# PG&E
# Kilarc - Cow Creek Hydroelectric Project
# FERC Project No. 606

**Preliminary Proposed Decommissioning Plan dtd September 10, 2007**

David W. Albrecht Comments dated October 10, 2007
{ Project Stakeholder and landowner having Project features }

Comment Code:

1. Text: …….. Alpha, alpha, etc.,…. Existing document text

2. { *Italic text* } Background commentary

3. *Underlined Italic Text* Suggested additions/changes to text

4. Underlined Normal Text Existing text should be expanded, corrected or modified

Note Index:

A. Introduction
B. Maps
C. Decommissioning Proposal
  C-1 General
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D. Resource issues
E. Water Rights
F. Land rights & Landownership

Comment hardcopy cut & pasted next to appropriate document page; and mailed to Brian Frantz @ Entrix; together with uncut copy of comments, and cover letter. Comments also sent as attachment to an E-mail, with cc to Steve Nevares.

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## A. Section 1.0 Introduction

Page 1-1 - See Draft markup

{ Expand slightly to better relatively define power generation weighting/capability of Kilarc from South Cow}

* 2nd paragraph: …. and two powerhouses with a total installed capacity of 5 megawatts (MW) with approximately 70% from the Kilarc development.

* 4th paragraph: {Why isn't the 6/10/2005 Redding Electric Utility (REU) study/recommendations mentioned in this paragraph? Suggest following: " ….. inviting other entities to file NOIs to seek a new license for the Project." *Redding Electric Utility (REU) did analysis and staff report dated 6/10/2005 recommended that the City Council decline to file a NOI in the FERC licensing process for the Kilarc-Cow Creek Hydroelectric Project. "* The only entity to so ……

## B. MAPS Pages 1-3 to 1-7

General:

* All maps should have consistent and clear color coded legend. Suggest working backward from maps 1.4-3 & 1.4-4.
* Need better legend in term of color definition/distinction and line weights in legend and then on maps.
  + Example: Difficult to distinguish FERC boundary from PGE property.
  + Example: Need a minimum of three codes for roads: Improved Public road, Secondary road, FERC road.
  + Example: General feature code such as "o" for such things as German ditch, SCC campground, etc. Put features on maps that are referenced in the text.

Specific:

* Map 1.4-1 : OK

* Map 1.4-2:
  + Fix legend as recommended above. SWAP A/B Inset Titles
  + Relocate "A" Inset carefully so as to not block out marking and labeling for South Cow creek campground, Atkins creek, and the German Ditch diversion point.
  + Appropriately mark and label such key features referenced in text such as "Whitmore Falls, SCC campground, Atkins creek, German Ditch, etc.

* Map 1.4-3
  + Fix legend as recommended above
  + On Map label improved "Fern Road" going past Kilarc powerhouse and make road legend in powerhouse region same as extreme left side of map. There obviously was a slight problem in the merging of two USGS topo maps.
  + Maybe similar legend problem with first part of road going to Kilarc Forebay and this road should be given a name.

* Map 1.4-4
  + Fix legend as recommended above.

+ Change overall scale slightly so map can be expanded about ¼ to ½ section south {¼ to ½ mile} to be able to label and define key features such as Abbot Ditch near where Hooten has its confluence with South Cow Creek, and all the tributaries of Hooten upstream of Powerhouse.

**+ Show gate and label " End of SCC road on Whitmore side. Do same on Powerhouse side for end of SCC road coming from Rt 44.!!!!!**

+ Two spillways wrongly shown coming off the short Mill creek canal and two are similarly missing from the SCC main canal.

+ Recommend showing historical pre 1907 approximate Abbot Diversion point; and the East & West branches of SCC in this region. { *Realize USGS topo doesn't does not now show the two branches. Consider larger scale insert ( like on Map1.4-3) for this region }*

+ Map on PGE Property confusing at Forebay but realize again that PGE FERC K-2 survey drawing inconsistent with Section lines shown on USGS topo maps. Is this the reason for red outline boxes inside present 40 acre box for Forebay shown on map? I have no idea how to rectify this inconsistency short of bending or shifting USGS map section lines slightly in this area.

* Figure 1.4-5 Schematic

+ As per markup recommend that the "other Falls" be shown in Old Cow Creek bypass between main Kilarc diversion & powerhouse; old historical Abbot diversion point be shown; and Hooten Gulch be drawn 7 shown.

## C. Section 2.0 Decommissioning Proposal

## C-1

### 2.1 Pages 2-8 to 2-9

* **Diversion Structures. …..** (3) retention of as much spawning gravel as possible in active channels during deconstruction activities consistent with the preceding (2) desired condition, and (4) address safety issues for both the public and wildlife, and (5) future safety and liability issues for involved private land owners.

