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IDAHO PUBLIC
UTILITIES COMMISSION

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF ROCKY MOUNTAIN POWER FOR AN ORDER AUTHORIZING A CHANGE IN DEPRECIATION RATES APPLICABLE TO ELECTRIC PROPERTY	)))))))	**CASE NO. PAC-E-07-14** **Direct Testimony of Mark C. Mansfield**

ROCKY MOUNTAIN POWER

CASE NO. PAC-E-07-14

August 2007

Q. **Please state your name, business address and position with PacifiCorp (the Company).**

A. My name is Mark C. Mansfield. My business address is 1407 West North Temple, Suite 310, Salt Lake City, Utah. My position is vice president, thermal operations for PacifiCorp Energy.

Q. **Please describe your education and business experience.**

A. I have a Bachelor of Science degree in mechanical engineering from Brigham Young University, and a Masters in Business Administration from the University of Utah. During my career, I have served as an engineer and maintenance supervisor at the Carbon Plant; Maintenance Superintendent at the Hunter Station; Director of Technical Support for PacifiCorp's Generation Engineering in Salt Lake City, Utah, and as the Plant Manager for the Naughton, Huntington and Hunter Stations. I was appointed vice president of thermal operations in August 2006 with responsibilities for PacifiCorp's coal-fueled, gas-fueled and geothermal generation assets and operations.

Q. **What is the purpose of your testimony in this proceeding?**

A. The purpose of my testimony is twofold. First, I will describe the process used by PacifiCorp engineers to develop estimated plant depreciable lives for the Company's steam generating stations. I will explain how steam estimated plant depreciable lives were chosen for the purpose of this proceeding, and I will show how these estimated plant depreciable lives provide a framework for estimating the retirement date for each steam plant. In a similar manner I will describe the procedure used to estimate the retirement date for the Company's hydroelectric generating stations. I will demonstrate that the estimated retirement dates proposed by the Company for both steam and hydro generation plants are reasonable and prudent and are appropriate inputs for Mr. Roff's depreciation analysis.

Second, I will explain why the rates the Company proposes to include as terminal net salvage, or "decommissioning costs," in the calculation of depreciation rates for generating plants are reasonable and prudent.

GENERATION PLANT LIFE ESTIMATION

Steam Plant Estimated Depreciable Lives

Q. Please explain what you mean by the "estimated plant depreciable life" of a steam generating plant.

A. For the purpose of determining depreciation, the estimated plant depreciable life of a steam plant is the period of time that begins when the plant is initially placed in service and begins to generate electricity and ends when the plant is finally removed from service and ceases to generate electricity. In other words it is the period of time during which electric customers benefit from the generation output of the plant.

Q. When a steam plant is removed from service, will it be retired and its investment removed from the Company's accounting records?

A. It may not be immediately retired from an accounting perspective. More likely the plant will be retained in a reserve status for a period of time until plans for its final disposition are made.

Q. If an accounting retirement is not made, will the plant remain in rate base and continue to impose costs on customers?

A. No. Under the estimated plant depreciable life concept a plant will be fully depreciated by the time it is finally removed from service.

Q. Why is it necessary to estimate the depreciable life of a steam plant?

A. One major component of PacifiCorp's cost of service is the recovery of capital investment in steam generating plants. This recovery is accomplished through depreciation expense over the productive life of each plant. From the standpoint of setting depreciation rates it is necessary to have a reasonable estimate of the life of a plant as soon as it is placed in service. For depreciation purposes all steam plant lives are estimates that may be adjusted over time as circumstances warrant.

Q. What circumstances warrant the adjustment of a plant's life for depreciation purposes?

A. One example under which a plant's life is adjusted for depreciation purposes is the addition of significant emissions control equipment. The PacifiCorp steam generating plants perform well and serve as an important source of baseload generation for PacifiCorp customers. Changing environmental regulations may ultimately require the installation of emissions control equipment to ensure that these plants operate in compliance with the environmental laws and regulations. The significant capital investment that is required to install emissions reduction equipment is a benefit to customers that will allow the plants to continue operation. The adjustment of the plants' depreciable life reflects the company's ability to recover its plant investment for the benefit of the customer.

Q. What are PacifiCorp's current estimated plant depreciable lives for its steam generating plants?

A. Please refer to Exhibit No. 2, "Power Supply Estimated Plant Lives," for a complete list of PacifiCorp plants and their expected lives.

Q. Who prepared the estimated plant depreciable life analysis?

A. The estimated plant depreciable life analysis was prepared by PacifiCorp Energy's engineering staff under my direction. This group includes individuals with over twenty years of service with the Company who are experienced in all areas of steam plant operation, including the design, construction, operation and maintenance of the Company's existing units.

