

# Pacific Power and Light Surplus Firm Capacity Rate (PPL - 90)

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## Administrator's Final Record of Decision

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PACIFIC POWER AND LIGHT SURPLUS FIRM CAPACITY RATE

PPL-90

ADMINISTRATOR'S FINAL RECORD OF DECISION

JULY 1990

Bonneville Power Administration  
U.S. Department of Energy

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PACIFIC POWER AND LIGHT SURPLUS FIRM CAPACITY RATE  
PPL-90

FINAL RECORD OF DECISION

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## CHAPTER I

### INTRODUCTION

Bonneville Power Administration (BPA) and Pacific Power & Light Company (Pacific) recently concluded an extensive negotiation process for a replacement contract for a long-term sale of capacity. Pacific's existing long-term capacity contract with BPA will expire on August 31, 1991. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 3. In April 1990, Pacific submitted a signed offer with terms that were acceptable to BPA. The contract terms are more fully discussed in Section C, infra. One of the provisions in the replacement contract provides for a long-term formula rate that is specific to the capacity sale negotiated by BPA and Pacific. This long-term formula rate was the subject of a hearing held pursuant to section 7(i) of the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act), 16 U.S.C. § 839e(i). This Final Record of Decision contains the BPA Administrator's final determination that the Pacific formula rate meets the statutory requirements applicable to BPA ratemaking.

#### A. Availability of Surplus Capacity on BPA's System

##### 1. Capacity on BPA's System

BPA delivers capacity, or peaking energy, to its utility customers during their peak or heavy load hours. The utilities return the energy to BPA during offpeak or light load hours. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 1. On an integrated hydrothermal system such as BPA's, the total amount of available capacity is a function of: (1) installed resource capability; (2) available water for generation; and (3) system operating constraints. BPA measures the total capacity available on the hydrothermal system by determining how much capacity can be generated under adverse, or "critical" water conditions without violating any system operating constraints. Id., 1-2. (For an explanation of "critical" water conditions, see U.S. Department of Energy - Bonneville Power Administration, 29 F.E.R.C. ¶ 63,039, 65,124, n.17 (1984)).

The basic capacity product sold by BPA permits peaking energy to be delivered for up to 50 hours per week, but not more than 10 hours per day. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 5. The total amount of peaking energy purchasing utilities can receive equals the purchaser's contract demand multiplied by 50 hours per week. The purchasing utility must return the energy to BPA within 24 hours. Id. The hourly rate at which peaking energy generally is returned by the purchasing utility cannot exceed 100 percent of contract demand, but BPA maintains the right to restrict returns to 60 percent of contract demand.

Although this 50 hours per week/24-hour return product is the basic capacity product offered by BPA, it is possible to tailor capacity service to meet the specific needs of individual purchasers by allowing for variations in: (1) the hours over which peaking energy is delivered per day or week; (2) the amount of time within which the utility must return the energy; (3) the rate at which the utility may return the energy; and (4) scheduling requirements. As discussed in Section C, infra, BPA proposes to provide a tailored service under the new Pacific capacity contract.



## 2. Available Surplus Capacity

Capacity that is not dedicated to serving firm power loads of BPA's existing customers is surplus. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 2. This surplus capacity is available for BPA to market.

Based on its projections of available capacity over a 20-year period, BPA has established a goal of marketing 2,600 peak MW of its firm surplus capacity on a long-term basis. Id. BPA established this goal after identifying the lowest level of surplus capacity available in any month over a 20-year study period. Id. The studies used to determine this amount were based on generally conservative assumptions, which included use of the lowest water year on record (1929-1930). In addition, BPA assumed that it would not add any new resources during the 20-year study period; therefore, the total amount of surplus capacity was based on what could be provided from current resources. Id.

### B. Historical BPA Surplus Capacity Sales

Historically, BPA has marketed surplus capacity to various Pacific Northwest and Pacific Southwest utilities under long-term contracts. The only two long-term capacity contracts currently in place are with Northwest investor-owned utilities, Portland General Electric Company and Pacific. Both of these sales were for a 20-year period, and both sales are due to expire in 1991. The terms of Pacific's existing contract provide for the sale of 1,127 MW of peaking energy.

Pacific and BPA have had a long-standing business relationship. The origin of Pacific's existing capacity contract goes back to the Hydro-Thermal Power Program (Program) of the early 1960s. The Program was a cooperative planning effort by regional public and private utilities and BPA to move from a primarily hydroelectric generating system to a combined hydro and thermal generating system. Under the Program, public and private utilities would build and operate baseload thermal resources to meet regional load growth and BPA would provide the necessary peaking energy from the hydro system. In reliance on the Program, Pacific incorporated purchases of firm capacity, or peaking energy, from BPA into Pacific's long-term resource planning decisions. One of those capacity contracts was the existing capacity contract between BPA and Pacific.

In actual practice, Pacific uses the capacity purchased under the existing contract to meet a number of operational objectives, including: (1) greater flexibility to follow loads than it could achieve with its own thermal-dominated system; (2) provision for operating reserves; (3) creation of marketing opportunities that otherwise would not be available; and (4) enhancement of Pacific's ability to sustain its peaking capability. BPA Record of Proposed 1983 Wholesale Power and Transmission Rates, Exhibit WP-83-E-DS-16, 2.

Since BPA and Pacific desire to continue the capacity transaction and maintain their long-standing business relationship, they entered into discussions to negotiate a replacement capacity contract. The terms of this follow-on contract are described more fully in the following section.



### C. Summary of Contract Provisions

Deliveries of surplus capacity under the replacement contract would begin on September 1, 1991, immediately following the expiration of the existing BPA-Pacific contract on August 31, 1991. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 3. As in the case of the existing contract, the replacement contract would be in effect for a 20-year period. Id.

