1 BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION 2 PETITION OF PUGET SOUND POWER) GENERAL RATE CASE 3 & LIGHT COMPANY FOR AN ORDER)) DOCKET NO. UE-920433 4 REGARDING THE ACCOUNTING TREATMENT OF RESIDENTIAL 5 EXCHANGE BENEFITS ____) _____ 6 WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, 7 Complainant, 8 vs. DOCKET NO. UE-920499 9 PUGET SOUND POWER & LIGHT 10 COMPANY, 11 Respondent. _____ 12 WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, 13 Complainant, 14 DOCKET NO. UE-921262 vs.) 15) PUGET SOUND POWER & LIGHT) VOLUME XX PAGES 3405-3619 16 COMPANY,) Respondent. 17)) _____ 18 19 A hearing in the above matter was held on June 11, 1993 at 9:00 a.m., at 1300 South Evergreen 20 21 Park Drive Southwest, Olympia, Washington, before 22 Chairman SHARON L. NELSON, Commissioners RICHARD CASAD and RICHARD HEMSTAD, and Administrative Law Judge 23 24 ALICE HAENLE. 25 Cheryl Macdonald, RPR, CSR, Court Reporter

1 The parties were present as follows: 2 WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION STAFF, by DONALD T. TROTTER and SALLY G. 3 BROWN, Assistant Attorneys General, 1300 South Evergreen Park Drive Southwest, Olympia, Washington 4 98504. FEDERAL EXECUTIVE AGENCIES, by VASIO 5 GIANULIAS, Associate Counselor, 900 Commodore Drive, 6 Bldg. 107, (Code 09C), San Bruno, California 94066-2402. 7 PUGET SOUND POWER & LIGHT, by JAMES VAN NOSTRAND and STEVEN C. MARSHALL, Attorneys at Law, 411 - 108th Avenue NE, Bellevue, Washington 98004. 8 9 WASHINGTON INDUSTRIAL COMMITTEE FOR FAIR 10 UTILITY RATES, by MARK P. TRINCHERO, 2300 First Interstate Tower, 1300 Southwest Fifth Avenue, Portland, Oregon 97201, and PETER RICHARDSON, 11 Attorney at Law, 702 West Idaho, Boise, Idaho 83702. 12 PUBLIC INTEREST, by CHARLES F. ADAMS, 13 Attorney at Law, Suite 2000, 900 Fourth Avenue, Seattle, Washington 98164. 14 PACIFIC CORP, by JAMES PAINE, Attorney at 15 Law, 900 SW Fifth Avenue, Portland, Oregon 97204-1268. 16 WASHINGTON WATER POWER, by DAVID MEYER, Attorney at Law, Suite 1200, Washington Trust Financial 17 Center, 717 W. Sprague, Spokane, Washington 99204. 18 19 20 21 22 23 24

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25 870 3561 3562

1 PROCEEDINGS 2 JUDGE HAENLE: The hearing will come to 3 order. This is a 20th day of hearing in the 4 consolidated Puget cases. This is June 11, 1993 and 5 we're finishing up, I hope, with the phase of Commission staff, intervenor and public counsel expert б 7 cross-examination. It's a little different mix of 8 counsel again this morning so if you would just 9 indicate your name and your company's name, we will 10 take those appearances beginning with the company. 11 MR. MARSHALL: Steve Marshall and James Van 12 Nostrand. 13 JUDGE HAENLE: For the Commission. MR. TROTTER: Donald T. Trotter and Sally 14 15 G. Brown. 16 MR. ADAMS: Charles Adams appearing as 17 public counsel. 18 MR. PAINE: James Paine for Pacific Corp. 19 MR. MEYER: David Meyer for Water Power. 20 MR. TRINCHERO: Mark Trinchero for WICFUR. 21 JUDGE HAENLE: All right. We'll be taking, 22 as I understand, Mr. Blackmon first, so would you 23 raise your right hand, please, sir. I will mark the 24 prefiled documents for identification as follows:

25 Marked as T-832 for identification is a 69-page (COLLOQUY) 3409 document, prefiled testimony, and note that there is 1 2 an errata sheet that goes with it. Please put that 3 sheet with it and make the corrections on your own 4 copy. GB-2 is 833 in four pages; 5 б GB-3 in one page is 834. 7 GB-4 in three pages is 835. 8 GB-5 in one page is 836. 9 GB-6 in one page is 837 B. 10 GB-7 in one page is 838. GB-8 in two pages is 839. 11 12 GB-9 in one page is 840. GB-10 is 841. 13 GB-11 in one page is 842. 14 GB-12 in one page is 843. 15 GB-13 in one page is 844. 16 17 GB-14 in one page is 845. 18 GB-15, which is prefiled rebuttal testimony in six pages is T-846. 19 20 And GB-16 in one page is 847. And please 21 note that Mr. Adams has distributed a revised chart which is GB-16. Make the substitution straight 22 23 across. 24 (Marked Exhibits T-832, 833 through 845,

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T-846 and 847.)
25
       (BLACKMON - DIRECT BY ADAMS)
                                                           3410
 1
    Whereupon,
 2
                        GLENN BLACKMON,
 3
    having been first duly sworn, was called as a witness
 4
    herein and was examined and testified as follows:
                MR. ADAMS: Your Honor, might I inquire of
 5
 б
    the Commissioners whether they got the errata sheet
 7
    and the replacement.
                COMMISSIONER CASAD: Apparently the
 8
 9
    chairman does. I don't have one here, unless there
10
    are two of them.
11
                COMMISSIONER HEMSTAD: I don't have one.
12
13
                       DIRECT EXAMINATION
    BY MR. ADAMS:
14
15
               Dr. Blackmon, would you state your full
          Q.
16
    name and spell your last name?
               My name is Glenn Blackmon, B L A C K M O N.
17
         Α.
18
               What is your occupation?
          Q.
                I'm an economic and policy consultant in
19
          Α.
20
    private practice and a partner in Delta Pacific, a
21
     small consulting firm.
               Business address?
22
         Ο.
23
         Α.
               218 and a half West Fourth Avenue, Olympia,
24
    Washington.
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25 Q. Did public counsel request you to review (BLACKMON - DIRECT BY ADAMS) 3411 1 the company's general rate case filing and to make 2 recommendations on various issues? 3 Α. Yes. 4 Q. Are those contained -- is this your 5 testimony analyzing those issues contained in an б exhibit that's been marked T-832? 7 Α. Yes. And I believe we have already passed out an 8 Ο. 9 errata sheet with those corrections. Is that 10 testimony true -- first of all, was it prepared by you or under your supervision? 11 12 Α. Yes. 13 ο. Is it true and correct to the best of your knowledge? 14 15 Α. Yes. Also, following that testimony there have 16 Q. 17 been various exhibits numbered 833 through 845. Also, 18 was that information prepared by you or under your supervision? 19 20 Α. Yes. 21 Q. Is it true and correct to the best of your 22 knowledge? 23 Α. Yes. 24 ο. You also prepared rebuttal testimony on a

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limited issue of the hydro normalization; is that
25
       (BLACKMON - DIRECT BY ADAMS)
                                                           3412
 1
    correct?
 2
         Α.
               Yes.
 3
         ο.
               And that is contained in T-846 and the
 4
    accompanying replacement exhibit now 847?
 5
         Α.
               Yes.
 б
         Q.
               And is that true and correct to the best of
 7
    your knowledge?
 8
         Α.
               Yes.
 9
         Q.
               I would move the admission of T-832 through
10
    847.
11
               JUDGE HAENLE: Any objection,
12
    Mr. Van Nostrand?
               MR. VAN NOSTRAND: No, your Honor.
13
14
               MR. TROTTER: No objection.
15
               JUDGE HAENLE: Objection from any
16
    intervenor?
               MR. PAINE: I may have an objection, your
17
    Honor, if I may, as regards Exhibit 847. I wonder if
18
19
    I could ask a question or two in aid of a possible
20
    objection.
21
               JUDGE HAENLE: Yes, you may.
22
23
                    VOIR DIRE EXAMINATION
24
    BY MR. PAINE:
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25 If you would look, Dr. Blackmon, please, at Q. (BLACKMON - VOIR DIRE BY PAINE) Exhibit 847. My understanding is that you have made a 1 2 change from what has been originally filed as GB-16; 3 is that correct? 4 Α. That is correct. 5 Ο. What changes did you make? б Α. As I submitted the exhibit with my prefiled 7 testimony it was using monthly data and revised 8 exhibit uses annual data. 9 Q. I see. Otherwise there's no other changes 10 to what has been marked as Exhibit 847? That is correct. 11 Α. 12 Could I ask you if Exhibit 847 attempts to Ο. plot, if you will, Puget generation and it also sets 13 forth Dalles stream flows; is that correct? 14 Its purpose is to illustrate -- well, I'm 15 Α. 16 not sure if that's correct. Its purpose is to 17 illustrate the nature of the relationship between 18 stream flow at the Dalles and generation available to 19 Puget Power. 20 Q. This is a graphical depiction of that over 21 a period of 1928 through 1978; is that correct? 22 Α. Yes, it is. 23 Q. What is the correlation coefficient that 24 you have developed in analyzing the Dalles annual

25 stream flows and Puget generation?

(COLLOQUY)

1

A. I haven't done that calculation.

2 MR. PAINE: Well, your Honor, this places 3 us in somewhat of an awkward situation in that the 4 original GB-16 with monthly data, we did not believe 5 to be particularly relevant. We were not overly 6 concerned about it. However, with annual data we 7 believe this is relevant on the one hand but we have 8 not had an opportunity to perform discovery which we 9 certainly would have had Dr. Blackmon included that in 10 his original exhibits. For example, Dr. Blackmon makes a point in his rebuttal testimony that he 11 12 doesn't believe there is a correlation between Puget 13 generation and Dalles stream flows. Well, we think 14 that a meaningful analysis would have included more than just a simple plotting or a depicting of the 15 16 stream flow and the generation as shown in 847. We 17 would have also asked for development of a correlation. Now, because of the timing of the 18 situation we're in a rather difficult situation to 19 20 develop that correlation which we believe exists. 21 Therefore, I would object to Exhibit 847. 22 JUDGE HAENLE: Mr. Adams? MR. ADAMS: Your Honor, Counsel is free to 23 24 inquire but it's my understanding that the data that

25 was in the original exhibit is simply the same data (COLLOQUY) 3415 but on a monthly basis and is now shown with fewer 1 2 dots, if you will, as they are annual figures and the 3 basic data is the same. 4 MR. PAINE: If I may respond. 5 JUDGE HAENLE: Let me find my copy of the 6 old one first. 7 MR. ADAMS: Certainly have no objection to 8 counsel's inquiries of the witness on the two issues, 9 if there's a difference, but it's my understanding and 10 the witness can perhaps respond to counsel but it's my understanding that this is simply annual situation of 11 12 the same data. 13 JUDGE HAENLE: Go ahead, Mr. Paine. 14 MR. PAINE: The plotting of monthly generation data in comparison to Dalles stream flows 15 16 is not particularly meaningful. We're looking at 17 annual stream flows and we're attempting to determine 18 whether there is a correlation with annual stream 19 flows of the Dalles and Puget generation. I would 20 submit that, with a modest effort, Dr. Blackmon could 21 not only have graphically depicted these two sets or 22 streams of numbers, as he did in 847, but he could 23 have determined whether there was a correlation, a 24 relationship, if you will, between Puget generation

25 and Dalles stream flows. That next step in an (COLLOQUY) 3416 analysis is relatively simple and straightforward and 1 2 we would have asked Dr. Blackmon to perform that had he included 847 in his original testimony. Now, I'm 3 4 not sure how we can get that developed because of the 5 timing. б JUDGE HAENLE: Mr. Adams? 7 MR. ADAMS: Well, your Honor, counsel is 8 certainly able to ask at this time a record 9 requisition of the witness, and we would be happy to 10 respond to it as long as it's not some burdensome study, so that he can still conduct discovery if this 11 12 is a concern for him. I don't believe any of the 13 parties are compromised. We were all under a very short turnaround time, as I recall, for any rebuttal 14 testimony and it just appeared to us that this would 15 16 be more meaningful data. 17 JUDGE HAENLE: How would counsel --18 MR. PAINE: May I make a suggestion? 19 JUDGE HAENLE: You may be answering the 20 question I was about to ask. 21 MR. PAINE: With that statement by 22 Mr. Adams, perhaps we could proceed with 23 cross-examination to see how it develops. With your 24 permission I would like to reserve the right to object

25 to Exhibit 847 later in the day if things do not (COLLOQUY) 3417 develop in allowing me to develop what I think is a 1 2 correlation here. But you see, we're allowed to 3 perform discovery in a record requisition subsequent 4 to this hearing that allows us only the ability to use 5 it in the briefing schedule and not to ask the 6 questions of Dr. Blackmon. 7 JUDGE HAENLE: That was going to be my 8 question. Mr. Adams, if it were developed in the form 9 of a record requisition, how would counsel have a 10 chance to ask questions of your witness? 11 MR. ADAMS: Well, I guess -- we're 12 certainly willing to be cooperative and if it's 13 necessary to recall Dr. Blackmon at the time of the 14 company response, perhaps we could do it that way. Perhaps the record requisition would be self-15 16 explanatory and we could stipulate it in. I frankly 17 don't know where we're going at this point but I am 18 expressing a willingness to be cooperative with 19 counsel. 20 JUDGE HAENLE: I am not sure where you're 21 all going either. It looks to me comparing the old 22 GB-16 with the new one that they do show -- they may 23 be pieces of the same data but they look a lot

24 different in terms of whether it's all randomly

25 scattered or lined up. It occurs to me that if this (COLLOQUY) 3418 is going to be offered that there should be the chance 1 2 for discovery on it. I am willing to -- I think this 3 goes beyond just the Commission saying if he hasn't 4 done a calculation of correlation coefficient, the 5 Commission will ignore it. I don't think that's a б good spot to be in. May I suggest that we put both 7 the original and the revised in as part of this 8 exhibit to show the differences and then we would 9 proceed with your questions, Mr. Paine, and see where 10 we end up. MR. PAINE: That would be fine with me. 11 12 MR. ADAMS: That's fine, your Honor. Perhaps we mark the original one, which is with the 13 14 monthly data as one of two. JUDGE HAENLE: The one has at the top 15 16 5-27-93 revision. That seems pretty obvious to me. 17 Can you refer to it as the original and the revised if 18 you're questioning about it, Mr. Paine? 19 MR. PAINE: Fine. 20 MR. TROTTER: So it's a two-page exhibit 21 now. 22 JUDGE HAENLE: Yes. I will enter -- did 23 anyone else -- any of the other intervenors have 24 objection to any of the documents?

All right. I will enter T-832 through 25 (BLACKMON - CROSS BY VAN NOSTRAND) 3419 T-846 and I am going to wait on 847 until we see what 1 2 falls out the other side but it now consists of the 3 two pages. Anything else, Mr. Adams? 4 MR. ADAMS: No. (Admitted Exhibits T-832, 833 through 845 5 б and T-846.) 7 8 CROSS-EXAMINATION 9 BY MR. VAN NOSTRAND: 10 ο. Good morning, Mr. Blackmon. 11 Α. Morning. 12 Your testimony makes several adjustments to Q. 13 power supply expenses? That is correct. 14 Α. 15 And among other testimony your testimony Q. proposes to use 30 years of stream flow data to define 16 normal hydro available? 17 18 Α. Yes. 19 And proposes an adjustment for new Q. 20 purchased power contracts for prices which you claim 21 are in excess of the company's avoided costs; is that 22 right? 23 Α. Yes. 24 Q. Regarding conservation expenditures you

25 also propose to lengthen the amortization period to (BLACKMON - CROSS BY VAN NOSTRAND) 3420 1 20 years? 2 Α. Yes. 3 ο. And to exclude a portion of the company's 4 conservation advertising expenses; is that right? 5 Α. Yes. б Q. And finally you also propose a number of 7 changes to the PRAM decoupling mechanism; is that 8 right? 9 Α. Yes, it is. 10 ο. If we could turn first to your discussion of hydro availability in the calculation of normal 11 12 hydro availability. You had an opportunity to review 13 the testimony of all the parties in this proceeding regarding the number of historical water years to be 14 15 used in normalizing stream flows? 16 Α. Yes, I have. 17 ο. And would you agree that the various 18 proposals include the rolling 40-year average proposed 19 by staff witness Winterfeld, the most recent 30 years, 20 which you propose, the company's proposal to use a 21 50-year average and Mr. Schoenbeck's proposal to use 22 an extended database of 100-plus years? 23 Α. Yes. 24 ο. Would you agree that the 50-year average

25 proposed by the company uses the 50 years from 1928 to (BLACKMON - CROSS BY VAN NOSTRAND) 3421 '78? 1 2 Α. Yes. 3 And this is the full 50 years of data Ο. 4 available from the regional hydro regulation studies? 5 Α. Correct. б And you're proposing to use only the most Q. 7 recent 30 years of this data or the years '48 to '78; 8 is that right? 9 That's right. Α. 10 ο. And there is no difference in the quality of the data in terms of accuracy and how it's measured 11 12 that would cause you to exclude the early 20 years, is 13 there? 14 Α. I am not aware of any difference in 15 quality, no. So you're not discarding the early 20 years 16 Q. 17 on the basis of accuracy or reliability of data. It's 18 just a matter of your analysis? 19 Α. It's not the accuracy of the measurement. 20 It's the relevance of the measurement. 21 Q. Would you agree that the purpose of the 22 stream flow normalization method chosen in a rate case 23 is to provide the best estimate of power costs during 24 the period for which retail rates are being approved?

25 Α. Yes. (BLACKMON - CROSS BY VAN NOSTRAND) 3422 1 So in other words, we're trying to Q. 2 determine normal stream flow conditions defining the 3 term normal? 4 Α. We're attempting to define the stream flow 5 conditions that are most likely to prevail in the upcoming rate year. 6 7 ο. Are you familiar with the Commission's 8 order in the company's 1989 rate case with regard to 9 water years? 10 Α. Yes. And isn't it true the Commission's order on 11 Ο. 12 reconsideration expressed a desire that some effort be made to determine a best method to be used for the 13 entire state regarding number of historical water 14 15 years? 16 That is correct. Α. 17 ο. Would you accept subject to check that the 18 language in the fifth supplemental order states, "the Commission would like to see an evaluation by the 19 20 three investor-owned electric utilities and other 21 interested parties regarding the best method to use 22 for the entire state"? 23 Α. Yes. 24 ο. Do you know whether or not any discussions

25	have occur	red since that order regarding a common			
	(BLACKMO	n – Cross by van Nostrand) 3423			
1	method for stream flow analysis?				
2	Α.	Yes.			
3	Q.	Yes, discussions have occurred?			
4	Α.	Yes, I know that discussions have occurred.			
5	Q.	And to your knowledge, has public counsel			
6	participated in those discussions?				
7	Α.	Yes.			
8	Q.	And did you participate in those			
9	discussions?				
10	Α.	No.			
11	Q.	In fact, Mr. Lazar participated in those			
12	discussion	s representing public counsel; is that			
13	right?				
14	Α.	That's right.			
15	Q.	Do you know if Mr. Lazar represented public			
16	counsel in	these meetings strike that.			
17		Were you given an opportunity to			
18	participat	e in these discussions?			
19	Α.	If you mean was I sent an invitation by			
20	Puget Powe	r, the answer is no.			
21	Q.	But the decision was made by public counsel			
22	that Mr. L	azar, rather than you, would represent			
23	public counsel?				
24	Α.	Right. I would say that Mr. Adams,			

25 Mr. Lazar and I discussed who should attend these (BLACKMON - CROSS BY VAN NOSTRAND) 3424 meetings and it was agreed that Mr. Lazar should do 1 2 so. 3 ο. So even though Mr. Lazar attended the 4 meetings he's not presenting testimony on that issue 5 in this case, you are, is that right? б Α. That is correct. 7 MR. VAN NOSTRAND: Your Honor, I would like 8 to distribute an exhibit. 9 JUDGE HAENLE: You've handed me a 10 multi-page document. The caption at the top is 11 Response to Company Data Request 4200. I will mark 12 this as 848 for identification. 13 (Marked Exhibit 848.) Mr. Blackmon, do you recognize Exhibit 848 14 ο. 15 as your response to the company data request 4200? 16 Yes, I do. Α. 17 Ο. And this concerns your analysis regarding 18 the 50-year stream flow record and the presence of trends or cycles? 19 20 Α. That is correct. 21 MR. VAN NOSTRAND: Your Honor, move the admission of 848. 22 23 JUDGE HAENLE: Any objection, Mr. Adams? 24 MR. ADAMS: No objection.

25 MR. TROTTER: No objection. (BLACKMON - CROSS BY VAN NOSTRAND) 3425 1 JUDGE HAENLE: Objection from an 2 intervenor? 3 All right. 843 will be entered into the 4 record. (Admitted Exhibit 848.) 5 б Q. Regarding the regression analysis that's 7 presented in Exhibit 848 did you calculate a Durbin 8 Watson or a Durbin H stack? 9 Α. That would be the attachment 42-B; is that 10 correct? 11 Right. Q. 12 Yes, I did. Α. And where does that appear on this 13 Q. 14 document? It doesn't appear on this document. 15 Α. Could you provide that in response to the 16 Q. 17 next numbered record requisition, please. JUDGE HAENLE: Next in line is 584. 18 19 (Record Requisition 584.) MR. ADAMS: Will counsel just restate 20 21 exactly what he is requesting. MR. VAN NOSTRAND: Yes. The Durbin Watson 22 23 or Durbin H stack which was calculated by Mr. Blackmon 24 in connection with the regression analysis shown on

25 attachment 4200 B of Exhibit 848.

(BLACKMON - CROSS BY VAN NOSTRAND) 3426 1 Your studies demonstrated that there is a Q. 2 multi-year cycle with a predictable period? 3 No, not with predictable period. Α. 4 Q. As far as the analysis shown here in 5 Exhibit 848, what's the rationale for regressing 6 monthly data for analyzing annual cycles? 7 Α. I guess I missed the idea that we were only talking about annual cycles here. The reason to use 8 9 monthly data is that it is the most detailed level at 10 which data is available and there are cycles or patterns within a year. In fact, I think that's where 11 12 there is the least amount of controversy is that you 13 have what's called spring runoff so that within a year 14 there are definite patterns and those need to be accounted for in any sort of an analysis, but to 15 16 account for those by simply adding up all the 17 observations for a year and using an annual number is 18 a waste of information because you can adjust for the 19 seasonal patterns within the year and still have 20 available information left over in that monthly data 21 that could be used to estimate longer cycles or 22 trends.

Q. And along those lines, does that explainwhy you have a regression variable that attempts to

25 measure relationship between the current months and (BLACKMON - CROSS BY VAN NOSTRAND)

1 prior months?

2 That regression variable which is on Α. attachment 4200 B, page 1 is listed as the cyclical 3 4 variable. It's the flow in the prior month. Attempts 5 to estimate whether or not the amount of river coming down the river in one month is related or correlated 6 7 with the amount of water that came down the river in the previous month. And the fact that there does 8 9 appear to be a relationship indicates that we would 10 expect some sort of cycle in the flows that, since 11 there is a positive relationship, that means that if 12 the flow is high in one month it's likely to be high 13 in the subsequent month.

14 Q. And how does this demonstrate hydro cycles 15 over a period of years?

A. Well, month one is followed by month two, month three and so that if you take a monthly relationship like that, you know, it doesn't stop at the end of the year. In December the flows that exist have a relationship to January of the next year. That's how it relates to a period of more than one year.