Q. What criteria were considered in the estimated plant depreciable life analysis?

A. The estimated plant depreciable life analysis focused on three main areas: (1) an evaluation of the operating and maintenance history of the plants as determined by owner operational requirements; (2) an assessment of the current condition of major equipment components; and (3) capital expenditures made and anticipated to be made at the plant.

Q. Did the Company evaluate the operating and maintenance history of its steam plants to determine compliance with original design parameters?

A. Yes. A review of historical records indicates that PacifiCorp's steam plants have been operated and maintained in a manner consistent with the expectation reflected in original design parameters. Manufacturer's guidelines and/or operating recommendations from design engineers have been translated into training materials and operating procedures used throughout the Company's thermal fleet. A review of preventative maintenance logs, work order and equipment histories, and overhaul histories indicates that required maintenance procedures have been consistently applied for all plants. This is further demonstrated by the high capacity factors and high equivalent availability factors exhibited by PacifiCorp's thermal fleet.

Q. Did the Company make an assessment of the current condition of major equipment components?

A. Yes. During the annual planning cycle plant operating and engineering personnel review the loss histories for major equipment components, the planned overhaul schedule and the planned operating requirements for the plant. The plant personnel use this data to determine condition of the equipment and potential projects to reduce risk of equipment failure.

Q. Has the expenditure of capital had an effect on the estimated plant depreciable life for any of the Company's generating plants?

A. Yes. Periodic capital expenditures allow these generating plants to continue to operate as designed and to serve as cost-effective resources needed to meet PacifiCorp's load requirement. Since the last depreciation study the Company has spent more than $621 million on capital projects that maintain the ability of the steam and hydro plants to continue to provide a valuable and low-cost source of electricity.

Recommended Estimated Steam Plant Lives for Depreciation Study

Q. Has the Company reflected its estimated plant depreciable lives in the current depreciation study?

A. Yes. PacifiCorp provided retirement dates for each steam and hydro plant to Mr. Donald Roff of Depreciation Specialty Resources for use in preparing the depreciation study that is the subject of this proceeding. The depreciation study performed by Mr. Roff (Exhibit No. 5), which is based on plant balances as of

December 31, 2006, will be referred to hereafter as "the DSR study". The retirement dates provided by the Company to Mr. Roff are the same retirement dates contained in Schedule 3 of the DSR study.

<u>Steam Plant Retirement Dates</u>

Q. How was the estimated plant depreciable life for each plant converted into an estimated retirement date?

A. The estimated plant depreciable life was added to the original in-service date for each generating unit to arrive at its estimated retirement date. For example, if a unit had an in-service date of 1980 and a 64-year estimated plant depreciable life, its estimated retirement date would be 2044. For multiple-unit plants, the age was calculated for each unit. Then a weighted-average age for the entire plant was determined by weighting the capacity of each unit. An average retirement date was then calculated based on the remaining life.

<u>Hydroelectric Plant Retirement Dates</u>

Q. Is the process used to estimate retirement dates for PacifiCorp's hydro generation plants similar to the process used for steam plants?

A. Conceptually the process is very similar. The primary difference is that it is not possible to use generic estimated plant depreciable life for hydro plants. While steam plants of similar size, vintage, and design requirements would be expected to have the same estimated plant depreciable life, each hydro plant is unique. Therefore, it is necessary to estimate the estimated plant depreciable life of each hydro plant separately; or in effect, to determine the retirement date for each hydro plant on an individual basis.

Q. What criteria are important in estimating the retirement date of a hydro plant?

A. The remaining useful lives of hydro facilities are governed either by the terms of operating licenses or by the remaining life of critical civil/structural or electro-mechanical components.

Q. Who prepared the estimated retirement dates for hydro plants?

A. The hydro plant retirement dates were estimated by PacifiCorp's Hydro Engineering and Planning staff. These individuals have experience in both plant operation and maintenance and in project relicensing.

Q. What license are you referring to?

A. The majority of PacifiCorp's hydro projects are federally licensed under the jurisdiction of the Federal Energy Regulatory Commission (FERC) which acts under the authority of the Federal Power Act (FPA). Hydro projects receive their initial license when they are first placed in service and may be re-licensed upon expiration of the initial term. This initial term is usually for 50 years. FERC may grant new licenses of up to 50 years, depending upon the unique circumstances at each project. Currently, the most common relicensing period is 30 years. Over 90 percent of the Company's hydro capacity is currently in the relicensing process or has received a new license within the last few years.