The replacement contract provides for capacity purchases in amounts similar to those under the existing contract, beginning with an initial purchase of 1,100 MW in the first year of the contract. The contract amount would increase annually in 100 MW increments to a total of 1,400 MW. Pacific will be permitted to take delivery of peaking energy during heavy load hours (7:00 a.m. to 10:00 p.m., Monday through Saturday) in an amount equal to 50 hours a week times the contract demand, at a maximum hourly amount equal to the contract demand and limited to 10 hours per day of contract demand. BPA will also permit deliveries of peaking energy during light load hours, or offpeak hours, again, at a maximum hourly amount equal to the contract demand. Id.; 55 Fed. Reg. 19,297 (1990).

The contract provides that Pacific must make returns of energy within seven days (168 hours) of the initial deliveries of capacity. Energy may be returned at an hourly rate of up to 100 percent of the contract demand. BPA expects that during certain months it will be unable to back off generation during the offpeak hours, when Pacific will return energy to BPA. BPA, therefore, has retained the right under the contract to restrict the rate of Pacific's return, during certain months and with certain limitations, to specified percentages. 55 Fed. Reg. 19,297-98.

Deliveries of capacity are normally scheduled one working day in advance. The contract, however, will permit Pacific to change the prescheduled amount of peaking energy on 30 minutes' notice. Pacific may increase or decrease prescheduled energy deliveries during heavy load hours, but the sum of the absolute value of the changes may not exceed an amount equal to six times the contract demand on any day. During light load hours Pacific may increase deliveries of prescheduled energy during any hour up to the contract demand, but may not decrease the amount of prescheduled energy. Id., 19,298.

BPA retains the contractual right to terminate the capacity sale to Pacific on 5 years' written notice should the capacity be needed to serve specific loads of other BPA customers. Id.

### D. Description of the PPL-90 Rate

The proposed Pacific long-term surplus capacity rate (PPL-90) will begin at an initial level of \$4.92 per kilowatt-month of contract demand. After September 1, 1991, the rate will increase, with each subsequent BPA general rate adjustment, at the same rate of increase as BPA's average system cost (BASC). Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 4. BASC equals BPA's total system costs for the test period of each general rate case divided by BPA's total annual system sales in kilowatthours projected for the test period. Id., Attachment 1. The current BASC, as determined in BPA's 1987 Wholesale Power and Transmission Rate filing, and as extended in BPA's 1989

Wholesale Power and Transmission Rate filing, is 23.2 mills per kilowatthour. Id., 4. The rate of increase in the PPL-90 rate at the time of BPA's next general rate adjustment will be the newly determined BASC divided by 23.2 mills per kilowatthour. Id. The PPL-90 rate will continue to be adjusted by the BASC escalator in each successive general rate case throughout the 20-year period of the contract. Id., Attachment 1.

E. Reason for Section 7(i) Rate Hearing

Although BPA has an existing long-term rate, the Modified SL-87 rate, under which surplus capacity could be sold, this rate is not available for the Pacific contract. First, the Pacific contract will not be executed within the time limit required under the Modified SL-87 rate. The Modified SL-87 rate is available only for long-term surplus contracts executed on or before October 1, 1990. BPA 1989 Wholesale Power Rate Schedules and General Rate Schedule Provisions, October 1989, 19; see also Administrator's Record of Decision, Final Modified SL-87 Rate Proposal, August 1988, WP-87-MSL-A-01 (Modified SL-87 ROD), 28-30. Before concluding a final contract with Pacific, BPA must undertake other public consultation and review, including environmental review under the National Environmental Policy Act, 42 U.S.C. § 4321 (1969). BPA does not expect that these processes will be completed before October 1, 1990. Second, the total amount of capacity that can be sold under the Modified SL-87 rate is limited to 1,350 MW. Since the follow-on capacity sale to Pacific ramps up to a maximum amount of 1,400 MW, the Modified SL-87 cannot accommodate this sale. See Modified SL-87 ROD, 27.



## CHAPTER II

### PROCEDURAL HISTORY AND STATUTORY CONSIDERATIONS

#### A. Procedural History of the PPL-90 Surplus Firm Capacity Rate Proceeding

On May 9, 1990, BPA published a notice in the Federal Register: "Proposed Contract Rate for the Sale of Capacity to Pacific Power & Light Company and Opportunity for Public Review and Comment," 55 Fed. Reg. 19,297 (1990). The notice initiated the formal rate proceeding required by section 7(i) of the Northwest Power Act. 16 U.S.C. § 839e(i).

The notice announced that the rate proceeding would be conducted under Rule 1010.10 of BPA's "Procedures Governing Bonneville Power Administration Rate Hearings," 51 Fed. Reg. 7611 (1986). 55 Fed. Reg. 19,299. This rule provides for an expedited rate proceeding where a record of decision will be issued within 90 days of the publication of the initial rate proposal in the Federal Register. In the notice BPA explained:

The proposed PPL-90 rate is a specific rate applicable to one contract sale; therefore, the issues in this rate proceeding will be fewer and of more limited scope than the issues in a proceeding to adjust all BPA rates. BPA believes that the 90-day Expedited Rate Proceeding will be adequate to develop a full and complete record and to receive public comment and argument related to the proposed rate. If more time is required, the Hearing Officer may request under § 1010.10(b) of the BPA Procedures, that the BPA Administrator grant an extension.

#### Id.

BPA's initial rate proposal included the prefiled written testimony, exhibits, and qualifications of its witnesses. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01. This testimony was made available to potential intervenors on May 10, 1990, one week prior to the prehearing conference.

On May 17, 1990, before the prehearing conference, BPA made its witnesses available for informal clarification of their testimony and exhibits. Following the informal clarification, a prehearing conference was conducted by Dean F. Ratzman, Hearing Officer. At the prehearing conference Hearing Officer Ratzman adopted a procedural schedule, established special rules to govern the proceeding, granted interventions, and established a list for service of documents.