23 MR. VAN NOSTRAND: Like to distribute24 another exhibit, your Honor.

25	JUDGE HAENLE: You've handed me a one-page	
	(BLACKMON - CROSS BY VAN NOSTRAND) 3428	
1	document entitled Response to Company Data Request	
2	4205. I will mark this as 849 for identification.	
3	(Marked Exhibit 849.)	
4	Q. Mr. Blackmon, do you recognize what's been	
5	marked for identification as Exhibit 849 as your	
6	Response to Company Data Request No. 4205?	
7	A. Yes, I do.	
8	MR. VAN NOSTRAND: Your Honor, I move	
9	admission of 849.	
10	JUDGE HAENLE: Any objection, Mr. Adams?	
11	MR. ADAMS: No.	
12	MR. TROTTER: No objection.	
13	JUDGE HAENLE: Objection from any	
14	intervenor?	
15	All right. 849 will be entered into the	
16	record.	
17	(Admitted Exhibit 849.)	
18	Q. Your response to data request 4205	
19	indicates that you eliminated the older observations	
20	because they differ from the mean of more recent	
21	observations. Is that a fair statement?	
22	A. I wouldn't say I eliminated; I didn't	
23	include them in the first place.	
24	Q. Do I understand from your testimony that	

25 your analysis begins with the water years 1968 through (BLACKMON - CROSS BY VAN NOSTRAND) 3429 1977? 1 2 That's right. Α. 3 And beginning with that ten-year period, Ο. 4 the average megawatts generated during that period 5 according to your testimony was 999 which I believe is 6 page 11, line 4? 7 Α. Right. 8 Ο. And then after you looked at that original 9 ten-year period from '68 to '77 then you moved back to 10 the preceding ten-year period and you concluded that 11 that --12 JUDGE HAENLE: Can you go more slowly? MR. VAN NOSTRAND: I will try. 13 You concluded that that also should be 14 ο. included because the slightly higher average megawatts 15 16 of 1021 could be explained by random variation, you 17 called it? 18 Α. That's correct. The idea is that in that 19 initial ten-year period, which is the most recent 20 available data, the average is 999 but there is year 21 to year variation around that average, and there's 22 enough variation in that ten-year average that it's 23 not at all unlikely that you could have come up with 24 the number of 1021 instead of 99, and since I couldn't

25 reject the idea that these two were different I (BLACKMON - CROSS BY VAN NOSTRAND) 3430 1 accepted the idea that they're the same and moved on 2 to a 20-year average. 3 ο. And then looking at 20-year average in hand 4 then you added the preceding ten years and you 5 concluded that that too could be explained by random 6 variation so you added that year? 7 Α. That's right. The 20-year average had 8 enough variation in it that the previous ten years was 9 -- wasn't so unlikely to have had that previous 10 ten-year result. So, again, I included it in the 11 average. 12 And this gave you the 30-year period which Ο. you proposed to use in calculating normal hydro 13 14 availability? 15 Α. That is correct. And for years prior to 1948 you concluded 16 Q. 17 that these data should not be included because the 18 difference between the 30-year average, 1017 19 megawatts, and the average for the ten years from '38 20 to '47 and from '28 to '37 could not be explained by 21 random variation. Is that a fair statement? 22 Α. Yes, it is. 23 Q. How about the last two years in particular? 24 If you were to consider the hydro data from the PRAM 1

25 and PRAM 2 periods in particular, how would that (BLACKMON - CROSS BY VAN NOSTRAND) 3431 1 compare with hydro flows shown in your analysis? 2 Α. I don't know. These are outside of the set 3 of data that I used in this analysis. We talk about 4 that I used the most recent 30 years. That's really not exactly right. What I use is the most recent 5 б available 30 years which end with the 1977-'78 water 7 year. I consider it unfortunate that it ends -- that 8 this most recent data set ends fifteen years ago but 9 the fact is that it does and so I haven't compared 10 PRAM 1 and PRAM 2 water additions to that. 11 For the PRAM 1 period your testimony states Q. 12 at page 61 that the company actually had 865 average 13 megawatts of hydro; is that right? I missed the page number. 14 Α. 15 Q. Page 61. 16 Α. Correct. 17 Ο. Would you accept subject to check that during the period May 1992 through April 1993 the 18 company actually had 803 megawatts of hydro and that 19 20 appears in Mr. Lauckhart's testimony in PRAM 3 filing? 21 Α. What was the period again, I'm sorry. That would be May of 1992 through April of 22 Ο. 23 1993? 24 Α. I would accept that subject to check.

25 MR. VAN NOSTRAND: Like to distribute (BLACKMON - CROSS BY VAN NOSTRAND) 3432 1 another exhibit, your Honor. 2 JUDGE HAENLE: You've given me a one-page 3 document. At the top it says Hydro Data Schedule 1. I will mark this as 850 for identification. 4 5 (Marked Exhibit 850.) 6 Q. Mr. Blackmon, would you agree that the 7 first five columns in this exhibit fairly depict the 8 numbers which appear in your testimony on page 11 9 regarding the average megawatts during the various 10 ten-year periods? 11 Yes, I would. Α. 12 And it shows basically as we follow your Q. analysis on page 11 the 999 megawatts from the first 13 ten-year period which we looked at and then you added 14 the 1021 from the preceding ten-year period and the 15 1031 from '48 to '57 period? 16 17 Α. Correct. 18 And the period prior to that were rejected Ο. 19 as not being explainable through differences in random 20 variation? 21 Α. Correct. And the last two columns just reflect the 22 Ο. 23 data which we just discussed regarding the PRAM 1 and 24 PRAM 2 actuals?

Α. Yes.

(BLACKMON - CROSS BY VAN NOSTRAND) 3433 1 Recognizing that the PRAM 2 actual is only Q. 2 a May through April number? 3 So it's a full year of information, it's Α. 4 just not the same cut of a year. 5 Ο. Precisely. Rather than using the '68 to 6 '77 period as the starting point in your analysis, 7 what if you started your analysis beginning with the '28 to '37 period? Wouldn't you have reached the 8 9 conclusion that the 30 years between '48 and '77 could 10 not be explained by random variation? 11 I haven't done that analysis but my guess Α. 12 is that I would find that the difference between the 13 '28 to '37 period and the more recent periods, say, '48 to '57, could not be explained by random 14 variation. I think that's the flip side of the 15 analysis that I actually did. 16 17 ο. So in other words it does depend on the 18 starting point and the fact that you started with relatively good hydro years in '68 to '77 tends to 19 20 affect the outcome of your analysis, wouldn't you 21 say? 22 Α. No, it doesn't depend on the starting 23 point. What I did was I have two groups of

24 observations, recent and not recent, and I

25 statistically tested the hypothesis that the two are (BLACKMON - CROSS BY VAN NOSTRAND) 3434 equal and I rejected that hypothesis. I concluded 1 that the two are not equal and whether you say that A 2 3 is not equal to B or B is not equal to A, it's the 4 same answer. 5 JUDGE HAENLE: Was it your intent to move 6 850 for identification? 7 MR. VAN NOSTRAND: Yes. 8 JUDGE HAENLE: Any objection? 9 MR. ADAMS: Yes, I am going to object. I 10 have no problem with the numbers being in the record 11 as they have already been put in through the witness, 12 but we have a comparison here of averages with single 13 spots and every one of these ten-year averages has 14 spots that bounce all over the place as well, and it is just simply not a fair comparison. It is not an 15 16 appropriate comparison to either his analysis or even 17 a reasonable analysis. JUDGE HAENLE: Mr. Van Nostrand? 18 19 MR. VAN NOSTRAND: I think that fact is 20 fairly obvious from the document itself and I am sure 21 that could be taken into account in the weight which 22 the Commission chooses to give to it. The fact that 23 we have a single year data for PRAM 1 and PRAM 2 is 24 obvious from the face of the document.

25 MR. ADAMS: I think it tends to -- attempts (BLACKMON - CROSS BY VAN NOSTRAND) 3435 to distort his conclusions and his analysis. I don't 1 2 think -- it's not an apples and apples comparison. In 3 that sense it's misleading. 4 JUDGE HAENLE: This was not prepared by 5 Dr. Blackmon or anyone from his staff, I assume? б THE WITNESS: That's correct. 7 JUDGE HAENLE: This was prepared by the 8 company's staff, Mr. Van Nostrand. 9 MR. VAN NOSTRAND: Yes, your Honor, as I've 10 already covered all these numbers were in Dr. Blackmon's 11 testimony except for the PRAM 2 number which is subject 12 to check. 13 MR. ADAMS: I am not objecting to the validity of the numbers themselves. That is not my 14 15 objection, your Honor, so I will stand on that. 16 JUDGE HAENLE: Well, I will overrule the 17 objection and enter the document with the clear 18 understanding that this is something the company has prepared but that the numbers are not incorrect. 19 20 Whether it is a proper comparison or not may be the 21 subject for comment on brief. 22 (Admitted Exhibit 850.) 23 MR. TROTTER: Your Honor, I did not voice 24 an objection to this exhibit but I wasn't asked to

25 either.

	(BLACKMON - CROSS BY VAN NOSTRAND) 3436
1	JUDGE HAENLE: I should have.
2	MR. TROTTER: We won't object but it does
3	appear that it is somewhat deceptive.
4	JUDGE HAENLE: Again, it can be the I
5	should have asked, that was my mistake, let me ask you
6	as you go along, if there are others of you that
7	have an objection, if it is a different objection?
8	MR. PAINE: No objection.
9	MR. MEYER: No objection.
10	MR. TRINCHERO: No objection.
11	JUDGE HAENLE: I should not have done it in
12	that manner. That's my mistake.
13	MR. VAN NOSTRAND: Like to distribute
14	another exhibit, your Honor.
15	JUDGE HAENLE: You have handed me a
16	two-page document entitled Response to Company Data
17	Request 4207. I will mark this as 851 for
18	identification.
19	(Marked Exhibit 851.)
20	Q. Dr. Blackmon, do you recognize what's been
21	marked for identification as Exhibit 851 as your
22	response to the company data request 4207?
23	A. Yes.
24	Q. And this response concerns a 20-year

25 rolling average used to reveal trends? (BLACKMON - CROSS BY VAN NOSTRAND) 3437 1 Α. Yes. 2 MR. VAN NOSTRAND: Your Honor, move the admission of 851. 3 4 JUDGE HAENLE: Any objection, Mr. Adams? 5 MR. ADAMS: No, б MR. TROTTER: No objection. 7 JUDGE HAENLE: Objection from an 8 intervenor? 9 All right. 851 then will be entered into 10 the record. 11 (Admitted Exhibit 851.) 12 Your response in Exhibit 851 indicates, Q. doesn't it, that you believe trends exist both in the 13 Dalles, the stream flow series and the Puget 14 15 generation series? 16 Α. Yes. And, in fact, if we look at the data which 17 Q. 18 you have graphed in the attachment 4207 A, if a trend exists the trend in recent years would seem to be 19 20 downward, wouldn't it? 21 Α. For the Dalles. Looking at, say, the last set of numbers there that includes 1989, yes. 22 23 Q. And in particular the data since 1989 has 24 been significantly below average; isn't that correct?

25 Below the average for the 1928 to '78 Α. (BLACKMON - CROSS BY VAN NOSTRAND) 3438 period, yes. 1 2 If trends or cycles exist, wouldn't it be Ο. 3 more accurate to base hydro availability on the best 4 information regarding trends? 5 Α. I'm sorry could you ask that. If trends or cycles exist wouldn't it be б Q. 7 more accurate to base hydro availability, in other 8 words, the stream flow estimate that's adopted in this 9 case, on the best information regarding the most 10 recent trends? More accurate than what? 11 Α. 12 More accurate than using a simple 30-year Q. 13 average, 40-year average, 50-year average? 14 Α. If you could -- the answer is yes, if you could reliably determine what the trend or cycle is. 15 16 If you could do that then you could in effect forecast 17 or project what the hydro availability would be in an 18 upcoming period. It's quite a step, though, to go 19 from being able to conclude that there is a trend or 20 cycle to measuring and quantifying the size of that 21 trend with enough accuracy to rely on it. And that 22 inability to quantify the size of the trend is what 23 leads me to use a relatively short period of 24 historical data rather than try to project a future

25 number.

	(BLACKMON - CROSS BY VAN NOSTRAND)	3439
1	Q. Would you agree that this exhibit could be	
2	suggested to show that a cycle exists given the most	
3	recent four years of experience?	
4	A. One thing that I note in that exhibit and	
5	would want to note again here is that a graph like	
6	this can illustrate the existence of a trend, a	
7	pattern cycle, whatever, but it can't demonstrate the	
8	existence of it. So I would say that that graph	
9	appears to show that there is some sort of nonrandom	
10	behavior, whether it's a trend that is going in one	
11	direction forever or a cycle that goes up and down	
12	over time is hard for me to say. But there's	
13	something going on there other than random	
14	fluctuations.	
15	Q. You said you couldn't determine the	
16	existence of trends but your response does say that	
17	the existence of runs in these averages helps to	
18	confirm the existence of trends?	
19	A. Right.	
20	Q. Like to turn to another area in your	
21	testimony regarding new power supply contracts, page	
22	28.	
23	MR. VAN NOSTRAND: I have a number of	
24	exhibits I would like to put in, your Honor.	

25 JUDGE HAENLE: You've given me four (BLACKMON - CROSS BY VAN NOSTRAND) 3440 documents. Is there a specific order? 1 2 MR. VAN NOSTRAND: I believe 4221 will be 3 first. 4 JUDGE HAENLE: 4221 will be 852. 5 MR. VAN NOSTRAND: Then the excerpt with б the number 47 circled at the bottom. 7 JUDGE HAENLE: It's a chart that begins table 2. That would be 853. 8 9 MR. VAN NOSTRAND: And then 4222 and then 10 4224. 11 JUDGE HAENLE: 4222 will be 854 and 4224 12 will be 855. 13 (Marked Exhibits 852 through 855.) Dr. Blackmon, your adjustment on new power 14 ο. supply contracts relates to a disallowance of the 15 portion of the cost of new power supply contracts; is 16 17 that correct? 18 Α. That is correct. And your testimony is generally that if 19 Q. 20 adjustments are made to account for the operating 21 characteristics of the resource used to calculate 22 avoided costs that the company paid more than its 23 avoided cost for these resources; is that right? 24 A. That's generally correct.
25 Your original testimony was that the Q. (BLACKMON - CROSS BY VAN NOSTRAND) 3441 company paid from 11 percent to 46 percent more than 1 avoided costs and with your revision this morning you 2 3 have revised that range downward to 2 percent to 32 4 percent; is that right? The revision -- that's correct in that the 5 Α. numbers that you cited are correct. It's not that I б 7 have revised my estimate. It's that the numbers that 8 I included in the text of my testimony were incorrect 9 and the correct numbers which appeared in the exhibit 10 have not changed. 11 Ο. And the correction in the text was on page 12 28, line 14 where you changed the range of 111 to 146 to 102 to 132? 13 14 Α. That is correct. Is it fair to say that your adjustment is 15 Q. 16 based on the dispatchability of the resources used for 17 purposes of calculating avoided costs? 18 Α. Yes. And this dispatchability must be reflected 19 Q. 20 in the calculation of avoided costs, is that a fair 21 statement? 22 Α. That's right. 23 Q. Your response to data request 4221 which is 24 now Exhibit 852 indicates, doesn't it, that the long

term avoided resource in the 1989 avoided cost 25 (BLACKMON - CROSS BY VAN NOSTRAND) 3442 1 forecast was a coal-fired plant? 2 Α. Yes, it does. 3 Did you review the company's avoided cost Ο. 4 filing in 1989 at the time it was made? 5 Α. No. б Q. Was it reviewed by the Commission staff? 7 Α. I don't know. I assume it was. 8 0. Do you know the process for the company 9 filing its avoided costs every year? 10 Α. I don't think the company files avoided costs every year. My understanding of the process is 11 12 that when avoided costs are filed that -- well, that 13 they're filed. They're not approved by the Commission. What staff does with them is not 14 something I know exactly. But as I said before I 15 16 assume that they reviewed them. 17 ο. Exhibit 852 also claims that the cost of 18 output from a coal plant as calculated in the 1989 data report exceeds the cost of output from combined 19 20 cycle combustion turbine? 21 Α. Yes. 22 Ο. Do you know when the company's 1989 avoided 23 cost estimate was prepared and filed with the 24 Commission?

No, I don't. 25 Α. (BLACKMON - CROSS BY VAN NOSTRAND) 3443 1 Would you accept subject to check that it Q. 2 was filed in May 1989 in connection with the company's 3 filing of its rates under schedule 91? 4 Α. Yes. And what was the date of the 1989 data 5 Ο. б report that you cite in Exhibit 852? 7 Α. I don't recall. 8 Q. Would you accept subject to check December 9 1989? 10 Α. Yes. 11 Do you know whether or not staff and the Q. 12 company re-examined the company's 1989 avoided cost 13 filing in light of the analysis in the 1989 least cost 14 plan? 15 No, I don't. Α. 16 If we could look at Exhibit 853 this is the Q. 17 power supply work paper page 47 from your work papers; is that right? 18 That's right. 19 Α. 20 Q. And this is the page from the 1989 DARE 21 report which shows the comparison between -- I guess the comparison of a number of possible resources the 22 23 company could acquire? 24 Α. Yes.

25 MR. ADAMS: Your Honor, can I just inquire (BLACKMON - CROSS BY VAN NOSTRAND) 3444 is the handwritten notation on that from the witness 1 2 or was that done by the company as the source of that? 3 THE WITNESS: It was me. 4 JUDGE HAENLE: That's what makes it your 5 work paper, the notations on it? б THE WITNESS: It's a work paper because it 7 contains information that I relied on in making my 8 calculations. 9 JUDGE HAENLE: Thank you. 10 ο. The item that you identified as your marking on this exhibit is the levelized revenue 11 12 requirement for the combined cycle combustion turbine 13 which you refer to in your testimony? 14 Α. Yes, sir. I believe your testimony also refers to 15 Q. 16 resource number seven on that document which is the 17 levelized revenue requirement for a coal plant; is 18 that right? 19 Α. That's right. 20 Ο. And the levelized cost for a combined cycle 21 combustion turbine is shown on this document as 64 mills as compared to the 71 mills for the coal plant; 22 23 is that right? 24 Α. That's right.

25 Do you know what the assumption was Q. (BLACKMON - CROSS BY VAN NOSTRAND) 3445 1 regarding the fuel prices for the combined cycle 2 combustion turbine on this document? 3 Α. I don't recall what they are. I remember 4 reviewing that. 5 Ο. And would you note note four at the bottom б of the page on Exhibit 853 which refers to the fuel 7 prices, states that natural gas price represents the 8 mean of a range of currently available forecasts? 9 Α. Would I note that? 10 ο. Yes. 11 Α. Yes. 12 This document states that? Q. Yes, I note that. 13 Α. Would you agree that the time the 1989 14 ο. least cost plan was prepared that gas prices were 15 somewhat unpredictable and difficult to forecast? 16 17 Α. Yes. And that's more or less -- couldn't you 18 ο. reasonably conclude that from the inclusion of this 19 20 note four which refers to the range of currently 21 available forecasts? 22 Α. Was your question could you reasonably 23 conclude that? 24 ο. That natural gas prices were somewhat

25 difficult to forecast by the fact that they included a (BLACKMON - CROSS BY VAN NOSTRAND) 3446 special note to that effect in this document? 1 2 Α. I am willing to agree that the natural gas 3 prices were unpredictable, but I don't know that the 4 inclusion of that particular note drives that. That's 5 not what leads me to conclude that. б Q. Well, you would agree that there isn't a 7 similar note with respect to estimating the fuel costs 8 for any other resource on there other than natural gas 9 fuel resources? 10 Α. I agree that there's not a similar note for other fuels. 11 12 And using the 64 mill figure for the Ο. combined cycle combustion turbine, that's the basis 13 14 for your conclusion that this was the lower price of the avoided resource at the time? 15 16 That's right, the comparison of 64 and 71 Α. 17 mills. You would agree, wouldn't you, that the 18 Ο. 19 dispatchability of a coal plant such as what Puget 20 actually used for its avoided cost is different from 21 the dispatchability of a combined cycle combustion 22 turbine which you say Puget should have used? 23 Α. Yes. 24 ο. You would agree that a combined cycle

25 combustion turbine is more flexible and easier to (BLACKMON - CROSS BY VAN NOSTRAND) 3447 dispatch than a coal plant, wouldn't you? 1 2 Α. Not only that -- I agree with that but 3 perhaps even more important is that the amount of 4 money that you save when you dispatch a combined cycle 5 combustion turbine is more than what you save if you 6 shut down a coal plant. 7 ο. And for purposes of your analysis regarding 8 the company's new power supply contracts, you used the 9 dispatchability of the combined cycle combustion 10 turbine irrespective of the company's actual use of a coal plant; is that right? 11 12 You mean irrespective of the company's use Α. 13 of a coal plant in its avoided cost forecast, that's 14 correct. And your testimony assumes, doesn't it, 15 Q. 16 that 46 mills of the 64 mill operating cost of the 17 combined cycle combustion turbine could be avoided by 18 displacing the unit? 19 Α. That is correct. 20 Ο. And you arrived at this 46 mill figure by 21 looking at Exhibit 853, line 5 and adding the 41 mills 22 for fuel and the five mills for variable O and M; is 23 that correct? 24 Α. That is correct.

25 Now your response to data request 4221 Q. (BLACKMON - CROSS BY VAN NOSTRAND) 3448 which is now Exhibit 852 indicates --1 2 JUDGE HAENLE: Actually those have only 3 been marked for identification. Did you want to move 4 them or were you still --5 MR. VAN NOSTRAND: Sooner or later. б JUDGE HAENLE: Well, you keep referring to 7 them as exhibits and they're not yet. Go ahead. This indicates that the 1989 DARE report 8 Ο. 9 does not specify the operating characteristics of the 10 combined cycle combustion turbine in sufficient detail to determine how fuel supply has been treated; is that 11 12 correct? 13 How they are treated or even if firm fuel Α. supplies are treated in the estimate. 14 Your analysis of the cost savings of 15 Q. 16 displacing the combined cycle combustion turbine, 17 assumes, doesn't it, that the entire fuel cost and variable O and M cost will be avoided if the unit is 18 19 displaced? 20 Α. That is correct. 21 Q. And in response to data request 4224 you 22 were asked for the basis of your assumption that the 23 resource would be fully displaceable; is that correct? 24 Α. Yes, that's correct.

25 And your reply was that the 1989 avoided Q. (BLACKMON - CROSS BY VAN NOSTRAND) 3449 cost filing does not specify the operating 1 2 characteristics of the avoided resource; is that 3 right? 4 Α. That's right. 5 Ο. For your analysis regarding the company's б new power supply contracts to be correct, doesn't the 7 entire 46 mill fuel cost and variable O and M have to be avoidable? 8 9 For the specific numbers that I have Α. 10 arrived at to be correct, that specific assumption of 46 mills has to be correct. If, in fact, the 11 12 avoidable cost with shutting down a combustion 13 turbine was 40 mills instead of 46 you would have a different number. 14 If it were assumed that a firm natural gas 15 Q. 16 supply and firm transportation arrangements were in 17 place with the combined cycle combustion turbine these 18 fuel costs would not be entirely avoidable if the unit were displaced, would they? 19 20 Α. I don't necessarily agree with that. 21 Q. By assuming that the full 41 mill could be 22 avoided if the unit is displaced, aren't you assuming 23 that there are no transportation and firm gas supply 24 arrangements in place?

25

A. No, I'm not.

(BLACKMON - CROSS BY VAN NOSTRAND) 3450 1 If firm natural gas supply or firm natural Q. 2 gas transportation arrangements are in place, do they 3 provide that no fixed payments will have to be made in 4 the event the unit is not operated? 5 Α. If you look at the Puget Power 1989 least б cost plan and if you look at the Northwest Power 7 Planning Council's 1989 update of its power plan, if 8 you look for a fixed fuel cost in those documents you 9 won't find any. And so based on that, I concluded 10 that in 1989 when this decision was being made that it was the best belief of planners in this region and at 11 12 this company that fixed fuel costs were not there, 13 that the fuel cost was variable. 14 ο. When you say variable, does that mean you're expecting that the supply and transportation 15 16 arrangements will be purchased on a spot market basis? 17 Α. No. 18 What assumptions do you make regarding how Ο. 19 the fuel supply is secured for the combustion turbine 20 that you identified on page 47 of the work papers? 21 Α. I assumed that the fuel supply can be 22 acquired at the price that is shown in the company's 23 1989 least cost plan.

24

ο.

