

**UNITED STATES OF AMERICA**

**FEDERAL ENERGY REGULATORY COMMISSION**

In the matter of:	)	
	)	
DEPARTMENT OF INTERIOR'S	)	<b>Project No. 2082-039</b>
NOTICE OF PETITION FOR	)	
DECLARATORY ORDER	)	
	)	
on continuation of subsidized Klamath	)	
Hydroelectric Project power rates for the	)	
Klamath Irrigation Project and Certain Off-	)	
Project Irrigators on the Klamath River.	)	
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**PROTESTS AND MOTIONS TO INTERVENE  
OF THE  
PACIFIC COAST FEDERATION OF FISHERMEN'S  
ASSOCIATIONS (PCFFA)  
AND THE  
INSTITUTE FOR FISHERIES RESOURCES (IFR)**

**INTRODUCTION**

On November 9, 2005, the Federal Energy Regulatory Commission ("FERC" or "Commission") issued a "Notice of Petition for Declaratory Order and Soliciting Comments, Motions to Intervene, and Protests" in the above-captioned proceeding.

The Commission thereby created an entirely new sub-docket of docket P-2082 to address the "Petition for Declaratory Order" that the United States Department of Interior ("Interior" or "DOI") filed on October 3, 2005, to raise certain issues relating to the sale of power under the Link River Dam contract, and whether those contract terms and conditions should continue during any future annual licenses for the hydroelectric project. Pursuant to 18 C.F.R. §§ 385.211, 385.214, the Pacific Coast Federation of Fishermen's

Associations (“PCFFA”) and the Institute for Fisheries Resources (“IFR”) hereby move to intervene in P-2082-039 and hereby also protest Interior’s Petition on the grounds set forth below.

Said notice provided a period within which interested parties may intervene of right as well as file all comments, protests and motions as “within 10 days of publication of this notice in the Federal Register.” The Federal Register notification was published November 17<sup>th</sup>, 2005 (70 *Fed. Reg.* 69751). Filing of this Motion to Intervene and Protest is therefore with those 10 days and is thus timely.

Previously the Commission has been dealing with precisely this same issue in another docket as an ancillary issue to FERC relicensing docket No. 2082-027. On or about November 2, 2005, PCFFA filed with the Commission a “Response To The Department Of Interior’s Petition For Declaratory Order,” under docket P-2082-027. PCFFA hereby incorporates herein by reference that Response and specifically requests that this prior PCFFA pleading be added to the record in the new docket, P-2082-039.<sup>1</sup>

### **DESCRIPTION OF INTERVENORS**

The Pacific Coast Federation of Fishermen’s Associations (PCFFA) is a nonprofit organization, and is also the west coast’s largest trade organization for commercial fishing vessel owners and family commercial fishing operations. Our many fishermen members make their living, in whole or in part, from ocean harvest of seafood, primarily from Pacific salmon, and their livelihoods are greatly affected by the health and abundance of Klamath-origin salmon, including spring and fall chinook and coho salmon.

The Institute for Fisheries Resources (IFR) is a separate nonprofit charitable, scientific and educational organization that is closely affiliated with PCFFA and conducts many of PCFFA’s salmon conservation and watershed restoration activities, particularly within the Klamath Basin. Although they are separate organizations, IFR and PCFFA staff and Board members substantially overlap and have similar interests, including an interest in fisheries restoration within the Klamath Basin. IFR has devoted many years

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<sup>1</sup> PCFFA filed a joint response on November 2, 2005, with WaterWatch of Oregon and the Oregon Natural Resources Council, in Docket No. P-2082-027.

and substantial monetary resources to that restoration effort, including managing and funding many of PCFFA's Klamath Basin salmon restoration projects.

### **BASIS FOR INTERVENTION**

PCFFA is a commercial fishing industry trade federation composed of many different port-based fishermen's marketing associations, vessel owner's associations, gear group associations and seafood marketing cooperatives, each with its own local or regional membership. Many of those member associations are located or operate within the Klamath Management Zone (KMZ), which is the area on the west coast from near Fort Bragg, CA (Point Arena) to north of Florence, OR (Cape Blanco). Klamath River-origin salmon are primarily harvested within this ocean area, which extends over more than 250 miles of coastline and out to 200 miles offshore. Several other PCFFA coastwide membership associations also have members who fish or operate within the KMZ from time to time, and ocean salmon fisheries that PCFFA members fish for their livelihoods are often directly affected by Klamath salmon stock health, with poor health and low abundances resulting in major fishery closures as far south as Monterey, CA and as far north as the Columbia River.

Among stocks intermingling in the ocean, the weakest salmon stock creates an impacts "cap" which (when reached) results in immediate fisheries closures, even though abundances of other harvestable stocks may still be high. Klamath River salmon abundances are the weakest of these stocks, and are thus the limiting factor for much of the ocean fisheries all along the coasts of California and Oregon. In other words, when Klamath salmon stocks decline precipitously (such as for lack of enough water in the river), commercial salmon fishermen all up and down the coast lose their livelihoods, fishermen and their families face massive unemployment and coastal communities go into severe economic and social decline.

Fishing opportunities all up and down the west coast are thus directly linked to the abundance of Klamath salmon, which is in turn directly related to the amount of water made available for them from the headwaters of the Upper Klamath Basin, particularly in

the summer months of heaviest irrigation withdrawal before water even reaches the fish below Iron Gate Dam.

Unfortunately today, too little water is usually made available in the Klamath River for the protection of these economically important salmon fisheries, particularly when excessive amounts of river water are diverted from the Klamath River for widespread upper basin summer irrigation. The scarce water resources of this usually arid basin are badly over-appropriated, and all too often extensive irrigation is given priority over the health of economically important fisheries for these increasingly scarce water resources.

The power rates in question in this proceeding were first established in 1917 and have not changed significantly since. Under these long-term contracts finally terminating in April 2006, irrigation power rates in the Klamath Project and for certain off-Project water users are now between  $1/12^{\text{th}}$  and  $1/20^{\text{th}}$  the usual tariff rate for all other similarly situated irrigators in Oregon and California, and are at about  $1/6^{\text{th}}$  of the basic costs of production of this power by PacifiCorp, which is thus forced to sell the power at a loss of roughly \$10 million/year – a loss that must be made up and subsidized by all other PacifiCorp ratepayers.

Irrigation pumping subsidies of this magnitude create serious economic disincentives to conserve water, and this leads in turn to wasteful water practices and both over-use and over-allocation of water throughout the Upper Klamath Basin on what would otherwise be at best marginal lands. The many good faith efforts by irrigators to conserve water in one place are often overwhelmed by wasteful use of water on economically marginal lands in many other places, stimulated by these economic disincentives.

Less water left for salmon in the lower river now contributes to or triggers lower-river fish kills in most years, as the Klamath River gets reduced to a warm trickle nearly every summer. This pattern of fish kills recently culminated in a massive fish kill in both spring and fall of 2002 from which the fishing industry is currently still suffering major direct and indirect economic losses perhaps as high as \$100 million in 2005 alone. Further losses are anticipated next year as well.