Data requests were submitted to BPA on May 21, 1990. Responses were provided on May 29, 1990. No testimony was filed in response to BPA's direct case on June 5, 1990, the date established for parties to file their testimony. BPA moved to modify the schedule on June 12, 1990, based on the agreement of all parties to waive cross-examination of BPA's witnesses. On the same date BPA moved for an order admitting the testimony of its witnesses by affidavit. Hearing Officer Ratzman granted both motions by order dated June 15, 1990.

Parties' legal briefs were scheduled to be filed on June 19, 1990; no party filed a brief. Pursuant to the modified schedule adopted by Hearing Officer Ratzman on June 15, 1990, BPA issued a Draft Record of Decision on July 6, 1990. Parties' briefs on exceptions were scheduled to be filed on July 16, 1990; no party took exception to BPA's Draft Record of Decision. Similarly, no written or oral comments were submitted by any member of the public in response to BPA's request for comments published in the Federal Register. 55 Fed. Reg. 19,297.

B. Statutory Standards Governing Establishment of the PPL-90 Surplus Firm Capacity Rate

1. General Rate Guidelines

Section 5(f) of the Northwest Power Act, 16 U.S.C. § 839c(f), authorizes the Administrator to sell surplus firm power:

The Administrator is authorized to sell, or otherwise dispose of, electric power, including power acquired pursuant to this and other Acts, that is surplus to his obligations incurred pursuant to subsections (b),(c), and (d) of this section in accordance with this and other Acts applicable to the Administrator . . . .

The PPL-90 surplus capacity rate is established, like other BPA rates, in accordance with the applicable ratemaking standards contained in the Federal Columbia River Transmission System Act, 16 U.S.C. § 838k (1974); the Flood Control Act of 1944, 16 U.S.C. § 825s (1944); and section 7 of the Northwest Power Act, 16 U.S.C. § 839e.

Specific statutory standards applicable to rates for power sold to a Pacific Northwest utility, such as Pacific, are contained in section 7 of the Northwest Power Act, 16 U.S.C. § 839e. Section 7(a) provides that:

[s]uch rates shall be established and, as appropriate, revised to recover, in accordance with sound business principles, the costs associated with the acquisition, conservation, and transmission of electric power, including the amortization of the Federal investment in the Federal Columbia River Power System (including irrigation costs required to be repaid out of power revenues) over a reasonable period of years and the other costs and expenses incurred by the Administrator pursuant to this Act and other provisions of law . . . .

16 U.S.C. § 839e(a).

Section 7(a) also directs that these rates be set in accordance with sections 9 and 10 of the Federal Columbia River Transmission System Act, 16 U.S.C. § 838k; section 5 of the Flood Control Act of 1944, 16 U.S.C. § 825s; and the other provisions of the Northwest Power Act. Section 9 of the Transmission Act requires, inter alia, that rates be established "with a view to encouraging the widest possible diversified use of electric power at the lowest possible rates to consumers consistent with sound



business principles" while having regard to recovery of costs and repayment of the U.S. Treasury. Substantially the same requirements are set forth in section 5 of the Flood Control Act.

The balance of section 7 of the Northwest Power Act generally outlines rate directives applicable to BPA's various customer classes. Section 7(b) provides for the establishment of rates for power sold to meet the general requirements of preference customers and Federal agencies, and for sales under section 5(c)(1) of the Northwest Power Act. Section 7(c) provides for the establishment of rates to BPA's direct service industrial customers. For rates for all other firm power sold by the Administrator in the region, section 7(f) provides that the rates shall be based upon the costs of the resources "which, in the determination of the Administrator, are applicable to such sales." 16 U.S.C. § 839e(f).

Section 7(g) provides for the allocation of costs and benefits not otherwise provided for under the Northwest Power Act or pre-existing law. Specifically, section 7(g) provides as follows:

Except to the extent that the allocation of costs and benefits is governed by provisions of law in effect on the effective date of this Act, or by other provisions of this section, the Administrator shall equitably allocate to power rates, in accordance with generally accepted ratemaking principles and the provisions of this Act, all costs and benefits not otherwise allocated under this section, including, but not limited to, conservation, fish and wildlife measures, uncontrollable events, reserves, the excess costs of experimental resources acquired under section 6, the costs of credits granted pursuant to section 6, operating services, and the sale of or inability to sell excess electric power.

16 U.S.C. § 838e(g).

## 2. Confirmation and Approval

The Northwest Power Act specifies in sections 7(a)(2) and 7(i)(6) that rates become effective upon confirmation and approval by the Federal Energy Regulatory Commission (Commission). 16 U.S.C. § 839e(i). The Commission must review the rates to determine that: (1) they are sufficient to assure repayment of the Federal investment in the Federal Columbia River Power System over a reasonable number of years after first meeting BPA's other costs; (2) they are based on BPA's total system costs; and (3) transmission rates equitably allocate the costs of the Federal transmission system between Federal and non-Federal power using the system. Pursuant to section 7(i)(6) of the Northwest Power Act, the Commission has promulgated rules found at 18 C.F.R. § 300 establishing procedures for the approval of BPA rates.



## CHAPTER III

### DESIGN OF THE PPL-90 RATE

The PPL-90 rate proposal is the result of an extensive negotiation process between BPA and Pacific. 55 Fed. Reg. 19,298. The rate consists of the initial rate and an escalator which is based on the rate of change in BPA's average system cost (BASC). Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 4. BPA's main objective in negotiating the rate was to recover BPA's costs associated with providing the capacity product to Pacific. *Id.* The proposed PPL-90 rate, as shown in Appendix B, infra, meets that objective.

#### A. Initial Rate

The initial rate of \$4.92 per kilowatt-month of contract demand is the sum of two cost components: BPA's cost of providing the basic 50 hours/24-hour return capacity product and BPA's cost of providing the additional service flexibilities to Pacific. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 6-7.