But you made no assumptions regarding the

25 terms and conditions associated with that fuel supply (BLACKMON - CROSS BY VAN NOSTRAND) 3451 regarding whether or not it could be completely 1 2 avoided if the unit were not operated? 3 I adopted the assumptions that were Α. 4 implicit in the company's least cost plan in 1989, and 5 the reason I did that rather than -- I mean, it's б always tempting at this point to say well, we are 7 going -- if we were going to do this right now, what 8 would the contractual arrangements be for securing 9 natural gas supply? And it might be that you would 10 have firm transportation and that you would incur 11 fixed payments to do that, though I don't agree that 12 you would necessarily would have fixed payments, even 13 if you went out and did it today. There may be ways 14 to avoid that. 15 But what I was attempting to do in this 16 analysis was not figure out what should be done today 17 but figure out what reasonably should have been done

in 1989 at the time decisions to acquire resources were made. And the way that I did that was by looking at the documents that were available to me that showed what planners at the company and in the region believed was available in terms of natural gas cost and supply, and those documents indicated to me that planners believed that the full cost of gas was 25 avoidable. Since then, many things have changed, (BLACKMON - CROSS BY VAN NOSTRAND) 3452 including the price of the gas, the situation with the 1 2 pipeline in terms of how gas is made available. But I 3 didn't try to do a 1993 analysis. 4 MR. VAN NOSTRAND: Your Honor, move the admission of 852, 853, 854 and 855. 5 б JUDGE HAENLE: Any objection, Mr. Adams? 7 MR. ADAMS: No. JUDGE HAENLE: Mr. Trotter? 8 9 MR. TROTTER: No. 10 JUDGE HAENLE: From an intervenor? MR. MEYER: None. 11 12 JUDGE HAENLE: All right. 852, 853, 854 13 and 855 will be entered into the record. (Admitted Exhibits 852 through 855.) 14 Have you been involved in or participated 15 Q. in any discussions or negotiations regarding the 16 17 financing for gas-fired cogeneration projects? 18 Α. No. Do you know whether lenders typically 19 Q. 20 require over the long term firm gas supplies be in 21 place at the projects before funds are loaned? 22 Α. No. 23 Q. If lenders were confident that fuel and 24 transportation could be secured on the spot market,

25 they wouldn't require firm gas supply and firm (BLACKMON - CROSS BY VAN NOSTRAND) 3453 1 transportation agreements, you would agree to that? 2 Α. No, I wouldn't agree to that. I find many 3 things lenders require to be not all that rational. 4 Q. That's based on your discussions and 5 negotiations in the finance of cogeneration projects? б Α. I would say that's based more on my 7 discussions on financing new home and new cars and 8 things like that. 9 MR. VAN NOSTRAND: Got a couple of more 10 exhibits to put in, your Honor. 11 JUDGE HAENLE: You've given me a one-page 12 document entitled Response to Company Data Request 13 4217. I will mark this as 856 for identification. (Marked Exhibit 856.) 14 Mr. Blackmon, do you recognize what's been 15 Q. 16 marked for identification as Exhibit 856 as your 17 response to company data request 4217? 18 Yes, I do. Α. 19 MR. VAN NOSTRAND: Your Honor, move the admission of 856. 20 21 JUDGE HAENLE: Any objection, Mr. Adams? 22 MR. ADAMS: No. 23 JUDGE HAENLE: Mr. Trotter? 24 MR. TROTTER: No.

25 JUDGE HAENLE: Objection from an (BLACKMON - CROSS BY VAN NOSTRAND) 3454 intervenor? 1 2 All right. 856 will be entered into the 3 record. 4 (Admitted Exhibit 856.) 5 Ο. If we could look at conservation б advertising for a minute beginning on page 40? 7 Α. Didn't catch the page number. 8 Ο. Page 40. Your adjustment to conservation 9 advertising proposes to deny rate recovery of about 10 half of the advertising expenditures associated with the corporate communications plant; is that correct? 11 12 Α. About half is correct, yeah. It's not 13 exactly half. 14 ο. And one of the points you make in your testimony on page 46 is your attempts to quantify the 15 16 energy savings attributable to the advertising program. Is that a fair statement? 17 18 Right. What I did there was at page 46 was Α. 19 I tried to do what I thought the company should have 20 done which is to, if you're going to spend 5 or \$6 21 million on a program that's supposed to save energy 22 that you ought to see if it saves any. So what I 23 did was I looked at the use per customer in the 24 residential sector before the advertising program

25 started and then not exactly at the end of it but at (BLACKMON - CROSS BY VAN NOSTRAND) 3455 the most recent end point and to see whether use per 1 2 customer went down. It did go down but it didn't even 3 go down enough to account for the company's own 4 conservation programs, much less in the savings that 5 might have resulted from this advertising program. б Q. And you calculated the programmatic 7 conservation savings as 244 kilowatt hours per year? 8 Α. That's if you take the savings that the 9 company has estimated that it made in its residential 10 conservation programs and divide that by the number of residential customers that's how I arrived at the 244 11 12 kilowatt hours per year. 13 Ο. In calculating that figure, did you 14 consider that conservation measures installed during a year will not deliver a full year of savings? 15 16 Α. Yes. 17 MR. VAN NOSTRAND: Like to distribute 18 another exhibit, your Honor. 19 JUDGE HAENLE: You've handed me a two-page 20 document entitled Response to Company Data Request 21 4231. Mark this as 857 for identification. 22 (Marked Exhibit 857.) 23 Q. Dr. Blackmon, do you recognize what's been 24 marked for identification as Exhibit 857 as your

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25
    response to data request 4231?
       (BLACKMON - CROSS BY VAN NOSTRAND)
                                                           3456
 1
         Α.
               Yes, I do.
 2
          Q.
               And this sets forth how you calculated the
 3
     244 kilowatt hour savings associated with programmatic
 4
    conservation?
 5
         Α.
               That is correct.
 б
               MR. VAN NOSTRAND: Your Honor, move the
 7
    admission of 857.
               JUDGE HAENLE: Any objection, Mr. Adams?
 8
 9
               MR. ADAMS: No.
10
               JUDGE HAENLE: Objection, Mr. Trotter?
               MR. TROTTER: No.
11
12
               JUDGE HAENLE: Objection from an
13
    intervenor?
               All right. 857 will be entered into the
14
15
    record.
                (Admitted Exhibit 857.)
16
17
          ο.
               You also recommend that the amortization
     for conservation expenditures be lengthened from 10
18
19
    years to 20 years?
20
         Α.
               Yes, that's correct.
21
          Q.
               One of the reasons you cite is that the
22
    company's conservation rate base has grown since the
23
    company's last general rate case.
24
         A. Since the last general rate case, in
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25 general since the practice of amortizing over ten (BLACKMON - CROSS BY VAN NOSTRAND) 3457 years has been used. 1 2 And if the amortization period is Ο. 3 lengthened to 20 years, as you recommend, wouldn't the 4 company's conservation rate base grow at an even 5 faster rate? 6 Α. Yes, it would. 7 ο. And the second reason you give for your 8 recommendation is the change in the treatment of 9 conservation expenditures for tax purposes; is that 10 right? That is correct. 11 Α. 12 And the change you're referring to is the Q. fact that conservation expenditures must be taken as a 13 deduction of same period of time as the amortization 14 15 period used for rate making purposes rather than 16 taken as a current deduction? 17 Α. Yes. It used to be that the conservation 18 expenditure could be deducted in the year it was made 19 for tax purposes so that ratepayers got an upfront 20 benefit for conservation, and I felt like that offset 21 the fact that with the ten-year amortization the 22 ratepayers sort of paid upfront for conservation. 23 Since this upfront tax benefit is no longer available 24 it seems appropriate to me to more accurately spread

25 the costs of conservation over the years that that (BLACKMON - CROSS BY VAN NOSTRAND) 3458 conservation will be providing benefits. 1 2 In the years that the conservation measures Ο. 3 would be providing benefits is tied to your 4 calculation of the service life of the measures? 5 Α. It is tied very roughly, I would say, to 6 the service life of the measures, which I have not 7 independently attempted to calculate. But in general 8 -- well, I remember that last year in PRAM 2 the 9 conservation measures, the average life was roughly 20 10 years, like to the nearest five years. So that number 11 is going to vary over time. I think theoretically it 12 would be more accurate to actually amortize each type of conservation over the expected life of that 13 14 particular type of conservation. But that appeared to be rather complicated for the accountants to do and so 15 16 I chose a single number at 20 years. 17 Ο. And would you agree that the composite 18 service life of the conservation measures included in 19 the company's program depends on the mix of measures 20 they install from year to year? 21 Α. Yes, that's true. 22 Ο. And that the service life for conservation 23 measures installed for commercial and industrial use 24 tends to be shorter than for residential measures?

25 Α. In general, that's true. (BLACKMON - CROSS BY VAN NOSTRAND) 3459 1 And would you agree the company is Q. 2 performing a greater percentage of commercial and 3 industrial conservation currently than in previous 4 years? 5 Α. I think that all the company's programs are б increasing in size, including commercial and industrial. 7 ο. You mentioned the data request from the PRAM 2 proceeding as indicating a composite measure life of 8 9 about 20 years, I believe. Is that what you said? 10 Α. Right. 11 Would you accept subject to check the Q. 12 actual number was 18.66 which was rounded to 19? Yes, I would. 13 Α. And would you also agree that in response 14 ο. to public counsel data request 1403 a composite 15 average life was computed for the conservation 16 17 expenditures for the May through September 1992 period and that this showed an average life of about 16 18 19 years? 20 Α. Yes, I believe that's true. 21 MR. VAN NOSTRAND: No further questions, 22 your Honor. 23 JUDGE HAENLE: Have you questions, 24 Mr. Trotter?

25 MR. TROTTER: I was wondering if it would (BLACKMON - CROSS BY PAINE) 3460 be more appropriate for the other utilities to cross 1 2 this witness before staff. 3 JUDGE HAENLE: That would be fine. 4 Mr. Meyer or Mr. Paine, do you want to 5 qo first? 6 MR. PAINE: I would be happy to. 7 8 CROSS-EXAMINATION 9 BY MR. PAINE: 10 ο. Dr. Blackmon, I'm Jim Paine. I represent Pacific Power in this proceeding. Could we look at 11 12 your Exhibit 847 revised compared to 847 original. 13 The original is monthly data, is that correct, and the revised is annual? 14 15 Α. That is correct. 16 Now, one could not help but note in looking Q. 17 at the original that the depiction indicates what I 18 would, as a layman, believe to be random plots on this graph. It's difficult to imagine plotting a line to 19 20 develop a correlation, be it linear or otherwise, 21 that would effectively govern these dots, but when I 22 look at 847 revised, do you see what may appear to be 23 a relationship that is associated with annual data 24 that may not be present with monthly?

25 Α. I missed the question. (BLACKMON - CROSS BY PAINE) 3461 1 Do you see a relationship that may be Q. 2 inferred from use of annual data that may not be 3 present with monthly data? 4 Α. Yes. 5 Ο. What is that relationship? б Α. Well, again, I haven't done that analysis, 7 but like you I can look at the revised 847 and 8 conclude that there is a positive relationship, in 9 other words, that more flow at the Dalles is 10 associated with more generation at Puget's projects. You did not revise page 1 of your rebuttal 11 Q. 12 testimony, Exhibit T-846, lines 17 through 19, did 13 you? No, I didn't. 14 Α. Would you still believe that the Dalles 15 Q. 16 stream flow records are not well correlated with 17 Puget's generation? The term "well correlated" is perhaps too 18 Α. 19 vague to have any meaning, but what I meant by that is 20 that I don't believe it's appropriate to make the leap 21 that flow at the Dalles is equal to Puget's generation 22 so that if we, for instance, talk about looking --23 using the Dalles flows from the 1800s or even the 24 Dalles flows from the 1990's where we don't have

25 specific Puget information, that because the (BLACKMON - CROSS BY PAINE) 3462 relationship is not one to one or perfect between 1 Dalles flow and Puget generation that we will 2 3 introduce error into the calculation because of the 4 imperfect relationship. 5 Ο. Well, over on page 3 of your rebuttal б testimony at the bottom of the page you indicate that 7 in any given month the connection between Dalles flow 8 and Puget hydro generation is very weak. Puget's 9 generation is not at the Dalles and the flow amounts 10 are not reduced for spill. You go on to describe Exhibit marked GB-16 depicts this weak relationship 11 12 but now you are indicating that 847 revised sets forth 13 a relationship, does it not? 14 Α. It sets forth a weak relationship. Well, how can you say it's weak if you 15 Q. haven't made that correlation? 16 17 Α. I looked at the picture. 18 ο. I see. I mean, a correlation if it were a perfect 19 Α. 20 relationship the dots in the revised 847 would line up 21 in a curve. 22 Ο. Well, you're using statistical theory to 23 draw inferences based on correlation analysis; is that 24 correct?

25 Α. Could you be more specific. (BLACKMON - CROSS BY PAINE) 3463 You explain to Mr. Van Nostrand, for 1 Q. 2 example, that you used ten years of data to establish 3 a mean and you have a confidence interval associated 4 with that mean? 5 Α. I do. б Q. Then you looked at the prior ten-year 7 period and did the same thing to determine whether the variation in that mean could be the previous -- or 8 9 subsequent ten-year period could be explained by 10 random variation; is that correct? Α. 11 That is correct. 12 Q. Then you did it for a third decade; is that correct? 13 That is correct. 14 Α. And you did it for a fourth decade? 15 Q. 16 Α. Yes. 17 ο. And you did not use the fourth decade of data because you could not explain the variation in 18 the mean or not attribute it to random variation; is 19 20 that correct? 21 Α. Correct. 22 Ο. So were you drawing inferences from use of 23 statistical theory? 24 Α. Yes.

25 Now, I wanted to ask you if there is a Q. (BLACKMON - CROSS BY PAINE) 3464 strong correlation between annual stream flow at the 1 2 Dalles and Puget generation what would be wrong with 3 drawing inferences from that? 4 Α. There would be nothing wrong with trying to 5 estimate the relationship between flow at the Dalles and the generation that's available to Puget. It's 6 7 just that I didn't do that. I didn't need to do it 8 for my purpose of developing the normal hydro method 9 and so I didn't do it. 10 ο. No, but you have statements in your 11 testimony, that is that the correlation is very weak 12 and that's a criticism of Ms. Lozovoy's testimony, is 13 it not? I wouldn't say it's a criticism. I would Α. 14 say it's a caution that I would encourage anyone who 15 reads it to -- I just want to make sure that people 16 17 don't make an automatic assumption that the flow at 18 the Dalles, which we have 114 years of data on, is 19 equal to or can be translated in a one to one way to 20 Puget generation for which we have a much shorter history on. 21 22 Ο. Well, would you accept subject to check 23 that the correlation is approximately .89? 24 Α. The correlation between what is and what?

25 The historical stream flow at the Dalles to Ο. (BLACKMON - CROSS BY PAINE) 3465 1 Puget generation. 2 Do you mean for the period 1928 using --Α. 3 ο. As depicted on your Exhibit GB-16 revised. 4 I would accept that subject to check. Α. 5 Ο. With a correlation of that magnitude, can б we draw any inferences from that? 7 Α. Yes. I can't say what they are exactly 8 without -- I mean, because if you do that correlation 9 implicitly you are assuming that there is a linear 10 relationship. The way that number would have been calculated would be to assume a model in which there's 11 12 a linear relationship, in other words, for every 13 cubic foot per second flow at the Dalles there is some constant number of average megawatts that Puget 14 can generate and you can do that calculation. A 15 16 computer will run that calculation for you, but that 17 doesn't mean that you've really accurately 18 characterized that relationship. It may not be 19 linear. The assumptions that underlie regression 20 analysis may not hold in that case and so I would say 21 that you can draw inferences but you should do so 22 carefully. 23 Q. For example, you indicated to

24 Mr. Van Nostrand that you regret that recent data is

25 no

not available; is that correct?

(BLACKMON - CROSS BY PAINE)

1 A. Yes.

2 What particular data were you referring to? Ο. 3 I was referring to the PNUCC regulator Α. 4 model output which is the numbers that when we talk 5 about Puget generation for the period 1928 to 1978 6 it's the -- it's not what Puget actually generated in 7 those years, it's how much energy the computer model 8 says they would have gotten if the water conditions 9 had been as they were in some historical year and 10 given more recent depletions for irrigation in the 11 current set of projects that are on the river. And 12 those -- we know how much water came down the river 13 all the way up to last month, more or less, but what 14 still hasn't been done apparently is to take those numbers and use them to calculate how much generation 15 16 Puget would have gotten. Those are the numbers that 17 are missing and I consider it unfortunate that they 18 are missing.

3466

19 Q. But with regard to the data that is 20 reflected in Exhibit 847 revised, namely stream flow 21 at the Dalles, that is available through water year 22 1992, is it not?

- 23 A. Yes, it is.
- 24

Q. If there is a strong correlation between

25 stream flow at the Dalles and Puget generation, can we (BLACKMON - CROSS BY PAINE) 3467 1 not make some inferences with regard to Puget 2 generation through the recent 15 years that you regret 3 that that data is not available for? 4 Α. I just gave a rather long answer to what I 5 think is the same question, which is that you can make 6 inferences but I am not sure that you can make good 7 inferences, because of the assumptions that one would 8 have to make about the relationship between flow at 9 the Dalles and Puget's generation. And, for instance, 10 you know, flow at the Dalles can be very high and yet that does not mean that Puget's generation in that 11 12 month is very high. Water spills, it affects the operation of the plants and so it's almost certain 13 14 that there is not a perfect linear relationship between flow at the Dalles and Puget's generation. 15 16 Well, let's explore why there may not be a Ο. 17 correlation between monthly data and annual data. 18 What is a water year? 19 A water year is a period of time, a year, Α. 20 over which you measure the water flow. Typically we 21 around here use the period from July of one year to 22 June of the following year. 23 Q. Is it the goal of the operators of the 24 Columbia system that the reservoirs will be filled by

25 the end of the water year, each water year? (BLACKMON - CROSS BY PAINE) 3468 1 Α. That's my understanding, yes. 2 And isn't that how -- there obviously are a Ο. 3 host of variables that have to be taken into 4 consideration as the year progresses so that that end 5 goal on June 30 would be realized; isn't that true? б Α. Yes. 7 ο. There is a finite amount of water that will 8 be experienced after the impact of all of these 9 variables are realized that will flow through the 10 Columbia system each year; is that not correct? The water flow is finite, that's correct. 11 Α. 12 But as the operators of the system, for Ο. example, are attempting to fill those reservoirs in by 13 14 June 30, we know for example you mentioned to Mr. Van Nostrand that there's a spring runoff but 15 16 Puget's 's load may not be significantly high 17 such as it might be during a winter peak. This is a 18 typical occurrence, is it not? 19 Α. It is. 20 Ο. And you may not get significant rainfall in 21 the fall but if it's a cold fall, Puget may have a 22 significant load; is that not correct? 23 Α. That is correct and in that situation the 24 operators can drain the reservoirs to serve the load

25 and if they do that they risk the likelihood that they (BLACKMON - CROSS BY PAINE) 3469 may not refill them next spring. 1 2 ο. But they will attempt to do so by June 30; 3 is that correct? 4 Α. That's what they try to do. 5 Ο. So that by the end of the year we have an 6 annual experience based on stream flow that occurred 7 -- that was subjected to all of these variables; is 8 that right? 9 Α. Right, but they don't always refill. 10 JUDGE HAENLE: Mr. Paine, I've been looking for a place to take our morning recess. Can you note 11 12 where you are and allow us to take our break at this 13 point? 14 MR. PAINE: Sure. MR. ADAMS: Your Honor, before we go off on 15 16 break could I ask clarification of counsel on his last 17 question when he said end of year was he referring to 18 water year? 19 MR. PAINE: Water year, thank you. 20 JUDGE HAENLE: Let's break at this time, be 21 back at quarter to 11, please. 22 (Recess.) 23 JUDGE HAENLE: Let's be back on the record 24 after our morning recess. Go ahead, Mr. Paine.

25 Dr. Blackmon, Mr. Van Nostrand asked you Q. (BLACKMON - CROSS BY PAINE) 3470 1 some questions about your methodology, what I would 2 call your development of a means test --3 Α. Yes. 4 Q. -- to determine how far back one goes before 5 you do not use any previous information? б Α. Uh-huh. 7 ο. We could, could we not, use recent Dalles 8 natural stream flow data 1982 through 1992, or a 9 ten-year period, to determine a mean, could we not? 10 Α. Yes. You could go through the exact same sort of analysis. In fact if I were -- if the purpose 11 12 of this exercise were to try to predict what the 13 average flow at the Dalles was going to be next year that's what I would do. 14 So if we performed that exercise, 1983 to 15 Q. 16 1992 to establish a mean look at a previous period to 17 determine whether the variation in the mean could have 18 been caused by random variations, and repeated that 19 process back, would you be surprised to learn that 20 the last ten years data, 1983 to 1992, mean and its 21 confidence interval are nearly identical to the period 22 of time 1938 through '48 which you propose to drop 23 from consideration in this proceeding in determining 24 normal hydro conditions?

25 You're saying that the mean of the -- the Α. (BLACKMON - CROSS BY PAINE) 3471 mean and standard deviation of the '83 to '92 period 1 2 and the '38 to '48 period are the same and the basis 3 that we are using here is the Dalles stream flow? 4 Q. That's correct. The mean would be very 5 close and the confidence interval would be very close to the 1938 to '48, whatever that ten-year period is, 6 7 MR. ADAMS: Your Honor, I am not -- if this 8 is sort of being asked as subject to check and the 9 witness has not performed this I don't know how we can 10 even confirm these representations of counsel are 11 accurate. If it's a hypothetical, that's fine, but if 12 it's a representation of fact I don't know that the witness is even able to confirm that. 13 MR. PAINE: Let me follow up on that. 14 15 Q. We do have, you have, natural stream flow 16 data at the Dalles through water year 1992; is that 17 correct? 18 That is correct. Α. 19 Ο. And if we wanted to test your methodology 20 as to how far back to use data using Dalles stream 21 flow, we could do it in the manner that I have 22 presented or suggested to you and it would be a fairly 23 easy exercise, would it not? 24 Α. It's pretty easy, yeah.

25 And I suggested to you, and I will ask you Q. (BLACKMON - CROSS BY PAINE) 3472 1 subject to check, would you accept that the last ten 2 years natural stream flow data at the Dalles would 3 determine a mean and reflect a confidence interval 4 that is practically identical to the decade that you 5 are suggesting that we drop from consideration, that 6 is 1938 through '48 data? 7 Α. I forget what I was supposed to do here 8 now. I am supposed to accept that subject to check? 9 Q. Yes. 10 Α. And then am I supposed to say anything 11 else? 12 No, would you accept that subject to check? Q. Yes, I would accept that. 13 Α. JUDGE HAENLE: In order for the witness to 14 check that he's going to need to know exactly what 15 16 years you are comparing. 17 MR. PAINE: 1982 through 1992 stream flow, natural stream flow, at the Dalles with 1938 to '48 18 19 period. 20 JUDGE HAENLE: Thank you. 21 Q. Lastly, I just wanted to clarify one thing 22 that you visited with Mr. Van Nostrand about. Is it 23 correct that you indicated that you could not define a 24 trend or define a cycle in stream flow? That is, the

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25 existence of or define whether there is in fact a
   (BLACKMON - CROSS BY PAINE)
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3473

1 cycle or a trend?

2 Α. I would say that my analysis led me to 3 conclude that there is a trend cycle pattern in stream 4 flow conditions. There are, however, many problems 5 with trying to take that analysis any further and say б to what I would call characterize the pattern. Is it 7 a linear trend over time or is it a ten-year pattern, a 20-year pattern. There is just not enough data to 8 9 do that and I have not done it. 10 ο. Did you perform a multiple regression

11 analysis to determine that a trend or cycle was
12 present?

A. Not for Puget's generation. For the Dalles
stream flow, for that data set I did. In fact, it's
in one of these exhibits.

