof. The powerhouse contains two and generators, and other electric and mechanical equipment.

The switchyard includes a 3-phase, oil-immersed, self-cooled, outdoor unit. PG&E's interconnected transmission system passes through the powerhouse switchyard via a 70-foot long, 60-kilovolt amperes transmission tap line and will remain in place.

### **Proposal for Disposition**

- Powerhouse work includes removing turbines and generators, and all associated electrical and mechanical equipment and abandoning the structure in place.
- Existing concrete will be left in place.
- Turbine pits will be filled with mass concrete or other suitable fill and capped with concrete.
- The Powerhouse structure will be secured and left in place during decommissioning; an option for future reuse of the structure will be preserved.
- Switchyard work includes removing equipment and structures.



- Decommissioning will end water delivery to the Wild Oak Hydro Powerhouse and the Abbott Diversion for irrigation PG&E will work with the affected parties to address these issues.

## **2.4 Access Roads for Project Decommissioning**

### **Description**

Project decommissioning may require improvement of existing roads and/or new access for equipment required for decommissioning the Project facilities, but environmental impacts from these activities will be reduced or avoided to the extent possible. Existing road improvements will be limited to the existing road bed and will consist primarily of surface smoothing and pothole filling with a motor grader. Equipment selected for the decommissioning is relatively small due to the small size of the Project features and therefore it has low impact on existing roads. Construction equipment will be offloaded from haulers at locations served by major project roads and travel under its own power to the work sites to minimize road improvements. In some areas on the Kilarc drainage new, temporary road segments are proposed to allow access to canal segments that are otherwise cut off from equipment by elevated flume structures. Proposed new access roads total approximately ½ mile, serving eight canal locations, accounting for less than 9 percent of the access road total. Some of these proposed new access roads will cross private property, and PG&E will discuss proposed access with the private property owners.

**Kilarc Access Roads** – The Kilarc Development is accessed from Fern Road East via Whitmore Road. A junction connecting to Whitmore Road lies approximately 30 miles east of Redding along State Route (SR) 44. PG&E uses Miller Mountain Road, an unpaved road off Fern Road East, to access the Kilarc Forebay. Miller Mountain Road also connects with several unpaved roads that provide access to the Kilarc Main Canal Diversion Dam and Kilarc Main Canal. Access to the North and South Canyon portion of the Kilarc Development from Fern Road is via Oak Run Fern Road to Smith Road.

Project decommissioning may require improvement of existing roads and/or new access for equipment required for decommissioning the Project facilities, but environmental impacts from these activities will be reduced or avoided to the extent possible. Existing road improvements will be limited to the existing road bed and will consist primarily of surface smoothing and pothole filling with a motor grader. Equipment selected for the decommissioning is relatively small due to the small size of the Project features and therefore it has low impact on existing roads. Construction equipment will be offloaded from haulers at locations served by major project roads and travel under its own power to the work sites to minimize road improvements. In some areas on the Kilarc drainage new, temporary road segments are proposed to allow access to canal segments that are otherwise cut off from equipment by elevated flume structures. Proposed new access roads total approximately ½ mile, serving eight canal locations, accounting for less than 9 percent of the access road total.





Kilarc has several main Project features, with numerous sub-features, that are addressed in the PDP. Access to the Kilarc Development is via the paved Whitmore road from the town of Whitmore, which transitions into the improved partially graveled Miller Mountain Road as far as the Kilarc Forebay intake structure. Miller Mountain Road continues on, transitioning into a Project road for the length of the Kilarc Main Canal system (see Figure 2-1).

- Kilarc Powerhouse. The powerhouse is accessible on paved road from Whitmore via Whitmore and Fern Roads. No improvements are proposed for these roads.
- Kilarc Forebay. The Kilarc Forebay is accessed from Miller Mountain Road up to the Kilarc Forebay intake structure, K-5. From K-5 to the Kilarc Forebay, access is along the existing recreation area roads and parking lot. No work is proposed for access all the way to the start of the Kilarc Forebay. Access from the Kilarc Forebay to over flow and spillway features requires improvement to road sections K-1 to K-2, K-2 to K-3, K-3 to K-4 and K-4 to K-5 forming a loop from the Kilarc Forebay to the overflow spillway and back to the intake structure, a total of less than 0.25 mile requiring minor improvements.
- Kilarc Penstock. The Kilarc Penstock is accessible at the lower end from the powerhouse and the upper end from the Kilarc Forebay. It is approximately 4,000 feet long and drops approximately 1,100 feet. The Kilarc Penstock is buried and not recommended for removal, no access road is proposed for this feature.
- Kilarc Main Canal. The Project road that continues from Miller Mountain Road, from K-5 to the Kilarc Main Canal Diversion Dam at K-7, is approximately 3.2 miles long and is in generally good condition, requiring only minor improvement with a motor grader. This road segment provides access to the two ends of the canal. Intermediate access is provided by road segments K-36 to K-38, K-25 to K-40, K-13 to K-14 and K-8 to K-9. With the exception of K-25 to K-40, these segments require minor to moderate improvement to provide construction access. K-25 to K-40 is a very steep segment with a tight bend in the middle that would be difficult to improve for good access. An existing road on private property, K-6 to K-26, provides access to the same canal point on a much flatter route of about 1 mile in length and requiring only moderate improvement. The canal is broken up along its length by a number of flumes that are designated for removal. Because of the terrain gaps bridged by the flumes, the canal is not traversable along its length by accessing one end or another. Even with the intermediate roads described above, there are canal segments that can not be accessed without new road segments. These proposed new road segments are typically very short and begin at an existing road near the canal. Proposed new access roads total approximately ½ mile, serving eight canal locations, accounting for less than 9 percent of the access road total. Without these new segments there are a number of canal segments that would have to be either abandoned in place or hand cut. The range of alternatives for the Kilarc Main Canal based on accessibility is described in Section 2.2.4.
- Kilarc Main Canal Diversion. Access is via the main Project road K-5 to K-7.



- North and South Canyon Creeks. Access was not possible due to impassable roads at the time of the assessment. However, previous visits to the Project showed that an existing road network will reach the Canyon Creek area. Removal of features would mostly likely be along the canal itself.

**Cow Creek Access Roads** – The Cow Creek Development is accessed from the southwest on SR 44 via South Cow Creek Road. South Cow Creek Road connects with SR 44 approximately 35 miles east of Redding. South Cow Creek Road is gated at the pavement terminus, and the unpaved road continues to the Cow Creek Powerhouse. The unpaved road also leads from the Cow Creek Powerhouse to the Cow Creek Forebay and South Cow Creek Diversion Dam via unpaved spur roads. The South Cow Creek Diversion Dam and Cow Creek Forebay can also be reached from the northeast through gates off of South Cow Creek Road. South Cow Creek Road intersects Whitmore Road approximately two miles east of Whitmore. Since South Cow Creek Road is gated on the southwest and northeast of the Project, the Cow Creek Development is inaccessible to the public.

