BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF THE)	Docket NO. 94-2035-03
APPLICATION OF PACIFICORP)	
FOR AN ORDER APPROVING)	SUPPLEMENTAL TESTIMONY
AVOIDED COST RATES)	OF RODGER WEAVER

July 15, 1994

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

A.   My name is Rodger Weaver. My business address is 625 Lloyd Center Tower, Portland, Oregon 97232. My present position is Power Systems Regulation Manager.

Q.   Are you the same Rodger Weaver who has already prefiled testimony in this case?

A.   Yes.

Q.   What is the purpose of your supplemental testimony?

A.   The purpose of my testimony is to present a conceptual/theoretical discussion of the generic pure types of avoided cost methodologies. This discussion is intended to provide Commission with additional information.

Q.   How many generic avoided cost methods are there?

A.   There are three generic methods: (1) the Component or Peaker Method, (2) the Proxy Method, and (3) the Differential Revenue Requirement Method.

Q.   Please describe the Component or Peaker Method.

A.   The Component Method produces avoided energy and capacity cost rates for the incremental avoidable megawatt (MW) and megawatt-hour (MWh) for each year of a QF contract. The energy or running cost component of avoided cost is developed from two runs of the utility's production cost model: the first run simulates the utility's current generation system by including only

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existing and planned resources; the second run includes the expected output from the next QF as a zero running cost resource. The difference between the two runs constitutes the utility's incremental energy costs. The incremental energy costs are then adjusted to include variable administrative and general (A&G) expenses, carrying costs for fuel supplies, and energy losses. The avoided capacity cost component is determined on a year-by-year basis, and is based on the utility's least cost capacity alternative for each year. During years of capacity sufficiency, the capacity component is zero.

Q.   Please describe the Proxy Method.

A.   The Proxy Method produces incremental avoided cost rates which are based on the costs of a new potential resource. The capacity and energy components of the avoided costs are derived from the fixed and variable costs of the selected resource. The selected resource may or may not be in the utility's least cost resource expansion plan. The variable costs constitute at least part of the avoided energy costs. The fixed costs can all be taken as capacity costs or, alternatively, they might be split between capacity and energy components. If split, the capacity component is taken as the cost of either a simple cycle combustion turbine or a capacity purchase and the balance is included as an additional part of the avoided energy cost. Avoided capacity costs

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Q. | are sometimes set to zero in years of resource sufficiency.

Q. | Please describe the Differential Revenue Requirement Method.

A. | The Differential Revenue Requirement Method computes avoided cost rates for the average of a stream or block of QF power. The avoided costs are calculated from two expansion/operational plans. The first plan is based on the capital operating costs of the utility's existing generation system plus resource additions required to meet future load requirements. The second plan is identical to the first except it assumes the availability of a stream or block of zero capital and zero operating cost QF power. The QF power included in the second plan is assumed to have specific capacity and operational characteristics. The differences between the plans constitutes all of the costs the utility would avoid using the assumed magnitude, timing and operational characteristics of the QF power. This method typically lumps all costs together to develop overall average avoided cost rates but can be modified in a variety of ways, including: separation into capacity and energy components; maintaining a single combined rate; present valuing to produce a levelized price; or setting price streams reflecting projected annual values for avoided cost.

Q.   Have you prepared a comparison of the three generic methods which you described above?

A.   Yes.   Exhibit 2.1 is a matrix table that provides a general comparison of the three generic methods. The comparison includes a general description of each method, seven comparison categories, and lists advantages and disadvantages. The seven comparison categories are discussed below to provide a more complete understanding of each category.

- Pricing basis - describes whether the avoided cost rates produced by each method are for the incremental MW/MWh or for an average block of QF power.

- Basis for short-run avoided cost - describes what factors are used to develop short-run avoided costs and how they are calculated.

- Basis for long-run avoided costs - describes what factors are used to develop long-run avoided costs and how they are calculated.

- Development of capacity and energy components - describes the method of developing the capacity and energy components.

- Reflects Integrated Resource Planning - indicates the relationship between the avoided cost method and the utility's least cost plan.

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- Understandability of the method - indicates whether the avoided cost rates developed by each method are easy or complex to calculate, particularly for parties other than the utility.

- Sensitivity to load forecast - indicates whether the method considers resource requirements for the entire period of the analysis or only during the period of resource sufficiency.

Q.   Does this complete your supplemental testimony?

A.   Yes.

CERTIFICATE OF SERVICE

I hereby certify that on the 14th day of July, 1994, a true and correct copy of the foregoing Supplemental Testimony of Rodger Weaver was mailed, postage pre-paid, to the following:

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Exhibit 2.1

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Comparison of Avoided Cost Methods

Methods	Proxy	Component (Peaker)	Differential Revenue Requirement
Description	Long term avoided costs are based on the fixed and variable costs of a single resource (proxy). Avoided costs are sometimes adjusted to remove the capacity component in the short run; i.e., during periods of resource sufficiency.	Avoided energy costs are estimated, for example, by running a production cost model with expected QF generation modeled as a zero-running-cost resource. Avoided capacity costs are estimated by determining, for each year, the least cost capacity option or component for the utility.	Calculates the utility's total generation revenue requirement with and without a block or stream of QF capacity over a period of years. The difference between the two cases divided by the assumed block of QF power is the utility's combined capacity and energy avoided cost, typically expressed in present value terms.
Pricing basis: Incremental or average-of-block	Avoided costs are based on the incremental MW/MWh for a proxy unit.	Avoided costs are based on the incremental MW/MWh for a year-by-year least cost option or component.	Avoided costs are based on an average block of MW/MWh avoided costs for an entire block of QF power.
Basis for short-run avoided costs	Variable costs of proxy	Production cost model analysis	Long run(20-30 years) expansion/operation plan
Basis for long-run avoided costs	Fixed and variable costs of proxy	A year-by-year series of least cost capacity options to the utility	Long run(20-30 years) expansion/operation plan
Development of capacity and energy components	Capacity costs are defined as the fixed costs of the proxy; variable costs are defined as its energy costs. Sometimes a portion of the fixed costs are assigned to energy, depending on the type of resource chosen.	Calculated independently (see above)	Typically calculated as a combined capacity and energy avoided cost rate. If needed, capacity and energy components must be derived from the total cost.
Reflects Integrated Resource Planning	Proxy may or may not be in the utility's resource plan	Capacity resources may or may not be in the utility's resource plan	Resources are generally in the utility's resource plan
Understandability of method	Simple	Complex	Complex
Sensitivity to load forecast	Through period of resource sufficiency	For the entire period	For the entire period

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Comparison of Avoided Cost Methods

	Proxy	Component (Peaker)	Differential Revenue Requirement
Advantages			
Incremental MW/MWh avoided cost pricing encourages only efficient QF projects	Yes	Yes	No
Understandable and generally usable by all parties	Yes	No	No
Produces incremental avoided costs that can actually be avoided if the resource selected is the Company's next in-line least cost resource	Yes	Yes	No
Disadvantages			
Resource selections may not be in the utility's resource plan and thus may not represent least cost planning	Yes	No	No
Moderately complex and difficult for all parties, except the utility to verify	No	Yes	Yes
Year-by-year least cost options may not be representative of the utility's long run avoided costs	N/A	Yes	N/A
Average avoided cost pricing encourages inefficient QF projects	No	No	Yes
Method produces combined capacity and energy costs which can in general result in over- or under-payment for capacity costs	No	No	Yes