

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UE 170

In the Matter of)	
)	
PACIFIC POWER & LIGHT)	OREGON NATURAL RESOURCES
(dba PACIFICORP))	COUNCIL, WATERWATCH OF
)	OREGON, AND PACIFIC COAST
)	FEDERATION OF FISHERMEN'S
Request for a General Rate Increase in the)	ASSOCIATIONS' JOINT OPENING
Company's Oregon Annual Revenues)	BRIEF REGARDING APPROPRIATE
)	RATES, RATE TRANSITION, AND
<u>(Klamath River Basin Irrigator Rates)</u>)	GOVERNMENT DAM USE CHARGES

Dated: March 6, 2006

Oregon Natural Resources Council, WaterWatch of Oregon, and Pacific Coast Federation of Fishermen's Associations submit this joint opening brief regarding the appropriate power rates to be paid by the Klamath Basin irrigators, rate transition, and government dam use charges for the Link River Dam.

ARGUMENT

- I. The appropriate rates for PacifiCorp to charge the On- and Off-Project Klamath Basin irrigators for electric service are found in PacifiCorp's standard irrigation tariff.
 - A. The current rates under the On-Project and Off-Project Agreements are not justifiable according to the "just and reasonable" rate standard.

ORS chapters 756 and 757 set forth several inter-related provisions directing the Commission to ensure that public utility rates are fair, just and reasonable. These provisions together are often referred to as the "just and reasonable" rate standard.

The historic contract rates under which the Klamath Basin irrigators are served do not meet this just and reasonable standard. See, for example, UE-171 PacifiCorp's

Motion for Summary Disposition (March 31, 2005) at 11-13, 17-19; UE-171 Staff's Response to PacifiCorp's Motion for Summary Disposition (April 28, 2005) at 5-6; ONRC et al./100, McCarthy/15. It is well established that the rates in both the On-Project and Off-Project Contracts are much lower than those paid by irrigators in other parts of Oregon served by PacifiCorp. See, for example, UE-171 Staff's Response to PacifiCorp's Motion for Summary Disposition (April 28, 2005) at 6 (characterizing the On-Project and Off-Project irrigators' rates as "a tremendous discount as compared with PacifiCorp's other irrigation customers in Oregon under [PacifiCorp's standard tariff]"). See also ONRC et al./102. If this were not the case, presumably Klamath Water Users Association ("KWUA"), Klamath Off-Project Water Users ("KOPWU") and the Bureau of Reclamation ("BOR") (collectively "irrigators") would not be parties here.

Schedule 41 is the tariff reflecting just and reasonable irrigation rates. Both the On- and Off-Project irrigators should be moved to this tariff. The current Klamath irrigation rates, which have not changed substantially since 1917, are now only about one-tenth of the rates paid under Schedule 41 by all other similarly situated irrigators served by PacifiCorp in Oregon and do not even cover PacifiCorp's basic costs of providing the service. See ONRC et al./102, McCarthy/5, 9-10; Staff/1500, McNamee/17. The difference between what it now costs PacifiCorp to deliver these services to Klamath irrigators and the revenue it receives from these services at 1917 rates is roughly \$10 million/year in costs that are subsidized by all other PacifiCorp customers in six states, with the major burden on Oregon customers. ONRC et al./100, McCarthy/10; ONRC et al./101.

KWUA and KOPWU members are similarly situated as compared to other non-

Klamath PacifiCorp irrigation customers in Oregon: they grow the same types of crops; they use similar irrigation systems; and their power usage distributions are similar to other PacifiCorp irrigation customers (Staff/1500, McNamee/8). None of the evidence or theories put forward by the irrigators makes their current rates of around 1/10 of the standard rate just and reasonable.

Only geography separates the Klamath Basin irrigators from other Oregon irrigators, and that is a disallowed basis for different treatment. ORS 757.310 and ORS 757.325 require the Commission to eliminate such discriminatory rates. In summary, the current On- and Off-Project rates are not just and reasonable, are discriminatory and cannot be justified under Oregon's rate setting statutes.

- B. There is no substantial and reasonable basis for separating the On-Project or Off-Project Klamath Basin irrigation customers, or BOR/USFWS, from the standard class of irrigation customers.

Under Oregon rate setting law, customers are grouped into customer classes based on factors such as quantity of electricity used, time when the electricity is used, purpose for which the electricity is used, and any other reasonable consideration. ORS 757.230(1). Here, KWUA, KOPWU and BOR/USFWS have each presented unconvincing evidence that a special customer class should be formed so that they can continue to receive low electric rates from PacifiCorp. A special customer class is not warranted based on any of the identified factors, or on any "other reasonable consideration."

The rationales argued by the irrigators for special treatment fall into three basic categories: (1) irrigated agriculture somehow creates "added water" flowing down the Klamath River that benefits PacifiCorp's Klamath River Hydroelectric Project (KOPWU,

KWUA, BOR); (2) members are cheaper to serve than the average PacifiCorp Schedule 41 (standard irrigation) customer (KOPWU); and (3) the “historical context” indicates they should get low rates, essentially forever (KOPWU, KWUA, BOR).

However, as discussed below, because none of these rationales is sound they simply cannot provide a legally sufficient, substantial and reasonable basis for creating a separate customer class. Further, even if one were to accept the irrigators’ evidence at face value despite its fatal flaws, there is still no identifiable, rational, separate customer class based on hydrology, power usage, differences in delivery costs, or any other discernable difference between Klamath irrigators and PacifiCorp’s other Oregon irrigation tariff customers that could form a reasonable basis for establishing a separate customer class.

- (1) Irrigator claims of “added water” from irrigated agriculture are fiction and not supportable.

KWUA, KOPWU and the BOR all argue that in the Klamath Basin, irrigated agriculture - an indisputable consumptive use of water – causes an increased water supply, or increased flow, in the Klamath River. While the specifics of their hydrologic shell games vary, they share one common and critical flaw: none accounts for the consumptive use of their industry. Other significant analytical flaws compound this problem, rendering the theory of extra water completely unsupportable and contradictory.

- (a) KOPWU’s hydrologic analysis is fatally flawed and its theory of “increased water supply” is not supported by the testimony.

To support its “increased water supply” theory, KOPWU’s expert, Mr. Rozaklis, has created his own version of a Klamath Basin hydrology that simply does not exist. He credits KOPWU members with adding two kinds of water to the Klamath River: (1)

return flows from pumped groundwater that run off from their fields; and (2) streamflows allegedly resulting from destroying wetlands and marshes. However, because Mr. Rozaklis fails to account for the hydrologic connection between groundwater and surface water in the Off-Project area, ignores consumptive use altogether and improperly analyzes wetland losses, KOPWU's theory of "increased water supply" is unsupportable. The major problems with KOPWU's theory and calculations are described in the following subsections.

- i. Groundwater pumping in the Off-Project area reduces streamflows.

In the Klamath Basin, including the Off-Project area, groundwater and surface water are hydraulically connected. KOPWU/610; PPL/2002, Deverel/2, 7-8; ONRC et al./204, Balance/3-4 (and elsewhere); ONRC et al./401. Groundwater pumping from hydraulically connected aquifers simply reduces spring and streamflows, essentially "borrowing from Peter to pay Paul."

Two major Oregon Water Resources Department studies that address groundwater in the Klamath Basin, including the Off-Project areas, also document the hydraulic connection of the surface water to the groundwater. See KOPWU/610, Oregon State Engineer, Ground Water Report 21, Ground Water in Selected Areas in the Klamath Basin (1974); ONRC et al./401, Executive Summary of the State of Oregon, Oregon Water Resources Department, Ground Water Report 41, Ground Water in the Eastern Lost River Sub-Basin, Langell, Yonna, Swan Lake, and Poe Valleys of Southeastern Klamath County, Oregon (2004) (also referred to by some using the author's name as the "Grondin Report").

Ground Water Report 41 analyzed the groundwater hydrology of the Eastern part

of the Lost River Basin, where much of the Off-Project irrigation is occurring. See ONRC et al./402, Rozaklis workpaper (showing that 52% of the Off-Project groundwater irrigated acreage occurs in the Lost River Basin). The study documents the hydraulic connection between groundwater and surface water and reports on areas where groundwater pumping has dried up, or contributed to the drying up, of springs at various times. Among the conclusions listed in the study are:

- (7) Ground water in basalt is hydraulically connected to the Lost River via spring and diffuse seepage through overlying basin fill.
- (15) Under current management of the Lost River, the calculated total ground water drawdown in basalt by pro-rated pumping of the Bonanza sub-sub-area ADR permit wells is sufficient to terminate Bonanza Big Springs flow (lower the ground water level to or below river stage) in most years.
- (16) Fewer ADR ground water permit wells are located in the central portion of the Swan Lake Valley to Poe Valley sub-area where a direct connection with High spring exists, and the south Langell Valley sub-area where a direct connection with Kilgore Spring exists. In 2001, both springs stopped flowing due to the lowering of ground water levels in the basalt caused by drought and increased pumping.

ONRC et al./401 at p. 8-10.

While a similarly quantitative analysis is not available for the Sprague Basin, also a focus of Mr. Rozaklis's report and an area with substantial Off-Project irrigation, information summarized by Oregon Water Resources Department hydrologist Ned Gates indicates that the Sprague is hydrologically similar to the Lost River. PPL/2002, Deveral/7 (citing Ground Water Hydrology of Four Proposed Project Areas in the Klamath Basin, Oregon, OF-01-01).

PacifiCorp summarizes how this hydraulic connection leads to streamflow reduction from groundwater pumping:

Moreover, Mr. Rozaklis' characterization of this pumping for irrigation as water added to the river system is incorrect. Pumping removes water from the basalt aquifer that otherwise discharges to springs and rivers. Increased pumping from the basalt aquifer decreases water levels and actually reduces groundwater inflows to the rivers and springs.

PPL/2000, Deverel/2.

