EXHIBIT NO. T-_____(CEL-1)
DOCKET NO. UE-92_____
WITNESS: C.E. LYNCH

BEFORE THE
WASHINGTON UTILITIES & TRANSPORTATION COMMISSION

COMPLAINANT

VS.

PUGET SOUND POWER & LIGHT COMPANY

RESPONDENT

TESTIMONY

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PUGET SOUND POWER & LIGHT COMPANY
TESTIMONY OF COLLEEN E. LYNCH

Q. Please state your full name, business address, and present position.

A. My name is Colleen E. Lynch, and my business address is 411 - 108th Avenue N.E., Bellevue, Washington 98004-5515. My present position is Manager of Pricing for Puget Sound Power & Light Company.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to introduce and describe the methods used in the Company's proposed cost of service study, and to show the results that can be expected using the Company's proposed approach. As part of this presentation, I will propose a number of recommendations for the Commission's consideration. Finally, I will show the impact on cost of service results that could be expected if competing methods were adopted or if key assumptions or inputs to the Company's proposed method were changed.

Q. Please outline your educational and business background.

A. I graduated from the Eastern Washington University in 1979 with a Bachelor of Science degree in Economics and Mathematics. Thereafter, I was employed by Washington Public Power Supply System as a Cost Engineer at the

Hanford construction site. Beginning in 1981, I was employed by Pacific Power & Light Company in the position of Research Analyst in the rate department. Since 1983, I have been employed by Puget Sound Power & Light Company in various positions in the rate department. In my current position as Manager of Pricing, I am responsible for the development of both cost of service and rate design analyses.

OBJECTIVE, PURPOSE, AND USE OF COST OF SERVICE STUDIES

Q. What are the major objectives and applications of a cost of service study?

A. The purpose of performing a cost of service study is to attribute costs to different categories of customers (classes) based on how those customers cause costs to be incurred. The results of this process are then used for a number of purposes, including the basis for recommendations for the allocation of the revenue requirement across customer classes, or rate spread. Attached as page 1 of Exhibit ___ (CEL-2) is an excerpt from the National Association of Regulatory Utility Commissioner's (NARUC) Draft Electric Utility Cost Allocation Manual, February 1991, regarding the use of cost of service results.

Q. Why is the Company filing an embedded cost of service study with this case?

A. The Company is filing a cost of service study because cost of service is a key consideration in rate spread and rate design decisions. An embedded cost of service study in particular is required under the Commission's order in Cause No. U-78-05. In addition, the Rate Design Collaborative Group (the "Collaborative Group") endorsed the concept of resolving key issues in cost of service and establishing cost of service as a major factor in rate spread decisions during this proceeding. (**See** Concept Nos. 2 and 4 of the Collaborative Group, Exhibit ___ (DWH-4), p. 18.) Finally, in the Commission's order in Docket No. UE-901183-T and UE-901184-P (the "Decoupling Proceeding"), the Company was directed to include a review of cost allocations and to provide cost allocations that would enable a determination of base and resource costs for each class (Third Supplemental Order, pp. 24-25).

Q. Could you please summarize the key recommendations that you are proposing in your testimony?

A. Yes. My recommendations are summarized as follows:

- All parties should use the same model framework for making cost of service presentations.
- The peak credit method should be used to classify production plant between demand and energy.

- Forward-looking relationships should be used in the embedded cost of service study to better signal costs to customers.

- Conservation costs should be treated as a resource cost.

- Cost of service, as it is approved by the Commission in this case, should be a major factor, along with parity guidelines, in rate spread considerations.

- The basic customer concept should be the basis for classifying distribution plant between demand and customer.

- The fully distributed customer-related cost of service resulting from applying the basic customer method should be recovered through a basic charge for those tariffs with a basic charge component.

It should be noted that many of these concepts are endorsed by either the Rate Design Task Force (the "Task Force") or the Collaborative Group, or both, as discussed later in my testimony. Mr. Knutsen describes the functions of the Task Force and the Collaborative Group in his testimony.

OVERVIEW OF PROCESS

Q. Could you briefly describe the cost of service process?

A. Yes. The cost of service process typically includes three steps: (1) functionalization of costs, (2) classification of costs, and (3) allocation of costs among customer classes.