Q. How were the decision criteria applied to determine the retirement date for each hydro plant?

A. As previously mentioned, most of the Company's hydro capacity has been recently re-licensed, or is currently undergoing relicensing. For plants currently in the relicensing process the estimated retirement date is the date of expiration of the current license plus 30 years (the most common period for new FERC licenses). For example, if a plant's current license expires in 2007, the estimated retirement date for that facility is 2037. For plants that have been recently re-licensed, the estimated retirement date is the expiration date of the new license. The remaining estimated plant depreciable life of the plant is the same as the life of the license.

Q. Is there any exception to the practice of basing estimated retirement dates on FERC license expirations?

A. Yes. As I indicated before, the other primary driver of expected hydro plant life is the remaining life of critical components. PacifiCorp has a number of smaller hydro projects where significant new investment could make the plants uneconomical to operate given current alternative options to supply this energy. If an aging critical component were to fail at such a plant, it is common practice to perform an economic analysis to determine if it would be in the best interest of the Company's customers to make the investment required to extend the plant's life and continue operation of the plant, or alternatively pursue an alternative action to divest or retire the plant. For plants where Company engineers have determined that the expected remaining life of a critical component is shorter than the FERC license period, the retirement date of that plant has been estimated to reflect only the remaining useful life of the component. For example, consider a hydro plant with a flow line that is judged to have a limited remaining life of 15 years. It is expected that the investment necessary to replace this flow line would place the economic viability of the project in jeopardy as a generation resource. Because a decision regarding the continued operation of that project would be necessary at that future time, the estimated remaining useful life of the project is considered to be equivalent to the remaining life of that critical component (the flow line), or 15 years.

Q. If the continued operation of a hydro plant is not constrained by critical component failures, why should its estimated plant depreciable life be limited to the expiration of a FERC license? Wouldn't it be reasonable to expect FERC licenses to continue to be renewed indefinitely?

A. It would be imprudent to anticipate approval of license renewals beyond the present term of the license. The FERC is responsible for hydroelectric project licensing under the Federal Power Act. Historically, FERC has balanced the need for power produced by projects with the need to protect the surrounding environment and natural resources. However, FERC no longer has the discretion to balance hydro interests with other resource issues given the U.S. Supreme Court's rulings on Section 401 of the Clean Water Act (CWA), endangered species listings under the Endangered Species Act (ESA) and other rulings under the FPA. For example, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service have prescriptive authority under the FPA to provide fish passage in any manner they deem reasonable. As a result, typical license conditions now routinely include revised operating requirements and construction of new environmental mitigation facilities that may make the project(s) uneconomical to continue to operate in the future. This economic viability will need to be determined for each project, but such determination cannot be conclusively made until the expected terms and conditions of a new license are determined through the relicensing process with the FERC. For this reason PacifiCorp cannot reliably forecast operating lives beyond current license expiration dates. The estimated hydro plant retirement dates developed by Company engineers using the criteria that I have just described are reasonable and prudent in this dynamic, changing arena and are the appropriate inputs for Mr. Roff's depreciation analysis.

Q. How were the estimated hydro plant retirement dates developed by the Company provided to Mr. Roff?

A. The estimated hydro plant retirement dates were provided to Mr. Roff in the form of Exhibit No. 2.

OTHER PRODUCTION PLANT

Q. What process was used by PacifiCorp to estimate retirement dates for its Other Production Plants?

A. The process was similar to that used for the hydro generation facilities. The estimated plant depreciable life for Other Production was assumed to be the length of either the Power Purchase Agreement for the specific facility or the expected life of a critical component. For example Little Mountain and Foote Creek (aka Wyoming Wind) use the contract length as the estimated plant depreciable life for their respective facilities, while the estimated plant depreciable life for the simple-cycle combustion turbines and wind farms use a 25-year estimated plant depreciable life based on the ~~original equipment's design lives.~~

Q. Why is the contract life a good estimate of plant life?

A. Given the uncertainty in the power market, it is difficult to project the depreciable value of the plant past the end of the contract life. The future economic viability for each project will need to be evaluated as it nears the end of its estimated depreciable life.

Q. Why is there a different estimated plant depreciable life for the combined-cycle gas-fueled plant than the simple-cycle gas-fueled plant?

A. The Hermiston gas-fueled plant is a combined-cycle base-loaded facility, which is designed to run at a steady state condition. Gadsby Units 4, 5 and 6 are flexible resources and are, therefore, expected to cycle on and off at a higher rate. While the Currant Creek and Lake Side plants are not base loaded, they run for longer periods of time when called upon. Therefore, they have less cycling than a flexible resource. The cycling of the plant takes life out of the combustion turbines and may reduce its estimated plant life.