This close connection within the basin between surface water and groundwater is also confirmed by the analysis of Balance Hydrologics:

Rozaklis assumes pumping ground water does not deplete stream flows, and that the irrigation (and return flows) come from aquifer storage, which is treated as inexhaustible.... Mr. Rozaklis's hypothesis that the claimed added water comes from long-term storage in the aquifer must be rejected . . . It is our professional judgment that pumping groundwater in the off-Project area diminishes and does not augment streamflows in any appreciable degree.

ONRC et al./204, Balance Hydrologics/10-11 (emphasis added).

The net effect is little or no actual additions to the waters of the Upper Klamath Lake or to the Klamath River generally from groundwater pumping.

These analyses are consistent with the sampling of Oregon Water Resources Department's 2005 denials and proposed denials of new groundwater permit applications, located in the sub-basins discussed in Mr. Rozaklis' testimony, based on findings that the proposed wells had the "potential for substantial interference" with surface water. ONRC et al./403-406. In other words, these applications were denied (or proposed for denial but not yet finalized) because the Water Resources Department found that the proposed groundwater pumping would substantially reduce nearby streamflow.

Despite the well-documented connection between the groundwater and surface water in and around the Off-Project area and the related reduction in spring and streamflows associated with groundwater pumping, Mr. Rozaklis did not account for any

such reductions. See, for example, UE-170 Evidentiary Hearing Transcript

(“Transcript”) at p. 233, lines 18-21; p. 236, lines 16-22. Instead, he simply states that:

[I]t is reasonable to conclude that the amounts of irrigation well pumping from this aquifer, as estimated above, generally do not affect surface stream flows in a direct and immediate manner.

KOPWU/202, Rozaklis/15.

Mr. Rozaklis acknowledges that in cases where groundwater pumping affects streamflow, an analysis of timing of streamflow reductions versus return flows would be required to determine actual streamflow impacts at any given time. See Transcript at p. 235, lines 2-6; p. 236, lines 4-13. However, he also admits he did not do any such timing analysis. See Transcript at p. 259, lines 12-18.

Despite his admitted lack of analysis on the timing of streamflow impacts, Mr. Rozaklis clarified during cross-examination that groundwater pumping does not necessarily result in “add[ed] water,” but rather that it is the timing that is important:

Ms. Adam Lien: That one of the benefits being provided to PacifiCorp is that water that would otherwise not be in the Klamath River is being – is finding its way to the Klamath River as a result of pumping from deep groundwater wells, irrigating crops, and having return flows.

Mr. Rozaklis: And it runs in a manner that benefits PacifiCorp, yes.

Ms. Adams Lien: And it benefits PacifiCorp by adding water to the Klamath River that wouldn’t otherwise have gotten there?

Mr. Rozaklis: Not necessarily adding water, but making that water available at a time when it benefits PacifiCorp.

Transcript at p. 232, lines 19-25 and p. 233, lines 1-4 (emphasis added).

It is unclear how he reaches this conclusion about timing, having not performed any timing analysis. The conclusion that there is not necessarily any added water appears inconsistent with Mr. Rozaklis’ repeated use of the term “increased supply” throughout his Opening Testimony. See, for example, KOPWU/202, Rozaklis/6-8). However, this

apparent change of position represents a more accurate assessment. Given the hydraulic connection between Klamath Basin surface water and groundwater, KOPWU's own data explain why there is "not necessarily add[ed] water": KOPWU members consumptively use 119,974 acre-feet of groundwater but only claim to return 73,272 acre-feet to the river. KOPWU/202, Rozaklis/13. Since an accurate analysis recognizing hydraulic connections would assess well locations for extent of likely streamflow impacts and then subtract all or substantial part of the 119,974 acre-feet from the Klamath River system, KOPWU has diminished, not added to net flows.

Interestingly, Mr. Rozaklis later claimed he made his statement about the lack of added water not about groundwater pumping (which was clearly the subject) but about the drained lands. It is important to note that drained lands represent the only other portion of "added water" in his calculation. See Transcript at p. 260, lines 6-15. Apparently, Mr. Rozaklis believes there is not necessarily any "increased water supply" from groundwater pumping or from the drained lands, which would leave no "added water" left in KOPWU's theory.

Given the hydrology of the Klamath Basin and KOPWU's failure to account for any streamflow reductions associated with groundwater pumping, KOPWU's claims of "increased water supply" from groundwater pumping, including the timing of the alleged benefits, are simply not credible. In the end, for any "increased water supply" from groundwater pumping that KOPWU shows on paper, there equivalent or greater reductions in actual streamflow that KOPWU never analyzes or accounts for.

- ii. KOPWU completely ignores its consumptive use of surface water.

Although KOPWU includes members who use power to irrigate with surface

water (or a combination of surface and groundwater), it never accounts for any resultant streamflow losses in its “increased water supply” calculations. KOPWU’s failure to account for consumptive surface water use significantly erodes any claim that it is increasing water supply, or making water available at times when it benefits PacifiCorp.

Surface water users in the KOPWU area use power to: lift water out of surface water streams (KOPWU/100, Bartell/10); pump surface water for delivery to fields (KOPWU/202, Rozaklis/7); sprinkler irrigate fields with surface water (id.); and apparently also to irrigate on drained fields with surface water (Transcript at p. 277, lines 3-6, 23-24). In fact, 22% of the lands that Rozaklis identifies as groundwater irrigated actually have a surface water right as their primary water right and thus would always be irrigated with surface water except in years when that surface water is unavailable. ONRC et al./301, Priestly/7-8 (citing OAR-690-300-010(52) defining a supplemental water right as an additional appropriation of water to make up a deficiency in supply from an existing water right.).¹

Importantly, surface water use by KOPWU members reduces streamflows during the irrigation season’s summer months. This is the same season (summer) when water could most often be effectively used for hydropower generation. KOPWU/202, Rozaklis/27. This fact also severely undermines KOPWU’s claim that it is making water available at times when it benefits PacifiCorp.

Mr. Rozaklis simply did not subtract out any streamflow reductions resulting from surface water use. Transcript at p. 267, lines 5-25. Apparently, this was “beyond the time and budget constraints” he had for quantifying these flows. Id. at lines 22-25. This

¹ This error also inflates Mr. Rozaklis’s estimate of the number of acres irrigated with groundwater.
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breakdown in the analysis causes any claim of added water, or water added at times that benefit PacifiCorp, to fall apart.

- iii. KOPWU overestimates the so-called benefits of destroying natural wetlands and fails to properly account for evaporation resulting from irrigation conveyances and practices.

KOPWU asserts that its members should receive a power credit for the draining of natural wetlands that are now used as croplands. It claims that such conversion “increased water supply” to the Klamath River because supposedly less water evaporates from croplands than from wetlands.

There are several fundamental flaws in this theory. First, KOPWU’s primary witness, Mr. Rozaklis, greatly over-estimates the amount of wetland evaporation that naturally occurred, and then dramatically under-estimates evaporative losses from croplands in order to find what is essentially paper water, committing a number of mathematical and hydrological errors to achieve that end. See ONRC et al./204, /Balance/25-46 (Appendices I & II) for an extensive critique of the problems with Mr. Rozaklis’ evapo-transpiration and evaporation models. Under more reasonable and scientifically sound assumptions, most or all of this “increased water supply” simply disappears from the balance sheet.

One example of this problem is that Mr. Rozaklis assumes zero evaporation from flooded croplands throughout the months of November through March (KOPWU/202, Rozaklis/21). This assumption, according to testimony by Mr. Deverel, PacifiCorp’s hydrologist, is completely unwarranted. Mr. Deverell recalculated expected open field evaporation based on more scientifically sound assumptions for November through March, and showed how this decreases the “increased water supply” calculated by Mr.

Rozaklis by 16 to 50%, just from this one error (see PPL/2002, Deverel/12, 14-19 (Tables 2a through 6).

Compounding the problem, Mr. Rozaklis also ignores several other types of water losses characteristic of irrigation systems used in the Klamath Basin. To arrive at an accurate assessment, these losses much be subtracted from this supposed “increased water supply.” As Balance Hydrologics explains:

[Rozaklis] assumes that *all* excess water returns as stream flow either directly or indirectly as surface returns (40%) or indirectly as subsurface returns (60%)... The Rozaklis testimony does not include any estimation of water loss that occurs as a result of water transit (transmission losses) or field application processes. Pumped ground water travels through an extensive array of irrigation canals, laterals, and drains in the Klamath Basin. Water is then applied to the fields via sprinkler systems or field flooding. Both water conveyance and application activities promote water loss through evaporation and evapotranspiration (ET). These losses, which can be quite significant, are not accounted for in Rozaklis’ water budget.

ONRC et al./204, Balance/12.

In other words, although used irrigation water in the Klamath typically returns several times to an irrigation ditch system used to collect irrigation runoff, Mr. Rozaklis assumes that no water evaporates during its journey – essentially ignoring the laws of physics in the process. He also ignores all irrigation system transit losses, which have been demonstrated in studies in the Klamath Basin to be between 10 to 20% according to one study, and 3.14 acre-feet per acre of canal according to another (ONRC et al./204, Balance/13-14 (citing Klamath-based irrigation system loss studies by Kent (1905) and Burt and Freeman (2003)).

Mr. Rozaklis also ignores other types of system losses, such as droplet evaporation from sprinkler systems. Such losses can cumulatively add up to major losses over an area as large – and windy – as the Upper Klamath Basin. For instance, Balance

Hydrologics testifies (id. at 12) that:

Spray droplet evaporation losses range from 1% to 4% for typical sprinkler systems and can be even higher in sprinkler systems with high pressure. Under high wind conditions spray droplet evaporation can be considerably higher.