1. Functionalization of Costs

Q. What do you mean by functionalization?

A. Functionalization identifies the task that the utility is performing when it incurs the cost. The list of tasks or functions typically identified in a cost of service study are **production or generation** of electricity, **transmission** of that electricity to the local area, **distribution** of that electricity to the customers or points of delivery in the local area, provision of **customer service, billing, and facilities** to each customer in the service area, and a **general** function which includes costs such as administrative and general expenses. Some studies, including the one proposed by the Company, further identify tasks or sub-functions such as **coal-fired production** of electricity, **hydro-electric production**, **generation-related transmission** of electricity and **non-generation-related transmission** of electricity.

Q. Is the functionalization of costs a controversial issue?

A. Typically not because this step usually follows the utilities code of accounts.

2. Classification of Costs

Q. Please describe what is involved in the classification of costs.

A. This step of the cost of service process involves the separation of the functionalized costs into classifications based on the components of utility service being provided. The three principal cost classifications for an electric utility are demand-related costs (costs that vary with the kW demand imposed by the customer), energy costs (costs which vary with the energy or kWh that the utility provides), and customer-related costs (costs that are related to the number of customers served). (**See** the NARUC Manual, p. 23).

Q. Do disputes between the parties typically arise in this step of the process?

A. Yes. In fact, in the collaborative process, this was the area on which we focused a great deal of time because of its influence on how much of the total costs, or revenue requirement, is ultimately assigned to a particular group of customers. This is the first point where the customer's service requirements (in terms of point of delivery on the system, time of use, overall level of use, and pattern of use) are linked or

associated with the total cost of service or revenue requirement of the Company.

Q. What issues are generally involved in the selection of a classification method?

A. The classification issues most often contested are: (1) whether the predominance method should be used (i.e., if a function is predominantly energy (or demand) related, it would be classified as 100% energy (or demand)); and (2) if the predominance method is not used, the determination of the proper classification scheme for each function (i.e., what relative portions should be classified to energy, to demand, and to customer).

3. Allocation of Costs

Q. Would you please describe what you mean by the allocation of costs among customer classes?

A. Yes. The NARUC Manual at page 25 provides a good description of this process:

> After the costs have been functionalized and classified, the next step is to allocate them among the customer classes. To accomplish this, the customers served by the utility are separated into several groups based on the nature of the service provided and load characteristics. . . . It may be reasonable to subdivide the . . . classes based on characteristics such as size of load, the voltage level at which the customer is served and other service characteristics such as

whether a residential customer is all electric or not.

Q. What happens after the customer classes to be used in the cost allocation study have been designated?

A. The functionalized and classified costs are allocated among the classes as follows:

- Demand-related costs - Allocated among the customer classes on the basis of demands (kW) imposed on the system during specific peak hours or specific peak situations.

- Energy-related costs - Allocated among the customer classes on the basis of energy (kWh) which the system must supply to serve the customers.

- Customer-related costs - Allocated among the customer classes on the basis of the weighted number of customers. Normally, weighting the number of customers in the various classes is based on an analysis of the relative level of customer-related costs (service lines, meters, meter reading, billing, etc.) per customer.

See NARUC Manual, pp. 25-26.

Q. How do you determine which is the appropriate or best classification or allocation method to use?

A. As described above, the goal of a cost of service study is to allocate the costs according to the nature of the constituent costs. Accordingly, the best method is the one that best reflects the planning, engineering and operating characteristics of the electric utility system. The appropriateness of either the classification method or allocation method may change over time as the utility's operating environment,

customer mix or regulatory or technological environment change. So, even though the basic customer method, for example, may be appropriate today for classifying distribution costs, it may not be appropriate in the future. Similarly, it may be appropriate for a utility to allocate production-related demand costs on the basis of twelve monthly coincident peak loads given the current influence of water heat on the system's total coincident peak load. However, if for technological or operational reasons the customer no longer places that load on the system, a factor which looks at seasonal coincident peak demands may become appropriate.

Q. Are all costs or line items in the Company's revenue requirement allocated to classes of service using these types of factors?

A. No. Certain utility costs are directly assignable, such as substations which serve a single customer, investments in street lighting facilities, or certain equipment installed on the customer's premise.

THE COMPANY'S COST OF SERVICE STUDY

Q. What model was used to develop the Company's cost of service study?

A. The study was developed using a PC-based cost of service model developed by the Company during the rate design collaborative process. The Company has distributed

preliminary copies of the model to participants in the collaborative process, and will deliver copies of the model to interested parties in this proceeding. The Company hopes that by using a common model or framework, the discussion on cost of service may be focused on assumptions and results rather than on differences in modeling techniques.