Thus the issue of the appropriate power rate in the Klamath Irrigation Project (and for certain off-Project irrigators also part of these power contracts) has grave economic repercussions throughout the river system upon which PCFFA, and its members, depend for their livelihoods. Members of PCFFA and IFR who might also be PacifiCorp ratepayers must also help pay the difference between rates charged and the production costs incurred by PacifiCorp for these artificially low rates to help maintain this subsidy. Other food producers throughout Oregon and California must also pay higher power costs to grow similar crops for similar markets, putting them at a substantial economic disadvantage in competing with Klamath rate-subsidized farmers in the these same markets.

Both PCFFA and IFR are actively participating in the ongoing relicensing of the Klamath Project, Project No. 2082, to protect and advance their respective organizational interests. PCFFA in particular also filed a Response Brief to Interior's Petition, on or about November 2, 2005, in P-2082-027, a sub-docket originally created by the Commission to deal with these very issues.

No other party can adequately represent PCFFA's or IFR's particular economic interests in this new sub-docket. IFR and PCFFA and their members individually and collectively have a direct and substantial interest in how the Commission rules on Interior's Petition for both the Klamath proceeding and as precedent nationally. *See* 18 C.F.R. § 385.214(b)(2)(ii). The outcome of this proceeding will affect each organization's mission and interests. The participation of PCFFA and IFR will also facilitate development of a more complete record, thereby ensuring more informed decision-making consistent with the public interest. IFR's and PCFFA's participation in this proceeding are therefore in the public interest. *See* 18 C.F.R. § 385.214(b)(2)(iii).

### **SERVICE AND CORRESPONDENCE**

All filings, orders, and other correspondence respecting this intervention should be sent to the following:

Glen Spain, Northwest Regional Director  
Pacific Coast Federation of Fishermen's Associations (PCFFA)

and the Institute for Fisheries Resources (IFR)  
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## **STATEMENT OF POSITION AND GROUNDS FOR PROTEST**

Pursuant to 18 CFR § 385.213 (d)(2)(ii), the Pacific Coast Federation of Fishermen's Associations (PCFFA) and the Institute for Fisheries Resources (IFR) respectfully submit this response by way of protest to the Petition for Declaratory Order ("Petition") filed by the Department of Interior ("DOI") on October 3, 2005, and which will now be adjudicated in this new sub-docket.

In its Petition, DOI seeks a declaratory ruling from FERC:

"as to whether the terms and conditions of any annual license issued under Project No. 2082 will require the continuation of the obligations and benefits of the 1956 'Link Dam Agreement' between Interior and the licensee of Project No. 2082 (currently PacifiCorp), including the provision specifying power rates for pumping and drainage of water related to the Klamath Project."

Petition at 1 (emphasis added).

In asking FERC to require continuation of these specific highly subsidized retail power rates that PacifiCorp charges certain Klamath customers, DOI is requesting FERC to exert regulatory authority in an area that has been clearly left to the jurisdiction of the state public utility commissions of Oregon and California. The retail power rates that DOI is requesting FERC to require on any annual license would apply not only to DOI but also to other water users within and surrounding the Bureau of Reclamation's Klamath Project.<sup>2</sup>

The Federal Power Act makes clear that the authority to set retail power rates has been left entirely to the states. *See* 16 U.S.C. § 824(a), (b); *Federal Power Comm'n v. Conway Corp.*, 426 U.S. 271, 276 (1976) ("[t]he [Federal Power] Commission has no

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<sup>2</sup> The Petition explains that Rate Schedule "B," attached to the Link Dam Agreement, applies to two agencies within Interior (Reclamation and the U.S. Fish and Wildlife Service) and that Rate Schedule "A," also attached to the Link Dam Agreement, applies to other water users within the Bureau of Reclamation's Klamath Project. Petition at 7. DOI is requesting a "Declaratory Order from the Commission stating that all of the current terms and conditions of the 1956 contract continue in full force under any annual license issued to PacifiCorp for Project No. 2082." Petition at 10 (emphasis added).

power to prescribe the rates for retail sales of power companies”). In fact, there is an open and active Oregon Public Utility Commission proceeding (Docket UE-170) that is determining, under plainly applicable Oregon law, the very Klamath Basin retail rates at issue in DOI’s Petition. DOI is asking nothing less than that the FERC entirely pre-empt this well established exclusive state authority over its own retail power rates.

#### **A. FERC Should Not Attempt to Set Retail Electric Power Rates as Requested by DOI.**

Nothing about the facts of this situation alters the clear jurisdictional system regarding the setting of retail power rates set forth in the Federal Power Act. *FERC did not determine or set the original rates found in the Link Dam Agreement and those rates only became effective upon approval by the California and Oregon Public Utility Commissions.* Whether or not FERC chooses to carry forward portions of the Link Dam Agreement in any annual license, and regardless of what arrangement it deems appropriate for payment of annual charges to the U.S., it should decline to require any specific retail power rates at the expense of state authority. The choice of specific retail rates should be left entirely to the states as has long been settled law.

#### **1. FERC Lacks Jurisdiction to Set Retail Electric Power Rates.**

The Federal Power Act gives jurisdiction only over rates for wholesale power sold in interstate commerce to FERC, while leaving the authority to set retail power rates to the states. *See* 16 U.S.C. § 824(a), (b); *Federal Power Comm’n v. Conway Corp.*, 426 U.S. 271, 276 (1976) (“[t]he [Federal Power] Commission has no power to prescribe the rates for retail sales of power companies”). In outlining the extent of federal regulatory power regarding the transmission and sale of electric energy, the Federal Power Act concludes this way: “such Federal regulation, however, to extend only to those matters which are not subject to regulation by the States.” 16 U.S.C. § 824(a). Setting of retail power rates that public utilities charge to end customers is just such an area subject to state regulation.

Consistent with this jurisdictional limit on its own regulatory powers, twice in Docket No. 2082-027 FERC has declined to analyze the retail power rates that PacifiCorp charges to its customers.<sup>3</sup>

**2. FERC Should Acknowledge that the Open Oregon Public Utility Commission Docket UE-170 is the Proper Proceeding for Setting the Retail Rates at Issue in Oregon.**

The Oregon Public Utility Commission (“OPUC”) is currently determining the proper retail rates for PacifiCorp to charge its Klamath Basin irrigation power customers. These rates are being evaluated in an ongoing proceeding, Docket UE-170, with a scheduled closure deadline of April, 2006. Like FERC, the OPUC has recognized that it, not FERC, has the responsibility to set retail power rates in Oregon. In the related Docket UE-171 proceeding,<sup>4</sup> OPUC stated:

We deny the request, made by the Bureau and supported by KWUA and KOWPU, to delay action on this matter pending FERC’s examination of this issue in the context of PacifiCorp’s pending relicensing proceeding . . . we decline to wait for a decision [from FERC] that cannot resolve the issue of the retail rates charged to the Klamath River Basin irrigators . . . Second, and more importantly, this Commission, not FERC, has jurisdiction over rates charged by PacifiCorp to its Oregon retail customers. Consequently, even if FERC extends the On-Project Contract rates, such action cannot relieve this Commission of the duty to review those rates under the *American Can* standard discussed above.

OPUC Docket UE-171, Order No. 05-726 (June 6, 2005) at 5 (emphasis added).