In summary, Balance Hydrologics notes the following major flaws with KOPWU's "increased water supply" theory:

Excess water applied to cropland returns to the irrigation system and is often re-used for downgradient property multiple times before finally reaching the main stream network. There are numerous ways in which water will be lost from the system during this transit process, including:

- a) evaporation of water in open ditches and storage ponds,
- b) evapotranspiration of water in ditches and tributaries that have vegetated banks or in-stream vegetation,
- c) water loss to the deep ground water aquifer via leaks and seepage in the ditch system.

Estimates of transit loss can be quite substantial and should not be overlooked when calculating the amount of runoff generated from agricultural lands. Rozaklis assumes that all irrigation return flows and shallow, subsurface ground water are eventually returned to the creek, but makes no mention of evaporation and ET [evapotranspiration] losses that occur when water is transported from the creek through the irrigation canal and drain systems, nor of potential losses to the deep aquifer. It is also important to note that because return flows are often re-used on multiple fields, the potential for total water loss is increased because the same water is subject to evaporation and ET losses with each application.

ONRC et al./204, Balance/12-13.

Mr. Rozaklis's failure to accurately account for evaporation in his calculations greatly reduces the credibility of his estimates.

- iv. KOPWU is trying to take credit for contributions to the Water Bank for which they have already been fully paid with federal taxpayer dollars, and which involves a program that is intended to be temporary.

KOPWU claims that it provides a "not readily quantifiable" "increased water supply" to PacifiCorp through "participation by off-Project groundwater users in the

Bureau of Reclamation's Klamath Basin Water Bank." KOPWU/202, Rozaklis/6. The Water Bank is a program where the BOR uses federal taxpayer money to temporarily lease water from willing-seller irrigators, on an annual basis. The purpose of the Water Bank is to augment lower Klamath River flows for Endangered Species Act listed coho salmon and to help maintain ESA-mandated minimum lake levels in Upper Klamath Lake. See KOPWU/202, Rozaklis/24 for further description. The Water Bank was established by the National Marine Fisheries Service in its Biological Opinion ("Bi-Op") for the Southern Oregon-Northern California Coho.²

There are at least two reasons that it would be ill-advised to base any part of a reduced electric rate on KOPWU members' participation in the Water Bank. First, they have already been fully compensated with federal taxpayer money to sell water to the Water Bank. Landowners who voluntarily participate in the Water Bank are already paid approximately \$75/acre-foot for groundwater.³ Double-dipping and double-counting – essentially double-charging Oregon taxpayers - by allowing an electric rate credit claim for this same water should not be permitted.

Second, the Water Bank is a temporary program, currently scheduled to last only until 2012, when the Bi-Op expires.⁴ It would not be reasonable to base a power rate on something as fluid as a temporary pilot program established by a ten-year Bi-Op.

- v. Williamson and Sprague additional inflows claimed by KOPWU are also illusory.

² Available at: <http://www.usbr.gov/mp/mp150/envdocs/kbao/KpopBO2002finalMay31.pdf>

³ See BOR document "Klamath Basin Pilot Water Bank," located on the web at: http://www.usbr.gov/mp/kbao/pilot_water_bank/latest_primer_waterbank.pdf.

⁴ Because the low streamflow problem that the water bank is addressing will remain, it is reasonable to assume that some kind of streamflow restoration will continue. Whether it is the Water Bank or something else (for instance, permanent demand reduction through a willing seller buyout program) is not known.

Mr. Rozaklis (KOPWU/202, Rozaklis/20-21), based on some documents put into evidence by Mr. Bartell (KOPWU/107 & 108, Bartell), makes an incorrect analysis concluding that agricultural practices have added as much as 200,000 acre-feet per year to the Sprague and Williamson river systems. As Balance Hydrologics notes, this is incorrect, and the studies cited in support of KOPWU's assertion do not in fact support it. ONRC et al./2004, Balance/4-7. The hydrological analysis by Balance indicates that any in-stream flow water differences highlighted in the reports cited by Mr. Bartell can be readily explained as simply a result from long-term differences in rainfall over the two comparison study periods:

High-recharge or very wet years have a disproportionate effect on flows, one that can persist for several years . . . Since there are unequal numbers of high-recharge years during the two periods under inquiry (as one example, there were no years exceeding 20 inches at Klamath Falls from 1918 to 1950, but 5 such years from 1950 through 1996), this fact alone may account for much or all of the observed differences.

ONRC et al./204, Balance/5, footnote 3.

Once again, the additional flows claimed by KOPWU turn out to be illusory.

vi. Summary

In summary, KOPWU has painted a picture of Klamath Basin hydrology that does not exist, to support a theory that is simply not believable. Irrigated agriculture is and always has been a net consumptive user of water and does not somehow create an “increased water supply.” All or nearly all the water claimed as “increased water supply” by the Off-Project water users is illusory – nothing more than “paper water” created by pervasive and deliberate hydrological errors and unrealistic assumptions. KOPWU's “increased water supply” theory is akin to a business financially analyzing only its income, but entirely ignoring all its debts and liabilities.

- (b) KWUA’s hydrologic analysis is also fatally flawed, and based on an artificial distinction that has nothing to do with water amounts.

While KOPWU simply ignores its overall consumptive use in its water calculations, KWUA acknowledges its consumptive use but explains that it deliberately does not count any of that consumptive use as reductions of total river flows on the theory that the water rights of the BOR’s Klamath Project (“Project”) are senior to PacifiCorp’s water rights.⁵ KWUA/300, Van Camp/18-19 (“Exercise of these [senior] rights is treated as part of the baseline . . . ”). In other words, KWUA’s proposal turns a river depleted by the Project’s intensive summer water diversions into the environmental baseline, and then counts as credits any irrigation return flows, always therefore arriving at a positive “increased flow” number credited to KWUA. See KWUA/300, Van Camp/18-19; Transcript at p. 180-183.

Obviously, the priority dates of water rights have nothing to do with actual consumptive impact on streamflows, thus this approach makes KWUA’s claims of “increased flow” hard to take seriously. KWUA’s additional misrepresentations regarding water rights and water law is addressed in section 4 below; this section addresses actual streamflow reductions from KWUA’s water use and associated problems with KWUA’s water balance analysis.

⁵ BOR and KWUA (and various irrigation districts) have unadjudicated claims for often overlapping amounts of Klamath water. As part of the adjudication, a recent interim order in an administrative hearing before the Oregon Water Resources Department denied the claims of KWUA and found that BOR’s claims to the water should be allowed. In the Matter of the Determination of the Relative Rights of the Waters of the Klamath River, a Tributary of the Pacific Ocean, Interim Order in Lead Case No. 003 (January 23, 2006). Based on this ruling, and the text of KWUA’s testimony, we refer to the rights under which KWUA takes water (under contract with BOR) as the BOR’s water rights.

KWUA's witness, Mr. Van Camp, has adopted a water balance method that simply ignores all consumptive use. This approach is not mathematically valid, but rather a slight-of-hand trick used to get illusion of "increased flow." No mathematically valid water balance sheet can ever simply categorically exclude all diversions as subtractions (regardless of the priority dates of the water rights under which that water is diverted), counting only irrigation returns as credits. Such an approach does not present a true picture of net Klamath River streamflow impacts imposed by the On-Project water users.

In fact, On-Project water users are net water diverters, not suppliers, because of the large volumes of water consumptively used by crops. BOR's own 2005 Operations Plan reports that even during the dry water year of 2005, the Klamath Irrigation Project water withdrawals at the A-Canal intake (the main diversion point for On-Project irrigation) were scheduled to be around 299,000 acre-feet, and the 43-year average diversion for similar dry years 322,700 acre-feet. Staff/1502, McNamee/12. During average rainfall or wet years, when water is more plentiful, diversions at A-canal could be expected to be greater.

As Staff points out, even taking KWUA's claimed return flow added water amount of 261,000 acre-feet (KWUA/300, Van Camp/21) at face value, Project water operations, and the associated KWUA water use, still removes far more water from the Klamath River system than it returns. That difference between water inflows and outflows never makes it through PacifiCorp's turbines because it has been consumptively used to grow crops instead. This type of water consumption is, in fact, what the Project is designed to achieve.

As Staff explains of both the KWUA and KOPWU water calculations:

“The above calculations are fundamentally flawed in that the additional flows claimed by the parties do not take into consideration the water withdrawals (from both surface waters and ground aquifers) that Off-Project and On-Project agricultural operations require. By its very nature, agricultural irrigation is a net consumptive process (e.g., crops utilize water and additional losses are incurred via evaporation). While it is accurate that, for most agricultural irrigation projects, a portion of the irrigation water withdrawals will eventually return to the watershed’s natural flow of surface and ground water, it will always be less than 100 percent. In essence, it appears that the Klamath Irrigators are claiming that PacifiCorp should compensate them for return flows to the Klamath River that are less than their water withdrawals from the watershed’s surface water and ground aquifers.”

Staff/1502, McNamee/10-11.

Mr. Van Camp himself calculates On-Project crop consumptive water use at 305,600 acre-feet per year on average. KWUA/300, Van Camp/20. Mr. Van Camp even recognizes that this estimate is likely low (“My calculation method is also conservative in that it does not take into consideration conveyance and other losses that occur in delivering water for beneficial use” (KWUA/300, Van Camp/20), which Balance Hydrologics further explains. ONRC et al./204, Balance/13-14 (citing studies by Kent (1905) and Burt and Freeman (2003) finding Klamath Project irrigation system conveyance losses at typically between 10 to 20%, and potentially much higher when multiple water recycling repeatedly exposes the same volume of water to conveyance losses.) Multiple exposures to evaporative and irrigation transit system losses are prevalent throughout the On-Project area, as Mr. Van Camp explains:

It [the Klamath Irrigation Project] consists of many diversions and flow regulating structures, pumps and hundreds of miles of irrigation and drainable canals, laterals and ditches . . . The Project is designed such that operational spills, together with irrigation return flows, are recaptured and re-diverted for use on other lands of the Project. This contributes to a high overall irrigation efficiency of the Project.