Q. How were the estimated other production plant retirement dates developed by the Company provided to Mr. Roff?

A. The estimated other production plant retirement dates are included in Exhibit No. 2.

TERMINAL NET SALVAGE (DECOMMISSIONING COST)

Q. Please explain the term "terminal net salvage" or "decommissioning cost"?

A. As I use the term, terminal net salvage refers to the cost of removing facilities that have been retired and restoring the site to its original grade. It does not contemplate site re-vegetation or other landscaping activities.

Q. Why should there be a difference in the recovery of terminal net salvage between steam and hydro plants?

A. Conceptually there should be no difference—terminal net salvage should be reflected in depreciation rates. The cost of removing coal-fired plants is generally consistent for plants of similar size and vintage. This consistency facilitates preparation of reasonable terminal net salvage estimates for steam plants. However, every hydro plant is uniquely situated and the estimated removal costs would have to be individually determined. PacifiCorp will continue to evaluate the most appropriate way to reflect hydro terminal net salvage in future depreciation studies, but it was decided to include those amounts which have been specifically identified in settlement agreements and amounts for small hydro plants which have some probability of being removed in the next ten years.

Q. **How were the terminal net salvage factors for steam production plant determined?**

A. The terminal net salvage for PacifiCorp's steam generating plants was estimated by Mr. Roff. A description of the procedures used is presented on page 11 of his direct testimony filed in this proceeding.

Q. **Was the study of steam production demolition cost performed as required by the last depreciation rate case and how does that compare to the costs used in this study?**

A. Yes. Black & Veatch was retained to perform a study of steam production demolition costs, as ordered during the last depreciation study. This study estimated that the costs to decommission the Carbon plant at $164.47 per installed net kilowatt, the ~~Dave Johnston plant at~~ $61.27 per installed net kilowatt and the Hunter plant at $48.55 per installed net kilowatt. Mr. Roff used a conservative industrial average of $50 per installed kilowatt.

Q. Does PacifiCorp expect to remove steam generating plants that are retired in the future?

A. Yes. It has been the Company's practice to remove thermal plants upon retirement for a variety of reasons, and it is its current intention to continue to do so. PacifiCorp assumes that even if laws and regulations do not currently exist which require removal of generation plants upon retirement, laws and regulations may be enacted that would require removal if the owner or operator fails to do so. There are public safety and environmental issues associated with generation plants, and the public may demand their removal if the owner or operator does not do so. The Company does not believe it is reasonable to assume that retired generation plants will be allowed to remain in place indefinitely in the future. In addition, it is unlikely that PacifiCorp could dispose of the sites of retired generation plants without removal. In fact, even if the Company were to retain the site for its own use, it would probably be necessary to remove the old plant before a new plant could utilize transmission or other site advantages. The Company believes that consideration of the potential obligations associated with indefinitely holding a retired generation plant might indicate that removal is the most prudent course and is in the long-term public interest.

Q. Does recovery of terminal net salvage costs through steam plant depreciation expense represent sound ratemaking policy?

A. Yes, it does. Two of the most basic precepts of ratemaking policy are that customers should pay for their cost of service and that costs should be matched with benefits. Consistent with these principles, customers who benefit from the output of a steam generating plant should bear all the costs of producing that output, including the cost of constructing the plant and subsequent capital additions, the costs of operating and maintaining the plant over its productive life, and ultimately the cost of retiring and removing the plant. Recovery of terminal net salvage through depreciation expense over the useful life of the plant is the only way to achieve a full and fair matching of costs and benefits. If recovery of terminal net salvage were to be deferred until the plant is actually retired, some customers would inevitably pay less than their cost of service while other customers would pay more than their fair share.

CONCLUSION

Q. Based on the foregoing testimony, what conclusions have you reached?

A. It is my opinion that the estimated plant depreciable lives set forth in this study for PacifiCorp's steam generating plants provide a reasonable basis in this case for the estimated retirement dates used as inputs for Mr. Roff's depreciation analysis. Similarly, it is my opinion that the hydro plant retirement dates provided to Mr. Roff are reasonable and are based on the latest engineering estimates. I conclude that the terminal net salvage calculated by Mr. Roff for PacifiCorp steam generating plants is reasonable and conservative based on the Company's actual experience and the study performed by Black & Veatch. It is necessary to include steam plant terminal net salvage in depreciation rates to properly match customer benefits with customer costs and to ensure that all customers pay their full and fair cost of service. These same principles of ratepayer equity require that all hydro plant decommissioning costs be recovered through depreciation expense from the customers being served by these hydro plants.

Furthermore, it is my opinion that these assets provide a valuable and low-cost resource for the benefit of the ratepayers.