Cow Creek Development has six main Project features that are addressed in the PDP. Access for each feature is discussed in detail below. In general, the Project can be accessed from the southwest side at the Cow Creek powerhouse or from the northeast side at the South Cow Creek Diversion Dam. An existing network of in- or out-of-Project FERC boundary roads interconnects all six features (see Figure 2-2).

- Cow Creek Powerhouse. Access to the Cow Creek Powerhouse is via public road, Highway 44 and South Cow Creek Road, until entering a gate at the Wild Oak Ranch approximately 0.25 mile from the Cow Creek Powerhouse. The road all the way into the powerhouse fence is in very good condition and would not require any improvements for access.
- Cow Creek Penstock. The lower end of the Cow Creek penstock is accessible from the Cow Creek Powerhouse on the powerhouse access roads. The upper end is accessible from the Cow Creek Forebay on access roads described in the Cow Creek Forebay section. However, the penstock has no access along its length and has not been recommended for removal. The penstock runs approximately 4,200 feet and climbs approximately 720 feet between the Cow Creek Powerhouse and Cow Creek Forebay, resulting in an average grade too steep for practical installation of a new access road.
- Cow Creek Forebay. The Cow Creek Forebay is accessed along the main Project road connecting the South Cow Creek Diversion Dam to the Cow Creek Forebay, designated as C-4 to C-17. This road segment is approximately 2 miles long and needs only minor improvement to be suitable for construction access. There are two options for reaching road segment C-4 to C-17, one from the powerhouse on out-of-boundary road segment C-1 to C1-8 and the other from the north side on out-of-boundary road segment C-9 to C-3. Segment C-1 to C-18 is approximately 2.25 miles long and climbs over 800 feet. While the average grade is 6.5 percent, there are segments that are much steeper and areas that have drainage across the road. Given the length of the road and required improvements, this road is not recommended for use or improvement. Road segment



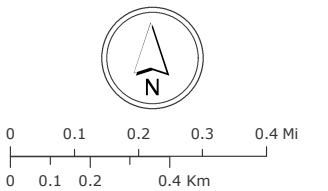
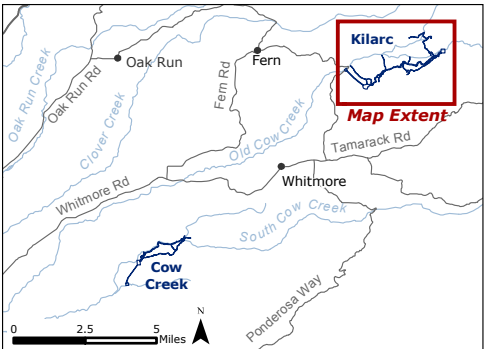
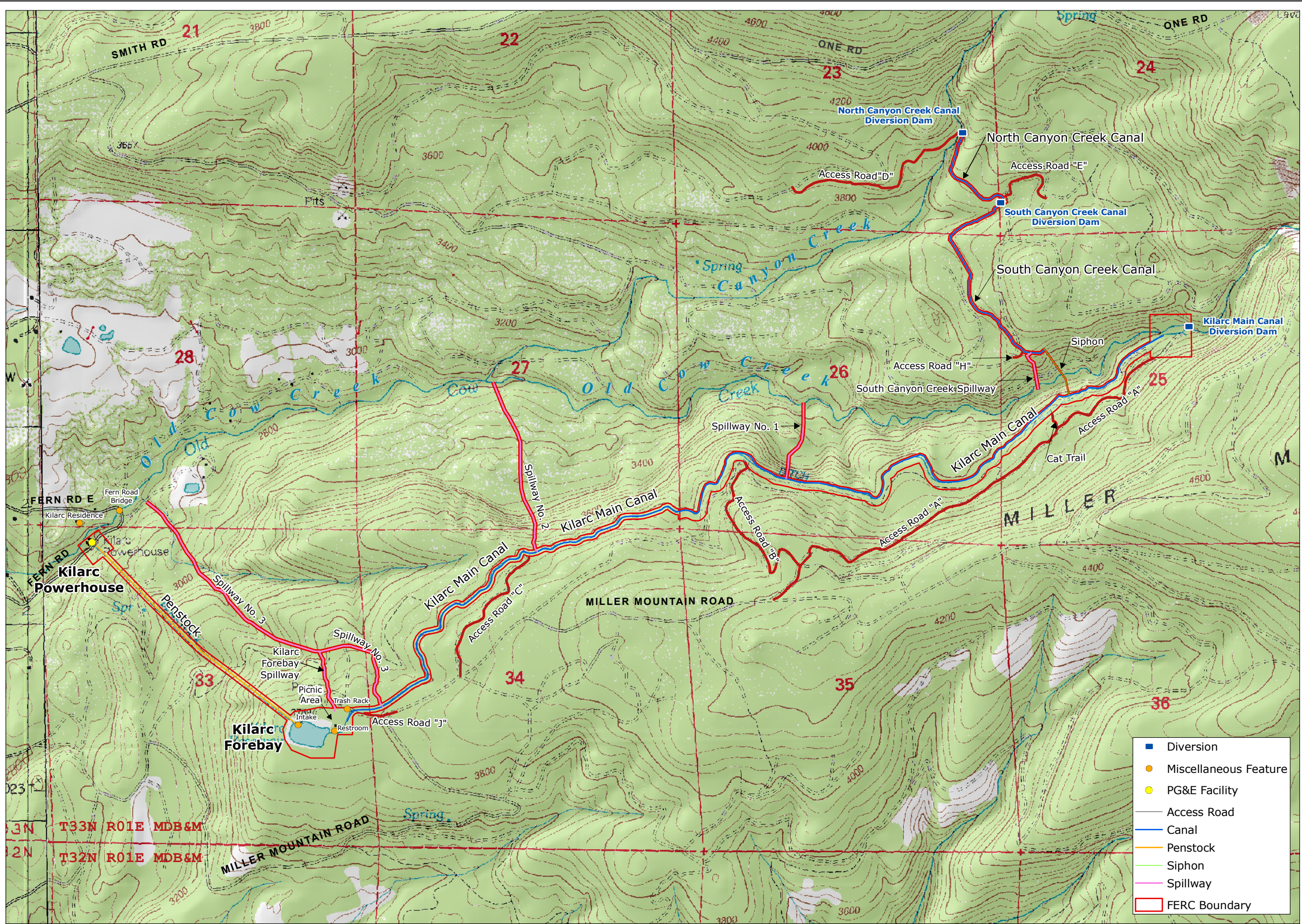
C-9 to C-3 is approximately 1 mile long and is in need of minor improvements. This road segment crosses South Cow Creek at a paved wet ford and climbs less than 100 feet to the main Project road, C-4 to C-17.