KWUA/300, Van Camp/5; see also KWUA/300, Van Camp/16 (“In the operation of the Project, diverted water is recaptured and reused . . . [R]eturn flows and operational spills

from one area become the source of supply to other areas.”).

Thus Mr. Van Camp’s figures for total consumptive use, once adjusted for irrigation conveyance losses, would be much higher still.

Nevertheless, even Mr. Van Camp’s admittedly low estimate of 305,600 acre-feet of consumptive use, that fails to account for very substantial conveyance losses, still exceeds his estimated added water amount of 261,000 acre-feet by around 44,600 acre-feet. This again shows that On-Project water use causes an actual net loss of water to the Klamath River system.

- (c) BOR’s hydrologic analysis counts the same water as KWUA and some of the same water as KOPWU, and suffers from the same fatal flaws.

The BOR, in testimony by Mr. Lesley, describes its complicated water management system and concludes that it, too, is sending increased water down the Klamath River. BOR’s analysis also exhibits many of the same problems, false assumptions and mathematical errors that plague KOPWU and KWUA’s hydrologic analyses. Also, BOR’s claimed water is the same water claimed by KWUA and some of the same water claimed by KOPWU, and is not additive.

Essentially, BOR claims it should be credited for alleged extra water associated with the following:

- (1) Destroying natural storage by draining huge acreages of natural lakes, wetlands and marshes (Reclamation/Service/2, Lesley/4-5);
- (2) Creating artificial storage (Reclamation/Service/2, Lesley/6);
- (3) Lost River flows (id.);
- (4) Pumping water through the Straits Drain (id.);

- i. BOR’s claims regarding storage are logically inconsistent.

BOR wants credit both for destroying natural storage and for creating artificial

storage. BOR can't have it both ways. The fact is that destruction of natural storage in the basin has tended to increase fall and winter flows, but reduce summer flows. See ONRC et al./205, Balance/41 ("The Project has also changed the seasonal distribution of flows, sometimes increasing fall and early-winter storm runoff, and usually decreasing summer flows."). Creation of a lesser amount of artificial storage may help ameliorate these impacts, but cannot reverse them.

BOR's witness Mr. Lesley explains that:

[BOR's Klamath Project is] essentially a drainage project, not a large water storage project. Lands were developed for irrigation by draining Lower Klamath Lake and Tulelake.

Reclamation/Service/2, Lesley/4.

Mr. Lesley then asserts that the drainage features developed by BOR (to drain the basin's natural water storage features) "have increased the water available to the Hydroelectric Project by a substantial quantity." Id. at 5. BOR again fails to mention that destruction of the basin's natural storage has actually reduced summer flows, precisely when flows would be most valuable to PacifiCorp for power production. ONRC et al./205, Balance/40-41. Importantly, as discussed further in Section 2(a) below, most of any extra water resulting from the destruction of storage in the basin augments winter flows when it is largely unusable for power generation. PPL/1800, Smith/9 ("The most significant return or enhanced flows typically occur at a time when the project is experiencing surplus flow in the Klamath River resulting in water spilled past project generation facilities"). Also, Mr. Lesley bases this assertion on the BOR's own internal flow study (also relied on by Rozaklis). That study, "Undepleted Natural Flow of the Upper Klamath River," has not yet been peer-reviewed. A number of analysts have said

it is riddled with flaws. See ONRC et al./204, Balance/25-26 (Appendices I & II).

Mr. Lesley next asserts that storage in Reclamation's constructed facilities allows for increased river flows during late summer and provides flood control, which reduces power outages. Reclamation/Service/2, Lesley/6. However, Mr. Lesley never explains how it can be the case that BOR's constructed storage improved flows, but BOR's destruction of the basin's far larger pre-development natural storage has also improved flows.⁶ Nowhere in its testimony does BOR acknowledge the need to account for the loss of natural storage destroyed and replaced by lesser capacity reservoir based storage.

- ii. The BOR fails to deduct its massive summer withdrawals from the Klamath River.

Mr. Lesley also does not rectify his statement regarding the importance of summer flows (Reclamation/Service/2, Lesley/6) with the fact that summer is when tremendous amounts of water are being consumed by commercial irrigated agriculture on (and off) BOR's Klamath Project. Staff/1500, McNamee/12 (average historic dry water year withdrawals from Klamath Lake was 322,700 acre-feet; ONRC et al./301, Priestly/6-7 (Klamath Project consumptively uses around 350,000 acre-feet/year, citing Oregon State University & University of California draft Report on Water Allocation in the Klamath Basin.)

Like KWUA, BOR has simply failed to acknowledge or deduct its consumptive use from the water it purports to add to the Klamath River. Here again, the result of a proper water impact equation would inevitably be negative, i.e., in fulfilling its irrigation water delivery mandate, the Project is a net water consumer. Only a fraction of the water diverted is ever physically returned to the Klamath River. The Project's net impact on

water flows that were part of the original natural hydrology of the basin is negative by precisely the amount of water used for crop consumption, plus irrigation system conveyance and evaporative losses and seepage.

- iii. BOR's Lost River analysis does not hold up to scrutiny.

Mr. Lesley explains that the Lost River Diversion Channel was developed to “divert flood flows and excess irrigation flood flows” from the Lost to the Klamath River. Reclamation/Service/2, Lesley/4. BOR seeks reduced power rates, in part, for the 165,200 cfs that Mr. Lesley cites as discharging from the Lost River to the Klamath River annually. Id. at 6.

However, the Lost River Diversion Channel is also used to divert Klamath River water into the Lost River for irrigation use. KWUA/300, Van Camp/7. Diversions from the Klamath River to the Lost River are substantial and occur during summer months for irrigation. ONRC et al./204, Balance/2. This summer water is more valuable for power generation than the winter water discharged from the Lost River to the Klamath River. PPL/1800, Smith/9. In addition, water flowed from the Lost River system to the Klamath system naturally at times prior to BOR's re-engineering its hydrology (ONRC et al./204, Balance/2) but BOR wants credit for all Lost River water. Finally, to the extent any water moves from the Lost to the Klamath River during irrigation season, which is generally unlikely⁷, this water would then be available for diversion into several downstream diversion canals and cannot be assumed to travel to PacifiCorp's dams.

- iv. Due to the claimed high efficiency of the Klamath Project, any discharge through the Straits Drain

⁶ KOPW's testimony also relies on the concept that destruction of the Klamath Basin's natural water storage is good for flows, and that testimony suffers from the same defect as BOR's on the topic. KOPWU/202, Rozaklis/6.

⁷ See, for example, KWUA/300, Van Camp/6.

during the irrigation season represent only a small fraction of the water consumptively used.

Regarding the Straits Drain, Mr. Lesley also explains that it delivers “accumulated agricultural drainage and flood waters to the Klamath River.” Reclamation/Service/2, Lesley/5. KWUA and others have consistently reported that the Klamath Project is “highly efficient,” meaning that a very high percentage of the diverted water is consumptively used. Mr. Van Camp explains it this way:

In the Klamath Project, system-wide efficiency is high due to significant re-use of diverted water. For example, water diverted at A Canal initially serves lands in the KID [Klamath Irrigation District] service area. Applied water and other diverted water exceeding the demands of crops in the KID service area (‘return flow’ and “operational spills” as described previously) is discharged to drains and the channel of Lost River. This water then becomes a source of supply for use within other areas of KID or for use within other claimants’ place of use including TID [Tulelake Irrigation District] . . . This significant reuse occurs in numerous areas and the result is a high system-wide efficiency.

KWUA/300, Van Camp/10-11.

This high efficiency means that, as compared to the amounts diverted for irrigation, there simply is not a lot of accumulated agricultural drainage. Each time this water recycling occurs, more water is consumptively used for crops, more is lost to natural evaporation and seepage from canals and ditches, and less becomes available to ultimately flow into the Klamath River. The implications are that: (1) summer flow losses exceed returns (which is consistent with the discussion in ii above); and (2) most of the Straits Drain discharge is probably winter time “flood waters” with little to no hydrogeneration value.

- v. BOR is claiming to add the same water as KWUA and KOPWU.

Because BOR is claiming all the water discharging from the Straits Drain and the

Lost River as its added water, its claim overlaps with those of KWUA and KOPWU and is not additive. For example, much of KOPWU's claimed added flows also come from the Lost River. See ONRC et al./402, Rozaklis workpaper (showing that 52% of the Off-Project groundwater irrigated acreage occurs in the Lost River basin). Thus KOPWU is already claiming credit for a significant amount of water discharging from the Lost River and the claims of KOPWU and the BOR cannot be additive. Similar issues exist at the Straits Drain.

- vi. The purpose of the BOR's construction and operation of its facilities has nothing to do with helping PacifiCorp generate hydropower.

Importantly, Mr. Lesley has explained why the Lost River Diversion Channel was constructed (Reclamation/Service, Lesley/4) and it had nothing to do with providing water to PacifiCorp's hydro generation facilities. Likewise Mr. Lesley explains that pumps located at the Straits Drain were installed for the purpose of draining the Lower Klamath Lake. Id. at 5. These were not actions taken to benefit PacifiCorp and so should not be viewed as holding up the BOR's part of some illusory "credit for value" deal. As the rebuttal testimony of William McNamee noted at Staff/1502, McNamee/13:

"In addition, I believe that the USBR and other irrigators should not be compensated for return flows resulting from drainage and flood control practices that are necessary to maintain the agricultural usefulness of the KIP lands. These are not activities that the irrigators are directly undertaking for PacifiCorp's benefit."

The Commission should take the same position.

- (2) On the whole, hydrologic changes brought about by irrigated agriculture in the Klamath Basin do not benefit hydropower generation.

- (a) Changes in natural hydrology caused by irrigation operations have harmed, rather than helped, PacifiCorp's power production.