Q. Why did the Company develop a new model?

A. In the past, each party typically developed and submitted its own cost study using both different assumptions and different modeling frameworks. This new model eliminates one of the differences--the model framework--so that effort can be concentrated on assumptions, methods, and results. This model also includes a necessary and helpful level of detail unavailable in the models used by some of the other parties. The use of the Company's model was discussed and evaluated during the collaborative process. After reviewing the new model and comparing it to the models used by other parties, the Collaborative Group felt that the new model framework could be adopted without compromising any party's position. (**See** Concept No. 3 of the Collaborative Group, Exhibit ___ (DWH-4), p. 18.)

Q. What test period (revenue requirement) was used in the cost of service study?

A. The cost of service study is based on the same test period and revenue requirement approved by the Commission in Docket No. U-89-2688-T, the Company's 1989 rate case. All allocation factors are based on data from the test period in that proceeding--the 12 months ended September 1988--as well.

Q. Why was this revenue requirement used?

A. This was done in order to remove or eliminate debate regarding revenue requirement issues from this proceeding. This particular revenue requirement contains all the components typically encountered in a general rate case proceeding, which must be allocated in a cost of service study, as well as those elements developed as a result of decoupling, which also must be treated in cost of service.

Q. What are some of the differences between the cost of service study proposed by the Company in this proceeding and that filed by the Company in its 1989 rate case?

A. The cost of service study filed in this proceeding is different in several ways including:

- The model used by the Company is a PC-based model which is available to all parties for use during this case.

- Calculation of the peak credit method reflects the particular resources identified in the Company's most recent integrated resource plan.

- Distribution costs are classified between demand and customer on the basis of a basic customer method.

- Federal income tax expenses are allocated based on allocated rate base.

- Non-generation transmission plant is classified as 100% demand-related.

- Production-related demand costs are allocated to the classes based on the contribution of each class to the top 200 hours of system coincident demand.

Q. Please briefly describe how the cost of service study was performed.

A. The Company's cost of service study is presented as Exhibit ___ (CEL-3). This costing analysis apportions the revenue requirement to the customer classes on the basis of cost occurrence. In preparing the analysis, costs which could be identified with a particular class of customers were directly assigned to that class. Those costs which were not directly assigned were first functionalized into five major functions: (1) production, (2) transmission, (3) distribution, (4) customer service, billing and facilities or (5) general. The costs within each major function were then classified by service characteristics and apportioned to the customer classes on the basis of the

contribution of each class to the occurrence of those costs.

1. Functionalization of Costs Under the Company's Cost of Service Study

Q. How were costs functionalized?

A. Costs were generally functionalized on the basis of FERC accounting. Rate base items and expenses were functionalized among production; transmission; distribution; customer service, billing and facilities; and general.

2. Classification of Costs Under the Company's Cost of Service Study

Q. How were the functionalized costs classified by service characteristics?

A. Costs were then classified according to whether they are demand-related, energy-related or customer-related. Page 2 of Exhibit ____ (CEL-2) is a chart which shows the classification methods for each major functional area. This chart relates the 5 major functions to the standard classifications used.

a. Classification of Production Costs

Q. How were production costs classified?

A. The Company is proposing to use the peak credit method to classify production costs between demand and energy.

Mr. Hoff's testimony describes the approach the Company proposes to use to calculate the peak credit factor. The peak credit method considers the economic alternatives or opportunity costs of meeting system energy and peak requirements with existing production resources. This method recognizes that although a baseload plant is typically dispatched to provide long-term energy, it also contributes to total system peaking capability.

Q. Why was the peak credit method used?

A. The Company proposes to use the peak credit method because this method was endorsed by the Collaborative Group (**See** Concept No. 6, Exhibit ___ (DWH-4), p. 19); it has been used by the Company for at least the past ten years; and it is an approach considered reasonable by the Company's system planners.

Q. What was the basis for the Collaborative Group's adoption of this method?

A. The Collaborative Group reviewed the various methods typically used to classify production plant. The peak credit method was determined to be appropriate for several reasons. First, it is the method approved by the Commission in past orders. Second, it allows forward-looking capacity and energy relationships to be

reflected in the classification of embedded plant. Third, the results of this calculation yielded results which were similar to those produced by other standard methods. (**See** Concept Nos. 6 and 7 of the Collaborative Group, Exhibit ___ (DWH-4), p. 19.)