- South Cow Creek Main Canal. The canal can be accessed at four main points along its length; the South Cow Creek Diversion Dam, the Cross-over Flume, the Cat bridge, and the Cow Creek Forebay. Access to the Cow Creek Forebay and diversion dam end of the canal is via Project road C-4 to C-17. The access to the Cat bridge is off of the C-4 to C-17 road on C-13 to C-14, an approximately 0.25-mile-long road in need of minor to moderate improvement, and flume access is off of C-4 to C-17 on C-10 to C-11, a 0.25-mile rough road. C-10 to C-11 only accesses the cross-over flume from the uphill side, since the road would require moderate to major improvement and the flume can be accessed from the canal side, the recommendation is not to use this road.
- South Cow Creek Diversion Dam and associated structures. The diversion dam can be accessed from the north side via road segments C-9 to C-7, a 0.25-mile-long segment in the Project boundary and needing moderate improvement, and C-7 to C-6, a 0.125-mile-long segment in the boundary and needing moderate to major improvement. The south side of the diversion dam and all the appurtenant structures can be accessed from the main Project road, C-4 to C-17. However, the lower end of the road near the diversion and point C-4 is overly steep for over-the-road transport vehicle access and there is limited room to maneuver at the bottom. Therefore, construction equipment would be off-loaded near point C-3 and driven to the construction site.
- Mill Creek Diversion and Mill Creek-South Cow Creek Canal. Mill Creek diversion can be accessed from road segment C-9 to C-7 and a short, rough segment of logging access between points C-7 and C-8. This segment is approximately 373 feet long and would require moderate to major improvement. The Mill Creek-South Cow Creek Canal would be worked from the canal and does not require an access road.

### **Proposal for Disposition**

- For the disposition of existing Project roads, leave in place per landowner request; scarify and seed the surfaces of any roads to be rehabilitated; erect barriers/obstacles as requested to limit future access.
- If any new access roads are needed for decommissioning for Project Facilities, follow protocols discussed in PM&E measures to reduce/avoid impacts to environmental and cultural resources
- For the disposition of any new access roads that are created for decommissioning, leave in place per landowner request; scarify and seed the surfaces of any roads to be rehabilitated; erect barriers/obstacles as requested to limit future access.



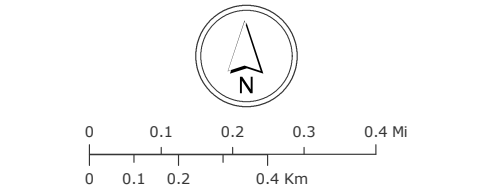
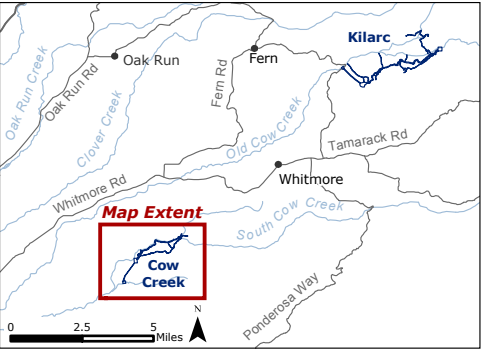
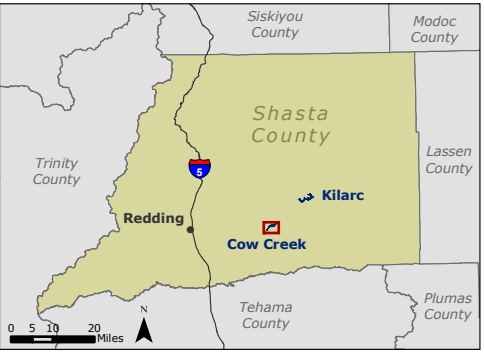