The existence of the Klamath Project, along with the Off-Project irrigated lands, have greatly altered the natural hydrology of the basin and affected Klamath River flows. Some of these key changes are described by Balance Hydrologics in a 1996 report regarding the hydrological impacts of the project on instream flows and fishery habitat:

Based on analyses completed during this investigation, the Project has affected flow in the Klamath River in the following ways:

- A significant proportion of the reduction in flows at the mouth of the Klamath River from pre-Project conditions is attributable to the development and operation of the Klamath Project . . .
- The Project has also changed the seasonal distribution of flows, sometimes increasing fall and early-winter storm runoff, and usually decreasing summer flows.
- The increased fall and early-winter peak flows associated with the Project probably result from reduced areas of natural wetlands, the extensive network of drains (which speed flows formerly detained in lowlying areas to the river), increased runoff from lands retaining soil moisture from late-summer and fall irrigations, and diversions of storm runoff from the Lost River system. Other processes, as well as areas beyond the Project boundaries, may also contribute. The increased early-winter storm crests are of concern because they can prematurely scour the gravels of incubating chinook and other salmonid eggs.
- Under pre-Project conditions, during droughts, the upper Klamath basin was a vital source of sustained summer flow, probably contributing 30 to 40 percent (or more) of the flow at the mouth of the river. During the past 35 years, the proportion of flow originating from the upper basin has progressively decreased during the summers of droughts and dry years, such that it now often provides 5 to 10 percent of the flow at the mouth.
- Project development has contributed to diminished water quality in (and emanating from) the upper Klamath basin. Direct effects include an increase in nutrients and elevated water temperatures. Indirect effects include diminished dissolved oxygen and elevated pH values. All of these impacts probably have adverse effects on salmonids, especially during early life stages . . .

ONRC et al./205, Balance/40-41 ((Hecht and Kamman (1996), Initial Assessment of Pre-And Post-Klamath Project Hydrology on the Klamath River And Impacts of the Project on Instream Flows and Fishery Habitat) (emphasis added).

This is consistent with the testimony of PacifiCorp's operational manager for the Klamath Hydroelectric Project, Mr. Smith, that:

“The most significant return or enhanced flows typically occur at a time when the project is experiencing surplus flow in the Klamath River resulting in water spilled past project generation facilities. However, as recently as this past water year which ended September 30, 2005, US Geological Survey streamflow records showed that there had been a net loss of water from the river between Link River and Keno Dam (Lake Ewauna).”

PPL/1800, Smith/9.

The impact of these dramatic hydrologic changes on PacifiCorp’s hydropower generation at downstream facilities is that any “added water” provided by the Project and Off-Project operations (if any) comes mostly during the winter when additional water is often not usable for hydropower generation, and can even pose management problems (see PPL/1802, Smith/1-4). Compounding this problem is the fact that summer flows, which are much more readily utilized in power production due to lower flow conditions, are actually reduced today as compared to natural conditions. As PacifiCorp’s witness, Mr. Karpack, observed in analyzing Mr. Van Camp’s testimony:

There are typically three to six months each year when the flow at Keno is less than the Adjusted Net Inflow to Upper Klamath Lake. During these periods, the Klamath Project and other users apparently store or withdraw more water from the Klamath River than is returned to the river via natural pathways or drainage ditches.

PPL/2100, Karpack/4.

In summary, summer flow reductions due to massive summer irrigation development in the basin, combined with loss of natural storage that historically contributed to summer flows, impact PacifiCorp’s ability to generate power in the summer. Meanwhile, unnaturally high fall and winter runoff has created, largely from destruction of the basin’s natural storage ability and construction of drains, flows that are largely unusable for hydropower generation, and can cause other problems. These hydrologic changes are simply not beneficial for power generation, and the irrigators

should not receive a credit for them under that unsupportable theory.

- (b) Even if there was any “added water,” Endangered Species Act - mandated minimum flows and minimum lake levels would make those contributions from irrigation meaningless.

Unlike 50 years ago, when these power rate contracts were negotiated, the BOR’s water management must conform to mandatory legal constraints designed to maintain Upper Klamath Lake levels and lower Klamath River flows. These constraints, largely imposed by the Endangered Species Act (“ESA”), are intended to address the needs of imperiled Klamath Basin fish.

The lower Klamath River flows were mandated by the National Marine Fisheries Service (NMFS) to protect coho salmon, which were listed under the federal ESA in 1997. ONRC et al./104, McCarthy. The ESA today requires the BOR to provide certain minimum flows at Iron Gate Dam.⁸ In other words, these are now mandatory minimum flows that the BOR must provide regardless of any other circumstances. Only water volumes above and beyond these legally required minimum flows could legitimately be considered as “additional water” or be counted as consideration to PacifiCorp for any hypothetical future rate credit. Rarely (if ever) during summer months have these legally required minimum flows been exceeded.

Additionally, two species of Upper Klamath Lake fish (Lost River and shortnose suckers) were ESA listed in 1988. See ONRC et al./105, McCarthy. A Biological Opinion, issued by the U.S. Fish and Wildlife Service in 2002,⁹ also requires certain

⁸ NMFS’s Coho Biological Opinion for Klamath Project Operation (May 31, 2002) (available on the web at: <http://www.usbr.gov/mp/mp150/envdocs/kbao/KpopBO2002finalMay31.pdf>), which requires the BOR to provide certain minimum “target flows” at Iron Gate Dam.

⁹ Biological/Conference Opinion Regarding The Effects Of Operation Of The U.S. Bureau Of Reclamation’s Proposed 10-Year Operation Plan For The Klamath Project And Its Effects On The Endangered Lost River Sucker (*Delistes luxatus*) Endangered Shortnose Sucker (*Chasmistes brevirostris*)
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minimum Upper Klamath Lake levels to be maintained by the BOR throughout the year, particularly during the summer months.

These two mandates now severely limit or eliminate PacifiCorp's ability to use in power generation any added water from the irrigators,¹⁰ if it existed, as explained by PacifiCorp's witness Mr. Smith:

Since 1997, and as ESA requirements have increasingly constrained PacifiCorp's operations, it has become increasingly difficult to consider any inflow from the irrigation project as providing a positive value. While it's true some of the water does produce generation, that same water can create operational and financial risk and can disrupt generation schedules.

I have to say that we have no definitive evidence that providing discounted rates to irrigators in the Basin now provides value to the Company's hydroelectric operations. The potential uncertainty introduces increased risk that must be mitigated by the Company's hydroelectric system downstream from the irrigators.

PPL/1800, Smith/4-5.

Mr. Smith further explains:

However, in the case of stored water available for flow through the Klamath hydroelectric facilities, water management policy is largely controlled by constraints that do not align with maximizing value of hydroelectric generation. Management of Upper Klamath Lake is focused on Endangered Species Act ("ESA") requirements and irrigation supply, which has reduced the volume of discretionary water available to the river . . . This means that PacifiCorp and its customers are not able to extract the value from Upper Klamath Lake that existed previously.

PPL/1802, Smith/4-5.

These minimum lake levels must be maintained at all times for BOR to be in compliance with the ESA. This means that any of the alleged extra water flowing into Upper Klamath Lake would always go first towards maintaining these mandatory

Threatened Bald Eagle (*Haliaeetus leucocephalus*) and Proposed Critical Habitat for the Lost River and Shortnose Sucker, may 31, 2002. Available on the Internet at:

http://www.usbr.gov/mp/mp150/envdocs/kbao/Final_2002_KPOP_BO.pdf.

¹⁰ We do not mean to imply that PacifiCorp is merely an innocent recipient of these ESA mandates; PacifiCorp's dams on the Klamath River certainly are part of the problem for ESA listed coho.

minimum lake levels and thus would not necessarily be allowed to move downstream to PacifiCorp's hydropower facilities, particularly during the summer months when irrigation withdrawals are at their maximum.

There are also numerous other current and likely future legal constraints on PacifiCorp's ability to count any "added water," if it did exist, as a benefit for its power production. These constraints include or might include in the future: (a) Clean Water Act requirements which are increasingly requiring minimum flows and bypass flows to maintain river water quality, some of which are likely to come out of the current FERC relicensing of the Klamath Hydroelectric Project¹¹; (b) FERC minimum flows and required ramping rates, also likely to come out of the current FERC relicensing; (c) lake level and flow constraints that may be imposed in the future to help satisfy senior Tribal water rights. All BOR water claims and rights (and all other Klamath Basin water claims or rights) are junior to the most senior water rights, dating "from time immemorial," held by the Klamath Tribes (United States v. Adair, 723 F.2d 1394, 1414 (9th Cir. 1984)). Although these water right requirements have not yet been adjudicated, they may well result in minimum Upper Klamath Lake level requirements to maintain traditional native fisheries. There are corresponding senior water and fishing rights vested in the lower river Tribes which may mandate additional lower river flows to protect salmon fisheries. These senior Tribal water rights will be discussed in the briefs of the Hoopa Valley and Yurok Tribes.

¹¹ The current 50-year FERC license expires in April of 2006. Additional Clean Water Act restrictions are likely to come out of the current FERC relicensing process for the Klamath Hydroelectric Project (FERC Docket No. P-2082-027) through the Federal Power Act's Section 401 state water quality certification process. There are also ongoing Clean Water Act TMDL water quality standard rule-making procedures in both Oregon and California. See Staff/1500, McNamee/7.

The irrigators' experts simply did not account for the ESA or other constraints in their already flawed calculations of the benefits they believe they provide to PacifiCorp's hydropower facilities. See ONRC et al./204, Balance/21 ("These ESA-mandated constraints have substantial affects on river flows available for power generation, were not considered by Bartell, Rozaklis or Van Camp in their analyses, and can considerably diminish any value from whatever additional inflows, if any, might exist.")

In summary, even assuming, arguendo, that there was any added water from irrigated agriculture, constraints on Upper Klamath Lake levels and lower Klamath River flows mandated largely by the ESA (and potentially by other statutes) would largely eliminate any value that this water might have otherwise had to PacifiCorp's hydropower facilities.