16 MR. ADAMS: Exhibit 844?

17 THE WITNESS: Exhibit 844.

A. I would consider that the attachment 4200 B
to be my best estimate of -- my best attempt to
characterize the cycles and flows -- I'm sorry -cycles and trends in the Dalles stream flows.
Q. And you indicate --

23 JUDGE HAENLE: I'm sorry, which exhibit was 24 that specifically now?

THE WITNESS: That was 848. (BLACKMON - CROSS BY PAINE) 3474 1 Have you not indicated that one must Q. 2 perform such a multiple regression analysis to 3 determine whether cycles or trends are present? 4 Α. No. I said that you have to do statistical test but I didn't mean to say you have to do a 5 6 multiple regression analysis. 7 ο. And Exhibit 848, as you explained to 8 Mr. Van Nostrand, projects monthly flows, does it not, 9 as opposed to annual flows? 10 Α. Exhibit 848, the part of it that's marked attachment 4200 B uses monthly data. Attachment 4200 11 12 A, which is a runs test and which actually I consider 13 to be a more valuable piece of information than that 14 regression analysis uses annual data. 15 MR. PAINE: Thank you. That's all I have. JUDGE HAENLE: You had asked the witness to 16 17 accept subject to check that a correlation, I think you said a correlation is .86 percent. What is it 18 you're going to check exactly? 19 20 MR. PAINE: .89. JUDGE HAENLE: But what -- is it a 21 correlation efficient? What is it you're going to 22 23 check to be sure you're on the same wavelength? 24 THE WITNESS: I am going to take the data

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that's in the revised Exhibit 847 and each of those
25
       (BLACKMON - CROSS BY MEYER)
                                                            3475
 1
    dots or whatever they are represents a pair of
 2
    observations, stream flow observation and a Puget
 3
    generation observation. And so then I will calculate
 4
     the correlation between those various observations.
 5
                JUDGE HAENLE: Is that what you were
 б
    expecting, Mr. Paine?
 7
                MR. PAINE: Yes, it is, and with that I
 8
    have no objections to what has been marked as Exhibit
 9
     847.
10
                JUDGE HAENLE: Was there anyone else that
    had any objection to 847 while we're on the subject?
11
12
                I will enter 847 then.
13
                (Admitted Exhibit 847.)
14
15
                       CROSS-EXAMINATION
16
    BY MR. MEYER:
                Good morning, Mr. Blackmon.
17
          ο.
18
          Α.
                Good morning.
                Let's step back from a level of detail to a
19
          Q.
20
    more general discussion of your testimony. And let me
21
    return to a point that Mr. Paine had addressed in his
    last exchange with you, and that has to do with the
22
23
    existence or nonexistence of a trend or a cycle and
24
     just how strongly you feel about that. At page 5 of
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25 your rebuttal testimony, turn to that and I will give (BLACKMON - CROSS BY MEYER) 3476 1 you a line reference. 2 MR. ADAMS: What page was that? 3 MR. MEYER: Page 5 of the rebuttal. 4 Α. Okay. Q. 5 Beg your pardon, page 10 of your direct. б Α. I've got that. 7 ο. Look at lines 5 and 6. There you state, 8 "as this graph shows, there are definite patterns to 9 hydro conditions." Elsewhere, though, in both your 10 direct and your rebuttal testimony you seem to pose the question without answering it definitively as to 11 12 whether or not there are trends. Is it your testimony 13 today that you believe there are definite trends or cycles at work here? 14 15 Α. Yes. And is that, based on your last exchange 16 Q. 17 with counsel, is that borne out statistically? 18 Α. Yes, and that serves as the basis for my conclusion. 19 20 Ο. Now, where have you demonstrated 21 statistically that there is a definite trend in Dalles 22 stream flows? 23 Α. Well, again, as I explained to Mr. Paine, I 24 think that there is not enough information available
25 to us to characterize a trend or cycle or even to say (BLACKMON - CROSS BY MEYER) 3477

whether -- I mean, let me stop for a minute and say 1 what I mean by a trend, what I mean by a cycle. What 2 I would mean by a trend is that there is a permanent 3 4 change over time in, in this case, hydro flows so that 5 we could look over some long period of time and find б an increase or decrease consistently over time, and 7 basically what I mean is that either around some 8 stationary point or around this moving trend that the 9 observations change in some pattern around that point, 10 and with the amount of data that we have here I can't 11 say whether there's a permanent trend, whether there's 12 some cycle that operates on a multi year period or 13 what, but the statistics do tell me that the pattern 14 of stream flows that we have observed are not random. Well, breaking that apart -- and I 15 Q. 16 understand the distinction that you're trying to make 17 between a cycle and a trend -- in which direction is 18 the trend going to the extent you see a trend at work? 19 Looking at the Dalles stream flow data, I Α. 20 would say that there appears to be -- if there is a 21 trend it's a very slight downward trend.

Q. I know you were in the room Wednesday when
Mr. Norwood was on the stand. Do you have his Exhibit
808 in front of you?

Α. No. (BLACKMON - CROSS BY MEYER) 3478 1 MR. MEYER: May I approach the witness? 2 JUDGE HAENLE: Yes. 3 MR. MEYER: Record should reflect I'm 4 handing Mr. Blackmon a copy of Exhibit 808, pages 1 through 4. 5 б Q. Now, in your last answer you suggested that 7 perhaps to the extent there was a trend, the trend was 8 downward on stream flows; was that correct? 9 My answer was that using the Dalles natural Α. 10 flow data set that it would appear that the trend would be a very slight downward trend. 11 12 Q. Page 2 of Exhibit 808, please. I have that. 13 Α. There in Mr. Norwood's exhibit he has 14 ο. certain vertical lines drawn into that graph, doesn't 15 16 he? 17 Α. Yes. And there is a set of lines essentially 18 ο. bracketing the years 1939 through 1978 as well as a 19 20 set of vertical lines bracketing the period 1949 to 21 1988? 22 Α. Yes. 23 Q. The period that you would use for your 24 rolling 30-year analysis levers off the period 1949 to

25

25 1978, I believe?

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(BLACKMON - CROSS BY MEYER)

A. Something like that.

2 Q. And so if you can locate roughly the 3 vertical line that appears for 1978 and look to the 4 water years thereafter. Does that suggest that more 5 recent conditions are trending downwards only lightly 6 or is it a more material trend to the negative?

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7 Α. Let's remember how I use the word trend 8 which is that it's a permanent long-term change, and 9 in using that meaning of the word trend I would say 10 that says almost nothing about what the trend is but it could be that that is produced by some shorter 11 12 cycle. Now, I suspect that what you really meant is 13 trend in a more informal sense and that that is has 14 the direction of change lately been downward and I would say that that the answer is yes. And that is in 15 16 part why I consider it unfortunate that we don't have 17 good Puget-specific data beyond 1978.

Q. Do you feel -- and keep this exhibit in front of you return to it later -- do you feel confident enough in the existence of cycles or trends to develop and sponsor a predictive methodology that might be used to capture or reflect current conditions for normalization purposes?

A. No, I do not. Again, it's because while I

25 believe that my analysis has shown that there is a (BLACKMON - CROSS BY MEYER) 3480 nonrandom pattern that that is a far -- it's a much 1 bigger step to characterize accurately what that 2 relationship is and that's what you would need to do 3 4 to have some sort of a predictive hydro normalization 5 method. б Q. In fact, did I understand you to testify 7 earlier this morning that you don't feel confident 8 enough -- I'm paraphrasing here, correct me if you 9 like -- that you don't feel confident enough in the 10 data at this point to reliably project a trend? I don't feel confident in projecting the 11 Α.

12 future direction of hydro conditions. I believe that 13 in that circumstance what we should do is use the most 14 recent available information, and I would not attempt 15 to make a forecast of what hydro is going to be next 16 year.

17 Ο. What is your test for an acceptable 18 methodology, Mr. Blackmon? Is it the extent to which 19 your method for stream flow normalization reflects 20 current conditions or future conditions, is that it? 21 Α. Because I believe that the pattern of flows 22 in the river have not been random in the past, I think 23 that the best estimate of future conditions -- and 24 that's what we're looking for is the best estimate of

25 the future hydro conditions -- that that best estimate (BLACKMON - CROSS BY MEYER) 3481

is derived from recent information. Since there is 1 some pattern that the recent data provides the best 2 information about the future data. It's kind of like 3 4 the stock market that you wouldn't want to take an 5 average from 1929 to today to figure out what the б price is going to be tomorrow because you know there's something been going on there. You may not be able to 7 8 figure out what it was. And so I would -- my test is 9 to come up with the method that reflects -- that uses 10 current information because I think that's the best 11 judge of future information, but in addition to that I 12 believe there also is value in using a longer period 13 of time to make your estimate because if you have more 14 observations, you have more information, you have a stronger estimate. And ultimately you have to trade 15 16 off between using older and older data because it 17 improves the reliability of the estimate, and the 18 reason it does that is because the more observations 19 you use then the less effect any one really strange 20 observation is going to have in your answer, but as 21 you go further back in time you're introducing 22 problems because of incomparability of the data. And 23 you have to weigh those off, you have to balance the 24 two, and I found that the balance point in this

25 particular case was 30 years.

(BLACKMON - CROSS BY MEYER) 3482 1 And that recommendation was with reference Q. 2 to information available at the Dalles? 3 No. This is based on Puget-specific Α. 4 generation data that comes from the regional model of 5 hydroelectric generation. 6 Q. Elsewhere in your testimony you indicate 7 that you had not looked to the correlation for the 8 other companies, Pacific and Water Power. And I 9 gather you were not making any recommendations with 10 respect to those two companies; is that correct? That is correct. 11 Α. 12 So your rolling 30 proposal is, at least in Q. this case, Puget-specific? 13 Yes. I just haven't looked at the other 14 Α. companies. They have different set of conditions and 15 16 the answer could very well be different. 17 Ο. And how familiar are you at all with the 18 watershed for the Water Power hydro projects? Not very familiar. 19 Α. 20 Ο. If we were to after the fact examine the 21 results of having used your rolling 30 in prior years 22 and subjected those results to some sort of rule of 23 reasonableness to see how well in fact the rolling 30 24 did capture stream flows during the rate effective

25 period --

(BLACKMON - CROSS BY MEYER) 3483 1 Are you with me so far? 2 Α. Yes. 3 ο. If we had done that after the fact and 4 essentially gone back -- turn to page 2 again of 5 Exhibit 808. Let's assume we had two stream flow б methodologies available for our use. We had the 50 7 years of water or we had your rolling 30 proposal, in 8 other words, we had essentially the Water Power 9 position or we had your position to work with. Let's 10 assume that we are back in 1978, okay. Let's also assume that we did have the relevant data available, 11 12 stream flows at the Dalles. Are you with me so far 13 in this series of assumption? 14 Α. I can't accept the idea that in the 1978 --15 maybe I'm with you. 16 JUDGE HAENLE: We missed a whole piece of 17 it. We need to repeat that piece or it will not 18 exist. THE WITNESS: I said that I can't accept 19 20 that they would have the 50-year period. Α. 21 But then in thinking about it I may be 22 confused about what he's hypothesizing so I would 23 instead ask that he try again. 24 ο. Sure. Let me just pose a question and then

25 if you want to quarrel with the assumptions, please (BLACKMON - CROSS BY MEYER) 3484 do. Would your use of a rolling 30, had that 1 2 methodology been applied as of 1978, would that have 3 more accurately predicted the actual water conditions 4 that we experienced after 1978 than the use of a 5 50-year study? And look to page 2 of Mr. Norwood's 6 Exhibit 808. 7 Α. Well, I would say that in that particular 8 example that you have chosen on an ex-post basis the 9 30 year average would be further from the results, 10 say, in 1979, '80 than the 50-year average, and if you would like me to I can find a counter example that 11 12 shows the exactly the opposite thing. 13 So when you say it would be further from Ο. 14 the result, do you mean to say that your use of the rolling 30 would have served to have overstated 15 16 revenues based on overall optimistic stream flow 17 conditions? Is that another way of saying the same 18 thing? 19 I am saying that in the particular example Α. 20 you've chosen that the 30-year average is higher than 21 what -- 30-year average in terms of megawatts of hydro 22 availability is higher than what actually occurred in, 23 say, the year 1980. 24 ο. But I believe my question went to the