Q. Does this conclude your testimony?

A. Yes.

Case No. PAC-E-07-14
Exhibit No. 2
Witness: Mark C. Mansfield

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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Mark C. Mansfield

August 2007

Estimated Plant Depreciable Lives

Plant	PacifiCorp Share Net Rating (MW)	Commercial Date	Current Age of Unit	Weighted Average Age of Plant	Recommended Depreciable Life	Recommedation Year Ending Life	Years Remaining from 2007	Criteria for Recommended Depreciable Life
Coal-fired								
Carbon-1	67	1954	53					
Carbon-2	105	1957	50	51.2	64.0	2020	13	Asset condition and planned capital expenditures
Cholla-4	380	1981	26	26.0	64.0	2045	38	Asset condition and planned capital expenditures
Colstrip-3	74	1984	23					
Colstrip-4	74	1986	21	22.0	64.0	2049	42	Asset condition and planned capital expenditures
Craig-1	83	1980	27					
Craig-2	82	1979	28	27.5	54.0	2034	27	Based on the life use by majority owners
Dave Johnston-1	106	1959	48					
Dave Johnston-2	106	1960	47					
Dave Johnston-3	230	1964	43					
Dave Johnston-4	330	1972	35	40.8	64.0	2030	23	Asset condition and planned capital expenditures
Hayden-1	45	1965	42					
Hayden-2	33	1976	31	37.3	60.0	2030	23	Based on the life use by majority owners
Hunter-1	403	1978	29					
Hunter-2	259	1980	27					
Hunter-3	460	1983	24	26.5	64.0	2045	38	Asset condition and planned capital expenditures
Huntington-1	445	1977	30					
Huntington-2	450	1974	33	31.5	64.0	2039	32	Asset condition and planned capital expenditures
Jim Bridger-1	353	1974	33					
Jim Bridger-2	353	1975	32					
Jim Bridger-3	353	1976	31					
Jim Bridger-4	353	1979	28	31.0	64.0	2040	33	Asset condition and planned capital expenditures
Naughton-1	160	1963	44					
Naughton-2	210	1968	39					
Naughton-3	330	1971	36	38.7	64.0	2032	25	Asset condition and planned capital expenditures
Wyodak-1	268	1978	29	29.0	64.0	2042	35	Asset condition and planned capital expenditures
	6,113							
Gas-fired								
Currant Creek (CCCT)	540	2005	2	2.0	35.0	2040	33	Based on the original design life of a combined-cycle plant
Gadsby-1 (Rankine)	60	1951	56					
Gadsby-2 (Rankine)	75	1952	55					
Gadsby-3 (Rankine)	100	1955	52	54.0	64.0	2017	10	Asset condition and planned capital expenditures
Gadsby-4 (CT)	40	2002	5					
Gadsby-5 (CT)	40	2002	5					
Gadsby-6 (CT)	40	2002	5	5.0	25.0	2027	20	Based on the original design life of a simple-cycle plant
Hermiston 1 (CCCT)	119	1996	11					
Hermiston 2 (CCCT)	119	1996	11	11.0	35.0	2031	24	
Lake side (CCCT)	548	2007	0	0.0	35.0	2042	35	Based on the original design life of a combined-cycle plant
Little Mountain (CT)	14	1971	36	36.0	38.0	2009	2	Contract life
	1,694							
Other								
Blundell (Geothermal)	23	1984	23	23.0	49.0	2033	26	Extended 25 year due to the bottoming cycle addition
Blundell Bottoming Cycle (Geothermal)	11	2008	-1	-1.0	25.0	2033	26	Based on the original design life of the bottoming cycle
Foote Creek (Wind)	33	1999	8	8.0	25.0	2024	17	Based on the original design life of a wind plant
James River (Co-gen)	22	1996	11	11.0	20.0	2016	9	Contract life
Leaning Juniper 1 (Wind)	101	2006	1	1.0	25.0	2031	24	Based on the original design life of a wind plant
Marengo (wind)	140	2007	0	0.0	25.0	2032	25	Based on the original design life of a wind plant
	330							
System Total	8,136							

Reference Year	2007
Average Age of Units	27.83
Weighted Average Age of Units	26.56

Assumptions
Depreciable life estimates do not include the potential influence of emissions limitations. Future environmental regulations, such as a carbon tax or other unforseeable regulation, could cause some of the older plants to become uneconomical and shorten their depreciation lives