*** Canals and Spillways.** …, (4) addressing safety issues for both the public and wildlife, *and ? (5) appropriate fish and wildlife rescue. { see last bullet this section (5). }*

** Presently no bullet on Access Roads - Put after Powerhouse bullet. See Section 2.4, pg 2-43*

*** Access Roads.** On completion of decommissioning activities, most access roads will be restored to a condition prior to that work except in limited cases where small lengths of private roads at the direction of the private land owners involved will be suitably treated to remove them and restore them to the natural environmental state.

## C-2

### 2.2 Kilarc Development Decommissioning Proposal Pages 2-9 thru 2-29

***** 1st Paragraph end. *Please add similar sentence at end of like paragraph in 2.3, page 2-29:*
" The estimated dependable generating capacity of the Kilarc development is approximately xxx kilowatt (kW), and the estimated average annual energy is xx million kWh."

* Please complete acreage chart as below for next section and that on page 2-29. Alternative is to create separate FERC acreage charts for 2.2 & 2.3 in Section 6.0, page 6-66 but information seems more meaningful here.

| Kilarc Development features include: | FERC Acreage PGE | Patented (Private) / USA |
|---|---|---|
| * North Canyon Creek Diversion Dam & Canal | | 2.02 |
| * South Canyon Creek diversion Dam & Canal | | 5.53 |
| * Canyon creek Siphon | | 0.19 |
| * Kilarc Main Canal Diversion Dam & Main Canal ( including tunnel, elevated flumes, & spillways) | 70.15 | 5.43 / 1.07 |
| * Kilarc Forebay & Forebay Dam | 19.29 | |
| * Kilarc Penstock | 9.88 | |
| * Kilarc Powerhouse | 3.67 | |
| * Kilarc Access Roads | 0.37 | 9.51 |
| Acreage Subtotals: | 103.36 | 22.68/1.07= 23.75 |

{ *Don't know how accurate above acreage numbers are given that PGE may have sold some of their lands since the K-1 drawing date that I worked from. }*

* Page 2-10 / end of Section 2.2 : " ….. , the water is returned to Old Cow Creek. <u>The total FERC acreage for the Kilarc development is approximately 127.11 acres with about 81% ( 103.36 ac.) PGE lands; and 19% (22.66 ac./ 1.07ac.) private lands / private lands subject to section 24 of the Federal Power Act (USA lands).</u>

**Sections 2.1.1 & 2.2.2**; pages 2-10 thru 2-16 : No comments

**Section 2.2.3 Kilarc Diversion Dam** Pages 2-16 thru 2-18

* Page 2-18 - end of description paragraph: "…. with a crest elevation of 3,814.0-ft msl." *The principle diversion for the Kilarc development is here with 58 cfs water right with a minimum of 2.0 cfs bypassed in the creek. Typical flow in the main canal varies from xxx cfs in the wet season to xxx cfs in late summer/early fall before the Winter rains. The bypass length in Old Cow Creek before the main diverted water is returned to the Creek is about x.x miles.*

*{ Please note that that there is 68 cfs ( 2.5 + 7.5 + 58 ) rights for Kilarc and page 2-26 says maximum penstock flow is 43 cfs. Seems prudent to me to characterize typical flow into Forebay so that the cfs flow numbers in this plan are not necessarily used to justify that Forebay is a hydrology source for lower elevations. }*

## Section 2.2.4 Kilarc Main Canal Pages 2-18 to 2-22

* Page 2-21 end / 2nd bullet: "….. will be graded to drain rainwater and appropriate erosion controls will be implemented. *There is approximately TBD drainage acreage and xxx? feet of drainage elevation above the canal with a significant percentage of that watershed runnoff passing under the present canal at the X? canal flumes.*

## Section 2.2.5 Kilarc Forebay Pages 2-23 to 2-26

* Photograph 2.2.5-1a Kilarc Forebay : suggest pointing arrows and labels for main canal inlet, picnic area, and ? overflow spillway.