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effect and, is the effect of that to overstate
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       (BLACKMON - CROSS BY TROTTER)
                                                            3485
     revenues after 1978 based on inflated estimates of
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     stream flow conditions? Doesn't that follow?
 3
                If you're talking about secondary revenues
          Α.
 4
     I guess so, yeah. It wouldn't affect the revenues at
 5
     the retail -- what retail customers are paying.
 6
                MR. MEYER: I believe that's all I have.
 7
     Thank you, Dr. Blackmon.
 8
 9
                       CROSS-EXAMINATION
10
     BY MR. TROTTER:
                To the last point, Mr. Blackmon --
11
          Q.
12
                I'm having trouble hearing you.
          Α.
13
          Q.
                With respect to the last point regarding
14
     Exhibit 808, would use of the 50-year rolling average
     have resulted in higher results in years other than
15
16
     1980? You said that there was some others that would
17
     go in the opposite -- would require you to reach the
18
     opposite conclusion?
                Yes. Like, for instance, if we had done
19
          Α.
20
     something like this in 1949, the historical period
21
     there would have understated the amount of hydro
22
     that actually occurred in the 1950's.
23
          Q.
                Turn to Exhibit 848, please.
24
          Α.
                I have that.
```

25 Turn to the second page which is attachment Q. (BLACKMON - CROSS BY TROTTER) 3486 4200 A and I believe you testified that this page is 1 2 more useful than attachment 4200 B; is that correct? 3 Α. That is correct. 4 Q. Just please explain what attachment 4200 A 5 shows and what conclusions you drew from it. 6 Α. Okay. What a runs test -- that's what this 7 is -- looks at runs in the data whereby that means 8 consecutive periods that are above or below the cut 9 point. In this case the cut point is the average for 10 the period, and so what you do is you look at the 11 number of runs that you have, the number of discreet 12 periods where the observation was above the average 13 for several times in a row or whatever. And it's kind 14 of like flipping a coin and seeing how many consecutive heads do you get, how many consecutive 15 16 tails, like that, and it's also like a coin flip in 17 that it's very well described statistically how many 18 you would expect to get if it were a random -- some 19 sort of random event that was going on. And so what a 20 runs test does is look at the actual number of runs 21 in the set of data, compare that to how many that you 22 would expect to get if this were a random occurrence 23 and calculate the likelihood or the probability that 24 what you have is a random event.

And so in this case, I've done four

(BLACKMON - CROSS BY TROTTER)

3487

different tests. The first two use the Dalles stream 1 2 flow data set and the second two use the Puget 3 generation data set, and there again they're divided 4 by the -- I used the median and the mean. The median 5 is the observation that's exactly in the middle and so б you always have just as many below and above the 7 average, the median. Of course with the average 8 sometimes it's not exactly that way. The point at the 9 end is to say what's the likelihood that the pattern 10 of observations that we have was produced by some random behavior. And that's what's shown in the 11 12 right-hand column is probability and it says two tail. 13 It's the probability that this is a random event that 14 we're viewing and you can see that for the Dalles the probability is either 25 percent for the median and 15 16 6.6 percent for the mean. And for the Puget data set, 17 which is what I really think we should be focusing on 18 the most in this case, the probability that it's a 19 random event is one percent to 4.6 percent. Turn that 20 around and you say that the probability that it's not 21 a random event is 99 percent to 95.4 percent. 22 And the reason that I think this is a 23 particularly valuable test as compared, say, to

24 regression analysis is that this test requires

25

25 virtually no assumptions about the data that you have (BLACKMON - CROSS BY TROTTER) 3488 -- for instance with regression analysis they are very 1 restrictive assumptions about that the error term has 2 to be normally distributed and in this case with a 3 4 runs test those assumptions are not required. And so 5 it's a test that is more widely applicable than the б multiple regression test, and because of that and 7 because we did get such strong results I feel that 8 it's a very good indication that what we have is not 9 random event. 10 ο. Turn to Exhibit 850. Here we see a series 11 of seven bars, five of which cover ten-year periods

12 and then the last two cover one-year periods. Do you 13 see that?

14 A. Yes, I do.

15 Q. In your opinion, is it proper to compare 16 single year periods to ten-year periods in the manner 17 that this graph purports to do?

A. It's interesting, I think, to make that comparison but I think that you also miss a lot because because it's one thing to say the period from '28 to '37 that the average was 895 and that in PRAM 1 the single observation was 865, but the fact is that that 895 average megawatt number reflects ten different years of data, some of which are below that

25 number and some are above it, and because of that it's (BLACKMON - CROSS BY TROTTER) 3489 not -- you're ignoring the information that's 1 2 contained in that 895 number when you just show it as 3 if it were a single number like that. 4 Q. Let's turn to the issue of purchased power 5 contracts. Would you turn to page 36 of your 6 testimony T-832. 7 Α. I have that. 8 0. On line 13, you're responding to a question 9 that asked what value the company assigned to 10 dispatchability in its evaluation of proposals and the 11 response is that you don't know, that you requested 12 detailed information on the evaluation criteria and 13 the application of those criteria to specific 14 proposals and the response was that the documents no longer exist; is that right? 15 16 Α. Yes. 17 ο. Now, was that testimony just applied to the 18 value the company assigned to dispatchability? 19 Α. No. No. This was a general request for 20 any information that the company had that showed how 21 they arrived at the decision to acquire these new 22 contracts. And what I was provided with was the 23 contracts and amendments to the contracts and with 24 maybe one exception there was no information provided

25 to me about the company's decision to enter into the (BLACKMON - CROSS BY TROTTER) 3490 contracts themselves. And that includes even the 1 company's evaluation of the proposals that it received 2 3 in the 1989 competitive bidding process. It includes 4 the proposals themselves. I asked for the proposals 5 themselves. They said they didn't have those. I б asked for the company's evaluation, like a score sheet 7 that would show how they ranked the proposals and what 8 weights they gave to different factors, what methods 9 they used to assign values to different aspects. They 10 said they didn't have those. And so I guess that what I've described there actually applies to any document 11 12 relating to the company's decision to acquire the specific resources. 13 14 ο. Did you go to the company to review 15 documents at their premises? 16 Yes, I did. Α. 17 ο. I believe you testified that the Bonneville 18 Power Administration assigns a value to dispatchability 19 in its evaluation of power supply contracts; is that 20 correct? 21 Α. Right. They don't call that avoided cost. 22 They call that alternative cost, but it's the same 23 thing, and they in calculating what they call 24 alternative cost they make adjustments including

25 adjustment for dispatchability. (BLACKMON - CROSS BY TROTTER) 3491 1 But they weren't doing that adjustment Q. 2 during the time period you're talking about here, were 3 they? 4 Α. No. They really weren't acquiring 5 resources between this time period, not significantly. But Puget was? б Q. 7 Α. Puget was, that's true. 8 Ο. Let's talk about company advertising for 9 conservation. And you testify on page 49 that based 10 on your review of the tracking studies it appears that 11 the objectives of the advertising campaign include 12 improvement of the company's image and in association 13 of the company with conservation and the environment. Do you see that? 14 15 I remember that. Α. Lines 6 through 9, page 49? 16 Q. 17 Α. Right. Let's turn to Exhibit 841 and this obtains 18 Ο. 19 certain sample advertisements from the Puget corporate 20 communications plan; is that right? 21 Α. Yes, it is. 22 Ο. In the first two pages are the text of a TV 23 ad so let's go to the print advertising which is the 24 next sheet, the fold-out sheet, Why We Sell Power To

California, do you see that? 25 (BLACKMON - CROSS BY TROTTER) 3492 1 Α. I do. 2 ο. Now, that advertisement does refer to 3 conserving electricity, doesn't it? 4 Α. Yes, it does. Was 100 percent of the cost of this ad 5 Ο. 6 allocated to the conservation program? 7 Α. As far as I know it was. This ad was 8 provided to me in response to a request that they give 9 me all the ads in the conservation program so on that 10 basis I assume it is. 11 Do you believe that 100 percent of this ad Q. 12 relates to conservation? 13 Α. No, I don't. The next ad, Why We Need More Power Lines. 14 ο. Are you generally aware that customers sometimes 15 16 object to new power lines going through residential 17 areas and other areas? I've heard of that, yes. 18 Α. But this ad also does talk about 19 Ο. conservation, doesn't it? 20 21 Α. Yes, it does. In your mind, is 100 percent of this ad 22 Ο. 23 dealing with conservation? 24 Α. No.

25 On the right-hand side of the column it Q. (BLACKMON - CROSS BY TROTTER) 3493 talks about undergrounding utilities, is that right, 1 mentions that to underground all the power lines would 2 3 take about ten times what it cost to install and 4 maintain lines above ground? 5 Α. Yes. б Q. The next ad, Why We Advertise. This is an 7 explanation of why the company advertises, is that the 8 purpose of this or is that the subject of this ad? 9 This ad appears to be about why they Α. 10 advertise. But this also does refer to fluorescent 11 Ο. 12 bulbs and shower heads and does refer to conservation, 13 doesn't it? 14 Α. Yes, it does. Is it your position that there needs to be 15 Q. 16 an allocation between conservation costs that are 17 recovered from customers pursuant to the Commission's 18 established adjustment and those advertisements that 19 -- those portions of the advertisement that benefit 20 Puget's corporate image? 21 Α. The word "allocation" I guess to me lends 22 more precision to my recommendation that exists. I 23 believe that there is -- well, it's definitely true 24 that these advertisements all in some way or another

25 include a reference to conservation. However, even (BLACKMON - CROSS BY TROTTER) 3494 1 those ads I would fault the company for failing to 2 even make the effort to figure out whether they've 3 done any good. By advertising with other conservation 4 programs the company is required to do rigorous 5 evaluation and monitoring of the success of the б program. If they're going to run a conservation 7 program in the form of ads I think they should 8 evaluate it to see how well it's doing and they 9 haven't. But then there also is in these ads what I 10 consider to be a substantial element of corporate promotion and I haven't attempted to divide the ad in 11 12 half or figure out how many words relate to what. In 13 fact the way my proposed adjustment is based is more 14 than that, okay, you started the program, we should give you the benefit of the doubt in terms of the 15 16 first few months that you did it, but at some point 17 you should have started to evaluate it and so we'll 18 only allow the first, the initial portion of the cost 19 to be included as a conservation cost. And so that's 20 my description of how I approached this adjustment. 21 The last two ads in the exhibit, I believe Q. 22 you testified these do relate directly exclusively to

23 the conservation program?

24 A. Yes.

25 Now, contained in your testimony is also Q. (BLACKMON - CROSS BY TROTTER) 3495 1 recommended changes to the PRAM; is that right? 2 Α. Yes. 3 And you discuss the realignment of base and Ο. 4 resource costs as one issue there? 5 Α. Yes. б Q. Is your base/resource cost allocation the 7 same as Mr. Martin's of the staff? My testimony is that I had discussions with 8 Α. 9 Mr. Martin before either of us filed testimony and it 10 appeared to me that we were exactly in sync and that so I don't even have a specific recommendation other 11 12 than that Mr. Martin's proposal be adopted. 13 On the issue of the PRAM secondary Ο. purchases and sales, did you review Mr. Moast's 14 exhibit in this proceeding showing the difference 15 16 between the price at which Puget purchases secondary 17 power and the price at which it sells secondary power? 18 Α. Yes, I did. 19 Q. Are you supporting his adjustment in that 20 respect? 21 Α. I think I have an adjustment that attempts to correct the same problem. We've identified the 22 23 same problem and our approaches are somewhat different 24 to fixing it.

25 And with respect to the PRAM rate swings Q. (BLACKMON - CROSS BY TROTTER) 3496 1 proposal, you're proposing that the program be based 2 on temperature normalized loads; is that right? 3 Α. That is correct. 4 Q. So what happens if we have an extra cold or 5 an extra warm winter? How would that work with your б proposal? 7 Α. The way it works today is that if we have a 8 warm -- before I start out I always get confused by 9 weather normalization and hydro normalization. And 10 it's good to keep them separate. What I am talking about right now is weather or temperature 11 12 normalization. So we're having cold or hot weather 13 west of the Cascades and what's happening in the Columbia Basin is irrelevant for the moment. 14 Currently under the PRAM if we have a cold 15 16 winter customers use more electricity and the company 17 gets more money, some of which gets returned to 18 customers. And if there's a warm winter, which is 19 actually what we've had during the initial PRAM years, 20 the company doesn't collect as much money as they had 21 expected to because sales are not as high and so 22 customers are billed for the difference in a 23 subsequent period. And my testimony shows that these 24 weather temperature fluctuations are responsible for a

25 large portion of the rate increases that we've seen (BLACKMON - CROSS BY TROTTER) 3497 under the PRAM mechanism. And my proposal is to 1 2 weather adjust the revenues and expenses of the 3 company. It's a type of adjustment that's already 4 done in this case. And we would just use it in the 5 PRAM so that to the extent that the company's sales 6 are low because of warm weather they would bear that 7 cost. To the extent that their sales are high because 8 of cold weather they would get to keep the extra 9 money, which is exactly the way it is with most of the 10 utilities in the United States. That would still allow the mechanism to decouple Puget from 11 12 conservation programs. In fact they're also still 13 decoupled from things like the business cycle, but at least the weather risk would be returned to the 14 15 company. 16 Well, the company can't control the Q. 17 weather, can it? 18 Α. The company can't control the weather but 19 they can do things to mitigate the effects of weather. 20 Just like they can with the hydro system. How they 21 configure their system in terms of the amount of 22 conservation they install has an effect on the 23 sensitivity of their load to weather. The customers

24 also, I might note, can't control the weather.

25	MR. TROTTER: Nothing further.
	(BLACKMON - CROSS BY TROTTER) 3498
1	JUDGE HAENLE: Mr. Trinchero?
2	Is your estimate of a half hour still good?
3	MR. TRINCHERO: I will keep it under 23
4	minutes.
5	JUDGE HAENLE: I was trying to estimate
6	because we have Commissioner questions because we have
7	the lunch hour coming up.
8	MR. TRINCHERO: Ten minutes at the most.
9	
10	CROSS-EXAMINATION
11	BY MR. TRINCHERO:
12	Q. Good morning, Mr. Blackmon.
13	A. Good morning.
14	Q. Like to follow up with questioning on your
15	PRAM recommendations that Mr. Trotter was just going
16	through. And I am just a little bit unclear on
17	exactly what your recommendation is. I believe if you
18	turn to page 4 of your testimony in Exhibit T-832 you
19	state starting at line 2, "I am not convinced that the
20	resource recovery element of the PRAM is any better
21	than the alternative of using general rate cases to
22	include new resources in cost." And then you
23	continue, "finally I believe that the shift of weather
24	and hydro risk to ratepayers which was included in the

25 PRAM but is unnecessary for either decoupling or (BLACKMON - CROSS BY TRINCHERO) 3499 1 resource cost recovery should be reversed." Now, those appear to be your recommendations. However, if 2 you turn back to page 3 starting at line 21 you do 3 4 state that you do not have a specific recommendation 5 regarding continuation of PRAM experiment. So I just б wanted to clarify what your recommendation is on the 7 PRAM. Are you recommending that it be continued? 8 Α. I guess there on page 3, line 21 I was 9 attempting to answer a question of if we had to take 10 the PRAM as it is today would I want to keep it or not 11 and I would prefer -- to me that's a very difficult 12 question and I am uncertain whether taken as a whole 13 it's an improvement over what we had before the PRAM, 14 but I really haven't made a recommendation one way or the other. I guess I feel like I don't really have to 15 16 because I can instead recommend things to improve the 17 PRAM and keep the mechanism and that's what I 18 recommend that we do. Have you reviewed the testimony of staff 19 Ο. 20 and WICFUR on their suggested modifications to PRAM? 21 Α. Yes, I have. 22 Ο. Would you agree that on the issue of the

23 base/resource cost split all three parties have agreed 24 generally to the same type of realignment of those

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25 costs?
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(BLACKMON - CROSS BY TRINCHERO) 3500 1 Α. Yes. 2 And is it your understanding that Ο. 3 Mr. Schoenbeck's testimony also, like yours, poses a 4 temperature normalization? 5 Α. Yes. б Q. In addition, would you agree that both you 7 and Mr. Schoenbeck have recommended eliminating the hydro true-up adjustment? 8 9 Α. Yes. 10 ο. And all three recommendations, that is, 11 staff's recommendation, WICFUR's recommendation and 12 public counsel's recommendation would retain a pure 13 decoupling mechanism, as that phrase has been used? Yeah. They would differ in terms of what 14 Α. 15 else you have but they would all three have decoupling 16 as an element. 17 ο. And all three would retain some kind of 18 timely recovery mechanism for conservation resource additions? 19 20 Α. Yes. 21 Q. Are you familiar with Mr. Schoenbeck's 22 recommendation to eliminate concurrent general rate 23 case and PRAM filings in the same year? 24 Α. Yes, I am.

25 Do you have any position on that? Q. (BLACKMON - CROSS BY TRINCHERO) 3501 1 This is the first time where we've gotten Α. 2 to experience the filing of general rate case and a 3 PRAM case at the same time, and I already envision 4 problems in implementing things because the 5 Commission's order in the general rate case is likely б to affect the PRAM and it would seem to me that what 7 Mr. Schoenbeck is recommending would streamline the 8 process. I don't know that it would change the 9 substance much one way or the other but it would seem 10 to smooth the process. 11 So you would agree that for administrative Q. 12 ease it would be beneficial? 13 I think so, and I have trouble seeing any Α. downside to doing it. Seems like it would work. 14 MR. TRINCHERO: I have no further 15 16 questions, your Honor. 17 JUDGE HAENLE: Commissioners. 18 MR. MEYER: I'm sorry, your Honor. Of course I do have a brief line of recross based on 19 20 Mr. Trotter's questions so whenever you choose to take 21 that. 22 JUDGE HAENLE: I thought we would take the 23 Commissioners' questions and then go back through 24 again, if that's all right?

25 CHAIRMAN NELSON: I just have one following (BLACKMON - CROSS BY TRINCHERO) 3502 1 Mr. Trinchero. 2 3 EXAMINATION 4 BY CHAIRMAN NELSON: Your testimony at 54 and following says you 5 Ο. 6 would leave the basic structure of the PRAM unchanged 7 for the next three-year period and then following is a 8 couple of modifications you make. Would you have 9 the Commission adopt those in this order? 10 Α. Yes. Do you have any reaction to Mr. Cavanagh's 11 Ο. 12 notion of referring detail perfecting activities to a 13 collaborative? To me the fact that the weather and hydro 14 Α. risk have been shifted to customers in the PRAM is a 15 16 serious problem. It's one that I think that was not 17 appreciated when the mechanism was developed, and I think that it would be unfortunate to have that 18 19 situation continue the way it is into the future. And 20 so I guess I feel like there's enough information 21 available now to make a decision and to come up with a 22 mechanism that could be used again for another three 23 years and that's my preference. 24 ο. So if I may summarize, you believe that the

detail is sufficient in this record for the Commission 25 (BLACKMON - EXAM BY CHAIRMAN NELSON) 3503 to make the modifications in this order? 1 Definitely. I and other witnesses I think 2 Α. 3 have been quite detailed in terms of our 4 recommendations. 5 CHAIRMAN NELSON: Thank you. 6 JUDGE HAENLE: Commissioner? 7 8 EXAMINATION 9 BY COMMISSIONER CASAD: 10 ο. Page 1 of your supplemental or your rebuttal testimony. 11 12 JUDGE HAENLE: Perhaps you could turn your 13 microphone around to be sure that the reporter can hear you. I'm afraid that she'll miss part of your 14 15 question. 16 That's between you and her. 17 COMMISSIONER CASAD: She probably wouldn't like that. 18 Page 1 of your rebuttal testimony, line 15? 19 Q. 20 Α. I have that. 21 Q. I feel that we've been pounding on this 22 poor horse for days and I am not so certain whether 23 the horse is any sicker or is any better or is 24 completely dead, but you say at line 15, "I contend

25 that the appropriate standard to judge a normal hydro (BLACKMON - EXAM BY CASAD) 3504 definition is how well it matches the most recent 1 conditions, not some long term average." I would 2 assume the only way that you could arrive at what 3 4 would be a more normal hydro definition is 5 retrospectively that you look back from where you are? б Α. I think so, yes. 7 ο. And to get the most recent conditions, 8 would the most effective way be to use last year's? 9 If you were going to only use one year, if Α. 10 you decided you were going to limit yourself to pick 11 up one year of information to use, I would say use 12 last year's. But I think you would get a better estimate if you use the last two years, and a better 13 estimate than that if you use the last three years and 14 15 you keep working back. 16 So then it's not true that you use the most Q. 17 recent data? 18 Α. The process that I went through is to start 19 with the most recent data and add to it going back in 20 time until the point where it appeared that the data 21 were too different from the current to reject the idea 22 that it was just random fluctuations causing that. So 23 when I said that I used the most recent data I'm using

24 the most recent 30 years because it appears that

25 that's the best set to use.

(BLACKMON - EXAM BY CASAD)

1 Q. There are several periods if you look at 2 Water Power Exhibit 808 where it is too different. 3 Usually it's too different for a period of years. So 4 if one chose a period where it was too different you 5 would have either an extended period of excessive or б higher stream flow conditions and then you would have 7 a period of maybe eight or ten years of lower 8 conditions. I'm struck by the anomalies in using your 9 selected period from essentially 1939 to 1978.

10 A. 1949 to '78.

'49 to '78, that these all seem to be very 11 Q. 12 high stream flow conditions thus resulting in greater generation, and then you indicate that the data --13 14 there's not acceptable data for Puget from subsequent to 1978 but if one accepted the Water Power exhibit as 15 16 being correct there is a substantial difference 17 between the period just preceding it. In fact some of 18 the worst water years in history. And it seems 19 inherently unreasonable to me to ignore that kind of 20 data. I am not quite certain why you feel on the one 21 hand you could apply graph data to Dalles to Puget and 22 on the other hand it's not representative and it could 23 not be applied to Puget. Could you explain that for 24 me?

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25 MR. ADAMS: Can I for clarification? Are (BLACKMON - EXAM BY CASAD) 3506 you referring to the second page which the five-year 1 2 average? 3 COMMISSIONER CASAD: Yes. 4 Α. I would start my response by referring you 5 to the first page of that exhibit, which I think shows 6 a little bit more that it's not so much that every 7 year is above the zero line as the second page does. 8 And I think the heart of this problem, Commissioner, 9 is that the Puget-specific data ends in 1978 and I 10 agree with those who have said that the most recent experience is lower water conditions. I think that's 11 12 undeniable. I don't feel like I can reliably take the 13 Dalles stream flow for, say, the year 1980 and translate that into Puget's generation level. If I 14 did make that translation I am sure that it would 15 16 bring down the average. But I think that to some 17 extent we have to just accept the frustration that the 18 power pool is 15 years behind in updating these 19 numbers. I think that to some extent that problem 20 will over time correct itself because if there's 21 always going to be a lag then we're going to always be 22 missing the most recent set of data. And so it was 23 for that reason that I started with the 1978 data and 24 went backwards.

And then as far as why I stopped when I did (BLACKMON - EXAM BY CASAD) 3507 again it's because that period in the 30's and 40's 1 when we had low water was just not consistent with 2 3 that 30-year period that ended in 1978. I take your 4 point that that may be consistent with the period in 5 the 80's so that if we -- if I redo this analysis in 6 five years or whatever we might come up with quite a 7 different number.

8 Ο. I think I understand your point. The fact 9 that power pool data may or may not have been updated 10 over 50 years does not mean that it quit raining or it rained more. There are certain inherent rational 11 12 reasonable observations that one can make through an 13 accumulation of data that seems to indicate that it has rained less, the Dalles and specifically for 14 Puget and anybody else. So if one says on the 15 16 technical point that the data has not been updated, I 17 am going to give no credence at all to that phenomena, 18 brings into question the reasonableness of that kind 19 of approach to me.

20 Α. And you would like a response?

21 Q. Yeah.

22 Α. Again, I go back to the fact that the test 23 year for this case is from July of '91 to June of 24 1992. We are ignoring information about this company

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25 in the period, second half of 1992 and what we have so (BLACKMON - EXAM BY CASAD) 3508 far in 1993. We're just not considering it. And the 1 reason is that there's a lag between the collection of 2 3 data and its use in a proceeding like this or in an 4 analysis such as I've done. 5 Ο. Well, if that's the case, if you're going б to use a test year as an analogy, aren't there 7 adjustments made to the test year, proforma 8 adjustments? Aren't there prospective adjustments, 9 known and measurable adjustments made to a test year 10 because of fact? 11 There are. Again, I would stress that this Α. 12 is not a simple calculation to make. And to say, at least I feel that I cannot look at the Dalles stream 13 flow in the year 1992 and in any reliable way say, 14 well, how many megawatts does that mean for Puget. If 15 16 I could, I would; and if somebody else did it, I would 17 be willing to look at that result, and if it was 18 reasonable to go with it. But the company started with a period that ended in 1978. They said that 19 20 was the extent of reasonable data and I agreed with 21 that idea that only through 1978 did we have good 22 data. 23 Q. Thank you. That's all I have.

24 JUDGE HAENLE: Commissioner?

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              COMMISSIONER HEMSTAD: I don't have any
       (BLACKMON - EXAM BY CASAD)
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 1
    questions.
 2
               JUDGE HAENLE: Anything more,
 3
    Commissioners? May I suggest that this would be a
    logical time to break for lunch if that doesn't
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 5
    discombobulate the witness too badly.
 б
               MR. ADAMS: That's fine.
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               JUDGE HAENLE: We'll come back then at
 8
    1:30.
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               (Luncheon recess at 12:00 noon.)
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	(BLACKMON - EXAM BY CASAD)	3510
1	AFTERNOON SESSION	
2	(1:30 p.m.)	
3	JUDGE HAENLE: Let's be back on the record	
4	after our lunch recess. In the way of procedural	
5	matters the company told me just before we went back	
6	on the record that they had discussed with the parties	
7	delaying the prefiling date for the deadline for	
8	rebuttal prefiling from the 25th, which is a Friday,	
9	to the 28th, which is the following Monday, but with	
10	the understanding they would get whatever materials	
11	they could to the other parties by the 25th and that	
12	the reason for that was because of these additional	
13	hearing days that we have had to add. Is that it	
14	basically, Mr. Marshall?	
15	MR. MARSHALL: Yes. We've committed to use	
16	our best effort to get what we have on Friday. Just	
17	in view of the length of time these examinations went	
18	on and the public hearings we felt we needed that	
19	extra time over the weekend.	
20	JUDGE HAENLE: And you have discussed that	
21	with the parties?	
22	MR. MARSHALL: Yes, with Mr. Trotter and	
23	Mr. Adams. I don't know if there are any other	
24	objections.	