PACIFICORP HYDRO PLANTS

Plant	Year Installed	Nameplate Rating (MW)	FERC License Number	State	Location	Energy Source	License Expiration Date	Engineering estimate of electro / mechanical life	Engineering estimate of civil/structural life	Recommended Year for 2007 Useful Life	NOTES
Ashton	1910	6.85	2381	Idaho	Ashton, ID	Henry's Fork Snake River	12/31/2027			2027	Based on current license expiration date.
St. Anthony	1915	0.50	2381	Idaho	Ashton, ID	Henry's Fork Snake River	12/31/2027			2027	Plant out of service. Efforts are currently underway to sell the existing project and seperate it from the existing FERC license.
Cutler	1927	30.00	2420	Utah	Logan, ID	Bear River	3/31/2024			2024	Based on current license expiration date.
Cove	1907	0.00	2401	Idaho	Grace, ID	Bear River					The Cove plant was decommissioned as a condition of the new FERC operating license for the Bear River plants in 2006.
Grace	1908	33.00	2401	Idaho	Grace, ID	Bear River	11/30/2033			2033	New 30 year FERC operating license received in 2003. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Oneida	1915	30.00	472	Idaho	Preston, ID	Bear River	11/30/2033			2033	New 30 year FERC operating license received in 2003. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Soda	1924	14.00	20	Idaho	Soda, ID	Bear River	11/30/2033			2033	New 30 year FERC operating license received in 2003. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Upper American Fork	1907	0.95	696	Utah	American Fork, UT	American Fork Creek	12/31/2007	2030	2030	2007	Signed Settlement agreement to decommission Project in 2006. FERC order received giving authorization to move forward with decommissioning actions. Work is underway.
Pioneer	1897	5.00	2722	Utah	Ogden, UT	Ogden River	8/31/2030			2030	New 30 year FERC operating license received in 2000. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Stairs	1895	1.00	597	Utah	Salt Lake City, UT	Big Cottonwood Creek	6/30/2030	2030	2025	2025	Based on Engineering estimate of remaining civil/structural life.
Weber	1911	3.85	1744	Utah	Ogden, UT	Weber River	5/31/2020			2020	Based on current license expiration date.
Big Fork	1910	4.15	2652	Montana	Big Fork, MT	Swan River	6/30/2053			2053	New 50 year FERC operating license received in 2003. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Wallowa Falls	1921	1.10	308	Oregon	Joseph, OR	East Fork Wallowa River	2/28/2016			2016	Based on current license expiration date.
Powerdale	1923	6.00	2659	Oregon	Hood River, OR	Hood River	2/29/2012			2010	Settlement Agreement calls for decomissioning of the project in 2010. Licensing extension request filed for operation to 2010 and with decommissioning to follow.
Condit	1913	13.70	2342	Washington	White Salmon, WA	White Salmon River	12/31/1993			2008	Signed Settlement Agreement to decommission project in 2006. Agreement was amended to allow required time to work through permitting process, extending original 2006 decommission date to 2008.
Merwin	1931	136.00	935	Washington	Areil, WA	North Fork Lewis River	4/30/2006			2046	New 40 year FERC operating license expected in 2006. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Swift	1958	240.00	2111	Washington	Cougar, WA	North Fork Lewis River	4/30/2006			2046	New 40 year FERC operating license expected in 2006. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Yale	1953	134.00	2071	Washington	Cougar, WA	North Fork Lewis River	4/30/2001			2046	New 40 year FERC operating license expected in 2006. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Lemolo No.1	1955	31.99	1927	Oregon	Toketee Falls, OR	North Umpqua River	10/31/2038			2038	New 35 year FERC operating license received in 2003. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Lemolo No.2	1956	33.00	1927	Oregon	Toketee Falls, OR	North Umpqua River	10/31/2038			2038	New 35 year FERC operating license received in 2003. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Clearwater No.1	1953	15.00	1927	Oregon	Toketee Falls, OR	Clearwater River	10/31/2038			2038	New 35 year FERC operating license received in 2003. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Clearwater No.2	1953	26.00	1927	Oregon	Toketee Falls, OR	Clearwater River	10/31/2038			2038	New 35 year FERC operating license received in 2003. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Toketee	1949	42.50	1927	Oregon	Toketee Falls, OR	North Umpqua River	10/31/2038			2038	New 35 year FERC operating license received in 2003. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Fish Creek	1952	11.00	1927	Oregon	Toketee Falls, OR	Fish Creek	10/31/2038			2038	New 35 year FERC operating license received in 2003. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Soda Springs	1952	11.00	1927	Oregon	Toketee Falls, OR	North Umpqua River	10/31/2038			2038	New 35 year FERC operating license received in 2003. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Slide Creek	1951	18.00	1927	Oregon	Toketee Falls, OR	North Umpqua River	10/31/2038			2038	New 35 year FERC operating license received in 2003. Civil, electrical and mechanical work will be completed as necessary to extend life to end of FERC license period.
Prospect No.1	1912	3.76	2630	Oregon	Prospect, OR	North Fork Rogue River	7/1/2005 Annual			2037	New 30 year license is expected in 2007. Improvements will be implemented to civil/structural and mechanical facilities as warranted to extend project life through new license period.
Prospect No.2	1928	32.00	2630	Oregon	Prospect, OR	North Fork Rogue River	7/1/2005 Annual			2037	New 30 year license is expected in 2007. Improvements will be implemented to civil/structural and mechanical facilities as warranted to extend project life through new license period.
Prospect No.4	1944	1.00	2630	Oregon	Prospect, OR	South Fork Rogue River	7/1/2005 Annual			2037	New 30 year license is expected in 2007. Improvements will be implemented to civil/structural and mechanical facilities as warranted to extend project life through new license period.