An important backdrop to the OPUC’s consideration of the appropriate rates is Senate Bill 81, which was passed by the Oregon Legislature this year for the express purpose of mitigating the anticipated rate increases for Klamath Basin irrigators. *See*

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<sup>3</sup> First, FERC stated that “[w]e do not consider the rates PacifiCorp charges to its customers to be an appropriate issue for analysis in this proceeding.” Response to Additional Study Requests, FERC No. P-2082-27, Oregon and California (March 16, 2005) at 16. Second, in response to a request by the Klamath Water Users Association and DOI to evaluate the environmental and economic consequences related to any increased power costs that would result from discontinuing the On-Project Contract, FERC stated: “[T]he rate that PacifiCorp charges its customers is not an appropriate issue for analysis in this proceeding.” Scoping of environmental issues for a new license for the Klamath Hydroelectric Project, FERC No. P-2082-27, Oregon and California, (May 17, 2005).

<sup>4</sup> The UE-171 proceeding was carved out of PacifiCorp’s general rate case, UE-170, to address Klamath Basin irrigation rates. All UE-171 issues have now been remanded back into UE-170. *See* OPUC Docket UE-171, Order No. 05-726 (June 6, 2005) at 4.



Exhibit 1, Senate Bill 81. Senate Bill 81 requires a gradual phase-in of any rate increase exceeding 50% in the first year, which for the Klamath Project rates would result in a seven-year gradual ramp up to standard irrigation tariff rates if those rates are determined by the OPUC to be the appropriate rate for Klamath irrigators. SB 81's provisions will significantly lessen the economic impact of any rate increase on DOI as well as other Klamath Project irrigators subject to any new rates.

Given the statements by both FERC and the OPUC regarding proper jurisdiction over setting the retail rates PacifiCorp charges to its customers, any declaratory ruling in response to DOI's Petition should clearly state that the Public Utility Commissions of Oregon and California, and not FERC, have the authority to set the rates at issue.

### **3. Continuation of the Power Rates At Issue is Not a Required License Term.**

DOI does not argue that states lack jurisdiction over the sale of electric energy pursuant to 16 U.S.C. § 824(b) (Petition at 14, fn. 12). Rather, DOI asserts that this jurisdiction is somehow overridden because the power rates in the Link Dam Agreement are a "condition" that FERC is supposedly required to include on any annual licenses.

DOI fails to acknowledge that the existing license never mandated establishment of any specific power rate in the first place, does not indicate nor require continuation of any given power rate beyond the expiration of the Link Dam Agreement, and does not assert that the state Public Utility Commissions are barred from adjusting the rates in accordance with state law. Simply put, FERC directed the Licensee and the United States to make an agreement as to what they thought proper rates. That agreement is the 1956 Link Dam Agreement and it *explicitly recognizes* that it, and the rates it sets forth, did not become effective until approved by both the Oregon and California Public Utility Commissions:

This contract shall become effective on the date of its approval by the Public Utility Commissioner of the State of Oregon or the Public Utilities Commission of the State of California, whichever shall occur later, and shall not be effective in any way until approved by both regulatory authorities.

Paragraph 11 (emphasis added). However, the 1956 Link Dam Agreement expires on its own terms in April, 2006. It follows, then, that none of its retail rate provisions could be

unilaterally extended by FERC fiat without full Public Utility Commission review and approval, and that setting of such retail rates was always acknowledged as a matter for those state PUCs even under the terms of the Agreement.

At Article 35(d) of the existing license, FERC states that the benefits contained in the Link Dam Agreement are reasonable and adequate for the purpose of recompensing the United States for the licensee's use of "surplus water" from Link Dam. However, this recognition by FERC that in 1956 the terms of the Link Dam Agreement appropriately compensated the U.S. for the utility's use of Link Dam does not somehow mandate continuation of those expiring terms on an annual license or otherwise. Nothing in the existing license or in the Link Dam Agreement states or implies that power rates set fifty years ago (themselves carried over from 40 years earlier nearly unchanged) were intended to be carried forward beyond the expiration of the contract indefinitely.

**B. Even if the Retail Electric Power Rates were Part of the License, and FERC had the Authority to Set Electrical Power Rates in the Annual License, It Should Substantially Raise the Klamath Basin Rates to Limit Adverse Impacts on the Environment.**

In issuing any annual license for PacifiCorp's Klamath Project No. P-2082, FERC has the authority to "incorporate additional or revised interim conditions if necessary and practical to limit adverse impacts on the environment." *See* 18 C.F.R. § 16.18(d). If the power rates were part of the license, which they are not, and even if FERC had the authority to set the power rates at issue, which it does not, FERC should still exercise its authority to raise the power rates found in the expiring 1956 Link Dam Agreement in any annual license to limit adverse impacts on the environment, including to end wasteful water subsidies.

**i) FERC Has the Authority to Add or Revise Interim Conditions on Any Annual License for Project No. P-2082.**

FERC's authority to add or revise interim conditions in an annual license comes from 18 C.F.R. § 16.18(d) and from PacifiCorp's existing license which contains reopeners relating to the protection of fish and wildlife. 18 C.F.R. § 16.18(d) states:

In issuing an annual license, the Commission may incorporate additional or revised interim conditions if necessary and practical to limit adverse impacts on the environment.

Exercise of this authority has been upheld where the underlying license contains a relevant reopener for FERC to impose or revise conditions. *Southern California Edison Company*, 106 FERC P 61,212, 61,717 (March 4, 2004) (“an annual license can be amended if ... the underlying license contains a reservation of the Commission's authority to do so”); *Platte River Whooping Crane Habitat Maintenance Trust v. Federal Energy Regulation Commission*, 962 F.2d 27 (D.C. Cir. 1992) (affirming protective conditions imposed by FERC in annual license with reopener). PacifiCorp’s P-2082 license Article 58 is a reopener that applies to, among other things, ongoing operation of the Project:

The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such facilities and comply with such reasonable modifications of the project structures and operation as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior, Oregon State Game Commission, or California Department of Fish and Game, after notice and opportunity for hearing and upon findings based on substantial evidence that such facilities and modifications are necessary and desirable, reasonably consistent with the primary purpose of the project, and consistent with the provisions of the Act.

In summary, Article 58 of the License and 18 C.F.R. § 16.18(d) together provide FERC with the authority to add or revise interim conditions in any annual license issued to PacifiCorp for operation of its Klamath Project if such changes are necessary to limit adverse environmental impacts to fish and wildlife resources.

**ii) Due to the Adverse Environmental Impacts of the Very Low Power Rates in the Link Dam Agreement, Any Power Rates in an Annual License Must Be Revised Higher.**

Klamath Basin irrigators served under the Link Dam Agreement currently pay around 1/12<sup>th</sup> the rate paid by similarly situated non-Klamath Basin irrigators served by PacifiCorp in Oregon, and as low as 1/20<sup>th</sup> the rates charged similarly situated irrigators in California. *See* OPUC Docket UE-170, PacifiCorp Motion for Summary Disposition at 5 – 6. This very low electrical power rate contributes to the over-appropriation and

overuse of water in the Klamath Basin by encouraging the pumping of water and agricultural production on marginal lands that would likely not be in production if found in one of the neighboring basins where PacifiCorp's standard tariff applies.