Q. How was this classification applied in the cost of service study?

A. All production plant and related expenses were classified between demand and energy using the peak credit method. This results in 17% of production plant being classified to demand and the remainder to energy. Pages 1-2 of Exhibit ___ (CEL-4) show the calculation of the peak credit factor. Power supply expenses, which consist of purchases and interchanges, system control, load dispatching, and other associated expenses, were classified to either demand or energy, or both, depending upon the nature of the occurrence of those costs. Contracts providing both demand and energy were also classified using the peak credit method.

Q. What are some other methods typically used to classify production plant?

A. Page 3 of Exhibit ___ (CEL-2) briefly describes the three major categories of production classification methods considered by the Collaborative Group.

Q. What is the effect of selecting the Company's proposed method versus these competing methods?

A. The effect of using the peak credit method as opposed to alternative classification methods for production plant is shown in Exhibit ____ (CEL-5), discussed later in my testimony. Typically, methods that assign more costs to demand result in a higher overall allocation of revenue requirement to the lower load factor customer classes (residential, for example) and a lower overall allocation to the higher load factor customer classes (high voltage, for example). As shown on page 2 of Exhibit ____ (CEL-5), the scenario that classifies production costs as 100% demand-related results in a parity ratio of 81% for residential as compared to a 146% parity ratio for the high voltage class. Similarly, the energy only allocation method results in parity ratios of 97% and 77% for residential and high voltage, respectively.

b. Classification of Transmission Costs

Q. Please explain the classification of transmission costs.

A. Transmission plant and expenses have been further functionalized into non-generation-related and generation-related transmission components or sub-functions. Non-generation-related transmission costs

refer to costs associated with the Company's transmission system network. Generation-related transmission costs refer to costs for those transmission lines constructed in order to connect remote generation facilities to the system network.

The Company has classified the non-generation-related transmission as 100% demand-related, recognizing that the primary design consideration used in the planning and construction of the network (non-generation-related transmission) is the peak load the facilities must carry (given a set of reliability standards). The Company's proposal classifies generation-related transmission using the peak credit method, recognizing the association to the generating facility.

Q. Why has the Company classified the non-generation-related plant in this manner?

A. According to the Company's transmission system engineers, the principle reason the Company is investing in transmission plant is in response to peak loads. In other words, the system's peak demands are the primary consideration when analyzing the need for new transmission plant.

Q. What other techniques are typically used to classify transmission costs?

A. Page 4 of Exhibit ___ (CEL-2) describes other common approaches used to classify transmission costs. The effect of selecting the Company's proposed method for functionalizing and classifying transmission costs versus these competing methods is shown in Exhibit ___ (CEL-5), described later in my testimony.

c. Classification of Distribution Costs

Q. How were distribution costs classified?

A. The Company proposes to classify distribution costs as either demand-related or customer-related based on the basic customer method.

Q. Please describe the basic customer method.

A. Under the basic customer method, only those distribution costs relating to metering and service drop are treated as customer-related. All other costs are classified to demand. In effect, this method implies that the only costs which vary directly with the number of customers on the system are the cost of the meter and service drop (and related expenses).

Q. The Company has previously endorsed the minimum system technique for classifying distribution plant. Why has the Company proposed the basic customer approach in this proceeding?

A. We are using the basic customer method for purposes of this filing primarily in the interests of promoting consensus, although the Company continues to believe in the merits of the former approach. To allow the effects of using the minimum system method to continue to be considered, the Company has included that method as a scenario in Exhibit ____ (CEL-5). It should also be noted that the Task Force, in its final report, recommended that customer costs be identified in a manner more like the minimum system approach. (**See** Recommendation "A" regarding Residential Rate Design, Exhibit ___ (DWH-3), pp. 19-20.)