## Sections 2.2.6 & 2.2.7 Kilarc Penstock & Powerhouse Pages 2-26 to 2-29

*** Proposal for Disposition** : Page 2-28 1st bullet : Possible add-on. {*Do the Pelton wheels have any real salvage value to PGE? If someone like the Shasta County Historical Society wanted to eventually make the Powerhouse a museum, these 100+ year old Peltons are visually impressive machines; and it would be a generous offer on PGE's to potentially leave the Pelton's (d*isabled). *Realize the generators ( or copper windings do have salvage value) }*

## C-3

## 2.3 Cow Creek Development Decommissioning Proposal Pages 2-29 to 2-43

As per page 2-9 comment, please structure feature items below to reflect FERC acreage:

| The Cow Creek Development features include: | FERC Acreage PGE Lands | Patented (Private)/USA lands |
|---|---|---|
| * Mill Creek Diversion Dam | 0.34 | |
| * Mill Creek-South Cow Creek Canal | 0.91 | 0.49 |
| * South Cow Creek Diversion Dam/Fish Ladder | | 1.02 |
| * South Cow Creek Main Canal (including Tunnel and Spillways) | 0.14 | 8.01? / 16.75 |
| * Cow Creek Forebay Dam and Forebay | 5.51 | 5.51 |
| * Penstock | 1.57 | 7.73 |
| * Powerhouse | 4.96 | |
| * Access Roads | 0.55 | 5.28 / 1.04 |
| Subtotal Acreage | 13.98 | 28.04/17.79 =45.83 |

The Mill Creek diversion dam located *about 0.1 miles upstream of Mill Creek's natural confluence with South Cow Creek diverts water from 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. *At the South Cow Creek Diversion dam presently a minimum of 4.0 cfs is returned to South Cow Creek at the fish ladder*. 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 miles to South Cow Creek. The bypass region in Wagoner canyon between this return point of the diverted water and the South Cow Creek Diversion Dam is approximately x.xx miles long. The FERC acreage associated with the Cow Creek development is approximately 59.81 acres with 23.4% P,G&E lands and remaining 76.6% private lands or private lands subject to section 24 of the Federal Power Act. Typical flow in the main canal varies from a maximum of x..xx cfs in the winter wet season to a low of x.xx cfs in the late Summer / early Fall.

## 2.3.1 Mill Creek Diversion - Dam & Canal Intake Page 2-30

*{ No changes }*

## 2.3.2 Mill Creek-South Cow Creek Canal Page 2-31

*{ At end of description paragraph please add}* Approximately the last 40% of this small short canal is on private lands.

*{ At end of " proposal for disposition please add}* Landowner's preference is not to breach the berm to effect minimal environmental disturbance. *If filled, sediment from behind the nearby South Cow creek diversion dam should be used.*

### 2.3.3 South Cow creek Diversion Dam and Fish Ladder

Pages 2-32 to 2-33/34

{ *See also marked up photo 2.3.3-1a & 2.3.4-1a*}

## 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, 85.5-ft long and 12.3-ft wide, built on top of independent upstream and downstream concrete cutoff walls (footers) that are embedded in the stream bed. The cutoff walls are approximately 3.5-ft in height with their top (crest) varying in three steps across the stream bed from approximately 1549.57 msl to 1552.24 msl; and therefore the height of the dam varies from 5.67-ft to 8.33-ft as measured from the top of these embedded cutoff walls. Presuming the previous timber crib dam constructed in 1929, and replaced in 1989 with the present structure conforms to the original easement requirements, the top of the upstream cutoff wall is approximately zero to two feet lower than the original stream bed prior to 1907. 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 Cow Creek canal and the Cow Creek Fish ladder *with a minimum flow of 4 cfs and typical mean greater than 5 cfs through the 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

* Equipment access for disposition will be such to minimize environmental damage to the immediate surrounding vicinity.

* Dam removal will include removing the concrete top, removing fill, and removing bin walls and interior baffles.

* A temporary coffer/diversion will likely be required. *{ Steve's meeting words* }

* Disposition of the two in stream embedded concrete cutoff walls TBD consistent with minimizing disturbance of the stream bed.

* Some structures, near or below ground or typical grade level, 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 thereafter.

* Work will include removing all equipment (e.g., electrical, metal, mechanical devices, gates, screens, exposed rebar, and rakes ).

* Above grade concrete structures, walls, baffles, and exposed rebar will be removed and broken concrete 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 dam immediate vicinity.

* Backfilled areas will be capped with an impermeable layer if appropriate.