Pacific Gas & Electric Company  
KILARC-COW CREEK HYDROELECTRIC PROJECT

**Figure 1-1**  
**Features of the**  
**Kilarc Development**



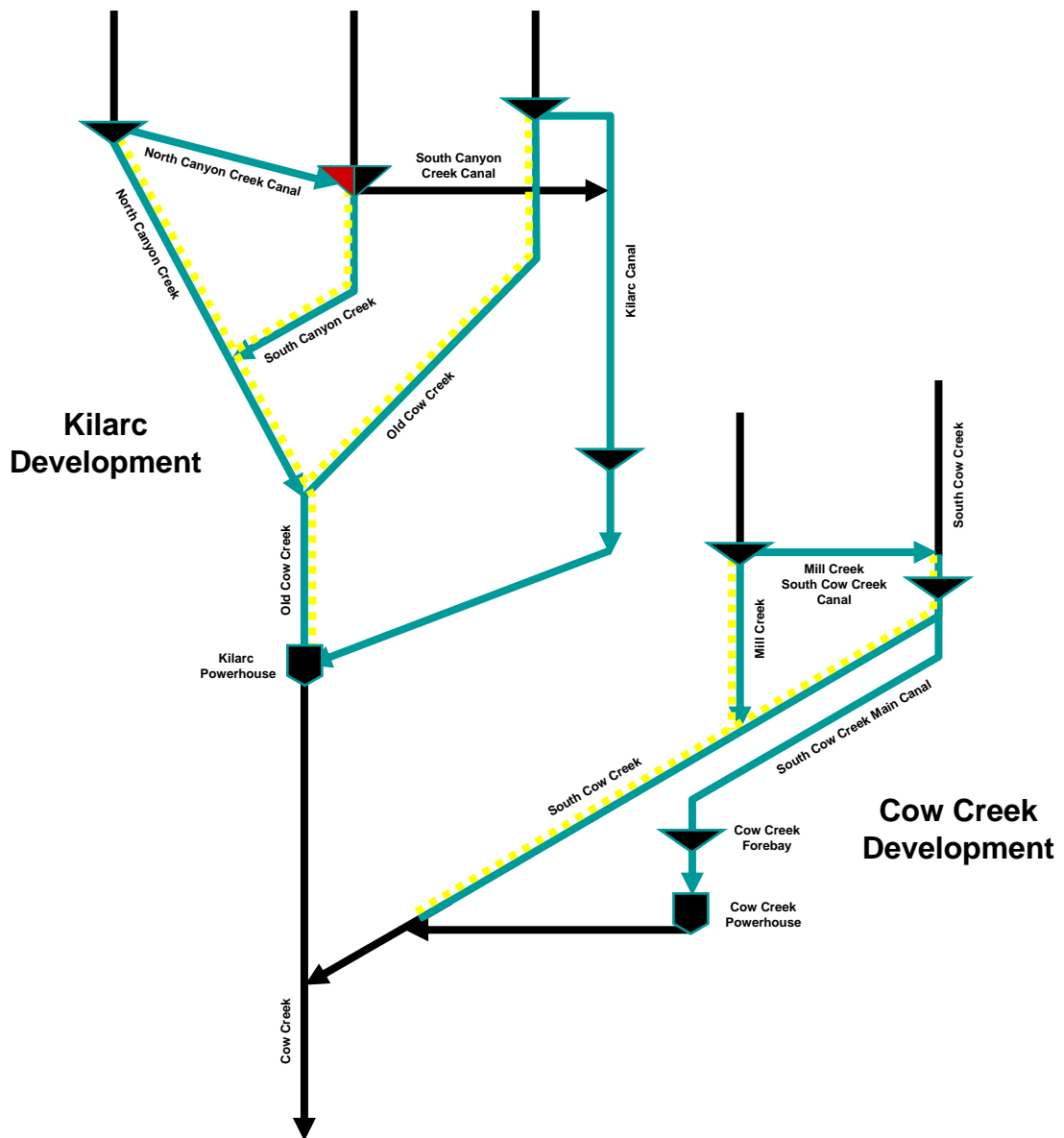









Pacific Gas & Electric Company  
KILARC-COW CREEK HYDROELECTRIC PROJECT

**Figure 1-2**  
**Features of the**  
**Cow Creek Development**





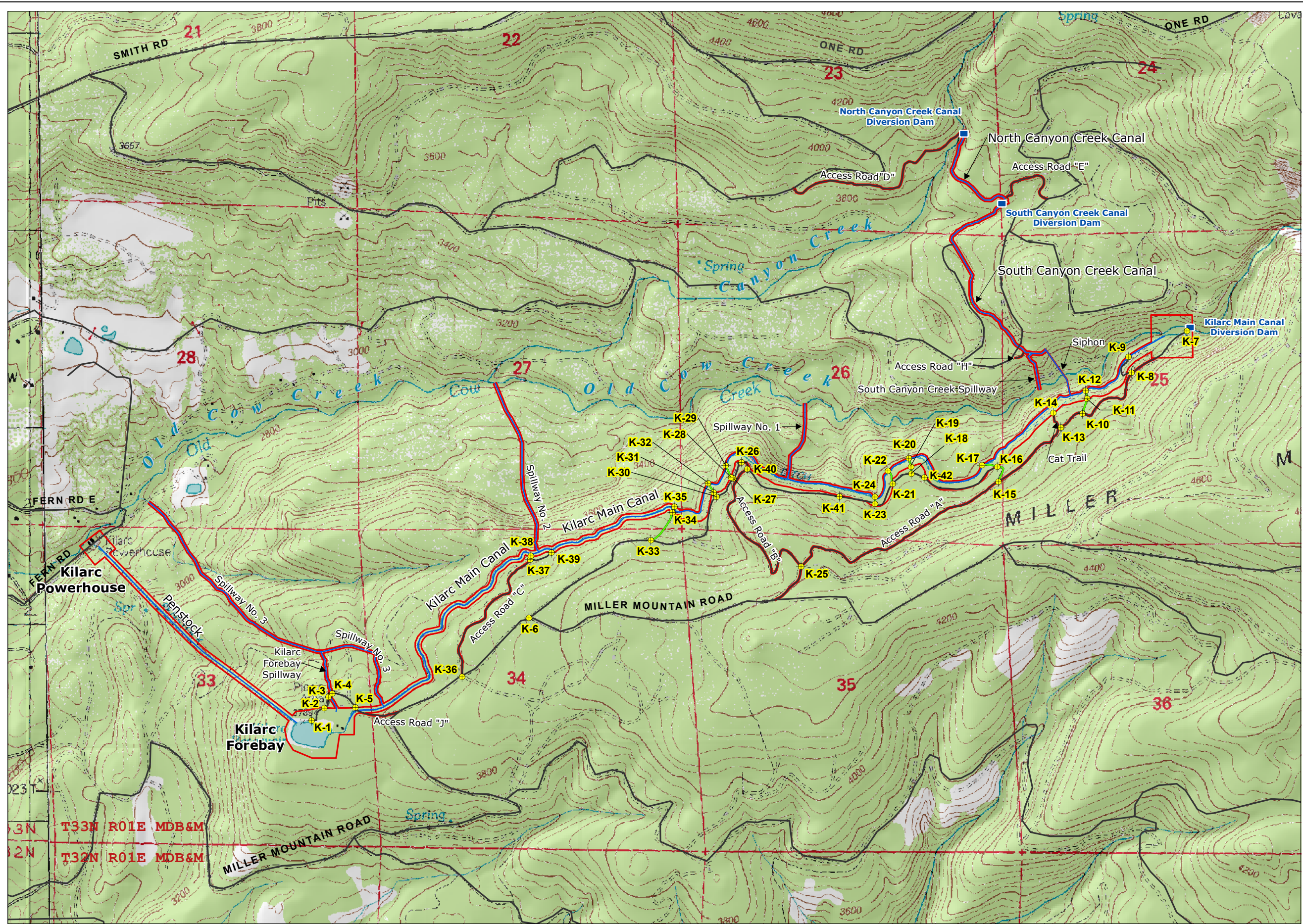
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-  PG&E Diversion
-  Streams and Water Conveyances
-  Project Area
-  Bypass Stream Reaches

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KILARC-COW CREEK HYDROELECTRIC PROJECT

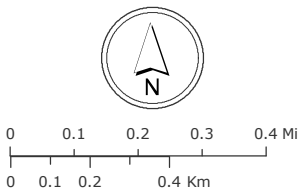
**Figure 1-3**  
**Schematic of Creeks, Canals, and Diversions**