Q. What are some other methods used to classify distribution costs?

A. Page 5 of Exhibit ___ (CEL-2) identifies and describes several common methods used in the industry to classify distribution plant. In addition, page 6 of Exhibit _____ (CEL-2) shows each method and some actual values of factors derived using these methods. Some of these resulting factors are taken from actual cost studies and some are taken from utility surveys of the issue. This exhibit is intended to demonstrate possible

results; it is not my intent to defend the calculations and assumptions supporting these resulting factors. The exhibit shows the factors by distribution plant sub-function. The effect of selecting the Company's proposed method for classifying distribution costs versus these competing methods is shown in Exhibit ___ (CEL-5), discussed later in my testimony.

d. Classification of Conservation Costs

Q. How do you propose to classify conservation costs?

A. The Company proposes to treat conservation investments and related expenses in the same manner as production costs. That is, these costs are classified between demand and energy using the peak credit method.

Q. Why did you propose this treatment for conservation costs?

A. This treatment is proposed for several reasons. First and foremost, conservation is a resource and should be treated as such for rate design purposes. Second, both the Collaborative Group and the Task Force encouraged us to treat the costs as a resource. (**See** Concept No. 7 of the Collaborative Group, Exhibit ___ (DWH-4), p. 19, and Rate Spread Concept B of the Task Force, Exhibit ___ (DWH-3), pp. 12-13.) It should be pointed out that this

treatment is no different than that used by the Company in its past studies.

Q. What other methods are used for classifying conservation costs?

A. Another method is to assign directly the conservation costs to the customer class receiving the benefits. This means that residential water heater conservation costs would be assigned to the residential class, for example, while industrial energy management costs would be assigned to the industrial class. Because all classes benefit from conservation to the extent it is considered a resource, we believe our approach is more appropriate.

e. Classification of General Costs

Q. What are some examples of what you call general costs?

A. These costs include investment in general plant, administrative and general expenses, local, state and federal taxes, etc.

Q. How were these types of costs classified?

A. These costs are generally classified and allocated following the classification and allocation of the four main functions. It should be noted that the Collaborative Group made several endorsements in the area of general costs relating to the treatment of

administrative and general expenses, general plant and federal income taxes. These include the following:

- General plant should be allocated in a manner derived from the allocation of production, transmission and distribution plant.
- Administrative and general expenses (excluding salaries, regulatory commission expense, and outside service employed) should follow the approach traditionally used by the Company.
- Federal income taxes should be allocated in a manner that is derived from the allocation of rate base.

(**See** Concept Nos. 8, 9 and 10 of the Collaborative Group, Exhibit ___ (DWH-4), p. 19.) The Company has applied the endorsed concepts in its proposed cost of service study.

3. Allocation of Costs Among Classes Under the Company's Cost of Service Study

Q. How many classes of customers were considered in allocating costs among classes?

A. Historically, the Company considers six broad classes of customers: residential, secondary voltage, primary voltage, high voltage, street and area lighting, and firm resale. These classes are identified in large part according to the delivery voltage at which they take service.

Q. What do you mean by delivery voltage?

A. Delivery voltage refers to the point on the distribution or transmission system where the customer is taking service. For our residential and secondary general service, this is less than 600 volts. Delivery voltage for primary service is greater than 600 volts but less than 50,000 volts, and the high voltage class takes service directly from the transmission system, above 50,000 volts.

Q. Why does your study focus on delivery voltage?

A. There are certain costs which can be assigned to a class based on delivery voltage, such as losses and distribution costs.

Q. Within these six broad classes, did you further segment the classes?

A. Yes. Within each of the six broad classes of service, the Company has identified subclasses of service. Page 7 of Exhibit ___ (CEL-2) presents the six broad classes of service, the associated subclasses, and some descriptive attributes and assumptions about each group. It is these characteristics that drive the allocation of costs to the specific group. The cost of service study is based on assumptions and characteristics regarding the service requirements of each class or subclass of customer included in the study. Typically, these

characteristics involve delivery voltage, degree of diversity, degree of coincidence, and magnitude of usage. These characteristics can be defined in terms of demand-related, energy-related and customer-related components.

Q. How were costs allocated among the various customer classes?

A. Once costs were classified into demand-related, energy-related and customer-related components, costs were then allocated to the customer classes on the basis of the contribution of each class to the total kilowatts of demand upon various segments of the system, total consumption of kilowatt-hours, and total number of customers in each class. The demand, energy, and customer allocation factors were adjusted and weighted to further reflect the actual occurrences of costs within the allocation process.

a. Allocation of Demand-Related Costs

Q. How are demand-related costs allocated?

A. As described above, demand-related costs can be identified in the production, transmission and distribution functional areas. Two separate sets of demand allocation factors are typically developed to allocate this classification of costs: system

coincident peak demand factors and class non-coincident peak demand factors. These two sets of demand-related allocation factors are shown in Exhibit ___ (CEL-4), page 3.