*a. {Private landowners owner expressed preference for disposition as above with dam cutoff walls that are tied to side concrete wall structures to be left in place to best minimize unnatural stream erosion due to the sudden removal of a 100 year old in place structure.*
*b. Resource Agencies expressed preference for ……..... }*
*{ Wanted to add above format on all sections but probably this **is not** a good idea as a third or more category would be required to cover OTHERS / General Public etc. }*

** Photograph 2..3.4.-1 : {Should have revised title such as " South Cow Creek Diversion / Start of Canal"*

*This is a great photo to draw a " typical concrete cut/break line " to illustrate what part of the concrete structure would be removed; with an accompanying footnote such as " Structure above this line to be removed" as in mark-up. Please incorporate.*

## *2.3.4 South Cow Creek Canal and Tunnel* Pages 2-34 to 2-36

*** Description**
The canal …. by 4.8-ft deep canal. Approximately the first 0.12 miles of the canal and approximately 1.9 miles are unlined. The tunnel is 0.04 ? mi long and is 6-ft by 6.8ft. There is limited elevation and watershed drainage above the canal with a significant percentage of that seasonal runoff crossing the canal on a single flume that spills into Wagoner Canyon and South Cow Creek.
{ *? Topo map says tunnel is about this long, but 200 ft figure seems too long to me - next time I'm out there I am going to take my 100 foot tape and check. }*
**Proposal for Disposition**

1st Bullet { *First part of 2nd sentence is the only really poorly thought out disposition proposal in this Draft from an environmental perspective. After 100 years, this first part of the canal where it takes off from the natural creek and is still close to the creek laterally and in elevation **should not be filled with excavated berm material!!!!** It should be filled with broken shotcrete, concrete structure from the dam/intake structure and covered with fill either from sediment from behind the dam or elsewhere.} Suggest wording in first bullet to the effect: " The initial stage of canal will be filled with shotcrete debris and concrete debris from the dam and covered with earthen fill material not from the berm, graded over, and environmental erosion control measures*

*implemented.*

*2nd Bullet; Please add at end : Private landowners preference is to minimize possible environmental impact by not excavating ½ half berm height.*

*3rd Bullet: OK*

*4th Bullet needed: Spillways (2 or 3) will be modified such that spill height elevation is that of canal bottom. { The spillways seems to belong to Canal & not Forebay }*

## 2.3.5 & 2.3.6 {double label?} Cow Creek Forebay Pages 2-37 to 2-39

* Photograph 2.3.5-1a : Suggest arrows and labels for:
  + Canal termination / Trash rake
  + Penstock Intake

* Photograph 2.3.5-1b: Suggest arrow & label for spillway in lower RH corner

* Proposal for Disposition: Last Bullet *{ See above 4th bullet on Canal}*

" *The spillway near the Forebay will be modified such that part of the spill height elevation is that of the canal bottom and the remainder abandoned in place to minimize disturbance that would be caused if removed.*

## 2.3.7 (6?) Cow Creek Penstock Pages 2-40 OK

## 2.3.8 (7?) Cow Creek - Powerhouse and Switchyard Pages 2-41 to 2-43 OK

*General comments*:

*+ As per Page 2-28 comment it might be nice to leave Pelton wheels.*

*+ Last Bullet: Believe for most of the South Cow landowners & other Ranchers that this is the only serious outstanding issue for the Cow Creek part of P-606 Decommission Plan that needs a documented solution that is satisfactory to the Abbot Ditch users. Sincerely hope there is something concrete in this section before 3/2009.*

# C-4

## *2.4 Project Roads* *Page 2-43*

***Description***

Project decommissioning may require improvement of existing roads and/or new access for equipment required for decommissioning the project facilities, but every effort will be made to avoid this and minimize new environmental damage. Following completion of Project decommissioning, the roads may be left in-place in a condition comparable to that before the start of such work, or removed . How the roads are left will depend on landownership, desires of the

landowner, and environmental conditions.

## D.

## Section 3.0 … Resource Issues Pages 3-44 to 3-61

* Page 3-45 last paragraph: ….. Chinook salmon spawn and rear downstream of Wagoner canyon near *the* Hooten *Gulch confluence*. In fall 1985, ……

* Page 3-46 first new paragraph: The extent of steelhead activity within the project area is well documented , and ranges from South Cow creek at the confluence with Hooten Gulch to the South Cow Creek campground *and Atkins Creek confluence about 11.5 miles upstream.*

* Page 3-48 2nd new paragraph: {*Last sentence in this paragrah should be separate paragrah preceding the one it is now in. See mark-up}*

* Page 3-48 last paragraph: …… would be adversely affected by the removal of their habitat in Hooten Gulch and the Forebays. *How the historical Abbot ditch diversion is restored, would mitigate the impact on a portion of Hooten Gulch downstream of the powerhouse.* For both….

* Page 3-49 last bullet/last sentence does not seem correct: *The Kilarc North and South Canyon canals are dry for a portion of the year; and the other canals are for short times periodically dry for maintenance .* ????