Oregon State University (OSU) analysis indicates that some marginal lands in the Klamath Basin are irrigated that would not be if the heavily subsidized historic power rates are terminated. *See Exhibit 2, Jaeger Brief #3, Energy Pricing and Irrigated Agriculture in the Upper Klamath Basin*, Oregon State University, Extension Service, W.K. Jaeger (July, 2004). That OSU report concluded that retirement of these marginal lands and their conversion to dry land pasturage, while not significantly harming the overall viability of agriculture in the basin, would help address the Klamath River's water shortages and its imperiled fish.<sup>5</sup>

In summary, in order to limit the adverse environmental impacts associated with the low electric rates found in the Link Dam Agreement, even if FERC were to attach some electric power rate to the annual license at all, it should still exercise its authority under 18 C.F.R. § 16.18(d) and Article 58 of the License to raise the rates up to something more modern and appropriate in order to lessen environmental impacts and to take advantage of market forces to create incentives, not disincentives, to conserve the basin's limited water resources.

Nevertheless, FERC should reject DOI's attempt to cause conflict between FERC and the Oregon and California Public Utility Commissions, who have exclusive jurisdiction over the retail rates at issue here. Nothing about the facts here disturbs the jurisdictional system set forth in the Federal Power Act and long recognized by the Supreme Court, FERC, the OPUC and by DOI itself. Regardless of whether FERC requires continuation of any provision of the Link Dam Agreement in any annual license, and regardless of how FERC arranges for payment of annual charges to the U.S., FERC

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<sup>5</sup> Dr. Jaeger's Brief #3 concludes that "[o]verall, the analysis above indicates that most of the irrigated lands in the Upper Klamath Basin (and in particular those lands within the Klamath Reclamation Project) are highly productive and would continue to be profitable to irrigate under energy prices and fees currently paid by farmers in other parts of Oregon or northern California. Indeed, the viability of agriculture in the region does not depend on the current low energy prices, although these prices provide significant financial benefit to land-owners and owner-operators in the region." Brief #3 at 9. Dr. Jaeger also states that if energy prices rise, depending on various factors, "use of a water bank or other transfer mechanism has the potential to facilitate lower cost solutions to the region's water conflicts, thereby reducing potential harm to the region's overall agricultural economy." *Id.*

should clarify once more that setting the retail rates that PacifiCorp charges Klamath Basin customers is a matter left to the Oregon and California Public Utility Commissions.

### **CONCLUSION**

Both IFR and PCFFA have a substantial interest in the outcome of these issues, no other party would adequately represent their interests, and this Motion to Intervene and Protest is timely filed in this docket. PCFFA therefore respectfully requests that the Commission (a) grant intervention of PCFFA in P-2082-039; (b) adopt PCFFA's previously filed Response in P-2082-027 into the record for this new sub-docket, and; (c) file this Protest with attachments for the record in this docket.

Respectfully submitted this 27<sup>th</sup> day of November, 2005, by:

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### **LIST OF EXHIBITS ATTACHED:**

Exhibit 1, Senate Bill 81.

Exhibit 2, Jaeger Brief #3: *Energy Pricing and Irrigated Agriculture in the Upper Klamath Basin*, Oregon State University, Extension Service, W.K. Jaeger (July, 2004).

## Enrolled Senate Bill 81

Printed pursuant to Senate Interim Rule 213.28 by order of the President of the Senate in conformance with presession filing rules, indicating neither advocacy nor opposition on the part of the President (at the request of Governor Theodore R. Kulongoski for Public Utility Commission)

CHAPTER .....

AN ACT

Relating to rates of public utilities; creating new provisions; amending ORS 757.310; and declaring an emergency.

**Be It Enacted by the People of the State of Oregon:**

**SECTION 1.** ORS 757.310 is amended to read:

757.310. *[(1) Except as provided in ORS 757.315, no public utility or any agent or officer thereof shall, directly or indirectly, by any device, charge, demand, collect or receive from any person a greater or less compensation for any service rendered or to be rendered by it than:]*

*[(a) That prescribed in the public schedules or tariffs then in force or established; or]*

*[(b) It charges, demands, collects or receives from any other person for a like and contemporaneous service under substantially similar circumstances. A difference in rates or charges based upon a difference in classification pursuant to ORS 757.230 shall not constitute a violation of this paragraph. A difference in rates or charges for a service provided pursuant to ORS 757.516 shall not constitute a violation of this paragraph.]*

*[(2) Any public utility violating this section is guilty of unjust discrimination.]*

**(1) A public utility may not charge a customer a rate or an amount for a service that is different from the rate or amount prescribed in the schedules or tariffs for the public utility.**

**(2) A public utility may not charge a customer a rate or an amount for a service that is different from the rate or amount the public utility charges any other customer for a like and contemporaneous service under substantially similar circumstances.**

**(3) A difference in rates or amounts charged does not constitute a violation of subsection (2) of this section if the difference is based on:**

**(a) Service classification under ORS 757.230;**

**(b) Contracts for services under ORS 757.516; or**

**(c) An optional schedule or tariff for the provision of energy service that takes into account a customer's past energy usage and provides price incentives designed to encourage changes in the customer's energy usage that correspond to changes in the cost of providing energy.**

**SECTION 2.** Section 3 of this 2005 Act is added to and made a part of ORS 757.205 to 757.240.

**SECTION 3.** (1) As used in this section, "electric company" has the meaning given that term in ORS 757.600.

(2) The Public Utility Commission shall require that an electric company mitigate a rate increase payable by a class of customers described in subsection (5) of this section if:

(a) The increase results from a transition to an electric company's generally applicable cost-based rate from the rates established under the contracts described in subsection (5) of this section; and

(b) The increase in the cost of electricity to that class of customers by reason of the transition will exceed 50 percent during the first 12 calendar months after the transition occurs.

(3) The commission shall require an electric company to mitigate a rate increase under this section by means of a schedule of rate credits for the class of customers described in subsection (5) of this section. The rate credits provided by an electric company under the schedule shall automatically decrease each year to the lowest credit necessary to avoid a rate increase that is greater than 50 percent in any subsequent year. Rate credits under this section may not be provided for more than seven years after the transition occurs.

(4) For the purpose of determining the increase in the cost of electricity to a class of customers by reason of a transition described in subsection (2)(a) of this section, the commission shall:

(a) Include the total charges for electricity service, including all special charges and credits other than the rate credit provided under this section; and

(b) Exclude any local taxes or fees paid by the class of customers.

(5) This section applies only to customers of an electric company that purchase electricity at metering points that before the transition described in subsection (2)(a) of this section were eligible for rates that were set under contracts entered into before 1960 and remained unchanged throughout the period of the contract.

(6) The full cost of providing rate credits under this section shall be spread equally among all other customers of the electric company.

**SECTION 4.** This 2005 Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this 2005 Act takes effect on its passage.

Passed by Senate April 13, 2005

Received by Governor:

Repassed by Senate July 11, 2005

.....M.,....., 2005

Approved:

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Secretary of Senate

.....M.,....., 2005

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President of Senate

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Governor

Passed by House June 2, 2005

Filed in Office of Secretary of State:

.....M.,....., 2005

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Speaker of House

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Secretary of State

**Water Allocation in the Klamath Reclamation Project**  
**Brief # 3**

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## **Energy Pricing and Irrigated Agriculture in the Upper Klamath Basin**

*W.K. Jaeger*

The conflict over water allocation in the Upper Klamath Basin encompasses many important, complex, and difficult questions. One aspect of the situation, energy pricing, has come under increased scrutiny in connection with relicensing of the Klamath River hydropower operations, which is scheduled to take effect in 2006.