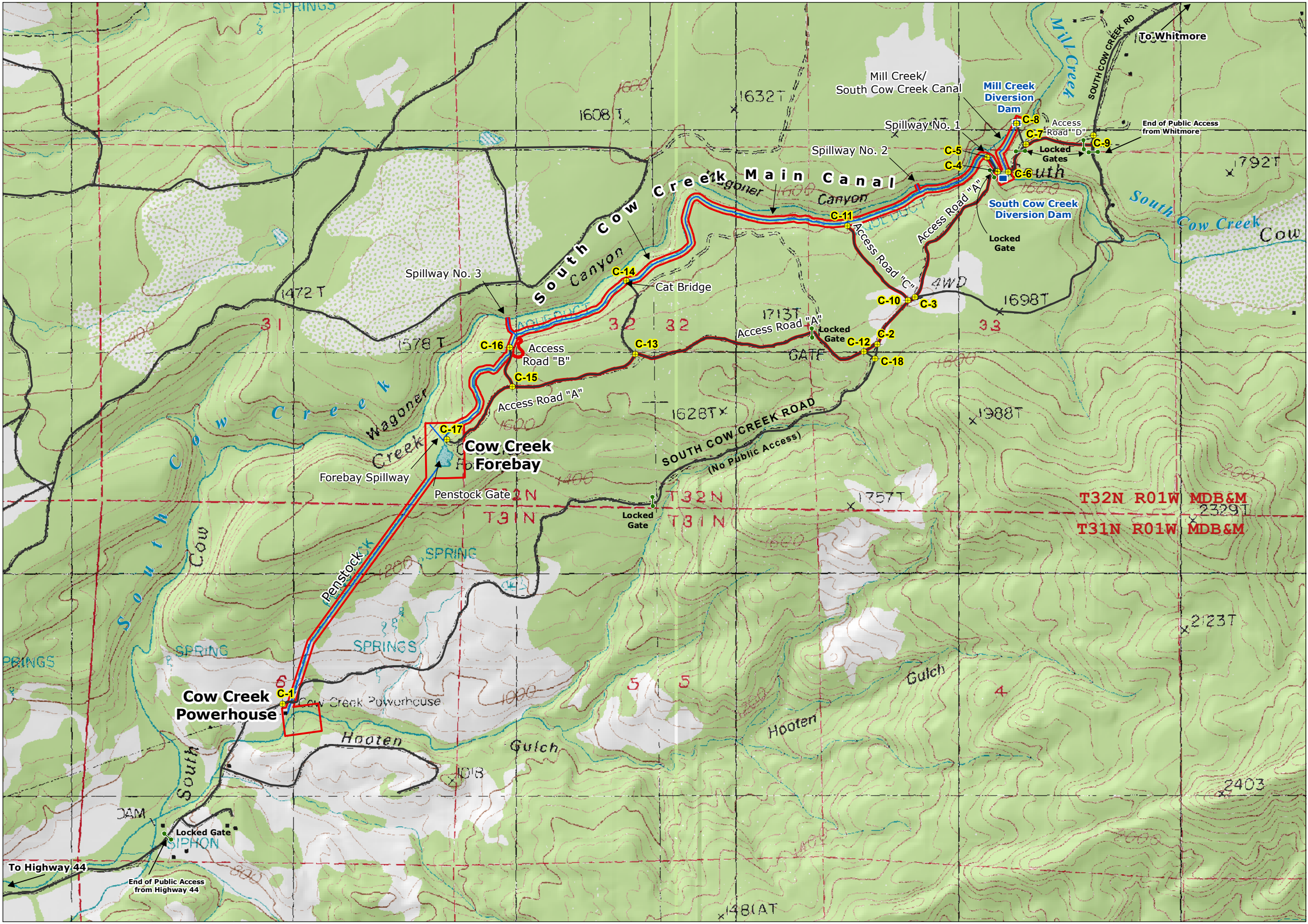
- ⬮ Road Segment Endpoint
- Diversion
- Existing Road
- Potential Road
- Watercourse
- ▭ FERC Boundary



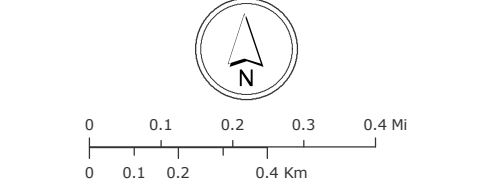
Pacific Gas & Electric Company  
KILARC-COW CREEK HYDROELECTRIC PROJECT

**Figure 2-1**  
**Kilarc Development**  
**Access Roads**





- Road Segment Endpoint
- Gate
- Diversion
- Existing Road
- Watercourse
- FERC Boundary



Pacific Gas & Electric Company  
KILARC-COW CREEK HYDROELECTRIC PROJECT

**Figure 2-2**  
**Cow Creek Development**  
**Access Roads**



**Attachment A**  
**Project Agreement**





FILED  
OFFICE OF THE  
SECRETARY

Pacific Gas and Electric Company

**MAILING ADDRESS**

P.O. Box 7442  
San Francisco, CA 94120

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Law Department  
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415/973-7145  
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Annette Faraglia  
Attorney at Law

**ORIGINAL**

2005 MAR 31 P 3:27

FEDERAL ENERGY  
REGULATORY COMMISSION



March 30, 2005

Magalie R. Salas, Secretary  
FEDERAL ENERGY REGULATORY COMMISSION  
888 1<sup>st</sup> Street, NE, Docket Room 1A-East  
Washington D.C. 20426-0002

**Re: Kilarc-Cow Creek, FERC Project No. 606**

Dear Ms. Salas:

Enclosed please find an original and eight (8) copies of the executed Kilarc-Cow Creek Project Agreement ("Agreement") by and between Pacific Gas and Electric Company ("PG&E"), U.S. Fish and Wildlife Service, California Department of Fish and Game, National Park Service, California State Water Resources Control Board, NOAA Fisheries, Trout Unlimited, and Friends of the River in regard to the above referenced Kilarc-Cow Creek Project ("Project"). Under the Agreement, PG&E will not seek a new FERC license for the Project but will continue operating it until the current license expires on March 27, 2007 and on annual licenses thereafter until the Project is: (1) acquired by another license applicant; or (2) decommissioned by FERC order.

PG&E extensively analyzed anticipated new license conditions and determined that such conditions would make the Project an uneconomic source of power. This determination led to the development and execution of the Agreement. In the event FERC orders the Project to be decommissioned, the Agreement identifies what the signatory parties believe are the subjects that would need to be addressed and the desired condition of each of these subjects after decommissioning. PG&E used this indication of decommissioning scope along with other considerations in reaching its decision to enter into the Agreement and not file an application for new license. Specific actions necessary to achieve the desired conditions would be determined in the future. The Agreement also addresses the transferring of water rights, upon decommissioning, to a resource agency or other entity to support spring run Chinook salmon and steelhead trout.

On August 17, 2004 FERC representatives participated in a meeting, via conference call, with the signatory parties to discuss the possibility of PG&E not filing a relicensing application. Prior to and after that call, Steve Nevares, PG&E's Project Manager for the



Magalie R. Salas, Secretary  
FEDERAL ENERGY REGULATORY COMMISSION  
March 30, 2005  
Page Two

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Kilarc-Cow Creek Relicensing Project, has been in contact with FERC staff regarding developments. Most recently, on January 19, 2005, Mr. Nevares updated FERC's Tim Welch, Emily Carter, and Alan Mitchnick on the status of the Agreement.

If you have any questions regarding the attached Agreement, you may contact Steve Nevares at (415) 973-3174, e-mail SAN3@pge.com, or myself at (415) 973-7145, e-mail ARF3@pge.com.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Annette Faraglia'.

Annette Faraglia

**Attachment**

cc: Ms. Emily Carter  
Mr. Robert Fletcher  
Mr. Hossein Ildari  
Mr. Alan Mitchnick  
Mr. Timothy Welch

Mr. Wayne White, Field Supervisor, U.S. Fish & Wildlife Service  
Mr. Donald B. Koch, Regional Manager, California Department of Fish & Game  
Mr. Jonathan B. Jarvis, Regional Director, National Park Service, Pacific West Region  
Ms. Victoria A. Whitney, Chief Div. of Water Rights, CA State Water Resources Control Bd.  
Mr. Rodney McInnis, Regional Administrator, NOAA Fisheries  
Mr. Steven Evans, Conservation Director, Friends of The River  
Charles Bonham, Esq., California Counsel, Trout Unlimited

Service List for Kilarc Cow-Creek Project, FERC Project No. 606



## **Kilarc-Cow Creek Project Agreement**

This Agreement regarding the Kilarc-Cow Creek Project ("Agreement") is signed as of March 22, 2005 ("Effective Date") by and among Pacific Gas & Electric Company, a California corporation (the "Company"), U.S. Fish and Wildlife Service, California Department of Fish and Game, National Parks Service, California State Water Resources Control Board, Nation Marine Fisheries Service, Friends of the River, and Trout Unlimited. The signatories to this Agreement are referred to individually as a "Party" or collectively as the "Parties".