##### 1. Description of the Basic Capacity Cost Component

BPA's ability to provide capacity results from the operation of BPA's integrated hydrothermal system. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 6. The investment costs associated with BPA's hydrothermal system form the basis of the Federal Base System (FBS) resource pool. The FBS resources are allocated by statute primarily to the PF rate class, 16 U.S.C. § 839e(b)(1), and, in fact, comprise roughly 80 percent of the total allocated resource costs included in the PF rate. See BPA 1989 Wholesale Power Rate Schedules and General Rate Schedule Provisions, 3. BPA thus determined that because the embedded system resource costs which underlie BPA's capacity products are allocated primarily to the PF rate, the PF demand charge provides a reasonable basis for pricing the 50 hours/24-hour return capacity product provided to Pacific. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 6. Use of the PF demand charge is also appropriate because BPA projects that Pacific's capacity service will be provided entirely from existing resources during the 20-year rate period. As previously noted, no new resources are projected to be acquired to serve Pacific's contract demand. *Id.*, 7.

Since the PF rate is a bifurcated rate, BPA examined which of the two rates--the PF Preference rate or the PF Exchange rate--would be the more appropriate cost basis for the basic 50 hours/24-hour return capacity product. BPA determined that the PF Preference demand charge of \$3.46 per kilowatt-month would not be an appropriate cost basis for an investor-owned utility such as Pacific, since the PF preference rate reflects the special protection of the section 7(b)(2) rate test, 16 U.S.C. § 839e(b)(2), intended solely for BPA's public body, cooperative, and Federal agency customers. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 6-7. Therefore, BPA priced the basic 50 hours/24-hour return capacity product at the slightly higher PF Exchange demand charge of \$3.56 per kilowatt-month. *Id.*



## 2. Description of the Additional Service Flexibility Cost Component

As noted in Section I.B., supra, the capacity product to be provided under the Pacific contract contains additional service flexibilities beyond BPA's basic 50 hours/24-hour return capacity product. Under the replacement contract, Pacific can delay return of peaking energy for up to 7 days from delivery (7-day return) instead of being required to return the energy within 24 hours. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 6. Pacific also may request prescheduled deliveries of peaking energy during light load hours and may change its prescheduled request for peaking energy on 30 minutes' notice. Id. Providing these additional service flexibilities to Pacific requires BPA to forego alternative uses of the flexibility of the integrated hydrothermal system, such as nonfirm energy sales and other short-term transactions. Id., 7-16. Therefore, the lost revenues from these transactions are reassigned to the Pacific rate. Id.

The costs of the additional service flexibilities provided Pacific are difficult to quantify, in that their precise measurement would require certainty as to how the integrated hydrothermal system would operate under different conditions in the absence of the Pacific contract. Id., 8. To compensate for this lack of precision, BPA used conservative assumptions to derive its estimates of the costs of providing the additional service flexibilities to Pacific. Id. In this way, BPA mitigated the risk of underestimating those costs.

BPA examined specific areas where the additional service flexibility provided to Pacific would limit BPA's own operating flexibility and thus adversely affect BPA's cost recovery efforts. Id., 9-16. For example, providing Pacific flexibility for offpeak deliveries and 7-day returns reduces BPA's ability to shape nonfirm energy and to market it during peak periods when the value of that energy is higher. Id., 8-9. BPA estimated this effect to cost \$0.43 per kilowatt-month. Id., 9, Table I.

Similarly, offpeak deliveries and 7-day returns increase the likelihood that, because of various operational constraints, BPA will be unable to absorb the returned firm energy into the integrated hydrothermal system. Id., 11-12. As a consequence, BPA faces a greater likelihood of forced sales and/or spill on the system. Id., 11. BPA estimated this cost effect to be \$0.15 per kilowatt-month, based on the assumption that all delayed energy returns would be delivered at a time disadvantageous to BPA and that BPA would incur storage fees to retain this energy on another system. Id., 13, Table IV. A second approach to estimating this cost, which assumed that the delayed returns would be subject to forced sale or spill during the summer months, also supported the estimated cost effect of \$0.15 per kilowatt-month. Id.

Finally, in evaluating the effect of Pacific's ability to modify its prescheduled capacity amounts on 30 minutes' notice (real-time flexibility) BPA examined several operational factors that might be affected by the real-time feature. Id., 13-16. BPA noted that, to protect the reliability of the integrated hydrothermal system, BPA will be required to assume that Pacific may exercise its ability to use its real-time flexibility at any time. Id., 14. This limits BPA's ability (1) to make surplus firm and guaranteed nonfirm energy sales and (2) to make short-term storage



arrangements with other systems. Id. Further, the planned operation of the system must account for potential adverse effects that real-time flexibility could have on BPA's ability to meet power and non-power constraints. Id. BPA considered the possibility that short-term deficits on its system due to unforeseen circumstances such as outages or extreme weather conditions might require it to purchase energy to assure service of Pacific's prescheduled capacity. Id., 15. Should Pacific ultimately invoke its real-time flexibility and choose not to take its prescheduled amount of capacity, BPA would have made an unnecessary and expensive purchase. Id. Based on these considerations, BPA estimated the cost of the real-time flexibility feature to be \$0.78 per kilowatt-month. Id., Table VIII.

BPA estimated the total aggregate cost of the various additional service flexibilities provided to Pacific to be \$1.36 per kilowatt-month. Id., Table V. This amount, together with the cost of the basic capacity product, \$3.56 per kilowatt-month, results in the initial rate of \$4.92 per kilowatt-month. Id.

## B. The BASC Rate Escalator

After September 1, 1991, the initial PPL-90 rate escalates based on the rate of change in BASC. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 4. That escalator is necessary both for Pacific to agree to the contract and for BPA to recover its costs.

### 1. Reason for the Rate Escalator

Because Northwest utilities have a variety of options for the purchase of capacity, see Modified SL-87 ROD, 19-21, they will buy BPA's capacity only if it is at least as attractive as other supply options. BPA, therefore, must market its product so that it meets the needs of its customers.