25 JUDGE HAENLE: Mr. Trotter, that's all (COLLOQUY) 3511 right with you? 1 2 MR. TROTTER: Well, it's the best we can do 3 under the circumstances. We did understand the 4 company is committing on the Monday filing to file by 5 noon or thereabouts. 6 MR. MARSHALL: Right. 7 JUDGE HAENLE: Mr. Adams, that was 8 discussed with you? 9 MR. ADAMS: Yes. 10 JUDGE HAENLE: Any of the intervenors have a strong feeling about that one way or the other? 11 12 MR. TRINCHERO: Need some clarification. 13 Would that be an attempt to file most of it on Friday and then whenever you can't get out on file on Friday 14 you intend to get out on Monday would also be Federal 15 16 Expressed to parties on Monday? 17 MR. MARSHALL: You mean the material we 18 weren't able to get to you on Friday we would Federal 19 Express to you all? 20 MR. VAN NOSTRAND: Sure, we can do that. 21 MR. TRINCHERO: That would help. 22 JUDGE HAENLE: We had additional cross of 23 the witness and Mr. Adams suggested we take those 24 additional questions before we take redirect.

25 Mr. Trinchero or Mr. Meyer, I don't care which one of (BLACKMON - CROSS BY TRINCHERO) 3512 1 you goes first. 2 3 CROSS-EXAMINATION 4 BY MR. TRINCHERO: 5 Ο. Good afternoon, Mr. Blackmon. Before the б lunch break you were asked a question by the chairman 7 regarding whether or not the details of suggested 8 changes to the PRAM should be handled through a 9 collaborative group and I believe your answer was that 10 the record in this case was sufficient for the 11 Commission to act upon that. Are you familiar with 12 Mr. Schoenbeck's recommendation that while the policy 13 determinations should be made by the Commission in this case that a workshop could be convened in order 14 15 to work out details emanating from the Commission's 16 order? 17 Α. I think so. I don't recall that 18 specifically but sounds familiar. 19 Q. And would that be an acceptable approach? 20 Α. I guess in my opinion it depends on what 21 the Commission ultimately decides with regard to PRAM. 22 That the changes that I have in mind I consider to be 23 well enough developed that I think the Commission 24 could adopt them and then there would probably should
25 be some sort of face to face meeting for the people (BLACKMON - CROSS BY TRINCHERO) 3513 who will be implementing the mechanism to reach a 1 2 common understanding about exactly how that would 3 work. In the PRAM so far we have run into problems 4 where, for instance, with the shaping of revenues 5 within a year that sort of thing got bounced back to 6 the Commission that probably could have been resolved 7 through some face to face meetings. But I guess I see 8 that as different from a collaborative that would be 9 given some sort of general direction about coming up 10 with a new mechanism or something like that and having to very nearly start from scratch. It's that second 11 12 thing that I just don't see the need for that. 13 MR. TRINCHERO: Thank you. No further 14 questions. 15 JUDGE HAENLE: Mr. Meyer? 16 17 CROSS-EXAMINATION BY MR. MEYER: 18 As a brief follow-up to Mr. Trotter's 19 Ο. questions of you. As you recall during my cross-20 21 examination I had asked you essentially to compare the 22 use of your rolling 30 years with a 50-year 23 methodology in terms of which methodology better 24 captured the actual hydro conditions that prevailed

25 after 1978, and you recall that exchange? (BLACKMON - CROSS BY MEYER) 3514 1 Α. I do. 2 ο. And then I believe Mr. Trotter asked you 3 about other points in time. Would you refer back to 4 Exhibit 808, please. That's Mr. Norwood's exhibit, page 2 of that exhibit. 5 б Α. I have that. 7 ο. And as you recall we were discussing that 8 point in time indicated by the vertical line 1978 and 9 comparing before and after, were we not? 10 Α. Yes, we were. And I believe in your reference or your 11 Q. 12 response to Mr. Trotter focused on the period or the 13 year 1949. Let me ask you this with respect to that 14 date? 15 Which date? Α. 1949. Which method -- put yourself back in 16 Q. 17 1949. Give yourself a retrospective look at what happened after 1949 and the question is this: Would 18 19 the rolling 30-year average preceding 1949 or a 20 50-year set of data better reflect hydro conditions 21 that actually prevailed after 1949? Stated simply 22 which methodology would have been closer to the mark 23 to reflect conditions that actually happened after 24 1949?

25	A. So we would be looking at the 50-year
	(BLACKMON - CROSS BY MEYER) 3515
1	period that was started in 1899 and go to 1949?
2	Q. Correct.
3	A. In that case what I would describe if
4	I could rephrase your question basically what
5	you're asking is in that particular case would a
6	rolling 50-year average produce an answer closer to
7	the 50 to the 1950 value than a rolling 30-year
8	average?
9	Q. I'm asking actually whether you used not a
10	rolling 50 but the 50 years of data preceding 1949 and
11	you also used a rolling 30 that started in 1909. You
12	compared those two methods which would have produced a
13	result that better captured the actual hydro conditions
14	that occurred after 1949?
15	A. Well, I will answer your question and I
16	would say that just looking at it visually that the
17	50-year period would seem to produce an average closer
18	to the conditions that prevailed in the early 1950's
19	than the 30-year period would. However, I also would
20	say that I don't believe that's a valid comparison
21	because what is being proposed in this case as the
22	50-year average is not a rolling 50-year average,
23	which is what I still contend I was asked to compare
24	just now, but instead a fixed 50-year period from

25 1928 to 1978, and so the answer is 50 years but I (BLACKMON - CROSS BY MEYER)

1 can't accept that that's a valid comparison to make.

2 Q. And then the only other point in time that 3 we had discussed was 1978 and wasn't it your testimony 4 that similarly the use of a 50-year set of water data 5 would better capture actual hydro conditions than 6 would a rolling 30-year average when we look at what 7 actually happened after 1978?

8 Α. Using the fixed 50-year period from '28 to 9 '78 I think you come up with a number that was closer 10 to the condition, say, in 1979 than you would using the 30-year period from '48 to '78. I would note that 11 12 in that particular example that it probably would be 13 appropriate to consider that if we're thinking about, well, which captured the conditions in 1979 best. I 14 don't know a lot about this but I understand that 15 16 Puget got a drought surcharge right around then too 17 and so you probably wouldn't even want to try to make 18 the comparison to 50-year average that didn't adjust 19 for the fact that in that dry condition they were able 20 to go off of normal hydro.

21MR. MEYER: Thank you. That's all I have.22JUDGE HAENLE: Are there other counsel with23cross?

24 Mr. Adams?

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(BLACKMON	- REDIRECT	BY	ADAMS)	
	REDIR	ECT	EXAMINATION	
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3517

2 BY MR. ADAMS:

3 At the risk of overbeating this topic, let Ο. 4 me just ask you a few more questions on the hydro. If 5 you were to do any of these analyses, whether it be 50 б years, rolling 50, 30, rolling 30, 40, whatever it 7 might be, the data you would be using would actually not be on sheet 2 of Exhibit 808 but it would be on 8 9 sheet 1, would it not? 10 Α. It would be on sheet 1 in that that's annual data. What you would actually be using would 11 12 be Puget-specific data instead of this information 13 that's for the Dalles. And there's been some discussion about the 14 ο. lag on information coming out of the -- was it PNUCC? 15 16 Yeah, more or less. Α. 17 ο. This lag, unfortunately, has existed 18 throughout a number of periods, has it not?

19 A. As far as I know, yeah. As I understand it 20 they try to do it in large chunks like ten-year 21 increments so that at some point -- you might not 22 always have a 15-year lag but generally you would have 23 a lag.

24 Q. Well, I mean this has been true in the past

25 when other, whether it be a 40-year average or other (BLACKMON - REDIRECT BY ADAMS) 3518 1 indices have been used there's been that same lag in 2 data? 3 Α. Yes. 4 Q. And I think it was indicated that it was 5 expected that the next ten years, I guess that would 6 be up through 1989 --7 Α. 1988. 8 Ο. -- would be available perhaps at the end of 9 this year? 10 Α. That was Mr. Lauckhart's testimony, as I 11 recall. 12 And am I correct, though, under your Ο. methodology you would support the inclusion of that 13 newest ten years as soon as it becomes available? 14 15 Α. Definitely. 16 Am I correct that, depending on what period Q. 17 of years you were asked to look at and then compare 18 with the future, you would get very different results 19 if you moved through either pages 1 or page 2 of Exhibit 808? 20 21 Α. Yeah, that's right. 22 Ο. You referred to a drought surcharge. Is it 23 appropriate to use an average number of years, whether 24 it be 40 or 50 years or 104 years to set normalized

25 conditions and then at the same time allow the company (BLACKMON - REDIRECT BY ADAMS) 3519 to come in for rate relief under the most dry of those 1 2 circumstances, most dry years of that period? 3 Well, I would have to think about how these Α. 4 numbers are actually used to set rates. In the case 5 of the company's calculation of power costs they have 6 calculated the power costs that they think they would 7 experience under 50 different water conditions over 8 the 50 years and then those were averaged to come up 9 with an average power cost over that range of possible 10 years. So if you set rates based on that type of an 11 average then, no, it would not be appropriate to then 12 come back later with a surcharge when you experienced 13 one of the years that you included in your average. 14 Ο. If rates were set in 1979, 1980 based on normalized water conditions, then the company was 15 16 allowed to recover a drought surcharge, in effect 17 would it not be able to recover more than normal water 18 conditions, in other words, recover for, if you will, 19 drier than actual conditions? 20 Α. I would think so. If those conditions that 21 prevailed in '78 or '79 had been included in the 22 average that was used to set the normal. I don't mean 23 those specific years but if that type of water 24 condition had been included in the average, yes.

25 Is it your understanding that in the late Q. (BLACKMON - REDIRECT BY ADAMS) 3520 70's, and early 80's, at least with Puget there were 1 2 several drought surcharges allowed by this Commission? 3 I don't know a lot about it, but yes. Α. 4 There was some surcharge. 5 Ο. You were asked about -- you weren't asked б about -- Exhibit 857 was put into the record and if 7 you would refer to that for a moment. This deals with 8 your reduction in usage for residential customer due 9 to programmatic conservation. Do you recall that? 10 Α. Yes. Could you briefly explain what Exhibit 857 11 Q. 12 shows? Sure. The period of time that this 13 Α. 14 advertising program, that corporate communications plan was -- has been going on started in mid 1991 and 15 16 continues through now, but what I have done is 17 calculate the conservation savings that the company 18 experienced from its own customer programs during the 19 period that that advertising campaign was going on 20 from the middle of 1991 to the end of 1992. And so 21 the numbers that are shown on the second page of the 22 exhibit, the attachment 4231 A for each of 23 the different programs that shows the amount of 24 electricity savings per year that the company acquired

25 in a particular year. So like for residential retrofit (BLACKMON - REDIRECT BY ADAMS) 3521 the company achieved 20,000 megawatt hours of savings in 1 2 1991 and 21,000 megawatt hours in 1992. Those numbers 3 are not cumulative. I mean, the measures that the 4 company actually installed in 1991 will save 20,000 5 megawatt hours per year for many years into the future 6 and the same is true of 1992, so that for instance in 7 1993 the company would save that 1992 amount plus the 8 1991 amount plus numbers that aren't shown on this table 9 from 1990 and 1989 all the way back to when they started 10 their programs. So then the line that is shown as 11 total, 18 months, what that reflects is the amount of 12 savings that the company would realize in one year from 13 the conservation that it had installed over the one and 14 a half year period from the middle of 1991 to the end of 1992, and that divided by the number of customers 15 16 reaches the result that that 18-month period resulted in 17 conservation savings of 244 kilowatt hours per customer 18 per year and that figure would continue on indefinitely 19 into the future until people tear down the house that 20 the insulation was installed in or whatever. 21 ο. You have some discussion at the early part

of your cross-examination relating to your adjustment for the dispatchability of resources in your use of a combined cycle combustion turbine. Do you recall 25 that?

(BLACKMON - REDIRECT BY ADAMS) 1 Α. Yes, I do. 2 And I believe that you had indicated that ο. 3 you believe there was an assumption in the 1989 least 4 cost plan and in the Power Council's plan that there 5 were no fixed fuel costs for that turbine assumed for б purposes of their numbers; is that correct? 7 Α. Right. 8 Ο. Do you believe that's a reasonable 9 assumption? 10 Α. I do believe it is. Again, it's always hard to try to put yourself into the position of what 11 12 people were thinking at the time rather than what 13 people are thinking today. The gas markets are 14 changing all the time and so it's hard to re-create what in 1989 would have been a situation. But the 15 16 least cost plans that were produced by the company and 17 the Northwest Power Planning Council include no fixed 18 fuel costs for a combustion turbine which means that 19 the assumption was that the fuel costs were variable 20 and I believe that that was a reasonable assumption to 21 make even if a utility such as Puget were to acquire 22 firm power supplies -- firm gas supplies, excuse me --23 to fire a combustion turbine and even if there were a 24 fixed payment required to get that firm gas, if it

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25 turned out in a particular month they didn't need the (BLACKMON - REDIRECT BY ADAMS) gas they could or they might be able to resell that 1 2 gas, perhaps not at the full price that they paid for it, but then also perhaps at a higher price than they 3 4 paid for it. You never know because it would still be 5 firm gas. And so on that basis it seems to me that it б was a reasonable assumption to make at the time. And 7 reasonable for me to include it in this analysis. 8 Ο. Are you aware of any arrangements between a 9 gas company and an electric company where they 10 basically both benefit by getting a firm gas supply? Not for the 1989 period again. But we see 11 Α. 12 that happening today and of course these projects, even though they were contracted for in 1989 or 1990 13 14 are coming on line today or next year, and an example is Northwest Natural gas and Portland General Electric 15 16 have agreed to basically share a supply of firm gas 17 where the gas company gets it on the coldest days of 18 the winter but the electric company otherwise uses it 19 during the winter. By doing that the electric company 20 gets a firm supply of gas without having to pay the 21 full cost of firm transportation and any sort of firm 22 demand charges.

23 Q. And then what, on those coldest days it 24 runs oil? 3523

A. Sure. It runs oil or if need be, it would (BLACKMON - REDIRECT BY ADAMS) 3524

1 use other resources.

25

Q. There was some discussion earlier concerning
the notice of inquiry principle, if you will, what I
will call principle one, which was adjustment for
changes to revenue and costs beyond a utility's control.
I think this underlies some of your discussion of
normalization. Do you believe that is a principle that
the Commission should adopt?

9 In his -- in the notice of inquiry that Α. 10 ultimately led to adoption of the PRAM, one of the principles that the Commission considered was one that 11 12 the risks that are outside the control of the company 13 should not be borne by the company, and I guess that 14 my testimony, my recommendation in regard to the PRAM does at least somewhat take issue with that principle. 15 16 Very narrowly you can say it doesn't take issue with 17 it because if you think very narrowly about what that 18 principle says it is that if it's outside the control 19 of the company, the company shouldn't bear it. The 20 risks that I am proposing to put back on to the 21 company of whether a hydro variability -- like I said 22 with Mr. Trotter, the company doesn't control when it 23 rains, when it doesn't, but they can mitigate that 24 risk through the choice of resources that they have in 25 that portfolio. And so I guess I don't feel like I'm (BLACKMON - REDIRECT BY ADAMS) 3525 completely seeking to overturn that principle, but 1 instead asking that the Commission consider it in a 2 larger extent. Notably that we can't make that risk 3 4 go away of weather and hydro so that it's a fine 5 thing to take it away from the company if we can put 6 it in a box somewhere but we can't. We've shifted 7 that risk to customers and they are no better at 8 bearing that risk than the company, and they are less 9 able to mitigate that risk than the company and so I 10 think the question is not should the company bear the 11 risk but who should bear that risk, the company or the 12 customers.

13 Ο. One question relating to the questions that you've had concerning -- I think it started with 14 Chairman Nelson in terms of can the issue of hydro and 15 16 temperature normalization or whatever be addressed 17 collaboratively or some other way. Is not one 18 consideration in making a determination of that issue 19 the lag in terms of when those issues are resolved and 20 the rates that customers pay?

A. That was the concern that I expressed was that to send this to a collaborative would -- I am not exactly sure when we would be able to get it back to the Commission. It would be at least a year I would

25 think before we could have this resolved and it just (BLACKMON - REDIRECT BY ADAMS) 3526 strikes me as unfortunate for us to take that long to 1 resolve it, given that it has so far accounted for 2 what I consider to be large rate swings borne by 3 4 customers, and I guess I feel like those rate swings 5 -- I mean it's not so much that rates have gone up because of weather or whatever. I don't want to have 6 7 rates increased but these rate increases have been 8 just what I consider to be a utility's signals to 9 customers in terms of what electricity costs them. I 10 mean, customers get a rate increase one year because 11 the weather was bad a year ago or even two years ago, 12 and the way the PRAM has been set up we're sending 13 these confusing signals to customers about the 14 direction of changes in cost and it would be better 15 to, as quickly as possible, resolve that in a way that 16 the company can again bear that risk. 17 Ο. Mr. Trinchero asked you a line of questions 18 dealing with similarity of some of your proposals and 19 those of Mr. Schoenbeck. Do you recall those? 20 Α. Yes. 21 ο. I want to ask you on one, however, and that 22 is the proposed pass-through of 90 percent of 23 difference between actual and projected costs, that 24 issue. Are you in a commonality or in common

25 agreement with Mr. Schoenbeck on that issue or let me (BLACKMON - REDIRECT BY ADAMS) 3527 ask you, do you have concerns about it, I guess is 1 2 better phrased?

3 I share his concern about the incentives Α. 4 that are created by the PRAM, and the use of the 5 simple dispatch model that at least for some elements 6 of power costs the company gets to pass those through 7 to customers, and in that situation the company's 8 incentive to be efficient is not very good.

9 I guess my problem is with the remedy that 10 Mr. Schoenbeck proposes to that, which is he proposes 11 that we take the projected costs that are used to set 12 rates in the PRAM and then when we do a true-up rather 13 than true up the full difference between actual costs and projected costs we would only true up for 90 14 percent of the difference. That works, I think, in 15 16 the sense that it would improve the company's 17 incentive to be efficient. But I have concerns about 18 what that would do to the incentives of the company 19 and other parties to do accurate projections of cost. 20 I guess I see getting into a situation 21 where rather than the actual costs being contested as 22 they are now, we'll start having highly contested 23 discussions about what the projections should be, and 24 there are many projections that are built into the

25 PRAM revenue requirement for an upcoming year, (BLACKMON - REDIRECT BY ADAMS) 3528 projections about the number of customers, the type of 1 2 customers, what various power supplies will cost, things like that. And any one of those is susceptible 3 4 to manipulation, not just by the company but by other 5 parties, and I just see us getting into big 6 discussions about what the appropriate projection is. 7 Ο. Finally, I just want to ask you, concerning 8 the issue of your review of some of these new 9 resources and ultimately the issue of dispatchability. 10 I think you indicated in response to Mr. Trotter that you had ultimately gone up to the company to review 11 12 records; is that correct? 13 That is correct. Α. 14 ο. And this was subsequent, was it not, to a number of data requests on the issue? 15 16 That's right. Α. 17 ο. And I don't know if you've seen this but 18 Mr. Moast put into the record what is marked Exhibit 784 which is his PJM-6 which is a response to the 19 20 staff data request 1141. Do you recall being provided 21 with that as well? 22 Α. Yes, I was. And that is one of a set of 23 data requests and response. They start at 1141 and 24 run through several -- each of them relates to a

25 different contract and we had asked the company for a (BLACKMON - REDIRECT BY ADAMS) 3529 general request to provide any document that supports 1 their decision to enter into these contracts, and 2 their response was to see these staff ones, one of 3 4 which is included in the record, and then as part of 5 that response that Mr. Moast concluded there were б reference to other documents that were confidential 7 and/or too voluminous to copy and we were asked to 8 come to the company headquarters to review those. 9 And you did that? Q. 10 Α. And I did that. Am I correct that -- well, what was it that 11 Q. you were looking for that you were not able to obtain? 12 I was looking for documents that support 13 Α. 14 the company's decision to acquire the resources, to enter into the contracts. What I was provided with 15 16 were documents that start with the contract themselves 17 and go forward in time. And I guess specifically what 18 I was looking for was from the 1989 competitive 19 bidding process. I wanted to see how the company had 20 evaluated the resources that it was offered and to see 21 how they scored the dispatchability of resources, 22 because some projects were offered to the company, at 23 least one was, on a dispatchable basis and I wanted to 24 see how the company valued that, but I was told by the

25 company personnel that they no longer had those (BLACKMON - REDIRECT BY ADAMS) 3530 evaluations. 1 2 Q. Was it your understanding that that inquiry 3 was passed up to Mr. Lauckhart as well? Α. 4 The company representative who was working 5 with me on that, I asked her to pass this request on to her supervisor which she said she did and still б 7 didn't get a very clear answer about whether it was 8 available. So she told me anyway that she went and 9 asked Mr. Lauckhart and he said that he didn't have 10 his copy and so I said, well, does that mean that no one in the company has it any more? And she said if 11 12 Mr. Lauckhart doesn't have it, no one has it. 13 Thank you. Q. MR. ADAMS: That's all I have. 14 15 JUDGE HAENLE: Anything more of the 16 witness? 17 MR. VAN NOSTRAND: Couple of questions, 18 your Honor. 19 20 RECROSS-EXAMINATION 21 BY MR. VAN NOSTRAND: Dr. Blackmon, with regard to the evaluation 22 0. 23 of the bids received by the company in the 1989 24 competitive bids solicitation, which I believe is part

25 of the documents you're talking about, do you know, (BLACKMON - RECROSS BY VAN NOSTRAND) 3531 1 was the company required under the competitive bidding 2 rule to prepare a final ranking evaluation and summary 3 of its process and the basis for selecting the 4 projects that it did? I am not sure of what the company is 5 Α. 6 required to do. I know that they published a summary 7 of the projects that set out the specific projects 8 that they selected, a general description of projects 9 that were offered but not selected and that set out 10 the criteria that they used in ranking those projects. But those criteria were not listed in sufficient 11 12 detail to be able to figure out what weight they gave 13 to any particular aspect of the project. 14 ο. You were provided with a copy of that ranking evaluation that the company prepared in 15 16 accordance with the competitive bidding regulations? 17 Α. Yes, I was. I was provided with that 18 general overview summary document. 19 MR. VAN NOSTRAND: No further questions. 20 JUDGE HAENLE: Mr. Trinchero? 21 22 CROSS-EXAMINATION 23 BY MR. TRINCHERO: 24 ο. You were asked a question by public counsel

25 regarding Mr. Schoenbeck's 10 percent proposal. Isn't (BLACKMON - CROSS BY TRINCHERO) 3532 it true that Mr. Schoenbeck's proposal on the 10 1 2 percent true-up is an alternative to his preferred 3 recommendation that the power cost variation 4 adjustment portion of the PRAM be eliminated? 5 Α. Yes, it is. б MR. TRINCHERO: Thank you. 7 JUDGE HAENLE: Anything more of the 8 witness? 9 Thank you, sir, you may step down. Let's 10 go off the record to change witnesses, please. 11 (Recess.) 12 JUDGE HAENLE: Let's be back on the record. During the time we were off the record I believe the 13 last witness for this phase has assumed the stand. I 14 marked a number of documents for identification as 15 16 follows: 17 Marked as T-858 is an 18-page document. 18 In the upper right-hand corner it says CKW-testimony. 19 The next is CKW-1 in three pages. That's 20 859 for identification. 21 CKW-2 in one page is 860 for 22 identification. 23 CKW-3 in one page is 861. 24 CKW-4 in two pages with the first of those

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     two pages being a revised page is 862.
       (WINTERFELD - DIRECT BY TROTTER)
                                                            3533
 1
                And CKW-rebuttal in seven pages is T-863.
 2
     We will make the errata sheet part of T-858 so be sure
 3
     that you make the corrections on your own copy.
 4
                (Marked Exhibits T-858, 859 through 862,
     T-863.)
 5
 б
    Whereupon,
 7
                       CURTIS WINTERFELD,
 8
    having been first duly sworn, was called as a witness
 9
    herein and was examined and testified as follows:
10
11
                       DIRECT EXAMINATION
12
     BY MR. TROTTER:
13
                Would you please state your name and spell
          ο.
     your last name for the record?
14
                My name is Curtis K. Winterfeld. Last name
15
          Α.
     is spelled W I N T E R F E L D.
16
17
          ο.
                What is your business address?
                2101 Fourth Avenue, Suite 600, Seattle,
18
          Α.
     Washington 98121.
19
20
          ο.
                What is your position and what is your
21
     business?
                I'm a partner in R.W. Beck and Associates.
22
          Α.
23
          Q.
                Were you retained by the Commission to
24
    provide testimony in this case?
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25 Α. Yes, I was. (WINTERFELD - DIRECT BY TROTTER) 3534 1 And in the course of pursuing your duties Q. 2 in that regard did you have cause to prepare testimony and exhibits? 3 4 Α. Yes, I did. Referring you to Exhibit T-858, is that 5 Q. б your direct testimony? 7 Α. Yes, it is. 8 Q. If I asked you the questions that appear 9 there, would you give the answers that appear there? 10 Α. Yes. 11 And in that testimony you refer to various Q. 12 exhibits that are prepared by you or that you are relying on. Are those Exhibits 859 through 862? 13 14 Α. Yes. 15 Are those true and correct to the best of Q. 16 your knowledge? 17 Α. Yes. You also prepared rebuttal testimony? 18 Q. 19 Α. Yes. And that is Exhibit T-863? 20 Q. 21 Α. Yes, it is. If I asked you the questions that appear 22 Q. there, would you give the answers that appear there? 23 24 Α. Yes, I would.

MR. TROTTER: Your Honor, move for the 25 (WINTERFELD - DIRECT BY TROTTER) 3535 admission of Exhibits T-858 through T-863. 1 2 MR. VAN NOSTRAND: No objection. 3 JUDGE HAENLE: Mr. Adams, any objection? 4 MR. ADAMS: No objection. 5 JUDGE HAENLE: Objection from any б intervenor? 7 MR. TRINCHERO: No, your Honor. JUDGE HAENLE: T-858, 859 through 862 and 8 9 T-863 will be entered into the record. 10 (Admitted Exhibits T-858, 859 through 862 and T-863.) 11 12 MR. TROTTER: Witness is available for 13 cross. JUDGE HAENLE: Thank you. Mr. Van 14 15 Nostrand? 16 17 CROSS-EXAMINATION 18 BY MR. VAN NOSTRAND: Q. Good afternoon, Mr. Winterfeld. 19 20 A. Good afternoon. 21 Q. Like to start out on your errata sheet here. If we could look at the fourth item, I believe 22 23 on page 14, line 25. Is the effect of this change to 24 be rather than the BPA sales contract resulting in an

25 increase in Puget's net power supply costs that your (WINTERFELD - CROSS BY VAN NOSTRAND) 3536 1 changes in your testimony state now that the effect of 2 the BPA sales is to reduce Puget net power supply 3 expense by \$1.7 million? 4 Α. I believe you got those turned around or at 5 least you're stating them in the opposite tense that I 6 was stating in my testimony. 7 ο. You're proposing to exclude the BPA 8 contract? 9 Right. Α. 10 ο. To decrease power supply expenses? 11 Α. Exactly. 12 And now what is your testimony? Q. That it would -- to continue to exclude the 13 Α. BPA contract; however, with the other assumptions in 14 prices, loads, resources, et cetera, there would be an 15 16 increase in net power supply expenses of the \$1.7 17 million. 18 Q. In your testimony on page 3 you're 19 proposing to reduce the net power supply expense, that 20 number goes from 442 and increases by 2 million? 21 Α. That's right. The correct number should be 444.2. 22 23 Q. And the expense reduction that staff is 24 proposing is reduced from \$45.8 million to \$43.6

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25 million?