### **PROJECT BACKGROUND**

A. The Kilarc-Cow Creek Project is licensed by the Federal Energy Regulatory Commission ("FERC") as FERC Project No. 606 (the "Project"). The Project is located in Shasta County, California along Old Cow Creek and South Cow Creek. The Project consists of Kilarc Powerhouse and Cow Creek Powerhouse along with related canals, penstocks, forebays and other structures.

B. The current FERC license for the Project expires on March 27, 2007. For the last two years the Company has been following the process prescribed in the Federal Power Act to obtain a new license. The Company's application for a new license is due to FERC by March 27, 2005. The Parties to this Agreement have been participants in the Company's relicensing process for the Project.

C. Due to the complex and competing resource issues associated with the Project, in early 2004 the Company decided to explore decommissioning as an alternative to relicensing the Project. The Company requested that the Parties participate in evaluating actions that would be necessary should the Project be decommissioned. This led to the Parties identifying a list of subjects and desired conditions to be addressed should the Project be decommissioned. The subjects and desired conditions are listed in Attachment A, which is incorporated herein by reference.

D. The Company's evaluation of the cost of decommissioning the Project based on the subjects and desired conditions in Attachment A versus operating the Project under a new license with the anticipated conditions, show that under a new license the Project would be a high cost source of energy and would not be competitive with other generation sources. This evaluation was only possible once the relicensing work had proceeded to the point where potential conditions of a new license could be identified by the Parties.

E. Based on the Parties' consensus regarding the subjects and desired conditions in Attachment A, the Company is willing to stop work on relicensing the Project and not file a new license application. The Company is also willing to support decommissioning the Project based on its determination that decommissioning is a viable and cost-effective alternative to relicensing.

F. By not filing an application for new license by the statutory deadline of March 27, 2005, the Company will lose its incumbent licensee status and forgo its opportunity to relicense the Project. Under 18 C.F.R. §16.18, FERC is authorized to issue annual licenses to the Company pending determination of the future status of the Project. The United States may seek to take over the Project, or other entities may apply for the Project license within a time period set by FERC under 18 C.F.R. §16.25. Other entities may also apply for the Project license prior to March 27, 2005. If no timely applications are received, FERC will order the Company to prepare and file a license surrender application in compliance with FERC's rules that provides for the disposition of Project facilities.

## AGREEMENT

### 1. RELICENSING

1.1 The Company agrees not to file an application for new license for the Project. The other Parties support this action.

1.2 Entities other than the Company may seek to acquire a new license for the Project following the FERC prescribed process. The Parties accept that if an entity other than the Company indicates an interest in licensing the Project, the Company will need to provide such entities with Project information as required, including the results of relicensing studies performed to date. Additionally, the Parties accept that in such circumstances the Company will not hinder the efforts of such entities to obtain a license for the Project.

1.3 The Company will continue to operate the Project under the terms and conditions of the existing license until it expires on March 27, 2007, and then on annual licenses issued by FERC under 18 C.F.R. §16.18 until the Project is transferred to another licensee, or is decommissioned. The Company recognizes that during the period of annual license, if any, the Parties may work together, or individually, or with FERC to establish mutually acceptable environmental measures that improve water quality and/or conditions for state and federally protected species. The Parties recognize that FERC may incorporate additional or revised interim conditions in annual licenses if necessary and practical to limit adverse impacts on the environment under 18 C.F.R. §16.18(d). Any Company application for license surrender filed pursuant to 18 C.F.R. §16.25 shall provide for disposition of the Project facilities.

### 2. GOVERNMENTAL PARTIES RETAIN AUTHORITIES

*WAS* 2.1 Notwithstanding this Agreement, the Parties <sup>that</sup> ~~which~~ are governmental agencies retain all of their authorities and mandates related to the Project, the Project-affected resources and the Company's ongoing relicensing or surrender of license proceeding, and to any new licensing proceeding that may be initiated for this Project. Such authorities and mandates are not diminished in any way by these Parties entering into this Agreement. Entering into this Agreement is not in any manner a pre-decisional act or commitment by any of the governmental agencies as to the disposition of the Project assets or water rights.

2.2 Notwithstanding this Agreement, the Parties that are non-governmental organizations retain all of their rights related to the Project, the Project-affected resources and the Company's ongoing relicensing proceeding, and to any new licensing proceeding that may be initiated for this Project. Such rights are not diminished in any way by these Parties entering into this Agreement. Entering into this Agreement is not in any manner a pre-decisional act or commitment by any of the non-governmental organizations as to the disposition of the Project assets or water rights.

### **3. DECOMMISSIONING**

3.1 The Company commits to supporting decommissioning the Project based on decommissioning being the viable and cost effective alternative to relicensing.

3.2 If FERC authorizes or orders the Company to decommission the Project, upon a final order from FERC ending Project power operations, the Company intends to transfer its appropriative water rights held for operation of the Project ("water rights") to a resource agency or other entity that: 1) agrees to use the water rights to protect, preserve, and/or enhance aquatic resources, as authorized by applicable laws and regulations, such as Water Code section 1707; and 2) is acceptable to the Parties. Additionally, prior to transferring of its water rights, the Company will work in good faith with other non-Parties to resolve potential water rights issues with the goal of having the water rights used to preserve, protect and/or enhance aquatic resources.

3.3 In the event the Company files or is ordered by FERC to file a surrender application, which the Company agrees will include a decommissioning plan, the subjects and desired conditions in Attachment A represent the Parties' good faith effort at this time to identify the subjects that would need to be addressed and the desired condition of each of these subjects after decommissioning of the Project. It is the Parties' intent that the surrender application and decommissioning plan will define these subjects and desired conditions more fully and identify the actions to be taken by which the desired conditions will be met. If a consensus agreement cannot be reached, the dissenting Party will submit written documentation in the form of a letter to the other Parties explaining the dissenting Party's reasons for not agreeing with the other Parties. This letter will become part of the decommissioning record.

3.4 The subjects and desired conditions in Attachment A are based on limited information and subject to change by consensus of the Parties based on additional information that may become available or compliance with applicable laws and regulations. Consensus means that all Parties involved in a decision can "live with" that decision even if the decision is not exactly as each Party would desire.

3.5 Additional subjects and desired conditions may be added to this Agreement by a consensus decision-making process among the Parties.