In negotiating this capacity sale with BPA, Pacific required the rate predictability that the formula rate provides before it would consummate a long-term contract with BPA. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 16. BPA independently considered potential alternative sources of capacity available to Pacific, other than a long-term purchase from BPA, and their rate predictability. Id., 17, Table VI. Although BPA believed that Pacific's alternative sources of capacity entailed greater supply risk than purchasing from BPA, all of Pacific's alternatives provided some measure of cost stability and predictability. Id., 17. BPA concluded that the price stability and predictability afforded by a formula rate were required to offer Pacific a product comparable to its alternative sources of capacity. Id., 16. A formula rate that escalates based on changes in BASC allows BPA to offer an attractive product to Pacific that also assures full recovery of BPA's cost on a current basis over the contract term. Id.

### 2. Description of the Rate Escalator

As described in Section I.D., supra, BASC is determined by dividing BPA's forecasted total system costs by BPA's forecasted total system sales in each general rate case for the applicable rate period. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, Attachment 1. BPA's total system cost is defined



as the sum of all BPA's costs forecasted in each general rate case for the applicable rate period. Id. In other words, BPA's total system cost is BPA's revenue requirement forecasted over the test period used for developing BPA's rates. Thus, changes in BPA's revenue requirement, or cost, will be reflected in the PPL-90 rate. BASC, by definition, tracks changes in BPA's overall costs. Moreover, directly linking increases in the PPL-90 rate to the rate of increase in BPA's overall costs reduces the risk that the capacity sale to Pacific will not share in any unexpected future BPA cost increases. While the initial rate level negotiated in the Pacific contract recovers the embedded costs and the cost of additional flexibility of the product, the BASC escalator is intended to ensure that the Pacific contract continues to recover BPA's cost increases over the next 20 years. Id., 19.

Other BPA rates are tied to changes in BASC. For example, under BPA's Modified SL-87 rate BPA allows a purchaser to choose between an escalator based on either changes in BASC or changes in BPA's PF rate. Escalating the rate by the amount of increase in either BASC or the PF rate assures that long-term rates will track changes in BPA's total system costs. Modified SL-87 ROD, 38-40. BPA's Modified Southern California Edison (Modified SC-86) rate, which applies to BPA's long-term surplus firm power contract sale to the Southern California Edison Company, also contains a BASC component, which provides for both a rate floor and a rate ceiling based on increases in BASC. Administrator's Record of Decision, Southern California Edison Contract Modified Rate Proposal, November 1988, SCE-86M-A-01, 13. Similarly, using BASC as the escalator in the PPL-90 rate will assure that BPA recovers the costs of the product throughout the entire 20-year rate period. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 18.

BASC will be redetermined in each successive BPA general rate proceeding. At least every 5 years, BPA's general rate filings are submitted to the Commission for approval, as required by Commission regulations. 18 C.F.R. § 300.1.(b)(6) (1989). Through these two mechanisms, BPA and its customers will be reassured that BPA cost increases will be reflected in the PPL-90 rate.

### C. Conclusion

Under section 7(a)(1) of the Northwest Power Act, BPA is required to establish rates so that they recover, in accordance with sound business principles, costs associated with the production and transmission of electric power, and other costs and expenses BPA incurs, including repayment of the Federal investment in the Federal power system over a reasonable period of years. 16 U.S.C. § 839e(a)(1).

BPA and Pacific negotiated the replacement contract which includes the proposed PPL-90 rate under review in this proceeding. In its testimony, BPA has established that the negotiated PPL-90 rate meets the statutory standards and recovers the system costs associated with the capacity sold. First, the costs associated with the basic capacity product will be recovered by basing the rate on the Priority Firm Exchange rate of \$3.56 per kilowatt-month. That rate includes BPA's embedded costs associated with providing capacity from its integrated hydrothermal system. Second, the costs incurred by providing Pacific with additional service flexibilities, set out in the previous



discussion, will be recovered through the addition of the conservatively estimated \$1.36 per kilowatt-month to the rate for the basic capacity product.

As previously noted, the costs associated with the additional service flexibility features cannot be measured with complete certainty. An exact determination would require precise and complete knowledge regarding the complex operations of BPA's integrated hydrothermal system. Although it is difficult to predict with precision what conditions will exist on the Federal hydroelectric system over the 20-year period of the rate, BPA has used conservative assumptions regarding operating conditions to estimate the potential foregone revenues resulting from providing additional service flexibilities to Pacific. The foregone revenues are assigned to the PPL-90 rate. This conservative analysis provides assurance that BPA's negotiated rate will recover the total costs of the capacity product provided.

BPA has shown that the initial Pacific rate recovers the costs associated with providing the service. In addition, section 7(e) of the Northwest Power Act gives the Administrator discretion in the design of rates for capacity purchases. 16 U.S.C. § 839e(e). It states:

Nothing in this chapter prohibits the Administrator from establishing, in rate schedules of general application, a uniform rate or rates for sale of peaking capacity or from establishing time-of-day, seasonal rates, or other rate forms.

Id. (Emphasis added.)

In each general rate since the passage of the Northwest Power Act, the Administrator has used the section 7(e) discretion to establish uniform demand charges for capacity provided to Northwest investor-owned utilities such as Pacific and capacity provided to BPA's preference and exchange utilities. See, for example, Administrator's Record of Decision, 1981 Transmission Rate Proposal and 1981 Wholesale Power Rate Proposal, IX-11. (Compare, for example, BPA's annual average PF demand charge with BPA's annual average CF demand charge for the period 1981 through 1985. BPA Wholesale Power Rate Schedules and General Rate Schedule Provisions, 1981-1985.) The Administrator has designed the rates uniformly because, historically, the difference between allocated costs associated with capacity provided to Northwest investor-owned utilities and those associated with capacity provided to BPA's preference and exchange utilities has been small. See, for example, 1987 Final Rate Proposal, Wholesale Power Rate Development Study, WP-87-FS-BPA-06, 39, T22.