- (3) Water law principles and the water rights and claims at issue here dictate rejection of the irrigators' theories.
 - (a) KWUA misrepresents the relevance of the seniority of the Proejct's water rights to PacifiCorp's.

KWUA attempts to defend its failure to account for its consumptive use by stating that the Project's water rights, under which its members are served, are senior to PacifiCorp's. As Mr. Van Camp explains:

"Stated another way, the approach considers positive changes to the flow at Keno, but does not penalize the Project for exercise of its senior water rights. Exercise of these rights is treated as part of the baseline condition as it relates to Klamath Project Operations."

KWUA/300, Van Camp/18-19.

KWUA fails to see that the seniority of the Project's water rights, as compared with PacifiCorp's, only shows that the Project and its irrigators can legally deprive PacifiCorp of water. It does not, make that streamflow reduction disappear as a detriment to

PacifiCorp's hydropower generation capacity.

The subordination of PacifiCorp's hydroelectric rights to the Project's irrigation claims¹² further establish this point. See KWUA/404 for a description of PacifiCorp's hydropower rights and claims and subordination provisions. The fact that PacifiCorp's hydropower rights are subordinate to irrigation rights simply makes it legal from a water rights perspective for irrigators, regardless of the priority date of their claim or right, to consumptively use water even if that use deprives PacifiCorp's facilities of water. Thus what the subordination clause shows is that the irrigators are legally entitled to reduce the amount of water available for hydropower generation; KWUA simply cannot twist this plain fact into support for its "added water" theory.

Another problem with KWUA's misrepresentations about water rights is that it neglects to mention that all of the claims and rights held by KWUA and the BOR are junior to the those held by the Klamath Tribes, which date "from time immemorial." United States v. Adair, 723 F.2d 1394, 1414 (9th Cir. 1984). The Tribes on the lower Klamath River, including the Yurok and Hoopa Valley Tribes who are intervenors in this proceeding, also hold recognized water rights. Recognition of the seniority of these tribal water rights arises from tribal treaty obligations, which under the U.S. Constitution are the law of the land.

Finally, Staff notes that the Klamath Basin is currently being adjudicated to determine the status of old claims for water. Staff/1500, McNamee/6. While Staff reports that 77% of the claims have been adjudicated (id.), it is equally important to point out that those claims that remain unadjudicated are among the largest and most

¹² In Oregon, a water "claim" is a claim for use of water that began prior to 1909, when Oregon established its water code that required users to apply for water rights. Claims are adjudicated by the State to determine whether a water right should be issued and what the details of that water right would be.

complicated, including the Tribal water claims. The ongoing status of the adjudication and the unknown resolution of difficult issues has made it very difficult for Oregon to effectively manage the water resources of the Klamath Basin. Certainly until the adjudication process is complete, and especially recognizing the well established seniority of the Tribal claims, it would be very inappropriate for this Commission to afford the irrigators special treatment based on any representation that they hold senior water rights.

- (b) Even if there was added water resulting from agricultural return flows, which there is not, under Oregon water law that water would belong to the public, no irrigator would retain any type of interest in it, and it couldn't be used for hydropower generation.

Even if the irrigators had shown that their irrigation practices somehow added water to the river, the claim that they retain an interest in that water once it leaves their property could not be more incompatible with every relevant Oregon water law principle and statute. Further, if this claim were upheld and applied across the state, it would lead to major breakdowns in state natural resource management.

Under Oregon law, “[a]ll water within the state from all sources of water supply belongs to the public.” ORS 537.110. A person may be granted a right to use the public’s water only if that person shows that he/she can put the water to “beneficial use.” Oregon water law recognizes that “[b]eneficial use shall be the basis, the measure and the limit of all rights to the use of water in this state.” ORS 540.610. The term beneficial use is not specifically defined in Oregon law but ORS 536.300(1) lists as examples domestic, municipal, irrigation, power development, industrial, mining, recreation, wildlife, fish life uses and pollution abatement.

Additionally, a water permit or certificate only gives the holder the right to use the water for the beneficial use identified in the permit. ORS 540.510. Appropriation of water for purposes not identified in the permit or certificate is grounds for forfeiture. Hennings v. Water Resources Department, 50 Or.App. 121, 622 P.2d 333 (1981) (upholding an Oregon Water Resources Department forfeiture action against a permit holder who used water for purpose other than the beneficial use of irrigation identified in the permit). Thus, Oregon law recognizes no right of the irrigators under their irrigation permits to use any of their water (even if, arguendo, they could retain an interest in return flow) for PacifiCorp's downstream hydropower generation. This is simply not a beneficial use identified in the permits and certificates under which they appropriate water for irrigation.

Another central principle of Oregon water law relevant to the irrigator's "added water" theories is that "all of the waters within this state belong to the public for use by the people for beneficial purposes without waste." ORS 536.310(1). Waste, in this context, is the quantity of water diverted that exceeds the amount needed to achieve the beneficial use (e.g. growing a particular crop on a particular piece of land). Water law generally does not define as "waste" reasonable amounts of water loss from things like transmission and evaporation; however, a water right holder who regularly diverts far more than his crop can use may be committing waste in violation of his permit.

These statutes and principles together soundly negate the irrigators' claims that they retain any interest, economic or otherwise, in the return flow from their fields or that they can somehow cause that water to be used for hydropower generation. In fact, if a large percentage of the diverted water is running off without being beneficially used, this

may be a violation of their Oregon water permits. No matter what amount is running off the fields after the beneficial use is met, plainly this water again belongs to the Oregon public. ORS 537.110.

In summary, the principle of retained interests in return flows to be used for downstream hydropower generation, asserted by KOPWU, KWUA and BOR, could not be more incompatible with Oregon water law. Oregon water law is built on the foundation of public ownership of all waters combined with the related principle that people be permitted to use the public's water only for beneficial use without waste and only for the beneficial use identified in the permit or certificate. This foundation simply cannot support the irrigators' assertion that they retain some kind of interest as their return flows are used downstream for hydropower generation. If such a claim were to be validated here, many other entities around Oregon could bring the same case forward. This is not a path Oregon should head down.

Oregon PUC staff observes that "[t]his proceeding is not the proper forum for resolving Klamath Basin water resource allocation issues." Staff/1500, McNamee/20. That is probably true, but perhaps a more important caution is that it is not the proper forum to radically rewrite Oregon water law in a completely unworkable fashion.

- (5) Oregon should not set a precedent of rewarding people for destroying wetlands or compacting their land even if the result is more runoff.

Even odder than their claims of some retained interest in return flows is the irrigators' claims that they should get a rate credit for land use changes that reduce the infiltration of water into the ground or retention in natural wetlands and marshes, resulting in more runoff to the streams. See, for example, KOPWU/202, Rozaklis/22, 23-

24. First, there is no claim that these land use changes, such as the logging that Mr. Rozaklis discusses (id. at 24), occurred on land owned by or were implemented by, members of KOPWU or KWUA, or that they were somehow conducted utilizing power under the On- or Off-Project Agreements. More importantly, though, there is no precedent for rewarding such land use changes, which would wreak havoc on Oregon's natural resources management, and it is antithetical to Oregon's goals of good land stewardship.

In a telling exchange, KWUA's expert, Mr. Schoenbeck, incorrectly asserts that the absence of reduced power rates for people who pave their driveways (and live upstream of power generating dams) is because those actions are *deminimus*. Transcript at p. 222, line 11 to p. 223, line 4. Presumably then, a big enough property owner who paved his land might well qualify for such a rate credit.

In Oregon (and elsewhere), landowners simply do not get rewarded for damaging the land's ability to soak up and process water, whether through destroying wetlands or compacting the ground, because that would be bad public policy. Cities and huge land developers that cause measurable runoff by paving vast acreages with impermeable surface do not get cheaper power rates or any other type of reward for this hydrological effect. Rather, in today's scientifically informed world, it is recognized that reduced water infiltration is directly linked to problems such as higher peak flood flows, and in some cases, reduced groundwater recharge. Because of these recognized problems, one goal of modern land management is to avoid causing unnaturally large amounts of overland flow as runoff from properties, and certainly not to reward it.

It is simply beyond the pale to assert that some benefit worthy of reward accrues

through damaging the ability of one's property to naturally process water.

- (6) Cost of service arguments by KOPWU and KWUA do not hold up to mathematical scrutiny and do not account for the price elasticity of demand.

KWUA's expert, Mr. Schoenbeck, supports his assertion that schedule 33 customers should be declared a separate class partly because "[a]n analysis of [historical monthly usage] indicates the average Schedule 33 customer is 2.7 times larger than the average Schedule 41 customer based upon energy usage." KWUA/102, Schoenbeck/6. However, Mr. Schoenbeck fails to mention that the magnitude of difference in average power use per customer within Schedule 33 is greater than his reported difference between Schedule 33 and 41, as shown in the table below.

Schedule 33 – Average Power Use per Customer by Customer Group for 2002-2004

Schedule 33 Rate Code	Customer	Average No. Customers	Average Power Purchased (MWhs)	Average Power Use per Customer
Rate Code 33	"Certain BOR Customers" (1)	10	2,694	269
Rate Code 35	KOPWU	683	55,563	81
Rate Code 40	KWUA	1,357	58,655	43

Source for data: KWUA/102, Schoenbeck/5 (Schedule 33 – Customers and Sales table).

Notes:

(1) This is how Schoenbeck describes this rate code in the paragraph above the table.

On average, customers under the Schedule 33 rate code 33 use over six times the power as do KWUA members and over three times that of KOPWU members. Further, KOPWU members use nearly twice as much power on average as KWUA members. Given this dramatic range of average power use per customer found within Schedule 33, and the fact that the difference in power use within Schedule 33 is nearly twice as much as that found between Schedule 41 and Schedule 33, it is simply not credible to argue that power use is a valid basis for creating a separate customer class composed of current

Schedule 33 customers. This data does not support a separate class for all Schedule 33 customers.