3.6 If the Company files, or is ordered by FERC to file a surrender application and a decommissioning plan, the Parties will work collaboratively to develop the surrender schedule and decommissioning plan. The decommissioning plan will identify and refine the actions



necessary to address the subjects and desired conditions in Attachment A following decommissioning of the Project and will be consistent with legal requirements and obligations to FERC, and other applicable state and federal laws. Decisions on actions to address the subjects and desired conditions in Attachment A will be made by consensus of all Parties involved in the decommissioning plan's development.

3.7 To the extent permissible, the Parties will support the Company in the necessary regulatory processes to decommission the Project, including the Company's efforts before the CPUC to recover the costs the Company incurs to decommission the Project in accordance with Attachment A.

#### **4. NEW PARTIES**

Additional governmental agencies, groups and individuals may become Parties to this Agreement.

#### **5. COMMUNICATIONS TO THE PUBLIC**

This Agreement and the work that may be needed to assist the Company and the Parties in developing a detailed decommissioning proposal are open to members of the public.

#### **6. TERM OF AGREEMENT**

6.1 This Agreement shall remain in effect until the later of 1) March 27, 2007; 2) the date the Project license is transferred to a new licensee; or 3) completion of the decommissioning of the Project under a FERC order and the final order from FERC ending the Company's responsibilities as the licensee of the Project, unless this Agreement is terminated sooner pursuant to the terms of this Agreement.

6.2 Each Party has the option of withdrawing from this Agreement by providing written notice to the other Parties explaining the reasons for the proposed withdrawal and affording the other Parties thirty (30) calendar days to consult and seek alternatives to such withdrawal. All Parties agree they will not arbitrarily withdraw from the Agreement and will make a good faith effort to consult with the other Parties to resolve any dispute prior to withdrawal.

6.3 Withdrawal by the Company terminates this Agreement. Grounds for Company withdrawal include, but are not limited to, the CPUC's failure to authorize the Company to fully recover in rates its decommissioning costs.

6.4 This Agreement can also be terminated by unanimous agreement of the Parties.

#### **7. MISCELLANEOUS PROVISIONS**

7.1 There are no intended third-party beneficiaries of this Agreement.

7.2 This Agreement does not create any rights, interests, claims or causes of action at law or in equity for any Party against another Party, or for any non-party against any Party.

7.3 Each person signing this Agreement on behalf of a Party represents that she or he is authorized to sign the Agreement on the Party's behalf.

7.4 This Agreement does not make any Party the agent or representative of any other Party, and this Agreement does not create any partnership or venture between or among the Parties.

7.5 This Agreement may be signed in counterparts by the Parties, and the signed counterparts taken together shall constitute one complete Agreement. A facsimile signature by a Party on a counterpart of this Agreement is as valid as the original signature.

**Attachment A: Kilarc-Cow Creek Project Decommissioning Agreement Subjects and Desired Conditions**

*The Parties have signed this Agreement as of the dates listed below.*

**U. S. Fish and Wildlife Service**

**California Dept. of Fish and Game**

By: \_\_\_\_\_  
Wayne White, Field Supervisor

By: \_\_\_\_\_  
Donald B. Koch, Regional Manager

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

**National Park Service  
Pacific West Region**

**California State Water  
Resources Control Board**

By: \_\_\_\_\_  
Jonathan B. Jarvis, Regional Director

By: \_\_\_\_\_  
Victoria A. Whitney, Chief, Div. of Water Rights

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

**NOAA Fisheries**

**Friends of The River**

By: \_\_\_\_\_  
Rodney McInnis, Regional Administrator

By: \_\_\_\_\_  
Steve Evans, Conservation Director

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

7.2 This Agreement does not create any rights, interests, claims or causes of action at law or in equity for any Party against another Party, or for any non-party against any Party.

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**Attachment A: Kilarc-Cow Creek Project Decommissioning Agreement Subjects and Desired Conditions**

The Parties have signed this Agreement as of the dates listed below.

**U. S. Fish and Wildlife Service**

By: Kenneth Sanchez  
Wayne White, Field Supervisor

Dated: 3/4/05

**California Dept. of Fish and Game**

By: \_\_\_\_\_  
Donald B. Koch, Regional Manager

Dated: \_\_\_\_\_

**National Park Service  
Pacific West Region**

By: \_\_\_\_\_  
Jonathan B. Jarvis, Regional Director

Dated: \_\_\_\_\_

**California State Water  
Resources Control Board**

By: \_\_\_\_\_  
Edward Anton, Chief, Div. of Water Rights

Dated: \_\_\_\_\_

**NOAA Fisheries**

By: \_\_\_\_\_  
Rodney McInnis, Regional Administrator

Dated: \_\_\_\_\_

**Friends of The River**

By: \_\_\_\_\_  
Steve Evans, Conservation Director

Dated: \_\_\_\_\_



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**U. S. Fish and Wildlife Service**

By: \_\_\_\_\_  
Wayne White, Field Supervisor

Dated: \_\_\_\_\_

**California Dept. of Fish and Game**

By: Donald Koch  
Donald B. Koch, Regional Manager

Dated: March 1, 2005

**National Park Service  
Pacific West Region**

By: \_\_\_\_\_  
Jonathan B. Jarvis, Regional Director

Dated: \_\_\_\_\_

**California State Water  
Resources Control Board**

By: \_\_\_\_\_  
Edward Anton, Chief, Div. of Water Rights

Dated: \_\_\_\_\_

**NOAA Fisheries**

By: \_\_\_\_\_  
Rodney McInnis, Regional Administrator

Dated: \_\_\_\_\_

**Friends of The River**

By: \_\_\_\_\_  
Steve Evans, Conservation Director

Dated: \_\_\_\_\_

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**U. S. Fish and Wildlife Service**

**California Dept. of Fish and Game**

By: \_\_\_\_\_  
Wayne White, Field Supervisor

By: \_\_\_\_\_  
Donald B. Koch, Regional Manager

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

**National Park Service  
Pacific West Region**

**California State Water  
Resources Control Board**

By:   
Jonathan B. Jarvis, Regional Director

By: \_\_\_\_\_  
Edward Anton, Chief, Div. of Water Rights

Dated: 3/16/05

Dated: \_\_\_\_\_

**NOAA Fisheries**

**Friends of The River**

By: \_\_\_\_\_  
Rodney McInnis, Regional Administrator

By: \_\_\_\_\_  
Steve Evans, Conservation Director

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

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By: \_\_\_\_\_  
Wayne White, Field Supervisor