In this contract, BPA has negotiated an initial rate for Pacific's capacity product which includes a basic demand charge set at the same level as the demand charge applied to PF Exchange rate customers. This equalization of demand charges was a reasonable exercise of the Administrator's section 7(e) discretion because BPA expects any cost differential associated with capacity provided to these two customer classes to continue to be relatively small. The differential should not increase because the same resources which support a capacity sale to Pacific support sales to PF customers. Moreover, because BPA does not expect to acquire resources to provide capacity service to Pacific, these same resources should continue to support capacity sales to



Pacific. Thus, establishing an initial level for the long-term PPL-90 rate at the same level as the PF demand charge is also a reasonable exercise of the Administrator's section 7(e) discretion.

BPA has the responsibility to provide assurance that a rate, however long its duration, will meet the statutory standards during the entire rate period. United States Department of Energy - Bonneville Power Administration, 45 F.E.R.C. ¶ 61,358, 62,138 (1988). Because the rate under consideration in this proceeding is for a 20-year period, BPA was obligated to demonstrate how this negotiated rate would continue to recover the costs associated with the product sold. BPA has made that showing by its explication of the role of the BASC escalator in the rate design. The addition of the BASC escalator provides the necessary assurance that should BPA's system costs rise, the rate to Pacific will reflect that increase. Thus Pacific will be paying its fair share of BPA's future costs and BPA will be recovering the costs appropriately assigned to capacity sold under the Pacific contract.

An escalator has been used before by BPA, in the case of both the Modified Southern California Edison Contract Formula (Modified SC-86) rate, United States Department of Energy - Bonneville Power Administration/Southern California Edison Company, 46 F.E.R.C. ¶ 61,094 (1989), and the Modified SL-87 rate, United States Department of Energy - Bonneville Power Administration, 45 F.E.R.C. ¶ 61,358 (1988). In both instances, the Administrator concluded that the escalator assured BPA, its customers, and the Commission that the two rates would follow BPA's costs over time. The Commission concurred with this judgment, granting final approval of the Modified SC-86 rate and interim approval of Modified SL-87. 46 F.E.R.C. at 61,398; 45 F.E.R.C. at 62,139. Thus the escalator has become an accepted mechanism for ensuring that BPA will meet its statutory goal of full recovery of costs and timely Treasury repayment.

Based on the evidence presented in this proceeding, and the legal precedents cited, BPA believes that the PPL-90 rate, including the escalator provision, provides assurance that BPA will meet its statutory requirements of cost recovery over the 20-year rate period.

## CHAPTER IV

### BENEFITS OF THE PPL-90 RATE

The proposed PPL-90 rate will provide benefits to BPA in the form of increased revenue stability and predictability and improved cost recovery. The rate will also provide benefits to BPA's customers in the form of lower, stable rates.

#### A. Increased Revenue Stability and Predictability

The Pacific rate for surplus capacity, with its assured revenues, gives BPA a stable, predictable revenue stream for the next 20 years. That revenue stream is also higher than the alternative uses of the capacity available to BPA.

BPA has two options for the use of its surplus capacity, other than long-term contracts: (1) to support operational and nonpower obligations on BPA's system or other Pacific Northwest utility systems; or (2) to shape short-term transactions into the peak period. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 20. These uses of BPA's surplus capacity, however, would result in lower revenues and larger revenue variance than making a long-term sale to Pacific for the same amount of capacity. For example, currently BPA's short-term sales of capacity, which take the form of a load factoring sale to Pacific Northwest and Pacific Southwest utilities, command a price of only 6 mills per kilowatthour. Id., 21. Other types of short-term capacity services that could be negotiated are highly uncertain and thus the revenues are also uncertain. By comparison, revenues from the Pacific sale, which is a take-or-pay contract, are not subject to this degree of uncertainty. Id.

The revenue stability afforded by the Pacific contract has other positive ramifications for BPA. The stable revenue stream reduces the amount of uncertainty that BPA must take into account when designing its other rates. The Pacific sale thus enhances BPA's ability to design rates that will ensure that revenues are sufficient to meet BPA's Treasury obligations. Id. Reducing the risks of revenue swings attributed to market uncertainty also has a positive effect on BPA's other customers whose rates currently include the cost of market risks through the revenue protections built into their rates. Id. Stable costs and revenues enable BPA to establish stable rates for all of its customers. Stable rates for BPA's other customers permit BPA to maintain its system load and to realize its anticipated revenues. Id., 22.

In addition, BPA will retain additional capacity to meet the needs of the short-term market even after the sale to Pacific. Id. In this way, BPA will be able to take advantage of any favorable short-term market conditions in the future.

#### B. Cost Recovery

The initial PPL-90 rate recovers BPA's costs of providing the capacity product Pacific desires. Increasing the initial rate based on changes in BASC assures that the PPL-90 rate continues to recover the costs of the capacity



product for the entire 20-year sale. See Section III, *supra*, for a detailed discussion of how the design of the PPL-90 rate recovers the cost of the Pacific capacity product. Further, BPA will periodically review its total system costs and revenues, at intervals occurring no less frequently than every 5 years, to assure that BPA's total revenues are sufficient to meet total system costs. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 23. Through these periodic reviews, BPA can assure that its rates, in total, are recovering its costs and repaying the Federal investment. *Id.*

In its analysis of the initial rate proposal, BPA performed three revenue and cost projections to compare projected revenues from the PPL-90 rate to BPA's projected costs over the 20-year period that the rate will be in effect. *Id.*, Table VII. The base case projections represent BPA's current and best estimate of increases in system costs as reflected in the PF demand charge. Under the base case projections, the net present value of revenues forecasted from the PPL-90 rate recovers BPA's projected costs associated with the capacity service provided to Pacific. The forecasted net present value of PPL-90 revenues, in 1991 dollars, is \$1.125 billion compared to the net present value of BPA's costs of \$1.095 billion. *Id.*