Q. Why was it necessary to develop two sets of factors?

A. Even though demand is recognized as a key consideration in the planning and investing in facilities in all the functional areas of a utility's system, the term demand is almost too broad. Actually a cost study will identify costs incurred as a result of a localized or non-coincident demand on a substation as opposed to costs incurred as a result of the combined demands on the system at time of system peak (allocation of production or transmission costs, for example). The timing of the demand or high usage is the key factor. The two sets of demand allocation factors are an attempt to reflect this sensitivity to different times of high use on the system in terms of cost causation.

Within each set of demand allocation factors, it may be appropriate to exclude the peak contribution of a given class depending upon the functional category being allocated. The nature of the cost to be allocated must be considered in light of the service requirements of the customer. An example of this is the exclusion of

the high voltage class' NCP demand when calculating the allocation factors used to allocate distribution demand-related costs, given that high voltage customers take delivery off the transmission system.

Q. Please define and describe the use of system coincident peak demand factors.

A. System coincident peak demand refers to the load required by a given class of customer when the system peak load occurs. System coincident peak demands are generally used to allocate production and transmission demand-related costs, since these functional cost areas are designed or incurred in order to either produce or deliver the peak demands placed on the system.

Q. In general, how are system coincident demand allocation factors calculated?

A. The Company identifies the actual hours in the test period of highest system coincident peak demand. Using load research information, the Company then identifies the contribution of each class to these hourly peak demands and makes adjustments for peak losses. Either the single highest or extreme system coincident peak demand or the average of some or all of the high system coincident peak demands are then used to compute the set of system coincident allocation factors. The number of hours utilized in the calculations, in turn, are

dependent on the functional category of costs being allocated.

Q. In the past, the Company has based these factors on the system's twelve highest hours of demand. Is the Company continuing to follow this approach?

A. No. We are proposing to use 200 hours, which represents the annual number of hours of operation for the combustion turbines reflected or incorporated in the Company's planning models. In our view, using 200 hours better matches the allocation factor with the planning criteria actually used by the Company. The effect of using a system coincident demand allocation factor based on a different number of hours versus that proposed by the Company is shown in Exhibit ____ (CEL-5), discussed later in my testimony.

Q. What is the effect of including more or fewer hours of system coincident peak demand in the calculation of the system coincident peak demand allocation factors?

A. Page 8 of Exhibit ____ (CEL-2) shows that between the range of 1 to 4,000 hours, the effect of including additional hours in the calculation of the allocation factor tends to benefit the lower load factor classes, such as the residential class, at the cost of the higher load factor classes, such as the high voltage class.

Q. What is class non-coincident peak demand?

A. Class non-coincident peak demand is the highest demand of the class at a point in time regardless of the demands of any other class. Such demands are often referred to as localized demands.

Q. How were these calculated?

A. Using load research data, the Company was able to identify the highest class non-coincident peak hours. The allocation factor calculation is based on the percentage of the highest demand of a given class to the sum of the highest demands of all classes. Adjustments, similar to those made in calculating the system coincident demand factors, are often made.

Q. Once the two types of demand factors have been calculated, how are they used in the study?

A. The system coincident peak demand factors are used to allocate production and transmission demand-related costs. This is in recognition of the fact that these costs are incurred in response to the peak coincident demands placed on the system. The class non-coincident peak demand factors are used to allocate distribution demand-related costs. This recognizes the fact that investments in substations, for example, are more dependent on localized class level demands than the combined or coincident peak demands. Page 2 of

Exhibit ___ (CEL-2) shows the demand factors typically used to allocate functionalized and classified costs.

b. Allocation of Energy-Related Costs

Q. How are energy-related costs typically allocated among the classes?

A. Energy costs are allocated using energy factors derived from the class total kWh consumption for the test period. Adjustments to normalize the results and to reflect losses are made to the class level kWh consumption figures. Page 4 of Exhibit ___ (CEL-4) shows the calculation of the energy calculation factor.

c. Allocation of Customer-Related Costs

Q. Please explain the allocation of customer-related costs.

A. Customer-related costs are generally allocated based on the number of customers or meters taking service from the utility. As in the case of the demand allocation factors, a set of customer-related classification factors are generally developed. Exhibit ___ (CEL-4), pages 5-7, demonstrates the different types of customer-related factors used by the Company. The set is derived through a combination of weighting factors and consideration of the particular functionalized classified component of the revenue requirement being allocated. For example, the costs associated with

serving only secondary delivery voltage customers should not include primary delivery voltage customers in its allocation factor.