At issue are the prices that Upper Klamath Basin irrigators pay for energy under a 1956, 50-year contract with the energy provider and hydropower operator—now PacifiCorp. Under the terms of that long-term contract, irrigators within the Klamath Reclamation Project pay about one-tenth the price paid by other Oregon and California farmers served by PacifiCorp and one-fifth to one-eighth the price charged by other power companies serving farmers in Oregon. In addition, Project farmers do not pay standby fees of \$15 to \$19 per horsepower of pumping capacity, and they are not charged for line extensions to new pumping sites.

Oregon farmers outside the Project but within the Upper Klamath Basin enjoy low energy rates (87 percent lower than rates for other farmers served by PacifiCorp) and an exemption from standby fees, but not free line extensions.

The origins of these contractual arrangements date back to 1917, when PacifiCorp's predecessor, Copco, negotiated a contract with the U.S. Bureau of Reclamation for construction

and operation of Link River Dam at the outlet of Upper Klamath Lake. In exchange for the rights to operate hydropower facilities on the Klamath River, Copco agreed to build the Link River Dam but convey the dam's ownership to the Bureau of Reclamation. The terms of the agreement included providing energy to irrigators at a long-term "contract rate" that currently is one-tenth of the rate charged to other PacifiCorp irrigators.

In light of the conflicts over limited Klamath Basin water supplies for agricultural, environmental, tribal, recreational, and commercial and sport fishing uses, questions have arisen about the effects of these low energy prices on agriculture in the region and, in particular, about the impact that higher energy pricing would have on the viability and scale of irrigation. Key questions include:

- Would irrigated agriculture continue to be economically viable at higher energy prices?
- How would the elimination of these contract power rates alter the demand for irrigation water?
- Might the elimination of low power prices alleviate water conflicts?

The present analysis does not attempt to address questions about the justification for the current, contracted energy prices. Differential



pricing and contracts of this nature are common in both the private and public sectors, as with rent-controlled apartments, airline ticket pricing, and differences in power rates, for example, between residential and industrial customers. Moreover, electric utilities are regulated private companies, whose pricing rules must be approved by government, and dozens of different pricing schedules apply to different classes of customers.

Nevertheless, the relicensing of PacifiCorp's hydropower operations, and any renewal of power rate agreements for Klamath irrigators, will take place within the current legal, political, and social setting—one that differs greatly from the situation 50 years ago. The elimination of the current low energy price arrangement is only one of a number of possible outcomes from the current relicensing process (Klamath Water Users Association, personal communication, April 28, 2004).

In the Oregon State University–University of California report on Klamath water allocation,<sup>1</sup> only brief mention was made of the effects of energy pricing on farm profitability. A rough calculation of the average differentials in power cost per acre between Project irrigators and non-Klamath irrigators suggested that the difference was not large relative to the net income generated for the Project overall (OSU–UC report, p. 378). This brief discusses this issue in greater detail.

## Per-acre energy costs without low energy prices

In order to assess the impact of changes in energy prices on farm profitability, we need to compare the current contract energy rates per irrigated acre with those charged to other Oregon and California irrigators. Current power rates for irrigators on the Oregon portion of the Project (including delivery and other components) are 0.6¢/kWh (kilowatt hour); comparable rates for nearby non-Project irrigators are 0.75¢/kWh. For other irrigators in Oregon, the PacifiCorp rate is 5.69¢/kWh; for other irrigators in California, it

is 6.318¢/kWh (<http://www.pacificorp.com/Navigation/Navigation4428.html>).<sup>2</sup>

Oregon irrigators served by some other power companies pay lower rates than PacifiCorp's non-Klamath customers. For example, Umatilla Electric Cooperative charges irrigators in Umatilla, Morrow, and Union counties 4.17 to 4.70¢/kWh, and Idaho Power in Ontario charges 3.06¢/kWh (<http://www.idahopower.com/aboutus/regulatoryinfo/tariffPdf.asp?id=75&.pdf>).

Given the wide range of crops, soils, pumps, irrigation types, and lift requirements, it is difficult to evaluate the effect of current contract power rates on a particular irrigated plot in the region. However, there are several approaches to estimating how a change in energy price will affect typical irrigation costs, and hence the economics of farming generally.

First, we can use data on total energy consumption and total acres irrigated to compute the average cost per acre under current and alternative pricing. Second, we can look at similar irrigated areas in locations where standard energy charges apply. Third, we can estimate the energy required for a given pumping system to pump an acre-foot of water, and then apply that requirement to the volume of water needed for each crop rotation to find the total energy requirement and cost.

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<sup>1</sup>Braunworth, Jr., W.S., Welch, T., and Hathaway, R. eds. *Water Allocation in the Klamath Reclamation Project, 2001: An Assessment of Natural Resource, Economic, Social, and Institutional Issues with a Focus on the Upper Klamath Basin*, SR 1037 (Oregon State University and the University of California, 2002).

<sup>2</sup>Under a contract between the Tulalake Irrigation District and the U.S. Fish and Wildlife Department, excess water is pumped from Tule Lake to Lower Klamath Lake through a 6,600-foot tunnel in Sheepy Ridge. This process provides flood control to the basin, and is the primary source of water for the Lower Klamath National Wildlife Refuge. The pumping cost is about \$50,000 annually at the special off-peak drainage power rate of 0.2¢/kWh. Since this pumping activity differs from irrigating privately cultivated lands and serves a public purpose that benefits the entire basin in direct and indirect ways (including the national wildlife refuges), any change in the power rates or cost allocation for this activity may be negotiated separately from any proposed changes in the power rates paid by individual irrigators. As a result of this unique situation, we do not evaluate how changes in energy prices might affect the costs of this activity.

## Estimates based on energy consumption data

The first component of energy cost is direct payment for energy. Under current pricing schedules, Upper Klamath Basin irrigators paid PacifiCorp \$880,000 in 2000 (McCarthy 2002), a year with slightly higher than average energy consumption. These energy costs are concentrated among the sprinkler-irrigated lands (between 175,000 and 200,000 acres), where energy use is highest. (For the approximately 250,000 flood-irrigated acres, energy costs may be zero or negligible.)

If we assume this \$880,000 energy bill (which includes costs incurred by centralized pumping stations such as those operated by irrigation districts), this cost represents an average of between \$4.50 and \$5 per acre. Some farmers pay only an annual minimum based on their pump's horsepower (e.g., \$6 per horsepower for the first 5 years for pumps less than 90 horsepower, \$3 per horsepower after that). For some irrigators, this payment could amount to \$256, or \$3 to \$6 per acre, depending on the acreage irrigated (Lynn Long, Klamath Water Users Association, personal communication).

Given exemptions from standby fees and line extension charges, the above figures represent the total payments for energy by farmers. Thus, a 900 percent increase in power rates from a starting point of \$4 to \$5 per acre suggests per-acre energy costs of \$40 to \$50 for sprinkler irrigation. Of course, costs for individual farms vary by crop, crop rotation, and technology.

The average annual regional energy consumption from 1997 to 2001 was 127 million kWh (McCarthy 2002). At the Oregon standard agricultural price of 5.696¢/kWh, this energy would cost irrigators \$7.22 million (compared with less than \$1 million at current rates), or an average of \$36 to \$41 per acre for 175,000 to 200,000 sprinkler-irrigated acres. This figure represents an increase of \$32 to \$36 per acre compared to current pricing. Increases for water-intensive crops such as alfalfa would be higher. Increased energy costs

for the region as a whole would amount to more than \$6 million per year.