Dated: \_\_\_\_\_

**National Park Service  
Pacific West Region**

By: \_\_\_\_\_  
Jonathan B. Jarvis, Regional Director

Dated: \_\_\_\_\_

**NOAA Fisheries**

By: \_\_\_\_\_  
Rodney McInnis, Regional Administrator

Dated: \_\_\_\_\_

**California Dept. of Fish and Game**

By: \_\_\_\_\_  
Donald B. Koch, Regional Manager

Dated: \_\_\_\_\_

**California State Water  
Resources Control Board**

By: Victoria A. Whitney  
Victoria A. Whitney, Chief  
Div. of Water Rights

Dated: March 17, 2005

**Friends of The River**

By: \_\_\_\_\_  
Steve Evans, Conservation Director

Dated: \_\_\_\_\_

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By: \_\_\_\_\_  
Wayne White, Field Supervisor

Dated: \_\_\_\_\_

**National Park Service  
Pacific West Region**

By: \_\_\_\_\_  
Jonathan B. Jarvis, Regional Director

Dated: \_\_\_\_\_

**NOAA Fisheries**

By: Rodney R. McInnis  
Rodney McInnis, Regional Administrator

Dated: 3-3-05

**California Dept. of Fish and Game**

By: \_\_\_\_\_  
Donald B. Koch, Regional Manager

Dated: \_\_\_\_\_

**California State Water  
Resources Control Board**

By: \_\_\_\_\_  
Edward Anton, Chief, Div. of Water Rights

Dated: \_\_\_\_\_

**Friends of The River**

By: \_\_\_\_\_  
Steve Evans, Conservation Director

Dated: \_\_\_\_\_



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By: \_\_\_\_\_  
Wayne White, Field Supervisor

Dated: \_\_\_\_\_

**National Park Service  
Pacific West Region**

By: \_\_\_\_\_  
Jonathan B. Jarvis, Regional Director

Dated: \_\_\_\_\_

**NOAA Fisheries**

By: \_\_\_\_\_  
Rodney McInnis, Regional Administrator

Dated: \_\_\_\_\_

**California Dept. of Fish and Game**

By: \_\_\_\_\_  
Donald B. Koch, Regional Manager

Dated: \_\_\_\_\_

**California State Water  
Resources Control Board**

By: \_\_\_\_\_  
Edward Anton, Chief, Div. of Water Rights

Dated: \_\_\_\_\_

**Friends of The River**

By: HEH  
Steve Evans, Conservation Director

Dated: Feb 25, 2005

**Trout Unlimited**

By:   
Chuck Bonham, California Counsel

Dated: 03/03/2005

**Pacific Gas and Electric Company**

By: \_\_\_\_\_  
Gregory M. Rueger  
Sr. Vice President Generation and Chief Nuclear Officer

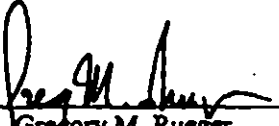
Dated: \_\_\_\_\_

**Trout Unlimited**

By: \_\_\_\_\_  
Chuck Bonham, California Counsel

Dated: \_\_\_\_\_

**Pacific Gas and Electric Company**

By:  \_\_\_\_\_  
Gregory M. Rueger  
Sr. Vice President Generation and Chief Nuclear Officer

Dated: March 22, 2005



## **Attachment A**

### **Kilarc-Cow Creek Project Agreement Subjects and Desired Conditions**

#### **Subjects Addressed**

Following is a list of subject areas (numbered items) and desired conditions (lettered items) addressed the Decommissioning Alternative Agency and Stakeholder meetings in the context of an Agreement for decommissioning the Kilarc-Cow Creek Project.

1. **Cost for Implementing Decommissioning**
  - a) **Costs are known**
  - b) **Economics are favorable (i.e., more favorable than relicensing)**
  - c) **Funds for implementation, monitoring and contingency are identified**
2. **Disposition of Diversion Structures**
  - a) **Safe, timely, and effective passage up/downstream for fish**
  - b) **Geomorphically stable stream channel above/below/at diversions**
  - c) **Retain as much spawning gravel as possible in active channel during deconstruction activities**
  - d) **Safety issues addressed - public and wildlife**
3. **Disposition of Canals and Spillways (includes waterways, tunnels and flumes)**
  - a) **Stable drainage of runoff to natural waterways including:**
    - **Safe, timely, and effective fish passage**
    - **Maintain good water quality**
    - **Does not contribute sediment to drainage and streams**
  - b) **Preservation of riparian habitat during/after deconstruction wherever possible**
  - c) **Maintain floodplain connectivity**
  - d) **Safety issues addressed - public and wildlife**
4. **Disposition of Forebays**
  - a) **Geomorphically stable sediment conditions**
  - b) **Appropriate fish and wildlife rescue/salvage prior to deconstruction activities**
5. **Disposition of Penstocks**
  - a) **Safety issues addressed - public and wildlife**
6. **Disposition of Powerhouses (includes switchyards)**
  - a) **Safety issues addressed - public and wildlife**
  - b) **Historical/cultural values preserved**
  - c) **Preserve options for future reuse of structures other than powerhouses**

7. **Disposition of Water Rights**
  - a) PG&E appropriate water rights are protected and used to preserve or enhance aquatic resources
  - b) Other water right holders rights are preserved
  - c) All water rights preserved subject to the law
  - d) Water rights are enforceable and permanent
  - e) Maintain aquatic habitat values downstream of Hooten Gulch
8. **PG&E Lands (as managed by a land trust)**
  - a) Promote land use consistent with ecological function of streams
  - b) Safety issues addressed - public and wildlife
9. **Public Recreation Opportunities**
  - a) Achieve balance between lost recreation opportunities at Kilarc forebay with other recreation opportunities (e.g., fishing and picnicking)
  - b) Recreation stream fisheries opportunities enhanced
  - c) Public access available to recreational opportunities
10. **FERC Approval for Decommissioning**
  - a) Timely FERC approval of decommissioning alternative consistent with the Agreement
11. **CPUC Rate Recovery for Decommissioning**
  - a) Full and timely rate recovery for decommissioning costs
12. **Post Decommissioning Licensee Responsibilities**
  - a) Decommissioning desired conditions are maintained post-decommissioning for specified time period
  - b) Scope and cost of responsibilities are known
13. **Permit Approval Process**
  - a) Timely identification and issuance of required permits
  - b) Permit conditions consistent with the Agreement
  - c) Environmental benefits of decommissioning outweigh impacts to resources
14. **Implementation Schedule**
  - a) Decommissioning schedule is approved with clearly defined timeframe
15. **Roads and Access Routes**
  - a) Best management practices for retiring roads where possible to minimize sediment
16. **Protection of Special Status Species**
  - a) Compliance with California Endangered Species Act and Endangered Species Act

**17. Deconstruction Activities**

- a) Current water right holders continue to receive their water
- b) Where practicable, no net loss in the health of riparian and aquatic habitat areas as a result of deconstruction activities
- c) Allows natural revegetation
- d) Timing of decommissioning activities are scheduled to avoid adverse effects on fish/wildlife
- e) Minimal water quality impairment during deconstruction and immediately thereafter including turbidity, settleable solids, suspended solids
- f) Appropriate fish and wildlife rescue/salvage prior to deconstruction activities