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(WINTERFELD - CROSS BY VAN NOSTRAND) 3537 1 Α. That is correct. 2 And what's the basis for these corrections? Ο. 3 The basis for it was discussions with one Α. 4 of the company staff persons who was having difficulty 5 reconciling numbers, and he and I went over those on б the phone, and in trying to reconcile the numbers 7 there was basically two errors in a spreadsheet, a 8 double counting of a figure and a sign reversal of a 9 figure that caused the change. 10 ο. Those errors were corrected and that resulted in these numbers changing your testimony? 11 12 Α. That is correct. Like to start out with your discussion of a 13 Ο. hydro realization adjustment, I believe page 6. 14 15 MR. VAN NOSTRAND: Like to distribute a 16 couple of exhibits, your Honor. 17 JUDGE HAENLE: The first document is 18 entitled Hydro Realization for Puget Sound Power and Light's Share of the Mid Columbia Projects. I will 19 20 mark that multi-page document as 864 for 21 identification. 22 (Marked Exhibit 864.) 23 JUDGE HAENLE: The second document is in 24 one page. It is entitled Response to Company Data

Request 4103. That would be 865 for identification. 25 (WINTERFELD - CROSS BY VAN NOSTRAND) 3538 1 (Marked Exhibit 865.) 2 ο. Mr. Winterfeld, one of the issues you 3 discuss in your testimony is the company's proposal to 4 adjust the hydro generation assumed from the mid 5 Columbia project by about 4 percent; is that right? б Α. That is correct. 7 ο. And I take it you reviewed the company's study supporting that adjustment? 8 9 Α. Yes, I did. 10 ο. And do you recognize what's been marked for identification as Exhibit 864 as the company study 11 12 supporting its hydro realization adjustment? 13 Α. It appears to be the same study that was 14 provided by the company in response to at least one if not more than one data request. 15 And this is the study that you reviewed and 16 Ο. 17 is the subject of your testimony on this point? It's part of it. As I've indicated I also 18 Α. 19 reviewed a similar study that was done by Washington 20 Water Power. My particular response to 4103, though, 21 is based on my review of the company study that you've 22 marked as an exhibit. 23 MR. VAN NOSTRAND: Your Honor, move the 24 admission of 864 and 865.

25 JUDGE HAENLE: Any objection? (WINTERFELD - CROSS BY VAN NOSTRAND) 3539 1 MR. TROTTER: No objection. 2 MR. ADAMS: No objection. 3 JUDGE HAENLE: Objection from an 4 intervenor? All right. 864 and 865 will be entered 5 6 into the record. 7 (Admitted Exhibits 864 and 865.) 8 Ο. Is it fair to state that the purpose of the 9 hydro realization adjustment is to reduce the amount 10 of power which is assumed to be generated at the mid Columbia hydro project? 11 12 Yes, that's what the company did was to Α. 13 apply a 4 percent per month across the board reduction 14 in hydro generation. 15 And the company's study was based on the Q. 16 observed relationship between flow and power output 17 for each of its five mid Columbia projects over a 47-month period; is that correct? 18 That is correct. 19 Α. If we could turn to page 3 of Exhibit 864. 20 Ο. 21 This is the summary page of the results of the study? 22 Α. That's right. 23 Q. And it indicates that based on this study 24 it appears that a reduction of about 52 megawatts is

25 in order as compared to Puget's share of those project (WINTERFELD - CROSS BY VAN NOSTRAND) 3540 1 outputs of 852 megawatts? 2 Α. That's what that table shows. 3 ο. And the table also shows that this is a 4 weighted percentage reduction of about 6.1 percent; is that right? 5 б Α. That's right. 7 ο. And notwithstanding this 6.1 percent study 8 result, the company's proposal is to reduce hydro 9 generation by only 4 percent; is that right? 10 Α. That's right. 11 And if we look at the Rock Island project Ο. 12 alone, doesn't the 34.91 megawatt figure roughly 13 translate to a 4 percent adjustment if that's compared 14 to the 852 megawatt figure? 15 That's right, it does, roughly. Α. 16 Q. One of the criticisms of the study you 17 state in your testimony is that this mathematical 18 relationship doesn't look at operational data which might explain some of these results. Is that a fair 19 20 summary? 21 Α. That's right, that's one of the criticisms. 22 Ο. And some of these operational data included 23 forced outages, reservoir operation or maintenance and 24 daily spill?

25

A. That is correct.

(WINTERFELD - CROSS BY VAN NOSTRAND) 3541 1 Would you agree that these types of events Q. 2 are fairly common in operating hydro projects and that 3 a normal level of such events should be expected to 4 recur? 5 Α. No. I really can't agree with that, б particularly over simply slightly less than a four 7 year period. 8 Ο. Are you aware of any unusual operating 9 circumstances which occurred at the company's five mid 10 Columbia projects during that 47-month period? No, but I didn't look to see if there were. 11 Α. 12 Certainly if I was doing analysis such as this I would 13 have looked into such occurrences instead of simply 14 presuming that there were no such occurrences. You also state in your testimony that the 15 Q. 16 range of flows covered by the 47-month analysis does 17 not represent the range of historical flows. Is that 18 a fair statement? Well, I think I indicate that what the 19 Α. 20 range is is covered in the study and that there are 21 limits both lower limits and upper limits which there 22 was no data and there was an upper range for which 23 there was very little data.

24 Q. And in particular you looked at the Rock

25 Island project results; is that correct? (WINTERFELD - CROSS BY VAN NOSTRAND) 3542 1 Yes. Simply as an illustration of the same Α. 2 effect I saw in all the projects. 3 If we could turn to page 7 of Exhibit 864. Ο. 4 This indicates the summary of the results for the Rock Island project; is that right? 5 б Α. That's right. 7 ο. And in the upper right-hand corner the 8 figures that have been boxed, middle column indicates 9 the output which the NRF model shows would be 10 generated at the various flows? 11 Α. That is correct. 12 And the right column shows how the NRF Q. table would be redefined for the range of flows for 13 which actual data was observed during the company's 14 15 47-month study? 16 Α. That's right. 17 ο. And that would consist of the three points at 76.3, 123.8 and 176.3; is that right? 18 That's right. 19 Α. 20 Ο. And your testimony observes that there are 21 no data points for flows less than 65 cubic feet or for flows more than 196 CFS; is that right? 22 23 Α. That's right. And that there's only one 24 data point beyond 138.8 and that's the 195.9.

25 You would agree, wouldn't you, that for Q. (WINTERFELD - CROSS BY VAN NOSTRAND) 3543 Rock Island about 92 percent of the NRF monthly flows 1 are within the range of observations included within 2 3 the study? 4 Α. That's correct, but the more important 5 question, I think, is what percent of the flows are 6 between the 138.8 and the 195.9 and that's not shown 7 on the company's table. 8 Ο. And that, I guess, is what your graph in 9 your Exhibit 861, the point of that exhibit is the 10 limited observations for that range of flows? 11 Α. That's right. The area called the high 12 flow case. I've estimated that there's something on the order of 20 percent of the months that are in that 13 14 flow range. 15 MR. TROTTER: Excuse me, Counsel, was that 16 Exhibit 860 that you're referring to? 17 MR. VAN NOSTRAND: I'm sorry, yes, it is CKW-2. 18 But if we focus just on the flows that 19 Ο. 20 would be adjusted as shown in the boxed area on page 7 21 that the flow at 76.3 indicates that an adjustment of 22 about 7.1 percent is necessary and that's in order to 23 go from 240 down to 223? 24 Α. That is correct. That's with just relating

25 flow to generation without any adjustment for the (WINTERFELD - CROSS BY VAN NOSTRAND) 3544 potential impact of operation factors. 1 2 Q. And the flow at 123.8 suggests an 3 adjustment of about 12 percent is necessary, that's 4 going from 375.9 to 330? 5 Α. Correct. б Q. And the one at 176.3 suggests an adjustment 7 of about 22.7 percent is necessary; is that right? 8 Α. That's about right, yes. 9 And as far as the two data points which you Q. 10 have graphed on your Exhibit 860, is there anything in those two points that suggest that the data is out 11 12 of the ordinary or is unreliable? 13 They're just two data points. I've got Α. 14 nothing to judge that with. Given the other points which you have 15 Q. 16 graphed on there, is there anything that suggests that 17 those two are particularly out of line? 18 Again, I can't answer the question. Those Α. 19 are two data points and they represent the actual 20 relationship between generation and flow for those two 21 months and I don't know much more about them than 22 that. 23 Q. Another point you make in your testimony is 24 that the adjustment may overstate the correction

25 necessary in the lower flow months and understate it (WINTERFELD - CROSS BY VAN NOSTRAND) 3545 in the higher flow months. Is that a fair statement? 1 2 Α. That's a fair statement. Of course, that 3 was preceded with that that was based on the effect 4 that Washington Water Power found in its study of 5 modeling actual hydro generation from modeled hydro б generation. 7 Ο. The 47-month study performed by Puget does 8 include both high and low flow months, doesn't it? 9 It includes the range there. I didn't go Α. 10 to see what that range represented in terms of a 40 or 50-year water record of representing the highs and 11 12 lows that might be found in the full record. Certainly there is a fairly broad range of data there. 13 And it does cover 92 percent of the monthly 14 Ο. flows used in the NRF record? 15 16 Yes. That's what the table shows. Α. 17 Ο. And in all conditions observed by the 18 company study, both high and low, doesn't the study 19 indicate the need for an adjustment? 20 Α. It fit a single line; it did not look at 21 the pattern of errors related to high and low. 22 Ο. Well, in fact, if you look at just the Rock 23 Island data that we just discussed, the boxed numbers 24 in the upper right-hand corner of page 7 in fact

25	indicates that the adjustment is only 7 percent for					
	(WINTERFELD - CROSS BY VAN NOSTRAND) 3546					
1	the lower flow month and it ranges up to about 22					
2	percent for the higher flow numbers; is that right?					
3	A. Right.					
4	Q. Wouldn't you say the company's proposed use					
5	of the 4 percent figure rather than the 6.1 percent					
6	figure that the study suggests would tend to					
7	compensate for this concern?					
8	A. It might. You know, certainly I recognize					
9	that the company was being conservative. It had a					
10	study that indicated that there may be a problem with					
11	the regulation data. I simply had questions as to why					
12	they didn't look at some of the operational data and					
13	didn't look more completely at the flow data over a					
14	longer period of time in doing the analysis since					
15	they're coming in with pretty significant adjustments					
16	in rates that's based on studies that raises questions					
17	but still leaves gaps in the analysis.					
18	Q. Do you know that they didn't look at the					
19	operational data when they performed this study?					
20	A. No, I didn't know what they looked at.					
21	They certainly didn't report any conclusions with					
22	respect to the normality or lack of it in their					
23	operational data.					
24	Q. Couldn't it be that they selected a 47					

25 month period which is fairly representative as far as (WINTERFELD - CROSS BY VAN NOSTRAND) 3547
1 the operational characters statistics that you're
2 describing?
3 MR. TROTTER: Object to the question. The
4 staff asked for the support for the hydro realization

5 adjustment and they provided us with what they had so 6 it certainly abuses the process to ask if there were 7 other considerations. If there were other 8 considerations they should have provided it and they 9 didn't. I will object to any questioning on any 10 additional data the company may still have that they 11 didn't provide.

12 MR. VAN NOSTRAND: My point was that the 13 assumptions being made by the witness was that there 14 are operational factors that weren't considered, if you're going to make that sort of suggestion, it's 15 16 equally true that perhaps there are no unusual 17 operational characteristics which occurred during that 18 period. He was making that assumption and that was 19 all I was trying to point out. 20 JUDGE HAENLE: Were there additional data 21 that were not provided by the company? 22 MR. VAN NOSTRAND: The study speaks for 23 itself. I mean --24 JUDGE HAENLE: Was there anything that

25 underlies the study, any work papers that were not (WINTERFELD - CROSS BY VAN NOSTRAND) 3548 provided? 1 2 MR. VAN NOSTRAND: Not that I know of. I 3 believe all the information relayed in the study was 4 given to Mr. Winterfeld. JUDGE HAENLE: Overrule the objection. If 5 б the witness has any additional, any information he 7 might himself have included but I don't see how that's 8 going to add to what we've got. If what we've got is 9 the witness saying that he looked at what the company 10 provided, I don't see that that adds much. 11 Α. And I guess my response would be very 12 similar to what was just stated and that is the study speaks for itself and it does not speak to 13 14 consideration of any operational factors or looking to review whether the operational factors were within 15 16 expected normal bounds. 17 ο. If you could turn next to the fascinating 18 subject of historical stream flows. 19 JUDGE HAENLE: Fascinating and untrod. 20 MR. VAN NOSTRAND: Like to distribute a 21 couple of exhibits. 22 JUDGE HAENLE: You've given me three 23 documents. The first one has two columns of figures, 24 one entitled Water Year, the second entitled Total
NVPC. I will mark this as 866 for identification. 25 (WINTERFELD - CROSS BY VAN NOSTRAND) 3549 1 The second is several columns of figures. 2 In the upper right-hand corner it has Exhibit CKW-2, 3 page 2 of 2 and that will be 867 for identification. 4 The third is entitled Response to Company 5 Data Request 4112. That would be marked as 868 for 6 identification. 7 (Marked Exhibits 866, 867 and 868.) Mr. Winterfeld, would you agree that the 8 Ο. 9 50-year average which the company proposes to use 10 to set normalized stream flows in this proceeding represents the years 1928 to 1978? 11 12 Yes. Α. And this is the full 50 years of data 13 Ο. available from the regional hydro regulation studies? 14 As far as I know, yes. 15 Α. 16 You're proposing to use only the most Q. 17 recent 40 years of this 50-year data set; is that 18 correct? 19 Α. Yes. Same process that was used by the 20 Commission in U-89-2688, I believe. 21 Q. Right. And your basis for discarding the 22 first ten years of that 50-year record has nothing to 23 do with the accuracy and the reliability of the data 24 from those years, does it?

Α. 25 Nothing that I know of, no. (WINTERFELD - CROSS BY VAN NOSTRAND) 3550 1 Would you agree that the purpose of stream Q. 2 flow normalization in a rate case is to provide the 3 best estimate of power costs during the period for 4 which retail rates are being approved? 5 Α. I guess in general. б Q. And you presented testimony in the 7 company's 1989 rate case regarding number of years of 8 historical stream flows; is that right? It was your 9 testimony that provided the basis for the Commission 10 adopting the 40-year rolling average? 11 There were actually two cases, but yes, Α. 12 that was one of them. 13 And I guess most of your testimony was Ο. presented in the company's cause No. U-81-41 reopened? 14 That's correct. 15 Α. 16 Q. And the Commission adopted your proposed 17 40-year rolling average for the purpose of defining 18 normal stream flows in setting the company's power costs in the 1989 general rate case; is that correct? 19 20 Α. That is correct. 21 Q. And the 40-year rolling average generally 22 suggests better water conditions than the 50-year 23 average proposed by the company. Is that a fair 24 statement?

25 For the particular 40-year and 50-year Α. (WINTERFELD - CROSS BY VAN NOSTRAND) 3551 1 period we have currently. It's not always going to 2 suggest that. 3 Right. So selection of the 40-year rolling Ο. 4 average resulted in a lower estimate of power supply 5 costs than a 50-year average would produce; is that б correct? 7 Α. That is correct. 8 Q. And would you agree subject to check that 9 the use of the 40-year rolling average instead of the 10 50-year average resulted in power supply expenses that were about \$2.6 million lower than the company's 1989 11 12 general rate case? 13 That sounds about right subject to check. Α. And to the extent actual water conditions 14 ο. were worse than what was assumed when normalized power 15 16 costs were set in the last general rate case, don't 17 deferrals arise under the company's PRAM? 18 Α. That's correct. And these deferrals are calculated by 19 Ο. 20 running the simple dispatch model with actual hydro 21 conditions? 22 Α. That's right. 23 Q. And given the actual water conditions which 24 have occurred in the last two years, wouldn't the

25 deferrals under the PRAM have been about \$5.2 million (WINTERFELD - CROSS BY VAN NOSTRAND) 3552 less if a 50-year average had been adopted in the 1 2 company's last general rate case rather than the 3 40-year rolling average? 4 Α. I don't know that. That depends on a whole 5 host of factors, as to what secondary purchase prices б and sales were, whether the rates were set in the 7 general rate case versus what they actually were as 8 trued up to the PRAM. So it could have been more than 9 that, it could have been less than that. 10 ο. Would you accept that ballpark just by taking the \$2.6 million number from the 1989 rate 11 12 case for two years as a reasonable way of coming up 13 with a rough estimate? 14 MR. TROTTER: Your Honor, the witness already said that that estimate includes a whole host 15 16 of assumptions so I don't see how the witness could 17 answer. JUDGE HAENLE: Well, if the witness feels 18 19 that's a reasonable way of estimating it he may do so. 20 If not, he may certainly say that as well. Sir? 21 Α. That's a way of estimating it. I guess I 22 would say I think the range is fairly broad so if 23 you're willing to say it's about 5.2 but maybe it's 24 only two-and-a-half million or maybe it's 7 and a

25 half or 8 million and are comfortable with that amount (WINTERFELD - CROSS BY VAN NOSTRAND) 3553 1 of imprecision, yeah, I could agree with that. 2 Would you also agree that at least based on Ο. 3 the most recent experience, at least the last two 4 years, that the 50 year average is a more accurate 5 measure of water conditions than your 40-year rolling 6 average? 7 Α. Either one is done very well but the fact 8 is the 50-year has been slightly closer than the 9 40-year based on the last two years of experience. 10 ο. From the Commission's order in the 1989 rate case, isn't it true the Commission expressed some 11 12 desire that the parties get together to try to 13 determine the best method for the entire state regarding the number of historical water years to be 14 15 used? 16 Α. Yes. 17 Ο. And are you aware of discussions that have 18 occurred among a number of parties regarding that 19 issue? 20 Α. Actually, I made a data request about the 21 basis for Mr. Lauckhart's filing based on 50 years to 22 provide all studies and analysis supporting that and 23 what I received was a letter dated January 7 that 24 discussed meetings that were being requested by Puget

25 to be convened and some additional minutes of those (WINTERFELD - CROSS BY VAN NOSTRAND) 3554 meetings from Mr. Lauckhart dated February 9, 1993, so 1 2 the results of my requests for any analysis or studies 3 or any work done to date that was the support for 4 Mr. Lauckhart's decision to use 50 instead of 40 as 5 used in the last case were these two pages of 6 memorandum talking about upcoming meetings. 7 ο. Is that a long way of saying you were aware 8 that these meetings were occurring? 9 Yes. During the middle of the case the Α. 10 meetings were occurring. And to your knowledge was staff provided an 11 Q. 12 opportunity to participate in these discussions? 13 MR. TROTTER: I guess I will object to -unless we can have a clarification of what the term 14 "opportunity" means, in the context of a rate case 15 16 being invited and having a meeting are two different 17 things. 18 MR. VAN NOSTRAND: I guess an opportunity 19 is whether staff was invited. 20 Α. My understanding is staff was invited and I 21 believe attended at least one meeting, maybe more 22 meetings, but I am really not familiar with that. 23 And did you see any preliminary results at Q. 24 the meeting of this group other than what was provided

25 to you by Mr. Lauckhart?

(WINTERFELD - CROSS BY VAN NOSTRAND)

3555

1 A. No, I have not.

2 And Exhibit 868 states your response as Ο. 3 far as whether you performed any additional studies to 4 supplement what you already did in cause U-81-41 and 5 your response was that you have not performed any 6 additional studies, too; is that correct? 7 Α. Typically when the company files the case 8 and proposes to use 50 years they would put, if you 9 will, their studies on the table first since they have 10 the opportunity for rebuttal, and since they didn't put any studies on the table and were proposing a 11 12 change from the Commission decision in the prior case, 13 since I was proposing no change and seeing nothing from the company to date I certainly didn't put 14 anything on the table either. 15

Q. So we go back to the studies that you performed in U-81-41 and as far as analyzing the difference between a rolling 40 and the full 50-year water record?

A. Well, certainly I did file things in that case. I think we really go back to the Commission decision on the 1989 case where they adopted a 40-year rolling average based not only on my testimony but the testimony of other parties to the case. 25 Are you offering any testimony in this case Q. (WINTERFELD - CROSS BY VAN NOSTRAND) 3556 1 regarding whether or not 40 rolling years continues to 2 provide a better measure of average stream flow than 3 the 50 years proposed by the company? 4 Α. I have not done any further analysis of 5 that, no. б MR. VAN NOSTRAND: Your Honor, move the 7 admission of 868. JUDGE HAENLE: Any objection to the entry 8 9 of 868, Mr. Trotter? MR. TROTTER: No, 10 JUDGE HAENLE: Any objection, Mr. Adams? 11 12 MR. ADAMS: No. JUDGE HAENLE: Objection from an 13 14 intervenor? 15 868 then will be entered into the record. (Admitted Exhibit 868.) 16 17 ο. Turn to what's been marked for identification as 867. Do you recognize this as part 18 of your study of the 40-year rolling average from 19 20 cause No. U-81-41 reopened? 21 Α. Yes. That's one page out of three 22 exhibits. 23 JUDGE HAENLE: Sorry. Three pages or three 24 exhibits?

25 THE WITNESS: There were three exhibits. (WINTERFELD - CROSS BY VAN NOSTRAND) 3557 This first exhibit which has been marked 867 was page 1 2 2 of a two-page exhibit. There was also a second 3 one-page exhibit and a third one-page exhibit. 4 Q. This is the second page of what you had as Exhibit CKW-2 in that case? 5 б Α. That's correct. 7 ο. And this shows the net variable power costs 8 for operating years 1929 through 1978 using the data 9 from operating year July 1988 through June 1989? 10 Α. That's correct. And your reference to water year in this 11 Ο. 12 exhibit in the far left column refers to the operating period the second year of which is shown on the 13 column, in other words 1929 means the water year 1928 14 15 to 1929? 16 Α. That is correct. 17 ο. Turning to Exhibit 866 would you accept 18 subject to check that this exhibit takes the first two columns of what's been marked for identification as 19 20 Exhibit 867 and ranks them in the order of lowest net 21 variable power costs to highest? 22 Α. Yes. 23 Q. And this ranking would also show generally 24 a ranking of hydro conditions in terms of stream flow

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25
    from the best stream flow conditions to the worst. Is
       (WINTERFELD - CROSS BY VAN NOSTRAND)
                                                           3558
 1
     that a fair general statement?
 2
         Α.
               Yes.
 3
               MR. VAN NOSTRAND: Your Honor, move the
 4
    admission of Exhibit 866 and 867.
 5
                JUDGE HAENLE: Any objection, Mr. Trotter?
 б
               MR. TROTTER: No.
 7
               JUDGE HAENLE: Mr. Adams?
               MR. ADAMS: No.
 8
 9
                JUDGE HAENLE: Objection from an
10
     intervenor?
11
               MR. TRINCHERO: No, your Honor.
12
                JUDGE HAENLE: Exhibits 866 and 867 then
13
    will be entered into the record.
                (Admitted Exhibits 866 and 867.)
14
                I take it from your previous testimony and
15
          Q.
16
    your proposal in this case that the difference between
17
    your approach and the company's approach is that you
    would use the most recent 40 years, 1939 through
18
    1978, rather than 50 years of data which is available;
19
20
    is that correct?
21
         Α.
               Yes.
               And the difference then boils down to
22
          Ο.
23
    whether or not we use the data from years '29 to '38?
24
         Α.
               In this case. In the future it would be
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25 whether to use the most current 40 or whether you (WINTERFELD - CROSS BY VAN NOSTRAND) 3559 continue to use 1939 to 1978 and add additional years. 1 MR. VAN NOSTRAND: Like to distribute 2 3 another exhibit, your Honor. 4 JUDGE HAENLE: You've handed me a one-page 5 document. The caption at the top is Water Year and 6 Total NVCP with several of the figures lined out. 7 This will be marked as Exhibit 869 for identification. (Marked Exhibit 869.) 8 9 Mr. Winterfeld, would you agree that what's Q. 10 been marked for identification as Exhibit 869 is the same data as contained in Exhibit 866 and the years 11 12 which you would exclude under your rolling 40 have 13 been marked out? Yes. Those are the years that have been 14 Α. excluded, as a matter of fact. 15 16 Q. Exactly. Those are the years '29 through 17 '38; is that right? 18 Α. Yes. And if we step back and look at this 19 Ο. 20 wouldn't you agree that seven of the years excluded 21 are below the median? 22 Α. It appears that way. 23 Q. And two of the worst three and three of the 24 worst five are excluded?

That's right. All of which was part of the 25 Α. (WINTERFELD - CROSS BY VAN NOSTRAND) 3560 1 presentation and information available during prior 2 cases. 3 MR. VAN NOSTRAND: Your Honor, move the 4 admission of Exhibit 869. JUDGE HAENLE: Any objection? 5 б MR. TROTTER: No objection. 7 MR. ADAMS: No objection. 8 JUDGE HAENLE: Objection from an 9 intervenor? 10 All right. Exhibit 869 then will be entered into the record. 11 12 (Admitted Exhibit 869.) 13 We've earlier had testimony in this Ο. proceeding from Pacific Corp witness Diana Lozovoy 14 that water conditions during two of the last four 15 16 years are comparable to those experienced during the 17 1928 to 1932 critical period. Would you have any 18 reason to disagree with that observation? 19 Α. No. 20 Q. And under your 40-year rolling average data 21 from the 1928 to '32 critical period is excluded; is that right? 22 23 Α. That's right. 24 Q. And it was also your testimony in cause

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25
    U-81-41 reopened that in order for a 40-year rolling
       (WINTERFELD - CROSS BY VAN NOSTRAND)
                                                           3561
    average to be better than an average using all
 1
 2
    continuous records it must be in place for a long
 3
    period of time?
 4
         Α.
                Well, actually I would refer you to the
 5
     third exhibit that I describe where it shows
 б
    specifically that rounded to a percentage there's
 7
    no difference between the two methods based on Puget's
 8
    data in that case after five years. After ten years
 9
    there was about a 2 percent difference. After 20
10
    years there was virtually no difference and after 20
    years the 40-year rolling average was then
11
12
    significantly better.
13
               And the exhibit that is just being
          Ο.
    distributed now, is that the exhibit you are referring
14
     to from the 81-41 proceeding?
15
16
         Α.
               Yes.
17
                JUDGE HAENLE: You have handed me a
18
    one-page document entitled Comparison of Cost
    Normalization Methodology. I will mark this as 870
19
20
     for identification.
21
                (Marked Exhibit 870.)
22
               MR. VAN NOSTRAND: Your Honor, move the
23
    admission of Exhibit 870 based on Mr. Winterfeld's
24
    discussion of it just now.
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25 JUDGE HAENLE: Any objection? (WINTERFELD - CROSS BY VAN NOSTRAND) 3562 1 MR. TROTTER: No objection. 2 MR. ADAMS: No objection. 3 MR. TRINCHERO: No objection. 4 JUDGE HAENLE: Exhibit 870 will then be 5 entered into the record. б (Admitted Exhibit 870.) 7 ο. Is it also important that for the 40-year 8 rolling average to remain in place over a long period 9 of time that there be no changes in factors affecting 10 stream flows such as land use and water consumption 11 practices? 12 Α. No, I don't think so. I think that's one 13 of the benefits of the 40-year rolling average is you're not using data from an earlier period for which 14 you can't control for those factors but you're 15 16 discarding that data and using more current data. 17 ο. Have you updated any of your analyses or studies in light of recent decisions regarding fish 18 mitigation measures for the mid Columbia hydro 19 20 projects? 21 Α. No, I haven't. Those certainly will affect 22 the way natural stream flows are regulated and then 23 how those regulated flows impact net power supply 24 expense, but I wouldn't necessarily expect out of hand

25 that just because there's a change in regulated flows (WINTERFELD - CROSS BY VAN NOSTRAND) 3563 1 that the 40-year average will suddenly become less 2 reliable than it was before or significantly inferior to the 50-year average. The 50-year average will be 3 4 affected as will the 40-year average by changes in 5 regulated conditions. 6 JUDGE HAENLE: Could we look for a place to 7 take our afternoon recess? 8 MR. VAN NOSTRAND: This is a good break 9 point right here. Just one more area to cover. 10 JUDGE HAENLE: Do you want to finish it? MR. VAN NOSTRAND: Probably another ten 11 12 minutes is all, sure. JUDGE HAENLE: Why don't you go ahead. 13 14 ο. If we could discuss your coal plant availability adjustment a little bit, Mr. Winterfeld. 15 16 I believe page 10. This discusses the company's 17 proposal regarding equivalent availability for its 18 coal units and you would agree, wouldn't you, that the 19 company's proposal is to use a current seven-year 20 average of all comparably-sized coal-fired units 21 reported by the North American Electric Reliability 22 Council? 23 Α. Yes. I believe that was the proposal in 24 this case. As far as I recollect that's not what had