KOPWU's assertion that the power use of its members is so different from the average found in Schedule 41 is similarly unconvincing. There are 682 Off-Project customers, 1,368 On-Project customers, and 6,281 customers served under the standard Schedule 41. KOPWU/300, Iverson/4 (citing PacifiCorp response to data request). Ms. Iverson draws several comparisons between the 2,050 On- and Off-Project customers and the 6,281 Schedule 41 customers, but she never provides relevant data such as standard deviations or mean averages. The data that Ms. Iverson does present cannot establish that On and Off-Project customers are different from Schedule 41 customers because it is entirely possible that their use mirrors a particular segment of Schedule 41 customers. In fact, reviewing PacifiCorp data, Staff concludes that use distributions between Schedule 33 and Schedule 41 customers are similar. Staff/1500, McNamee/8.

Staff also notes that much of the difference in per customer power usage between Schedule 33 and Schedule 41 users (which drives KOPWU's cost of service argument) would simply disappear once their power rates are similar. The current extremely low rates for Klamath users simply provide no economic incentive to conserve, and thus encourages more energy use:

Assuming the existence of a negatively sloping demand curve for electricity, the higher consumption by Klamath irrigators is significantly correlated to the very low price they pay for electricity . . . Economic theory would suggest that it is likely that a large increase in the price of electricity (i.e., potentially over ten-fold in this case) will lower consumption.

Staff/1502, McNamee/8-9.

If the irrigators had accounted for this price elasticity, it is likely that their unusually high

per customer usage would normalize as compared to other irrigators around the state.

The Commission should not establish a customer class for the purpose of perpetuating a low power rate that contributes to excessive use of power.

- (7) The historical context indicates that the low power rates were intended to expire with PacifiCorp's license, not that they should go on forever.

KWUA, KOPWU and BOR each emphasize various aspects of what they have pieced together regarding the historical context within which the On-Project contract and Off-Project Agreement were formed. While this context may help explain the existence of these agreements, it does not fully illuminate the intentions of the parties fifty years ago and does nothing to support the idea that the terms of these agreements should go on forever. For example, the On-Project agreement contains an expiration date of April 16, 2006. This directly refutes the notion that the drafters intended the lower power rate to go on forever. Importantly, regardless of the intention of the drafters, the Commission has a duty to set just and reasonable rates and this duty cannot be constrained by private contracts. American Can Co. v. Davis, 28 Or App 207, 59 P2d 898 (1977).

The irrigators also urge the Commission to provide them with low power rates based on the Klamath Compact. The Commission has already determined that the Klamath Compact does not dictate a different rate than that which meets Oregon's "just and reasonable" standard. However, if the Commission uses the Klamath Basin Compact in this proceeding to determine the appropriate power rates for Klamath irrigators, it is critical to contemplate the complete stated objective from which the irrigators have isolated the term "lowest power rates which may be reasonable." Article IV of the Klamath Basin Compact states in full:

It shall be the objective of each state, in the formulation and execution and the granting of authority for the formulation and execution of plans for distribution and use of the waters of the Klamath River Basin, to provide for the most efficient use of available power head and its economic integration with the distribution of water or other beneficial uses in order to secure the most economical distribution and use of water and lowest power rates which may be reasonable for irrigation and drainage pumping, including pumping from wells.

(Emphasis added).

Overlooking for a moment the question of whether the paragraph's stated purpose renders it irrelevant to today's question, the Commission must recognize that Article IV's twin goal to securing lowest power rates which may be reasonable is that of securing the most economical distribution and use of water. For the drafters to have included this as one of the goals when they wrote this water-sharing strategy fifty years ago was prescient: today even in years of normal precipitation there is not enough water to meet all the legitimate needs in the Klamath Basin.

Salmon runs have been devastated by lack of water and water quality problems associated with agriculture, and Tribal water rights – the oldest in the Basin - continue to go unmet. ESA listings (see ONRC et al./104 & 105, McCarthy), Clean Water Act listings (see Staff/1550, McNamee/7-8), and commercial fishing die-offs (ONRC et al./106, McCarthy) and fishery closures indicate that there are very high economic and environmental costs associated with the current distribution formula for water in the Klamath Basin, and that this distribution is likely not the “most economical distribution and use of water” that the Compact drafters strove for. While the ESA, Clean Water Act, salmon fishing closures and the current body of law regarding the extent of Tribal water rights were unknown in 1956, any effort today to apply the Compact must consider all of

these water needs to ensure the economical distribution of water in the basin.

The American Heritage Dictionary defines economical as “[n]ot wasteful; prudent; sparing.” Power rates influence achievement of this first goal because irrigation electric rates affect the distribution, conservation and use of water. See Reclamation/Service/1, Cole/3 (“As water conservation increases along with power rates . . .”); ONRC et al./103, McCarthy/8-9. Economical distribution of water is simply not possible with the current low power rates, which date back to 1917. If the Commission is to accurately apply the Compact’s twin goals, consistent with its statutory duty to ensure that power rates are “just and reasonable,” it must raise the current power rates to help achieve the most economical distribution of water where one interest (irrigated agriculture) is not held above all others (including healthy salmon runs, viable sport and commercial fishing industry, and Tribal water and fishing interests).

Finally, this is not the first time that the Klamath Basin irrigators have attempted to read into the Klamath Basin Compact entitlements which are simply not there. See U.S. vs. Adair, 723 F.2d 1394, 1414 (9th Cir. 1984), at 1419 (in an action to declare water rights of Klamath Tribes, irrigators argued that Compact limited the federal government’s and Tribes’ water rights; the court disagreed, finding that the Compact was not intended to limit Tribal irrigation, hunting and fishing rights); see also, Klamath Irrigation District v. United States, 67 Fed.Cl. 504, 539-540 (Ct. Cl. 2005) (Klamath irrigators brought claims for monetary damages in consequence of reductions in water deliveries in 2001 and alleged, in part, that their water rights were vested by the Klamath Basin Compact; the Court held that irrigators claims were “subservient” to prior rights of United States and Klamath Basin Indian Tribes and that the Compact, interpreted in

accordance with its “plain meaning,” did not “enhance” the farmers’ rights). Here too, the Compact does not “enhance” the irrigators’ status as compared to all other Oregon ratepayers.

- (8) The majority of the current and projected power costs for the National Wildlife Refuges are incurred in California and are not relevant to this proceeding.

BOR witness Ron Cole describes three costs of moving water to, from or around on the National Wildlife Refuges in the Klamath Basin. Reclamation/Service/1, Cole/2-3.

These three, with Mr. Cole’s reported current average annual cost in brackets, are:

- (1) Klamath Basin National Wildlife Refuge complex’s seven main pumping stations (\$5,300);
- (2) Water bill paid to Tule Lake Irrigation District for commercial farming conducted on Tule Lake National Wildlife Refuge lands, part of which pays for the irrigation district’s power bill (\$92,500);
- (3) Drainage fee for Lower Klamath National Wildlife Refuge paid to BOR that is partially based on electric costs of draining water from the refuge (\$45,000).

Id.

The power use referred to in points (1) and (2) occurs in California and therefore would not be affected by rates set by the Oregon PUC. Tule Lake National Wildlife Refuge is completely within the state of California, and Lower Klamath National Wildlife Refuge is almost completely within the state of California. It is unclear why BOR has included these costs in its briefing to the Oregon PUC. While the chronic water shortages faced by the Klamath Basin’s National Wildlife Refuges is certainly of high concern, the Oregon PUC has no authority regarding the majority of costs identified by Mr. Cole. These costs should be argued in the parallel rate-making case occurring at the California PUC.

- (10) The Commission should not establish a customer class for the purpose of perpetuating low power rates that contribute to inefficient water use.

It would not be reasonable to establish a separate customer class for the purpose of providing low power rates that contribute to inefficient water use. See Reclamation/Service/1, Cole/3 (“As water conservation increases along with power rates . . .”); ONRC et al./103, McCarthy/8-9. The Commission should use its authority to minimize environmental externalities associated with the low Klamath Basin irrigation rates, such as the low summer flows and associated fisheries impacts cited and referred to above, and to ensure that the public interest in instream flows and healthy fisheries, and the interests of the lower river and Upper Basin Tribes, are not harmed by establishment of a customer class by the Commission.

- (11) Even if the evidence regarding water and costs provided by KOPWU and KWUA were accepted, which it should not be, there is still no identifiable, rational, separate customer class.

The group of customers that are currently served under Schedule 33 are diverse and not identifiable as a separate customer class. Every characteristic argued as something that sets them apart from Schedule 41 customers varies just as widely, if not more widely, among Schedule 33 customers, and some argued characteristics simply do not apply to all Schedule 33 customers.

For example, KOPWU consists of members who use power under the Off-Project Agreement. Surface water users who are KOPWU members use power to: lift water out of surface water streams (KOPWU/100, Bartell/10); pump surface water for delivery to fields (KOPWU/202, Rozaklis/7); sprinkler irrigate fields with surface water (id.); and apparently also to irrigate on drained fields with surface water (Transcript at p. 277, lines 3-6, 23-24). These surface water users are undeniably using power supplied under the Off-Project Agreement to remove water from the Klamath River system through their

consumptive use, causing a clear net water loss, and yet they are in the same proposed class of customers for which KOPWU seeks a rate discount based on the alleged added water. Thus added water, even if it was associated with groundwater pumping, simply could not be a basis for putting all KOPWU members into a separate customer class.

The same defect in reasoning applies as between KOPWU and KWUA regarding the cost of service arguments employed by each group. As demonstrated in section 5 above, KOPWU members use nearly twice as much power, on average, as KWUA members, and the ten BOR customers use, on average, three to six times the power as KOPWU and KWUA members respectively. These are huge differences in power usage within this group that do not lend themselves to construction of a customer class based on power usage.