The second component of energy pricing is the standby fee, or "standard fee," which is based on the horsepower of each farmer's pumping capacity. The current rate for irrigators in Oregon outside the Klamath Basin is \$9/kW, or about \$6.75/horsepower. If applied to the Klamath Basin, these annual charges could average an additional \$3 to \$5 per acre per year, depending on the pump size and number of acres irrigated.

The third component of energy pricing involves line extensions. If paying the full cost of line extensions, farmers likely would request line extensions only if the financial benefits were greater than the cost (which could be quite high for some operators).

The continued viability of agriculture in the region is unlikely to be driven by the cost of line extensions. Indeed, requests for line extensions might decline dramatically or stop altogether. Therefore, we will set aside the question of line extensions under future pricing schedules and focus on the direct costs of energy and pumping capacity.

Taken together, standard energy charges and standby fees for Oregon are estimated at \$35 to \$50 per acre for pressurized sprinkler irrigation, compared to only \$3 to \$6 per acre in the Upper Klamath Basin under the current pricing schedule.<sup>3</sup>

However, in order to accurately estimate how the elimination of current contract energy pricing would affect per-acre energy costs, we must consider how the price increase would affect energy use. With a possible 900 percent increase in the price of energy, we expect farmers to consume less energy per acre. With the imposition of an annual standby charge based on pumping capacity, farmers also are likely to consider ways to minimize these charges. Finally, if farmers are

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<sup>3</sup>For a small but significant number of acres (perhaps 2,000 acres), diesel or propane pumps are used rather than electric pumps (Lynn Long, personal communication). These pumps are easily moved, but are more expensive to operate.

charged the full cost of line extensions, requests for line extensions certainly would decline. Indeed, there might even be a reduction in the number of pumping sites since the higher energy charges and standby fees might induce some farmers to switch from sprinklers back to flood irrigation (although water quality requirements on return flows imposed under the Clean Water Act may inhibit switching to flood irrigation (Greg Williams and Eldwin Sorensen, Northwest Farm Credit Services, personal communication, April 2004).

All of these factors suggest that the actual cost increases would be less than the above estimates, which do not take account of the ways farmers can be expected to economize on energy as it gets more expensive. The responsiveness of farmers' energy consumption to energy price (what economists call the "price elasticity of demand") has been estimated in a number of economic studies (see, for example, Connors, Glyer, and Adams 2003), indicating that a reduction in energy consumption can be expected. Thus, the above estimates of increased costs should be viewed as "upper bounds" reflecting a situation where farmers do not reduce their energy consumption as the cost of energy rises.

## Estimates based on energy costs in other areas

In other parts of Oregon (e.g., along the Deschutes River in Jefferson County and in northeast Oregon), irrigators pay between five and nine times as much for energy as farmers in the Klamath Reclamation Project and from four to nearly eight times as much as Klamath irrigators outside the Project.

Information on irrigation energy costs throughout Oregon also is found in the crop enterprise budgets produced by the Oregon State University Extension Service ([http://oregonstate.edu/Dept/EconInfo/ent\\_budget/](http://oregonstate.edu/Dept/EconInfo/ent_budget/)). For alfalfa grown in central Oregon (Jefferson, Crook, and Deschutes counties) and eastern Oregon (Baker, Wallowa, and Union counties) using surface water for irrigation, pumping costs have

been estimated at \$25 per acre (see EM 8606, EM 8604).

In the case of potatoes and mint grown in north-central and eastern Oregon using groundwater (EM 8460, EM 8602), pumping costs are estimated at \$60 per acre due to the lift involved. (Some potatoes in the Hermiston area are irrigated with water lifted 500 to 600 feet from the Columbia River.) These figures from other parts of Oregon provide estimates of irrigation pumping costs that are both higher and lower than the range of estimates for the Upper Klamath Basin.

## Estimates based on an engineering approach

We also can take a more technical approach to estimating irrigation energy costs, based on the energy requirements for a given pumping system per acre-foot of water and on the water application levels for each crop and representative crop rotation.<sup>4</sup> Most of the pumping cost is associated with pressurizing water into sprinkler systems at between 45 and 70 psi (pounds per square inch). Flood irrigation frequently involves little pumping and very low pumping costs. Water applications range from 20 to 36 acre-inches for crops grown in the Upper Klamath Basin.

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<sup>4</sup>Pumping cost,  $c$ , is computed as  $c = p * E$ , where  $E$  is the energy consumed in kWh, and  $p$  is the price per kWh of energy.  $E$  is computed as  $E = t * kw$ , where  $t$  is the time in hours and  $kw$  is kilowatts per unit time. The rate of energy consumption is  $kw = q * tdh / 3,960$ , where  $q$  is the pumping rate in gallons per minute and  $tdh$  is the "total dynamic head." Total dynamic head,  $tdh$ , is the sum of lift, head loss, and the pressure at the pump in psi multiplied by 2.306. The hours of pumping,  $t$ , necessary to apply the required acre-inches of water,  $d$ , is computed as  $(d * 27,180) / (q * 60)$ . Combining these formulas gives us  $c = p * (27,180 * d * tdh) / (60 * 3,960)$ . Lift and head loss are assumed to sum to 15 feet. Motor and pump efficiency is assumed to be a combined 0.7. Assumptions are based on typical values for the technologies used in the region. (Sources: Marshall English, professor and Extension irrigation specialist, Bioresource Engineering Department, Oregon State University; Lynn Long, Chair of the Power Committee, Klamath Water Users Association; Kerns Irrigation; Klamath County Soil and Water Conservation District; Thompson Pumping).

Under current pricing in the Klamath Project, these formulas generate electricity cost estimates of between \$3 and \$6.25 per acre for crops grown on Class II and III soils. For a given piece of land following a typical crop rotation, however, the average annual electricity cost ranges from \$4 to \$5 per acre. The range narrows because potatoes—the crop with the highest energy costs—are typically grown only 2 years out of 10.

If the price of energy were increased from 0.6¢ to 5.693¢/kWh, the costs for representative crop rotations on these lands would increase to an estimated \$38 to \$45 per acre per year. This represents an increase of \$34 to \$40. Crop-specific costs run from \$28.50 for cereals to \$60 for potatoes. Alfalfa and pasture costs are estimated at \$44 per acre per year. Although some pasture occurs in rotation with higher value crops, most pasture is grown on Class IV and V soils and is flood irrigated; thus, electricity costs most often are negligible, although in some cases drainage pumps are used to remove excess water from these lands.

To summarize, two of the three approaches to estimating potential energy costs suggest that costs to Upper Klamath Basin farmers who sprinkler irrigate would be in the range of \$38 to \$50 per acre per year under power rates currently charged by PacifiCorp to non-Klamath irrigators, compared to \$3 to \$6 under current contract rates.<sup>5</sup> The other approach, which looks at per-acre energy costs in other parts of Oregon, finds examples that are both higher and lower than this \$38 to \$50 range.

Although these estimates do not take full account of the ways that farmers are likely to reduce energy consumption if it becomes much more expensive, they are remarkably close to estimates from the U.S. Department of Agriculture's Economic Research Service. Based on comprehensive national data collection and analysis, the USDA/ERS estimates irrigation energy costs in the western U.S. for electric pumping to average \$44 per acre (U.S. Department of Agriculture).