Sensitivity cost analyses were performed to evaluate the potential risk that BPA's costs may deviate from current projections. *Id.* The high case represents the risk that the increase in BPA's system costs allocated to the PF demand rate may be greater than expected. Under the high case, the revenues expected from the PPL-90 rate continue to track and slightly exceed BPA's costs. The net present value of forecasted PPL-90 revenues in the high-case scenario equals \$1.273 billion, whereas the net present value of BPA's costs is \$1.225 billion. *Id.* Similar results are found in the low case. The low-case scenario assumes that BPA's costs increase at a slower rate than currently expected. In the low-case scenario, the net present value of forecasted revenues from the PPL-90 rate is \$1.026 billion, and the net present value of BPA's costs is \$0.978 billion. *Id.*

BPA also examined whether entering into the long-term Pacific capacity sale, in addition to other long-term sales already in place, would overextend BPA's reliance on revenues from these sales to meet its Treasury obligations. BPA determined that, by itself, the Pacific capacity sale represented a small percentage of BPA's overall revenues. For fiscal year (FY) 1992, forecasted revenues from the Pacific sale represent less than 2 percent of BPA's total projected revenue requirement. *Id.*, 22. The only other 20-year formula rate sale BPA currently has in place is with the Southern California Edison Company (SCE). This sale is under the Modified SC-86 rate approved by the Commission in 1989. United States Department of Energy - Bonneville Power Administration/Southern California Edison Company, 46 F.E.R.C. ¶ 61,094 (1989). Sales under the Modified SC-86 rate have been temporarily suspended, because the transaction is currently operating as a capacity-energy exchange. The capacity-energy exchange with SCE is expected to convert back to a power sale in 1993. If the SCE contract operated as a power sale, the combined forecasted FY 1992 revenues from the Modified SC-86 rate and the PPL-90 rate would total less than 3 percent of BPA's total projected revenue. Armstrong, Schaller, and Haines, Ex. PPL-90-E-BPA-01, 22. Thus, revenues from the PPL-90 sale, even when combined with BPA's other long-term formula rate sale,



would represent only a small percentage of BPA's total projected revenue requirement. The risks of relying on revenues from the long-term sale with Pacific are therefore minimal and are outweighed by the benefits of the sale. Id., 23.

#### C. Benefits to Other BPA Customers

BPA's other customers' rates are expected to be lower with the Pacific capacity sale than without the Pacific sale. BPA determined this by comparing the revenues from the Pacific sale with the other uses of this surplus capacity. As noted previously, absent the Pacific sale, BPA would probably sell most of this peaking energy in the short-term market. BPA has demonstrated in the Modified SL-87 record and in its 1987 rates submitted to FERC that the short-term market is extremely uncertain and sales in that market are subject to wide revenue swings. Modified SL-87 ROD, 15-17; 1987 Final Rate Proposal, Administrator's Record of Decision, July 1987, WP-87-A-02, 26-28 and 156-216. As could reasonably be expected, the forecasted revenues from the Pacific sale are greater than the revenues BPA expects from short-term transactions. BPA estimated that the net present value revenues from selling an amount of capacity equivalent to the Pacific sale in the short-term market would be \$561 million. Armstrong, Schaller, Haines, Ex. PPL-90-E-BPA-01, Table IX. By comparison, forecasted net present value revenues from the PPL-90 rate are \$1.125 billion. Id. Under the PPL-90 sale, BPA and its customers will achieve a net present value benefit of \$564 million in additional revenues. Id.

Selling capacity to Pacific at the PPL-90 rate thus is expected to yield double the revenue that BPA would receive by reserving this surplus firm capacity for short-term marketing purposes and its own system use. Significantly, the additional revenues BPA receives from the Pacific sale offset costs that otherwise would be allocated to other BPA customers. Id., 21.

In addition, using existing resources to meet the Pacific sale means BPA will not incur additional resource costs to support the sale. Id., 7. As a consequence, BPA's other customers are protected from the risk that the costs of future resources acquired to provide capacity service to Pacific could be shifted to their rates. In the event BPA's current resources are insufficient to support the Pacific sale, BPA can recall the capacity on 5-year written notice. 55 Fed. Reg. 19,298.

Higher BPA revenues expected from the Pacific sale over the long term relieve the upward pressure on BPA's other customers' rates. Those rates, in fact, will be lower than would be the case if the same peaking energy were sold in the short-term market. Lower and more stable rates for BPA's other customers benefit BPA as well as those customers. Those rates translate into stable revenues, which in turn enhance BPA's ability to repay the U.S. Treasury as scheduled. Armstrong, Schaller, Haines, Ex. PPL-90-E-BPA-01, 21.

#### D. Conclusion

As noted previously, BPA has certain statutory standards it must meet in setting rates. BPA has demonstrated that the benefits that will accrue to BPA



as a result of this contract will not only provide rate stability and predictability to BPA and its customers, but also will provide certainty for long-term cost recovery and Treasury repayment. The combination of these four benefits translates into compliance with the statutory standards.

In reviewing BPA's rates for final approval, the Commission has repeatedly urged the Administrator to set rates so that BPA recovers its costs and can meet its Treasury obligations. See, for example, U.S. Department of Energy, Bonneville Power Administration, 23 F.E.R.C. ¶ 61,378 (1983). One of the ways BPA achieves these goals is through contracts such as the one with Pacific. The stable revenue stream provided by the Pacific contract will enable BPA to preserve stable rates for its other customers. Rate stability for BPA's other customers aids BPA's overall cost recovery by permitting BPA to retain customer load and to receive anticipated revenues. By permitting BPA to achieve its anticipated revenues and retain customers, rate stability also helps BPA to maintain the lowest possible rates to consumers consistent with sound business principles and encourage the widest possible use of electric power, as required by BPA's organic statutes.

In addition, without the Pacific contract BPA may not receive as much revenue as it will with the contract. The certainty of the revenue from this contract--assured because of its take-or-pay nature--will assist BPA in meeting its primary cost recovery goals as defined by law and interpreted by the Commission. Moreover, the sale of this capacity in potential alternative markets would not have resulted in revenues anywhere near the level of revenues from the Pacific contract. Thus, this contract will enhance revenues to BPA, which means greater certainty of cost recovery and Treasury repayment.