PACIFICORP HYDRO PLANTS

Plant	Year Installed	Nameplate Rating (MW)	FERC License Number	State	Location	Energy Source	License Expiration Date	Engineering estimate of electro / mechanical life	Engineering estimate of civil/structural life	Recommended Year for 2007 Useful Life	NOTES
Prospect No.3	1932	7.20	2337	Oregon	Prospect, OR	North Fork Rogue River	12/31/2018			**2018**	Based on current license expiration date.
Keno Regulating Dam	1967	0.00	2082	Oregon	Klamath Falls, OR	Link River	2/28/2006 Annual			**2046**	The current Klamath FERC operating license expires in 2006. The ongoing settlement process is expected to take an additional 10 years to be completed, with annual license renewals received during that process. Assuming a 30 year license at the end of the 10 year licensing period results in a life extension through 2046. It is assumed the civil, electrical and mechanical improvements necessary to extend the life through the licensing process period and the license period of 30 years will be completed.
East Side	1924	3.20	2082	Oregon	Klamath Falls, OR	Link River	2/28/2006 Annual			**2016**	The current FERC operating license expires in 2006. The ongoing settlement process is expected to take an additional 10 years to be completed, with annual license renewals received during that process. Due to impending civil structure investment needs expected for fish passage and protection, the plant will be decommissioned as part of the new license conditions. The current life is considered to be through 2016.
West Side	1908	0.60	2082	Oregon	Klamath Falls, OR	Link River	2/28/2006 Annual			**2016**	The current FERC operating license expires in 2006. The ongoing settlement process is expected to take an additional 10 years to be completed, with annual license renewals received during that process. Due to impending civil structure investment needs expected for fish passage and protection, the plant will be decommissioned as part of the new license conditions. The current life is considered to be through 2016.
J. C. Boyle	1958	97.98	2082	Oregon	Keno, OR	Klamath River	2/28/2006 Annual			**2046**	The current Klamath FERC operating license expires in 2006. The ongoing settlement process is expected to take an additional 10 years to be completed, with annual license renewals received during that process. Assuming a 30 year license at the end of the 10 year licensing period results in a life extension through 2046. It is assumed the civil, electrical and mechanical improvements necessary to extend the life through the licensing process period and the license period of 30 years will be completed.
Klamath Lake Reservoir	1919	0.00		Oregon	Klamath Falls, OR	Link River	Unlicensed			**2046**	The current Klamath FERC operating license expires in 2006. The ongoing settlement process is expected to take an additional 10 years to be completed, with annual license renewals received during that process. Assuming a 30 year license at the end of the 10 year licensing period results in a life extension through 2046. It is assumed the civil, electrical and mechanical improvements necessary to extend the life through the licensing process period and the license period of 30 years will be completed.
Iron Gate	1962	18.00	2082	California	Hombrook, CA	Klamath River	2/28/2006 Annual			**2046**	The current Klamath FERC operating license expires in 2006. The ongoing settlement process is expected to take an additional 10 years to be completed, with annual license renewals received during that process. Assuming a 30 year license at the end of the 10 year licensing period results in a life extension through 2046. It is assumed the civil, electrical and mechanical improvements necessary to extend the life through the licensing process period and the license period of 30 years will be completed.
COPCO No.1	1918	20.00	2082	California	Hombrook, CA	Klamath River	2/28/2006 Annual			**2046**	The current Klamath FERC operating license expires in 2006. The ongoing settlement process is expected to take an additional 10 years to be completed, with annual license renewals received during that process. Assuming a 30 year license at the end of the 10 year licensing period results in a life extension through 2046. It is assumed the civil, electrical and mechanical improvements necessary to extend the life through the licensing process period and the license period of 30 years will be completed.
COPCO No.2	1925	27.00	2082	California	Hombrook, CA	Klamath River	2/28/2006 Annual			**2046**	The current Klamath FERC operating license expires in 2006. The ongoing settlement process is expected to take an additional 10 years to be completed, with annual license renewals received during that process. Assuming a 30 year license at the end of the 10 year licensing period results in a life extension through 2046. It is assumed the civil, electrical and mechanical improvements necessary to extend the life through the licensing process period and the license period of 30 years will be completed.
Fall Creek	1903	2.20	2082	Oregon	Hombrook, CA	Fall Creek	2/28/2006 Annual			**2046**	The current Klamath FERC operating license expires in 2006. The ongoing settlement process is expected to take an additional 10 years to be completed, with annual license renewals received during that process. Assuming a 30 year license at the end of the 10 year licensing period results in a life extension through 2046. It is assumed the civil, electrical and mechanical improvements necessary to extend the life through the licensing process period and the license period of 30 years will be completed.
Lifton Pump Station	1918	0.00		Idaho	St. Charles, ID	Bear River	Unlicensed			**2033**	New 30 year FERC operating license received in 2003 for the Bear River. Work will be completed as necessary to extend life to end of Bear River FERC license period.
Paris	1910	0.72	703	Idaho	Preston, ID	Paris Creek	Exempt	2020	2010	**2010**	No license - Based on engineering evaluation of the canal system. It is judged that the remaining life of this portion of the project is approximately 4 years.
Last Chance	1984	1.73	4580	Idaho	Grace, ID	Last Chance Canal	Exempt	2035	2025	**2025**	No license - Investment has extended the life of the electro/mechanical systems. Based on Engineering evluation of the remaining life of the canal system..