## Farm profits without low energy prices

How would energy costs based on standard prices affect farmers' costs and profitability in the Upper Klamath Basin? At one level, we can compare energy costs to the total cost of production (fixed and variable costs), which varies from \$200 per acre for Class V lands (primarily pasture) to an average (over a 10-year rotation) of more than \$600 per acre for Class II lands where row crops typically are grown in rotation with alfalfa.

Based on standard statewide rates, energy costs would represent between 6.3 and 22.5 percent of total per-acre costs. Under current contract rates, energy costs amount to less than 1 percent of production costs on average.

Of greater interest, however, is the impact that higher energy costs would have on farm profits, and hence on the viability of farming. "Farm profit" refers to the difference between total revenue and total cost, where all costs are taken into account, including inputs, water, labor, district charges, returns for the farm operator, and land.

One way to estimate changes in farm profitability is to estimate expected changes in land rental rates or land prices. The reason is that, except where other nonagricultural uses of land compete with farming, the cost of land is determined primarily by farm profitability. Both rental rates and land values can be expected to reflect the profitability of farming (revenue in excess of all costs) and of the return to landowners who allow others to farm their land.<sup>6</sup>

Variations in rental rates (or, equivalently, an annualized measure of land values) for

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<sup>5</sup>For comparison purposes, Idaho farmers growing similar crop rotations (potatoes, alfalfa, grains) incur costs of \$30 to \$45 per acre (Bob Smead, account manager for irrigation at PacifiCorp, personal communication, September 19, 2003).

<sup>6</sup>Land values will diverge from this relationship if nonagricultural demands for land (e.g., recreational or residential uses) compete with agricultural uses. Otherwise, land rental rates and land prices (expressed on an "annualized" basis) should be consistent.



different land classes reflect this fact. Class II and III farmlands in the Klamath Reclamation Project rent for between \$75 and \$130 per acre over a typical crop rotation, depending on the soil class and productivity (Klamath County Tax Assessor 2001). When used for highly profitable row crops, rents for these lands can range from \$200 to \$300 (Braunworth et al. 2002). Also consider the land rental rates in the Project versus those for Jefferson County, Oregon (\$60 to \$90 per acre, also averaged over a multiyear crop rotation). The disparity in rates between the two areas reflects differences in farm profitability due to cropping patterns, soils, climate, and energy costs.

Farmers generally are willing to rent a given piece of land at a given price only if they expect that, after paying all other costs, their profits will cover the rental price. If farmers cannot break even at a given land rental rate, market pressures will cause the land rental rate to adjust downward.<sup>7</sup>

As a result, we cannot assume that land rental costs would remain constant in the face of changing crop prices or input costs. This conclusion is supported by many detailed economic studies and economic theory: changes in farm costs or revenues tend, eventually, to end up being capitalized into land prices and rental rates.

If the costs of farming were to increase by \$40 per acre in the Klamath Project due to higher energy costs (a central estimate based on both the energy consumption data and the engineering estimates above), farmers would be reluctant to pay current land rental rates. Landowners, of course, would prefer not to reduce rental rates, but if farmers could not break even at the current rates, pressure would build for lower rental rates (in cases where the renter pays the power costs). These downward pressures on rental rates (or farm profitability) would also lower land prices and thus reduce the value of landowners' assets. In cases where landowners pay for power, the rental rate may not decline, but the impact on landowners' incomes and land prices is likely to be the same.

To estimate how higher energy prices would affect the land rental rates (or annualized land values) for irrigated land in the Upper Klamath Basin, we subtract the estimated annual energy cost increases (for sprinkler irrigation) from the current estimates of land values/rental rates for each location and soil class. These adjusted annual land values are presented in Table 1 (page 7).<sup>8</sup>

## Profits on Class II and Class III lands

With these changes in power charges, rental rates (or annualized land values) for sprinkler-irrigated Class II lands in the main Project areas (including most of the Upper and Lower Lost River Valley areas) are estimated to decline to between \$74 and \$104 per acre per year, with one exception. Estimates are lower for the "West of 97 to Keno" area, where rental rates were lower initially. In the case of Class III lands, adjusted rental rates range from \$23 to \$62 per acre, again with one exception.

These results suggest that the profits accruing to landowners using sprinkler irrigation would decline significantly with a change in energy pricing, but farming would not become unprofitable in the Project or on most non-Project lands in the Upper Basin. We estimate that the loss of current contract energy pricing

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<sup>7</sup>Land sale prices will tend to reflect these same relationships, with the price of land representing the discounted present value of expected future annual profits (whether from rental income or own-use). In some areas, however, demand for "lifestyle" or "hobby" farms may cause land prices to diverge from values that reflect only farm profits.

<sup>8</sup>These reductions in land values and landowner income would have some additional "ripple effects" on the regional economy due to reduced spending by landowners. Property tax revenues in Klamath County also would be adversely affected by declining land prices. Bear in mind, however, that immediately after the 2001 irrigation curtailment, land prices declined significantly compared to the pre-2001 levels used in the current analysis. Since then, however, land values (reflected in land rental rates) have increased above their pre-2001 levels (Don Ringold, Klamath County Tax Assessors Office, personal communication, June 2004). These changes seem to reflect both increased certainty about water deliveries to farmlands and recent opportunities to lease or sell water to publicly-funded water transfer and water banking programs.

Table 1. Estimated land rental values with elimination of current low energy prices (for sprinkler-irrigated lands only).<sup>a, b</sup>

	Net revenue per acre if sprinkler irrigated (by soil class)				Total irrigated acres	Sprinkler- irrigated acres	Non- Project acres	Sprinkler pasture/hay acres
	Class II	Class III	Class IV	Class V				
<b>Upper Klamath Lake and above</b>	—	—	—	—	179,000	58,000	173,000	57,000
Fort Klamath Valley	—	2	-13	-28				
Modoc Point to Chiloquin	38	2	-13	-28				
Sprague River Valley	—	8	-7	-34				
North Country	—	-7	-7	-37				
<b>Upper Lost River Valley</b>	—	—	—	—	84,000	50,000	44,000	46,000
Langell Valley	74	35	-7	-30				
Bonanza-Dairy	74	35	-7	-30				
Poe Valley	98	26	2	-28				
Swan Lake Valley	74	35	-7	-30				
<b>Lower Lost River Valley and other Project lands</b>	—	—	—	—	184,000	85,000	32,000	50,000
Merrill-Malin area	98	23	2	-28				
Midland-Henley-Olene	98	26	2	-28				
Lower Klamath Lake	98	56	2	-40				
Malin Irrigation District	104	62	8	-34				
Shasta View District	104	29	8	-34				
West of 97 to Keno	38	2	-13	-28				
Tule Lake	98	50	8	—				
<b>Total acres</b>	<b>51,000</b>	<b>161,000</b>	<b>183,000</b>	<b>30,000</b>	<b>447,000</b>	<b>193,000</b>	<b>249,000</b>	<b>153,000</b>

<sup>a</sup>Expected energy cost increases have been subtracted from the recent rental rate estimates for each class and location for irrigated lands (net of the value corresponding to nonirrigated land). Sprinkler irrigation is assumed for purposes of these estimations, even though only about 43 percent of irrigated lands are sprinkler irrigated based on the above data.