Thus, even if the Commission were interested in establishing a separate customer class, there is no meaningful basis on which to determine who would be in that class. There simply is not a rationale or a combination of rationales that supports a separate customer class for existing Schedule 33 customers.

- C. If it is determined that Klamath Basin should not be included in the same class as other Oregon irrigation customers and a different rate than the standard irrigation tariff is justified, what is the appropriate rate?

There should not be a separate class of customers established for those currently served under Schedule 33, or for any subset of those currently served under Schedule 33.

Customers currently served under Schedule 33 should be moved to Schedule 41.

However, federal Schedule 33 customers, BOR and USFWS, are further addressed in section III below.

- II. Schedule 33 customers should be transitioned from the rates established in the historical contracts using Senate Bill 81.

The provisions of SB 81 will be applicable to this rate change if rate increases in the first year exceed 50% of current rates. The SB 81 provisions should be implemented according to their terms.

Further, the appropriate rates should be determined in this UE-170 rate proceeding, and then transition should be implemented consistent with SB 81. The proposal by KOPWU and KWUA that SB 81 be implemented and then a cost-based Schedule 33 rate be developed at a later time (such as in PacifiCorp's 2007 rate case) should be rejected. See KOPWU/300, Iverson/10-11; KWUA/102, Schoenbeck/4. The Klamath rate portion of the UE-170 rate proceeding was established to resolve this issue and there is no reason to spend additional time and resources re-analyzing the issue in another docket.

III. The Federal Energy Regulatory Commission proposal to decouple the Government dam use charges from PacifiCorp's retail rates appears to be the appropriate mechanism to address meeting the federal interests represented in the UE-170 proceeding.

The Federal Energy Regulatory Commission (FERC) recently issued an order denying the Department of Interior's petition seeking a declaratory order regarding inclusion of the historic power rates on any annual license issued for PacifiCorp's Klamath River Hydroelectric Project (Klamath Project No. 2082). In its order, FERC decided to ensure that Government dam use charges are decoupled from PacifiCorp's retail rates and to set such charges based on the graduated fixed rates set forth in 18 C.F.R. § 11.3(b). See PPL/1908, Richardson/11. To the extent the Department of Interior should be compensated by PacifiCorp, these annual dam use charge rules appear to provide the appropriate vehicle. Such compensation should not be achieved through a retail rate subsidy paid for by other PacifiCorp customers, for which there is no basis in

Oregon or federal law.

CONCLUSION

The appropriate power rate for all of the Klamath Basin irrigators is found in PacifiCorp's standard irrigation tariff, Schedule 41. There is no reasonable basis for establishing a separate customer class for these irrigators. The provisions of SB 81 should be applied to ease the transition to standard rates, as intended.

Respectfully submitted this 6th day of March, 2006

/s/

John DeVoe, OSB # 90247
Lisa Brown, OSB # 02524
WaterWatch of Oregon
213 SW Ash Street, Suite 208
Portland, OR 97204
Phone: 503.295.4039
FAX: 503.295.2791
E-mail: john@waterwatch.org
lisa@waterwatch.org

Counsel for WaterWatch of Oregon

/s/

James McCarthy
Oregon Natural Resources Council
PO Box 151
Ashland, OR 97520
Phone: 541.201.1058
Fax: 541.482.7282
E-mail: jm@onrc.org

/s/

Glenn Spain
Pacific Coast Federation of Fishermen's Associations
PO Box 11170
Eugene, OR 97440
Phone: 541.689.2000
Fax: 541.689.2500

E-mail: FISH1IFR@aol.com

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing opening brief upon each person listed below by email where an email address has been provided, and by postage prepaid US Postal mail at the addresses indicated.

Dated: March 6, 2006

/s/ Lisa Brown

Lisa Brown
WaterWatch of Oregon
213 SW Ash Street, Suite 208
Portland, OR 97204
503.295.4039 x26

JIM ABRAHAMSON - **CONFIDENTIAL**
COMMUNITY ACTION DIRECTORS OF
OREGON
4035 12TH ST CUTOFF SE STE 110
SALEM, OR 97302
jjm@cado-oregon.org

EDWARD BARTELL
KLAMATH OFF-PROJECT WATER USERS,
INC.
30474 SPRAGUE RIVER ROAD
SPRAGUE RIVER OR 97639
[no email]

KURT J BOEHM - **CONFIDENTIAL**
BOEHM KURTZ & LOWRY
36 E SEVENTH ST - STE 1510
CINCINNATI OH 45202
kboehm@bkllawfirm.com

LOWREY R BROWN - **CONFIDENTIAL**
CITIZENS' UTILITY BOARD OF OREGON
610 SW BROADWAY, SUITE 308
PORTLAND OR 97205
lowrey@oregoncub.org

PHIL CARVER
OREGON OFFICE OF ENERGY
625 MARION ST NE STE 1
SALEM OR 97301-3742
philip.h.carver@state.or.us

JOAN COTE - **CONFIDENTIAL**
OREGON ENERGY COORDINATORS
ASSOCIATION
2585 STATE ST NE
SALEM OR 97301
cotej@mwvcaa.org

MELINDA J DAVISON
DAVISON VAN CLEVE PC
333 SW Taylor, STE 400
PORTLAND OR 97204
mail@dvclaw.com

JASON EISDORFER - **CONFIDENTIAL**
CITIZENS' UTILITY BOARD OF OREGON
610 SW BROADWAY STE 308
PORTLAND OR 97205
jason@oregoncub.org

RANDALL J FALKENBERG
RFI CONSULTING INC
PMB 362
8351 ROSWELL RD
ATLANTA GA 30350
consultrfi@aol.com

EDWARD A FINKLEA
CABLE HUSTON BENEDICT
HAAGENSEN & LLOYD LLP
1001 SW 5TH, SUITE 2000
PORTLAND OR 97204
efinklea@chbh.com

DAVID HATTON
DEPT. OF JUSTICE
REGULATED UTILITY & BUS. SECT.
1162 COURT ST NE
SALEM OR 97301-4096
david.hatton@state.or.us

GREG ADDINGTON
KLAMATH WATER USERS
ASSOCIATION
2455 PATTERSON STREET, SUITE 3
KLAMATH FALLS OR 97603
greg@cvcwireless.net

MICHAEL L KURTZ -
CONFIDENTIAL
BOEHM, KURTZ & LOWRY
36 E 7TH ST STE 1510
CINCINNATI OH 45202-4454
mkurtz@bkllawfirm.com

KATHERINE A MCDOWELL
STOEL RIVES LLP
900 SW FIFTH AVE STE 1600
PORTLAND OR 97204-1268
kamcdowell@stoel.com

MATTHEW W PERKINS
DAVISON VAN CLEVE PC
333 SW TAYLOR, STE 400
PORTLAND OR 97204
mwp@dvclaw.com

JANET L PREWITT
DEPARTMENT OF JUSTICE
1162 COURT ST NE
SALEM OR 97301-4096
janet.prewitt@doj.state.or.us

DOUGLAS C TINGEY
PORTLAND GENERAL ELECTRIC
121 SW SALMON 1WTC13
PORTLAND OR 97204
doug.tingey@pgn.com

PAUL M WRIGLEY
PACIFIC POWER & LIGHT
825 NE MULTNOMAH STE 800
PORTLAND OR 97232
paul.wrigley@pacificorp.com

RATES & REGULATORY AFFAIRS
PORTLAND GENERAL ELECTRIC
RATES & REGULATORY AFFAIRS
121 SW SALMON STREET, 1WTC0702
PORTLAND OR 97204
pge.opuc.filings@pgn.com

JIM MCCARTHY
OREGON NATURAL RESOURCES COUNCIL
PO BOX 151
ASHLAND OR 97520
jm@onrc.org

JOHN CORBETT
YUROK TRIBE
PO BOX 1027
KLAMATH CA 95548
jcorbett@yuroktribe.nsn.us

GLEN SPAIN
PACIFIC COAST FEDERATION OF
FISHERMEN'S ASSOCIATIONS
PO BOX 11170
EUGENE, OR 97440-3370
fishlifr@aol.com

NANCY NEWELL
3917 NE SKIDMORE
PORTLAND, OR 97211
ogec2@hotmail.com

THOMAS P SCHLOSSER
MORISSET, SCHLOSSER, JOZWIAK &
MCGAW
801 2nd Ave – STE 1115
Seattle, WA 98104
T.SCHLOSSER@MSAJ.OCM

JUDY JOHNSON – **CONFIDENTIAL**
PUBLIC UTILITY COMMISSION
PO BOX 2148
SALEM, OR 97308-2148
judy.johnson@state.or.us

STEVE PEDERY
OREGON NATURAL RESOURCES COUNCIL
5825 NORTH GREELEY AVENUE
PORTLAND OR 97214
SP@ONRC.ORG

STEVEN R. PALMER
OFFICE OF THE REG. SOLICITOR
2800 COTTAGE WAY, RM E-1712
SACRAMENTO, CA 95825
[no email]

MICHAEL ORCUTT
HOOPA VALLEY TRIBE FISHERIES
DEPT.
PO BOX 417
HOOPA, CA 95546
director@pcweb.net

DAN W. MEEK CONFIDENTIAL
DAN W. MEEK ATT. AT LAW
10949 SW 4TH AVE
PORTLAND, OR 97219
dan@meek.net

JASON JONES - **CONFIDENTIAL**
DEPT. OF JUSTICE
REG. UTILITY & BUSINESS SECT.
1162 COURT ST. NE
SALEM, OR 97301-4096
jason.w.jones@state.or.us

BILL MCNAMEE
PUBLIC UTILITY COMMISSION
PO BOX 2148
SALEM OR 97308-2148
bill.mcnamee@state.or.us

John Eriksson
Stoel Rives LLP
201 South Main St.
Salt Lake City, UT 84111
jmeriksson@stoel.com