SUMMARY OF COST OF SERVICE STUDY

Q. What is shown on Summary 1 of Exhibit ___ (CEL-3)?

A. Summary 1 of Exhibit ___ (CEL-3) shows a class level income statement for each class considered in the cost study. The bottom line of this report shows the realized rate of return for each class of customers based on the allocated operating expenses, income and rate base for that class.

Q. Please explain Summary 2 of Exhibit ___ (CEL-3).

A. Summary 2 relates operating revenues to revenue requirements for each class of customer. This schedule shows the parity level of each class versus all other classes. This report often serves as the basis for cost-based rate spread decisions, as discussed in Mr. Hoff's testimony.

Q. What is shown on Schedules A through D of Exhibit ___ (CEL-3)?

A. Schedules A through D detail the functionalization, classification and allocation of revenues, expenses, and rate base items, by ID, to the customer classes. Also

shown on these supporting schedules are the allocation techniques used in the cost of service process.

Q. What is shown on Exhibit ___ (CEL-6)?

A. Exhibit ___ (CEL-6) shows the specific cost of service results used by Mr. Hoff as the starting point for developing his recommendations on rate spread and rate design. Pages 1 to 6 show the cost based basic charge by schedule. (**See** Concept No. 11A of the Collaborative Group, Exhibit ___ (DWH-4), p. 19.) Pages 7 to 9 show the cost-based rate spread. (**See** Concept No. 4 of the Collaborative Group, Exhibit ___ (DWH-4), p. 4 and Rate Spread Concept A of the Task Force, Exhibit ___ (DWH-3), p. 12). Pages 10 to 11 show the cost basis used by Mr. Hoff to separate the current Schedule 24 into three separate rate schedules.

Q. Have you prepared an exhibit showing the identification of base and resource costs?

A. Yes. The Commission in the Decoupling Proceeding directed the Company to identify base and resource costs for each class. (Third Supplemental Order, p. 25.) This analysis is shown on page 1 of Exhibit ___ (CEL-5). ~~Mr. Hoff explains in his testimony why the use of the resulting base and resource costs are not appropriate.~~ excluded, on motion by Trotter, 9/23/92 alh

excluded, on motion, 9/23/92

~~for either a rate spread or authorized revenue calculation.~~

COMPARISON OF SCENARIOS

Q. What is shown on the Comparison of Results table of Exhibit ____ (CEL-5)?

A. This table summarizes the effects of applying different assumptions, methodologies or input values when functionalizing, classifying and allocating specific cost items in the cost study. Each scenario reflects only the change indicated, and is not intended to show cumulative effects.

Q. Please describe each set of scenarios.

A. Page 2 of this table examines the effects on parity relationships of classifying production costs at various points on the spectrum from 100% demand-related to 100% energy-related. These classifications can be accomplished either through an explicit selection of a classification method or implicitly through assumptions applied within a given method. For example, it is possible to calculate the peak credit method to be equal to 7% demand and 93% energy if a limited number of hours of extreme peak are assumed to be priced at the near term cost of peak capacity. As noted in both my testimony and Mr. Hoff's, the assumptions used by the

Company in the calculation of the peak credit classification factors are well within the reasonable range of results which may be arrived at using this approach.

Page 3 of Exhibit ___ (CEL-5) shows the effects on parity relationships of incrementing the number of hours of peak demand used in the calculation of the system coincident peak demand allocation factors. The scenarios used are the single highest peak, 12 highest peak hours, 200 highest peak hours, 1500 highest peak hours and the 12 monthly highest coincident peak hours. As shown on these pages, the effect of including more hours in the allocation is to benefit the residential class to the detriment of the high voltage class.

Page 4 shows the effects on parity relationships of classifying transmission costs as either 100% demand-related or according to production cost classification.

Page 5 shows the effects on parity relationships of applying the minimum grid method, the basic customer method (as proposed) or the modified basic customer method of classifying distribution costs.

Q. Does this complete your testimony?

A. Yes, it does.