* Page 3-50 Tailrace bullets
  --
  -- The *0.x mile* reach in Hooten Gulch augmented ….
  { Seems to me that somewhere in this document it should be noted that Hooten Gulch is a typical low elevation California seasonal water course that with it tributaries has about 6.0 miles reach upstream of the Powerhouse; and that reach is typically dry by the beginning of Summer until the late Fall/ early Winter wet season begins. It is only the last and very limited & small percentage of Hooten that is wet by the Tailrace discharge.}

* Page 3-51: After 1st and 3rd new paragraphs; reader is sort of left hanging in " any key findings?" mode.

* Page 3-54 : End of 2nd Paragraph: Reader again left hanging with "No summation of key results."
* Page 3-57 2nd paragraph: {Seems like some of the known registrations such NEIC registrations such as CA-SHA-1764H, CA-SHA-2541H, and CA-SHA-166, etc known to be associated with P-606 should be acknowledged even some of the information in at least one of those registrations is not wholly correct. Or at least the total number of registrations}

* Pages 3-59 to 3-61 Comment: *{ This table seems like an excellent idea; but I am puzzled why two areas most immediate and very close to Whitmore were not included: South Cow campground on Ponderosa Way ( has it been closed - haven't been there for years); and the Forest Service? Campground off the unimproved section of Tamarack road up near Latour ( Section ? /*

*Township?). Again haven't been there for years. }*

## E.

## Section 5.0 Water Rights Pages 5-63 to 5-64

General Comment: {*Excellent from ranchers perspective. A couple of minor tweaks.}*

* Page 5-64 1st paragraph: " PG&E's current proposal for disposition of the *five 3rd priority power generations rights and 1 domestic use 1st priority right described in Table 5.1-1* is to abandon them *in accordance with California State Water Code regulations and procedures* upon receiving a final Order from FERC ordering the decommissioning of the Project. The Cow Creek ……

* Page 5-64 2nd paragraph: ….. The German Ditch diversion is located about *x.x miles* upstream……

* Page 5-64 last paragraph: Cow Creek Powerhouse current discharged water into Hooten Gulch, which continues to flow for a distance *of approximately 0.5 miles* before the water joins with Cow Creek. … In addition, the Abbott Diversion also withdraws from Hooten Gulch ( a total *1st,2nd & 3rd priority water right of 13.16cfs* ) for domestic use & irrigation purposes. { See Schedule 6}

* Page 5-65: *Suggest Table 5.1-1 include in 1st column (SWDU) also the 1969 Adjudication nomenclature for diversion point. Similarly the 4th column on diversion rights doesn't have a 1:1 correspondence with Schedules 4 & 6 in the Adjudication. Believe present tables for last 4 entries of 52, 20, 50 cfs, & 200gpm would be per the above schedules 58, 12.1, 46.5/0.01, and 0.01 cfs.*

## *F.*

## Section 6.0 Land rights and Landownership Page 6-66

{ This section needs to be stronger and more explicit. *Please expand as in spirit below to include "access & future liability" points; and more separation between Kilarc & Cow Creek developments. Off the record, separation of Kilarc from Cow Creek tends to be the preference of the Cow Creek landowners involved; and to the future mutual benefit/management of the PGE decommissioning process in resolving issues associated with the two developments. If Plan does not plan to break out land ownership in Sections 2.2 & 2.3, please create Table in this section that does so.}*

A total of 187.13 ( 186.92?) acres are included within the FERC Project boundary with 127.11 of those acres associated with the Kilarc development and 59.81 acres with the Cow Creek development. The percentage of PG & E owned lands varies greatly between the two separate developments with PG&E-owned land ownership dominating in the Kilarc development; and patented (private) ownership lands dominating in the Cow Creek development as previously documented. For the total Project, approximately 19 acres are patented lands that are subject to Section 24 of the Federal Power Act; approximately 117 are PG&E-owned lands: and

approximately 51 acres are privately owned lands, for which PG&E has acquired all of the necessary rights ( including easements) to operate and maintain the Project. It is PG&E's intent that the execution of the decommissioning plan for removal of structures and facilities will be such that there are no future liability issues with any remaining facilities or structures for the present or future owners. Where PG&E holds easements on private lands for Project facilities and access, upon completion of decommissioning, PG&E currently proposes to Quick Claim the easements back to the private landowner. The final disposition for the lands PG&E owns for Project purposes, and all other PG&E lands in the area will be determined by the Pacific Forest and Watershed Lands Stewardship Council (Stewardship Council) with Public "right of access to those lands" not transferred or established by PG&E's prior operation of the Project as a Utility Company for the purposes of generating power.

{ *At both September meetings in Redding, Steve Nevares gave excellent short concise eloquent lecture on the "right of public access" to Project lands after Decommissioning. - Should have taped. Last sentence above is my attempt to capture that message. }*