The revenue from this sale also will constitute only a small portion of BPA's revenues. Because of the relatively small influence of the Pacific contract on BPA's total annual revenues, the contract does not pose a risk to BPA's future repayment ability. BPA also reviews its rates for sufficiency at least every 5 years, and usually more often. BPA can use that review to determine if the rate in the Pacific contract is, in fact, recovering the costs attributable to it. In the unlikely event that BPA finds that it is not recovering those costs, BPA will be able to reallocate any underrecovery of this revenue without significantly affecting total loads and revenues.

Finally, BPA's customers will benefit both from more stable, as well as lower, rates over the term of the replacement contract than they would have had in the absence of the replacement contract.

Based on the evidence presented in the section 7(i) proceeding and on legal precedent, BPA believes that the Pacific contract will provide the ratepayers with the benefits of rate stability and predictability and will provide BPA with the benefit of improved long-term cost recovery. These benefits, in turn, will assist in assuring that BPA meets its financial obligations to the U.S. Treasury.

## CHAPTER V

### SUMMARY OF CONCLUSIONS

The proposed PPL-90 formula rate meets the statutory standards set out and incorporated in the Northwest Power Act. First, this rate, in concert with other rate schedules, is sufficient to assure repayment of the Federal investment in the Federal Columbia River Power System over a reasonable number of years. Second, this rate was negotiated with the objective of recovering the costs associated with the capacity product sold, and that objective was met with the initial rate level of \$4.92 per kilowatt-month and the inclusion of the BASC escalator. In addition, the escalator ensures that the rate will recover the appropriate costs over the life of the contract. Further, the revenues secured under this rate exceed the revenues which might have been gained from alternative sale/use of this capacity and increase the probability that BPA will continue its timely repayment of its Federal financial obligations. Finally, the additional revenues recovered under this rate, and the additional assurance of cost recovery provided by the rate escalator, allow BPA to provide the lowest possible rates consistent with sound business principles to all its other customers and encourage the widespread use of BPA power.



CHAPTER VI

ADMINISTRATOR'S CERTIFICATION

BPA's rates must recover the costs associated with the production, acquisition, conservation, and transmission of electric power, including the amortization of the Federal investment in the Federal Columbia River Power System over a reasonable period of years, and other costs and expenses incurred in carrying out the requirements of the Northwest Power Act and other laws.

The proposed PPL-90 Long-Term Surplus Capacity Contract rate meets these requirements. Moreover, the PPL-90 rate meets all other requirements of BPA's various organic statutes and section 7 of the Northwest Power Act.

In performing his duties under section 7(i) of the Northwest Power Act, the Hearing Officer has assured that a fair evidentiary hearing, open to all interested parties and participants, has been conducted on the issues relevant to BPA's proposed PPL-90 rate. The parties have been given the opportunity to engage in discovery, present testimony, conduct cross-examination, and submit briefs.

Based on the record in this proceeding I hereby adopt the attached PPL-90 Long-Term Surplus Capacity Contract rate as a final rate. Pursuant to 18 C.F.R. § 300.10(g), I certify that the PPL-90 rate schedule is consistent with applicable law and is the lowest possible rate consistent with sound business principles.

Issue at Portland, Oregon, on July 24, 1990.

  
\_\_\_\_\_  
ACTING Administrator

000238

APPENDIX A

LIST OF PARTIES

Cowlitz County Public Utility District

PacifiCorp

Portland General Electric Company

Public Power Council

Puget Sound Power & Light Company

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APPENDIX B

PPL-90 RATE SCHEDULE

Proposed Pacific Contract Rate

The proposed rate for firm capacity is as follows:

A. Applicability

This rate is effective on September 1, 1991, and will apply to either the 20-year contract or to any interim bridge agreement if the 20-year contract is not yet in place.

B. Initial Rate

\$4.92 per kilowatt (kW) - month of Contract Demand.

C. Escalation

Beginning on September 1, 1991, the rate for surplus firm capacity purchased by Pacific under this Agreement shall be adjusted periodically to reflect changes in Bonneville's average system cost. Such adjustment shall be made whenever Bonneville has a general rate case, and such adjustment shall be effective on the same day that adjustments to Bonneville's other rates become effective. The adjusted rate for firm capacity shall be determined by the following formula:

$$PPL-90_n = PPL-90_{init} * \frac{BASC_n}{BASC_{init}}$$

WHERE: PPL-90<sub>n</sub> = The adjusted firm capacity rate (in \$/kW-month of Contract Demand and calculated to the nearest cent) to be effective subsequent to Bonneville's then most recent general rate case on the effective date of Bonneville's other newly adjusted rates.

PPL-90<sub>init</sub> = \$4.92 per kW-month of Contract Demand.

BASC<sub>n</sub> = Bonneville's average system cost (in mills per kWh and calculated to the nearest one-tenth of a mill) as determined in Bonneville's then most recent general rate case that will be used to adjust Bonneville's wholesale power rate schedules. Bonneville's average system cost shall be equal to Bonneville's total system costs for the test period of such general rate case divided by Bonneville's total annual system sales (kWh) forecasted for such test period. Bonneville's total system costs shall be the sum of all Bonneville's costs forecasted in each general rate case for the applicable rate period, including total transmission system costs, Federal base system costs, new resource costs, exchange resource costs, and other costs not specifically allocated to a rate pool, such as section 7(g) costs under the Northwest Power Act. Bonneville's total annual system sales shall be the sum of all Bonneville's system firm and nonfirm sales forecasted in each general rate case for the applicable test period. Bonneville average system cost shall be redetermined in each subsequent general rate case according to the above formula and will be in effect for the entire rate period over which the rates are in effect.

BASC<sub>init</sub> = 23.2 mills per kilowatthour.

BONNEVILLE POWER ADMIN



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