<sup>b</sup>Class IV and V lands are dominated by pasture and hay production, and they include both flood and sprinkler irrigation.

would raise costs by an average of \$40 per sprinkler-irrigated acre in the Project and that these costs likely would be absorbed by landowners. (Cost increases outside the Project are assumed to be slightly less given the higher current non-Project energy prices.)

These estimated rental rates are similar to the range reported for Jefferson County (\$60 to \$90 per acre), where energy prices are much higher than the prices paid in the Upper Klamath Basin (Jefferson County Assessor, 2003). The Jefferson County land rental rates highlight the fact that higher energy prices have not kept farmers in other parts of Oregon from irrigating highly productive farmlands.<sup>9</sup>

### **Profits on Class IV and Class V lands**

In the case of Class IV and V lands, sprinkler-based irrigated agriculture may become unprofitable in most cases when power costs increase by \$40 per acre. Table 1 indicates that all areas where Class IV and V lands are sprinkler irrigated are vulnerable to a loss of profitability. Many of these lands are concentrated in the Sprague River area, the Swan Lake Valley, and Langell Valley. The Class IV and V lands currently under sprinkler irrigation amount to about 153,000 acres based on data from the Natural Resources Conservation Service (Terry Nelson, personal communication). Approximately 65,000 of those acres are outside the Project.<sup>10</sup>

The number of farm acres in these areas that might face a loss of profitability would depend on irrigation lift requirements, the need to use sprinkler irrigation (e.g., where sloped or uneven fields could not be flood irrigated effectively), and restrictions from the Clean Water Act for switching to flood irrigation. Some farms may be able to convert to controlled flood irrigation; others may not. Conversion to flood irrigation may be impeded by uneven ground. A significant portion of these lands are currently irrigated with groundwater. Recent attention to this issue suggests that increased reliance on groundwater may have contributed to a decline in groundwater levels (Milstein, 2004).

If some portion of these Class IV and Class V sprinkler-irrigated lands became unprofitable to irrigate, consumptive use of water for irrigation would decline. For example, one-fifth (30,000 acres) of these Class IV and V sprinkler-irrigated lands represent about 7 percent of the total irrigated acres in the Upper Basin but only about 3.5 percent of the net income from irrigated agriculture. The consumptive use on these 30,000 acres of pasture and hay is about 75,000 acre-feet, or about one-quarter of the irrigation reductions imposed in 2001.<sup>11</sup>

## **Potential changes in agricultural practices**

In addition to reductions in land prices and rental rates, some changes in agricultural practices could be expected if current contract energy prices were eliminated. The proportion of lands planted to water- and energy-intensive crops likely would decline relative to non-water-intensive and non-energy-intensive crops. The shift toward high-pressure sprinkler irrigation likely would slow, whereas the introduction of energy-conserving technologies likely would accelerate. Indeed, some irrigators in the Klamath area already have shifted or made plans to switch to low-pressure nozzles, smaller pumps, or variable-frequency drives.

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<sup>9</sup>The short-run financial effects of a large increase in energy prices will vary among farm enterprises, depending on the timing, advanced notice, and suddenness of any changes in energy prices.

<sup>10</sup>In a few instances, the incentives to irrigate may not be based solely on demands for commercial agriculture, but are related to residential or “lifestyle farm” demand. In these cases, an increase in energy prices may not affect irrigation in the same way.

<sup>11</sup>In some wetland areas with subsurface water, however, cessation of irrigation may not reduce the “consumptive use” of water since native vegetation potentially could consume water at rates similar to cultivated crops such as irrigated pasture. However, many of the acres vulnerable to a loss of profitability seem to be higher elevation lands, where slopes and uneven ground make flood irrigation impossible, rather than low-lying wetlands.

A shift from sprinkler irrigation to flood irrigation might be an option in areas where “laser leveling” can ensure uniform applications for high-value crops. However, Clean Water Act requirements may limit this option. Note that a decline in the use of high-pressure sprinklers is not expected to significantly lower overall irrigation efficiency or increase water diversions since the aggregate irrigation efficiency for the Project already is greater than 95 percent (and indeed these remaining return flows contribute to wildlife habitat in the refuges.)

An opposing trend, however, is underway in the region in response to a special authorization in the 2002 Farm Bill, which has allocated \$50 million of public funds to the Upper Klamath Basin to promote irrigation efficiency (primarily adoption of sprinkler technologies, but also including some laser-leveling for controlled flood irrigation). These funds typically finance three-quarters of the cost of sprinkler technologies purchased by eligible farmers in the area, thereby increasing the prevalence of energy-intensive sprinklers.

While these changes are unlikely to “free up” additional water because of the already-high aggregate irrigation efficiency in the Project (mentioned above), any future increase in energy prices would add significant production costs for those farmers who take advantage of this program. Thus, continued use of the newly acquired equipment may be discouraged.

## Conclusions

Overall, the analysis above indicates that most of the irrigated lands in the Upper Klamath Basin (and in particular those lands within the Klamath Reclamation Project) are highly productive and would continue to be profitable

to irrigate under energy prices and fees currently paid by farmers in other parts of Oregon or northern California. Indeed, the viability of agriculture in the region does not depend on the current low energy prices, although these prices provide significant financial benefits to land-owners and owner-operators in the region.

If energy prices were to increase to rates comparable to rates paid by PacifiCorp’s irrigation customers outside the Klamath area, we estimate the returns to landowners would decrease by about \$40 per acre per year on those acres that are, and would continue to be, sprinkler irrigated. Farmers could be expected to conserve energy in a number of ways, such as using low-pressure sprinklers, more energy-efficient pumps, and laser-leveling to increase the efficiency of controlled flood irrigation.

The analysis suggests that some of the 193,000 acres that currently are sprinkler irrigated might become unprofitable if energy prices rise, and that the lands most vulnerable are among the 213,000 acres of Class IV and Class V lands, although the exact number and their location would be difficult to predict. Two-thirds of the sprinkler-irrigated pasture and hay acres are located outside the Project, and these acres represent consumptive use of about 250,000 acre-feet of water.

A loss of profitability on some of these lands could lead to a reduction in irrigation diversions. Water bank or water transfer opportunities might become more attractive for some irrigators who might face significantly higher pumping costs. Depending on how future water shortages are addressed, use of a water bank or other transfer mechanism has the potential to facilitate lower cost solutions to the region’s water conflicts, thereby reducing potential harm to the region’s overall agricultural economy.



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## For more information

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Jaeger, William K. *Brief #1: The Value of Irrigation Water Varies Enormously Across the Upper Klamath Basin*, EM 8843-E (Oregon State University, 2004).

Jaeger, William K. *Brief #2: Potential Benefits of Water Banks and Water Transfers*, EM 8844-E (Oregon State University, 2004).

The above publications are available online at <http://eesc.oregonstate.edu>

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## CERTIFICATE OF SERVICE

I hereby certify that I have this day served this “Protest and Motion to Intervene of Pacific Coast Federation of Fishermen’s Associations (PCFFA) and Institute for Fisheries Resources” to the Department of Interior’s Motion for Declaratory Order by postage prepaid mail upon the P-2082 Service List shown below for all those without email or requesting printed copy service, and with electronic email service on all those on the Service List with known email addresses, pursuant to FERC rules of service.

Dated: November 27, 2005

/s/ \_\_\_\_\_  
Glen H. Spain

Where indicated with a \*\*, service was made by U.S. mail, otherwise by Email.

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