PACIFICORP HYDRO PLANTS

Plant	Year Installed	Nameplate Rating (MW)	FERC License Number	State	Location	Energy Source	License Expiration Date	Engineering estimate of electro / mechanical life	Engineering estimate of civil/structural life	Recommended Year for 2007 Useful Life	NOTES
Upper Beaver	1907	2.52	814	Utah	Beaver, UT	Beaver River	Exempt	2030	2007	**2030**	No license - Engineering estimate of remaining civil life currently limits future operational life. Negoitations are well underway regarding the sale of the project with closure currently scheduled for third quarter of 2007.
Granite	1896	2.00		Utah	Salt Lake City, UT	Big Cottonwood Creek	Unlicensed	2030	2048	**2030**	No license - Based on Engineering estimate of remaining electro/mechanical life.
Olmsted	1904	10.30		Utah	Orem, UT	Strawberry River	Unlicensed	2016	2016	**2016**	No license - Based on remaining term of the exsting operations agreement with Bureau of Reclamation. Investments necessary to continue operation through that time are expected to be made.
Snake Creek	1910	1.18		Utah	Heber, UT	Snake Creek	Unlicensed	2020	2030	**2020**	No license - Based on Engineering estimate of remaining electro/mechanical life.
Fountain Green	1922	0.16	10690	Utah	Fountain Green, UT	Big Springs	Exempt	2010	2010	**2010**	No license - Based on Engineering estimate of remaining electro/mechanical and civil structures life.
Gunlock	1917	2.05	9281	Utah	St. George, UT	Santa Clara River	Exempt	2020	2020	**2020**	No license - Civil structure investments have shifted basis for remaining life estimate to the electro/mechanical compoents of the project.
Santa Clara	1920		9281	Utah	St. George, UT	Santa Clara River	Exempt	2020	2020	**2020**	No license - Civil structure investments have shifted basis for remaining life estimate to the electro/mechanical compoents of the project.
Veyo	1920		9281	Utah	St. George, UT	Santa Clara River	Exempt	2020	2020	**2020**	No license - Civil structure investments have shifted basis for remaining life estimate to the electro/mechanical compoents of the project.
Viva Naughton	1986	0.74		Wyoming	Kemmerer, WY	Ham's Fork River	Exempt	2040	2040	**2040**	No license - Based on Engineering estimate of remaining electro/mechanical life.
Cline Falls	1943	1.00		Oregon	Redmond, OR	Deschutes River	Unlicensed	2013	2018	**2013**	Remaining life based upon expiration of agreement with Central Oregon Irrigation District for the use of the water right and the operation of the plant in 2013. No expectation at this time that agreement will be renewed.
Bend	1913	1.11		Oregon	Bend, OR	Deschutes River	Unlicensed	2010	2018	**2010**	No license - Based on Engineering estimate of remaining electro/mechanical life.
Eagle Point	1957	2.81		Oregon	Shady Cove, OR	South Fork Big Butte Creek	Unlicensed	2025	2025	**2025**	Major civil cost risk reduced with ellimination of canal maintenance agreement. Life extension expected to be feasible for electrical/mechanical equipment to extend life equivalent of 20 years.
Total Capacity*		1087.852									

Notes: Total capacity includes Olmsted (not owned by PacifiCorp Energy) at 10.3 MW