25 been proposed in prior cases by the company. (WINTERFELD - CROSS BY VAN NOSTRAND) 3564 1 And I believe you prepared an exhibit which Q. 2 compares the data which the company proposes to use 3 and your proposal, which is to use the actual 4 five-year experience of the company? 5 Α. Yes. 6 Q. And this would be your Exhibit 861? 7 Α. Yes. 8 Ο. And I take it from your exhibit the company 9 has exceeded the performances measured against the 10 industry standards proposed by the company? 11 Α. Yes. 12 Q. With respect to the Centralia unit in particular, the industry standards would be 79.17 13 whereas your proposal would be 88.9? 14 15 Α. Correct. And Colstrip 1 and 2 at 76 and the actual 16 Q. 17 experience is about .83? 18 Α. Correct. And Colstrip 4 again the industry standard 19 Q. is 79.17 whereas the actual experience has been about 20 21 85? About 86. 22 Α. 23 Q. Would you agree that the industry standards 24 selected by Mr. Lauckhart are correct in terms of the

25 comparably-sized units and the years from which this (WINTERFELD - CROSS BY VAN NOSTRAND) 3565 1 data was taken as reported by the North American 2 Electric Reliability Council? 3 Yes. He accurately used the data for the Α. 4 seven years and the data as published is broken into 5 size ranges and he did take the data from the size б range comparable with the coal unit of Puget that he 7 was using. He did not, however, as I indicate go 8 beyond the published data to see if there was a 9 smaller subgroup of plants that would have similar 10 characteristics to Puget's plants that might be more 11 homogeneous than simply using size as the only 12 criteria in the selection. 13 And did you or anybody else from staff Ο. 14 perform that sort of analysis? No. And as I indicated in a response to a 15 Α. 16 data request I frankly didn't do that because I was 17 uncertain as to whether that type of categorization would be fruitful or not. That is, if you could find 18 19 factors and updated to perform that analysis in a 20 satisfactory fashion. And since I was not proposing 21 using a surrogate average but virtually the company's 22 actual historic availability, I didn't see the 23 necessity to perform that analysis. 24 ο. If the company's performance were to be

25 measured against the performance of other utilities' (WINTERFELD - CROSS BY VAN NOSTRAND) 3566 1 coal-fired plants what standard would staff propose to 2 use? 3 Α. Well, two things. First of all, I would 4 think there would be some attempt to look beyond the 5 published size data into more specific information, 6 and second of all, I would go to the company's 7 published data and make certain that the reporting of 8 maximum capacity and outages scheduled and unscheduled 9 were consistent with the data reported by in the GADS 10 database. 11 Are you familiar with the energy cost Q. 12 adjustment clause or ECAC that was formerly in place 13 for the company; is that correct? 14 Α. Correct. And under the ECAC, the company recovered 15 Q. 16 its actual power supply costs; is that fair to say? 17 Α. That's right. 18 And if there was an outage at one of the Ο. 19 company's Colstrip unit, for example, the company 20 would, under the ECAC, recover its replacement power 21 costs? 22 Α. That's right. 23 Q. And do you recall staff ever taking the 24 position during ECAC proceedings that the company's

25 coal plant performance should be measured against (WINTERFELD - CROSS BY VAN NOSTRAND) 3567 industry standard rather than allowing a direct 1 2 pass-through of its actual power costs? 3 Α. It may have. I don't know. 4 Q. Would you agree that measuring the 5 company's performance against a national objective 6 standard provides a stronger incentive for the company 7 to operate the plants efficiently? 8 Α. It does, but if we use that in setting 9 rates and we don't have an ECAC or we don't have a 10 PRAM that adjusts for that in a true-up the company certainly has the incentive because they get to keep 11 12 all, 100 percent of the benefits. So that's about as 13 much incentive as you can get. 14 ο. In turn, if they perform worse than the industry average they would be penalized? 15 16 That's right. 100 percent of the Α. 17 additional cost. 18 Under your proposal if the company's Ο. 19 performance continues to improve and its availability 20 factors get higher and higher, the standards which it 21 will have to meet will in turn get higher and higher? 22 Α. The standard is simply their actual average 23 performance over a five-year period that's the basis 24 for the normalization. Since they did actually

25 achieve that, no, it would not get any higher and (WINTERFELD - CROSS BY VAN NOSTRAND) 3568 higher. It would be the average of what they were 1 2 actually able to achieve during the preceding 3 five-year period. 4 Q. And that would be the standard they would 5 have to meet in the future in order not to be penalized? б 7 Α. That's right. 8 Ο. And if the company's performance declined 9 and its equivalent availability factors dropped, what 10 assurances are there that staff won't in the future revert to measuring the company's performance against 11 12 the industry average? 13 Well, I guess the company is faced with Α. both the Commission and every intervenor being unable 14 to bind them to their preceding decisions or 15 16 positions, and neither are the other parties able to 17 bind the company to its preceding positions or 18 policies. Has the Commission staff rerun the power 19 Ο. 20 costs using the new load forecast provided by the 21 company in its third supplemental response to data 22 request 1085? 23 Α. No, not that I am aware of. 24 Q. And do you know whether the staff has been

25 provided all the necessary information that would (WINTERFELD - CROSS BY VAN NOSTRAND) 3569 allow it to rerun its power cost with that new load 1 2 forecast? 3 Α. I don't know. I guess I would just observe 4 that if the monthly loads had been provided it could 5 be rerun. My understanding is the company has filed 6 information that adjusted the production factor and 7 I've had discussions with some staff that the results 8 of the existing power PCS, power costing system model 9 output could simply be adjusted by the new production 10 cost factor rather than rerunning the model. I don't know if that's been done or not, but so as far as I 11 12 know the model has not been run with any new load 13 data. 14 MR. VAN NOSTRAND: Like to make a record requisition, your Honor, that the model rerun he just 15 16 referred to by Mr. Winterfeld as far as the production 17 adjustment be performed and provided. JUDGE HAENLE: That's 585. 18 19 (Record Requisition 585.) 20 MR. TROTTER: Your Honor, we may have an 21 objection to that and we will articulate it after the 22 break. 23 THE WITNESS: I need some clarification 24 about that.

25 JUDGE HAENLE: Perhaps you can discuss that (WINTERFELD - CROSS BY PAINE) 3570 during the break. 1 2 Why don't we recess at this time, be back 3 at 20 minutes after. 4 (Recess.) 5 JUDGE HAENLE: Let's be back on the record 6 after our afternoon recess. Mr. Trotter? 7 MR. TROTTER: Yes, we understand Record 8 Requisition 585 and we will respond. 9 MR. VAN NOSTRAND: I'm finished, your 10 Honor. 11 JUDGE HAENLE: Mr. Paine? 12 13 CROSS-EXAMINATION BY MR. PAINE: 14 15 Mr. Winterfeld, I have several clarifying Q. 16 questions. Referring to your rebuttal testimony, 17 Exhibit T-863, page 4, at line 17 you refer to trends or cycles affecting annual stream flow. And I want to 18 get clarified in the record, when you're talking about 19 20 trends in your testimony are you talking about trends 21 in stream flow? And then I am going to ask you what a trend is. 22 23 Α. Yes. I am talking about trends or cycles

in stream flows that obviously would have an effect on

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25 trends and cycles in generation and therefore some (WINTERFELD - CROSS BY PAINE) 3571 1 sort of effect but not necessarily one for one with 2 power supply expenses of the utility. 3 ο. That's helpful. On the previous page of 4 your rebuttal testimony at line 22 you speak of the 5 existence of trends or cycles in weather patterns. 6 Are you equating weather patterns in some fashion to 7 stream flow? 8 Α. Yes. It's similar to the prior 9 explanation, I think you can go back further and 10 further in the process and some point stream flows are related, again, not one for one, with weather 11 12 conditions. Weather conditions ultimately in one year 13 translate into stream flows in that and some 14 subsequent years through some complex physical 15 process. 16 Ο. What do you have in mind when you use the 17 term "trend" in stream flow? 18 Α. I have in mind a long term, perhaps permanent change in the mean of annual stream flows. 19 20 Q. And what do you mean when you use the term 21 "cycle" in stream flows? 22 Α. I mean a change in the main that increases 23 and decreases periodically and for which there may be 24 present several cycles of different frequency and

25 magnitude occurring at the same time.

(WINTERFELD - CROSS BY PAINE) 3572 1 All right. With those definitions in mind Q. 2 referring you again to page 4 of your rebuttal 3 testimony -- lines 1 through 4, you refer to 4 Mr. Blackmon's testimony. You indicate that 5 Mr. Blackmon has presented cogent analyses supporting 6 the existence of cycles in the historical record of 7 annual hydro generation; is that correct? 8 Α. That is correct. 9 Is it your understanding that Mr. Blackmon's Q. 10 testimony does not support the existence of trends in the historical record of annual hydro generation? 11 12 Well, he has some analysis and it was made Α. an exhibit but I don't have that -- well, there was a 13 14 data response that was made an exhibit in which he presents a multiple regression analysis that had, 15 16 amongst several of the explanatory variables, two 17 trend factors which were, in his analysis, 18 statistically significant, although today I believe I heard him say that he -- my understanding was he said 19 20 that he did not believe that he had shown anything as 21 to a statistically significant trend. 22 Ο. And do you agree with that conclusion? 23 JUDGE HAENLE: That conclusion being that 24 he showed or that there is --

25 MR. PAINE: That he did not show a (WINTERFELD - CROSS BY PAINE) 3573 statistically significant trend in the stream flow? 1 2 Well, he did the analysis so I would have Α. 3 to be guided by his conclusions on it since I have 4 really not examined the details. I only really have 5 looked at the data responses. 6 Q. You indicate at the lines that I cited, 7 lines 1 through 4, page 4 of your rebuttal, that there 8 is analysis supporting the existence of cycles. You 9 do refer to annual hydro generation. Can we infer 10 that you believe that the data or the analysis supports the existence of cycles in stream flow? 11 12 I believe it supports the fact that the Α. 13 historical generation is not consistent with a random 14 variable, a random process, and whether the nonrandomness indicates the presence of cycles or 15 16 trends, I guess I am less certain of as to the 17 specifics than the fact that the data clearly show 18 that there is occurring a nonrandom process that is 19 influencing the data. 20 Ο. Well, let me back up because you indicated 21 in your response both trends and cycles. Can we 22 eliminate that trends have been shown to exist based 23 on the data submitted in this record? 24 Α. No, I don't think we can eliminate those.

25 I think we can do just what I said, and that is that (WINTERFELD - CROSS BY PAINE) 3574 Mr. Blackmon is -- Dr. Blackmon in this record has 1 2 presented through a data response made an exhibit an 3 analysis that contained trend components even though 4 my understanding was that he characterized that as not 5 statistically significant but his testimony will show 6 what it shows in the record. 7 Ο. Well, you also believe that there is 8 analysis submitted in this record that supports the 9 existence of cycles in stream flow; is that correct? 10 Α. Correct. And is that cycle captured in the 11 Q. historical stream flow data ending in 1978? 12 I guess I have a problem with your use of 13 Α. 14 the term captured. The analysis was done on data up through 1978, so I would say the data was reflective 15 16 of these nonrandom processes. Whether that captures 17 it or not, I don't know. I guess I would not use that 18 material. Well, let's explore that just for a minute. 19 Ο. 20 What I am focusing on is whether or not 30 years or 40 21 years of stream flow ending in 1978 reflects a 22 complete cycle in stream flow. Can you tell me 23 whether it does or not? 24 Α. I don't know. As I indicated, I don't know

25 that we're dealing with a single cycle. I think that (WINTERFELD - CROSS BY PAINE) 3575 as Mr. Tangborn testified for Puget in the prior rate 1 proceeding that there was likely many cycles exhibited 2 3 in weather data of various frequency and amplitudes 4 and we shouldn't look or think about weather data 5 exhibiting a single cycle only. б MR. PAINE: Thank you. That's all I have. 7 8 CROSS-EXAMINATION 9 BY MR. MEYER: 10 ο. Same issue but I would like to explore a different dimension of this subject. Do you agree 11 12 that a principal objective of a stream flow adjustment 13 is to make sure that in the long term that neither the ratepayer nor the shareholder benefits from the 14 15 adjustment process? 16 Yes, I think that's an important concern. Α. 17 I think you're quoting some prior testimony of mine. 18 Good recollection. I am, from a prior Ο. 19 Water Power rate proceeding, U-85-36? 20 Α. Yes, that's correct. 21 Q. You continue to hold that proposition? 22 Α. Yes. 23 So is this essentially, to simplify this, a Q. 24 process where any stream flow normalization procedure,

25 because it will never precisely capture the future, (WINTERFELD - CROSS BY MEYER) 3576 must provide for a balancing over time, balancing act, 1 2 if you will, where sometimes shareholders benefit, sometimes ratepayers benefit? 3 4 Α. No. I don't think that's the case. I 5 think the sense of what I have tried to say in the past is that I don't believe, and I think Mr. Norwood 6 7 shares this, that we have or at least I am able to 8 produce a process where we can accurately predict 9 future weather, future stream flows, therefore future 10 hydro generation and therefore future net power supply 11 costs. And since we cannot predict that, nor can we 12 state with any certainty that in the future this 13 stream flow and hydro generation net power supply 14 expense is going to be equal to an average of any set of historical conditions, it is beneficial to use a 15 16 process that we're comfortable is fairly reliable in 17 terms of making an estimate but also by its nature is 18 self-correcting in terms of the type of errors that it 19 may be making. 20 Ο. Well, and by self-correcting, how would it 21 self-correct? Would it do so by making up in some

22 years for deficiency, in others -- do you have in mind 23 what I'm talking about?

24 A. Yes. Rather than sticking with simply a

25 continuous record that could perhaps always be low or (WINTERFELD - CROSS BY MEYER) 3577 always be high, or a predictive method that could 1 2 predict much too high for one period of time and 3 somewhat low another period of time and who knows, 4 after that any distribution of errors, that we have a 5 process that by using a rolling average over a fairly 6 long period of time, yes, would perhaps be too high 7 during some period of time, since we can't predict in 8 advance what future stream flows and generation and 9 expenses are going to be, but by dropping off data and 10 adding more data would then tend to compensate for 11 that error. 12 Let's explore that compensation, but agree Ο.

13 with me, will you not, that except in cases of sheer 14 happenstance any stream flow methodology we utilize 15 will not precisely predict year in and year out actual 16 conditions?

17 A. That is correct.

Q. So even though we don't set out to provide a benefit to shareholders or a benefit to customers, as a result of the methodology we choose, if just so happens that that occurs in the normal course of events, given whatever methodology we pick?

23 A. That is correct.

24 Q. Just a simple proposition I am trying to

25 lay out on the table.

(WINTERFELD - CROSS BY MEYER)

1 Let me refer to that just in a shorthand 2 way and I guess you can quarrel with the description, 3 but let's call that a balancing act, if you will, a 4 balancing, just accept that characterization for the 5 time being. I want to explore with you over the long б time what type of intervening or I guess supervening 7 circumstances might disturb this balancing act. Let's first of all talk about because Water Power holds 8 9 certain hydro rights, mid Columbia hydro rights, what 10 about the expiration of mid Columbia contracts for Water Power? Do you know when they expire, first one? 11 12 Would you accept roughly the year 2005? 13 Could be. That sounds about right. I have Α. the data here if you want me to look it up. 14 You're free to but accept subject to check 15 Q. that 2005? 16 17 Α. Okay. 18 Possible that that might not be renewed? Q. 19 Α. Possible. 20 Q. Could be renewed, might not? 21 Α. That's correct. 22 Ο. And likewise for other contracts for mid 23 Columbia projects? 24 Α. That is correct.

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25 So it's possible, is it not, that as we Q. (WINTERFELD - CROSS BY MEYER) 3579 1 enter the early years of the next century that there 2 may be a slippage of our hydro generation base as a 3 result of the termination of those contracts? 4 Α. That is correct. 5 Ο. Similarly, isn't it possible that over the 6 long term, whether it's because the company proposes 7 it or whether it's because the Commission directs it 8 that Water Power may have a tracking mechanism in 9 place whereby any excess revenues or deficiences are 10 recovered in power supply costs? 11 That's correct. Α. 12 Well, let's assume in that context that Ο. we've had a rolling 40-year average, as you propose 13 14 it, in place for a few years. And let's also assume that as a result of that methodology we have 15 16 overstated the revenues, if you will, based on stream 17 flows. 18 Are you with me so far? 19 That's the problem. You're setting up a Α. 20 hypothetical that says let's assume your 40 years 21 turns out to be wrong and then do we get bad results 22 using it, of course you do. But let's assume 23 hypothetically that your 50 years that's wrong and the 24 40 years actually turns out in retrospect to be closer

25 to the average. See, the problem is we don't know (WINTERFELD - CROSS BY MEYER) 3580 which way it's going to turn out. We do know that it 1 2 looks like the two statistically ought to produce very 3 close results. In the exhibit that's been entered 4 into the record for Puget which this case is about, it 5 showed in fact they did appear would produce very 6 close results over the first five, ten, twenty years, 7 but for any specific piece of data, the results of the 8 two may diverge but we're not going to know in advance 9 which is going to be more accurate. So we can suppose 10 the 40 years was less accurate and the 50 years was more accurate but it's purely hypothetical and there's 11 12 really no basis for it. 13 Ο. Well, we can quarrel over whether the 14 assumption is a meaningful assumption. Let's see if we can't cut out a few steps and perhaps get more 15 16 directly to the point. Can you envision any 17 circumstance wherein the institution of a power supply 18 tracking mechanism might disturb this so-called 19 balancing act that we had discussed before, and if so, 20 under what circumstances? 21 Α. Yes. It would certainly disturb the 22 balancing act whereby in retrospect you could look 23 back between any point in time you choose and when the

24 power cost adjustment clause was put in place and say

25 had I known now -- had I known then what I know now, (WINTERFELD - CROSS BY MEYER) 3581 if I would have used a 40-year we would have gotten 1 2 more accurate results, or you may say in retrospect 3 had I known then what I know now had we used a 50-year 4 or had we used a 20-year, but the fact is we won't 5 know as we go forward until you put that power cost б adjustment clause in place and we disturb that balance 7 which way the distortion is either going to favor the 8 ratepayer or the stockholder and whether we would 9 minimize that disturbance by using one method over 10 another.

11 Q. But the event, i.e., institution of a 12 tracker, will in some manner disturb the balancing 13 act, would you agree?

A. That's right. To the extent that there were errors in any methodology if you're going to track through 100 percent of a hydro condition, in theory you're going to remove that error with some lag.

19 Q. Would you agree that a rolling average 20 methodology assumes over the long term that there are 21 offsetting errors?

A. I think the analysis shows that the
offsetting errors are what leads to a lower total
cumulative error as opposed to the 50-year or longer

25 average. I think you have to also look at the fact (WINTERFELD - CROSS BY MEYER) 3582 that statistically there is not a large difference in 1 the level of reliability of the estimate that you're 2 getting between the 40 and 50 or 60 year average is 3 4 another consideration. 5 Ο. Be that as it may, as a general б proposition, though, do you agree with my statement? 7 Α. As a general proposition, and then I would 8 just point to the more specific proposition which was 9 done for Puget in the prior case of looking at Exhibit 10 No. 870 which quantifies that difference. 11 Q. Now, do you take issue as a general 12 proposition with Mr. Norwood's assertion that since 13 power cost trackers eliminate the errors in the 14 estimates by tracking actual costs the introduction or elimination of trackers will eliminate offsetting 15 16 errors which must occur with the rolling average 17 methodology? 18 No, I don't agree with that. Α. 19 Ο. Let's turn to another type of supervening 20 event. Well, first of all we talked about potential 21 termination of mid Columbia contracts. We've secondly

23 mitigation measures. Might not fish mitigation

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24 measures affect the timing and usability of stream

covered trackers as an example. Thirdly, fish

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25
     flows?
       (WINTERFELD - CROSS BY MEYER)
 1
          Α.
                Certainly could.
 2
                And might not in so doing such measures
          Ο.
 3
     disturb the so-called quote-unquote balancing act?
 4
          Α.
                Certainly would, and again my response
 5
     would be we don't know in which favor that distortion
     would be in terms of a methodology.
 6
 7
          ο.
                When you talk about the long term, what
 8
     time frame do you have in mind?
 9
                MR. TROTTER: Can we have context?
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                MR. MEYER: Well, I believe the witness
     testifies that over the long term --
11
12
                MR. TROTTER: Just a cite to the testimony.
13
                MR. MEYER: Just a moment. Let's refer
14
     back to my opening reference to the transcript of your
     prior testimony in U-85-36 wherein you anticipated me
15
16
     and you said you must be referring to my testimony in
17
     that case wherein you stated that "in the long term
18
     neither the ratepayer nor the shareholder benefits
     from the adjustment process." Do you recall that
19
20
     exchange?
21
          Α.
                Yes.
22
          Ο.
                In that context what did you mean by the
23
     long term?
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Α.

I suppose anywhere beyond five years.

Q. For Water Power or would it be specific to (WINTERFELD - CROSS BY MEYER) 3584

1 a utility?

2 A. I think my reference about advantages to 3 the stockholder or ratepayer was a fairly generic 4 statement, and I don't know if you want to refer to a 5 specific methodology or not or application of the 6 methodology to a specific utility.

7 Ο. Well, I am not trying to be cute here. I 8 am just trying to get a feel for what you mean long 9 term. Let's try your rebuttal testimony at page 3, 10 line 20. The point of my testimony in prior cases -reading from your testimony -- "is that after a period 11 12 of 15 to 20 years use of a rolling average decreases 13 the cumulative error," et cetera, et cetera. That's 14 the frame of reference you have in mind, 15 to 20 15 years?

A. No, I believe it's for five years and I will refer you back again to Exhibit 870. It showed after five years there was virtually no difference from five years on until you got to sometime after year 20 between use of a 40-year and continuous record method of normalizing power supply expenses.

Q. And that exhibit was culled from a priorPuget rate case, was it not?

24 A. Yes. That refers to a Puget Power

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25 analysis by myself. (WINTERFELD - CROSS BY MEYER) 3585 1 Having no necessary connection with Water Q. 2 Power? 3 Α. That's right. 4 Q. So it might be different for Water Power? That's right. It might be. 5 Α. б Q. Could be 20 years? 7 MR. TROTTER: Your Honor, calls for 8 speculation. 9 JUDGE HAENLE: Mr. Meyer. 10 MR. MEYER: If the witness believes it could be as long as 20 years he can so state. If he 11 12 doesn't know he can state he doesn't know. JUDGE HAENLE: I will sustain the 13 14 objection. 15 You testified in U-85-36 which was Water Q. 16 Power's last electric rate proceeding on this issue, didn't you? 17 Α. 18 Yes. And at that time, as you are now, you were 19 Q. a proponent of the rolling 40-year methodology? 20 21 Α. Yes. And the Commission in its order issuing 22 Ο. 23 in 1986 accepted your methodology and moved to the 24 rolling 40 approach; is that correct?

25 Α. That is correct. (WINTERFELD - CROSS BY MEYER) 3586 1 For Water Power? Q. 2 Α. For Washington Water Power. 3 And of course the effect of adopting your Ο. 4 rolling 40 was to exclude the critical water years of 1928 through 1932? 5 б Α. That is correct. 7 ο. Now, would you agree with me, and if you 8 need to have reference again to the company's Exhibit 9 808, Mr. Norwood's exhibit -- perhaps you ought to 10 have that before you -- would you agree with me that 11 within a few years, within just two to three years 12 after the Commission issued its order in U-85-36 13 accepting your methodology that eliminated critical 14 water years of 1928 through 1932, that based on Dalles data we saw stream flows that were even more severely 15 16 depressed than the critical water years? 17 Α. I guess that's what Mr. Norwood's stream flow data shows. Frankly, I didn't think that had 18 19 much to do with Washington Water Power as has been 20 discussed and have looked more at the hydro generation figures on this page 3 to 4. 21 22 Ο. So that the data does indicate that within 23 a few years we saw on the Dalles conditions that 24 rivaled if not surpassed the critical water conditions

25 of '28 to '32? (WINTERFELD - CROSS BY MEYER) 3587 1 MR. TROTTER: Object to the question. It's 2 been responded to. 3 ο. Well, the answer was yes, I assume. 4 JUDGE HAENLE: I believe it has been 5 responded to. б MR. TROTTER: The answer was whatever he 7 said. He referred the counsel to another page of an 8 exhibit. 9 MR. MEYER: That will be all. Thank you. 10 JUDGE HAENLE: Mr. Adams. 11 12 CROSS-EXAMINATION BY MR. ADAMS: 13 Very briefly, Mr. Winterfeld, would you 14 ο. 15 explain the process of obtaining this water data. In your last case in one of the exhibits that Puget put 16 17 in for the record was part of your exhibit from U-89-2688 -- excuse me. The Exhibit 867, was page 2 18 of 2, I think was that from U-89-2688. 19 JUDGE HAENLE: It was from U-81-41 20 21 reopened, wasn't it? MR. ADAMS: Thank you. 22 23 Q. And in that case you also relied on data 24 that ended as of 1978; is that correct?

25 Α. That is correct. (WINTERFELD - CROSS BY ADAMS) 3588 1 So when -- what period of time has the data Q. 2 ending in 1978 been available? 3 Α. I believe it was available in 1986 or 1987. 4 Q. And prior to that time, if anyone wanted to 5 do this kind of a study one had to basically -- your 6 data ended in 1968; is that correct? 7 Α. That's right. Up until somewhere around 1985 or 1986, we were -- I should say the utilities 8 9 regulated by the commissions in the Northwest were 10 using a 40-year water record. And am I correct that this data is not 11 Ο. 12 simply flow at the Dalles, but actually gives the output of each specific plant, each facility on the 13 14 Columbia system? 15 Α. That's correct. The flow is basically 16 calculated for the Columbia River system and its 17 tributaries. So we have -- in other words we have flows 18 Q. today but what we don't have is the output, the hydro 19 20 output from the various facilities on that river; is 21 that correct? 22 Α. Well, what we don't have is the process 23 that's gone through where they transform the actual 24 recorded flows as those flows are affected by the

25 management of the Columbia River system into natural (WINTERFELD - CROSS BY ADAMS) 3589 1 flows that would occur apart from the management and 2 the depletions that are occurring today. Just to 3 continue, so we do not have the data available today 4 to use in the hydro regulation models that model hydro 5 generation up through 1978. б Q. Do not have it since 1978? 7 Α. We do not have it since 1978 and beyond 8 because we have managed flows but we do not have the 9 transformation of managed flows into natural flows 10 that would be incorporated in the hydro regulation 11 modeling. 12 So any flow data, for instance, at the Ο. 13 Dalles for 1991-92 is a managed flow; is that correct? 14 Α. I believe so. Looking at page 4 of your testimony and 15 Q. section entitled Overview of Net Power Supply Expense 16 17 Normalization, is it correct that you used the 18 company's production costing system model or PCS model 19 to estimate normalized net power supply expense? 20 Α. Yes. 21 ο. Now, you used a different set of inputs or 22 assumptions than the company; is that correct? 23 Α. I modified their input assumptions as 24 indicated in my testimony. I will say, frankly, the

25 bulk, though, of the input assumptions remained (WINTERFELD - CROSS BY ADAMS) 3590 1 unchanged. 2 ο. Were those inputs fed into the same 3 computer model the company used? 4 Α. Yes. 5 Ο. This PCS model is a model that the company б developed and maintained; isn't that correct? 7 Α. Yes. 8 Q. Did you or your firm help develop this 9 model? 10 Α. No. Do you know whether the Commission staff 11 Q. 12 helped develop this model? 13 As far as I know, no. Α. Did you make any effort to validate the 14 ο. model's accuracy, for example, by inputting actual 15 amounts for historical period and comparing the model 16 17 results to the actual results? 18 Α. No. Have you worked with or reviewed other 19 Q. 20 production costing models that are used by utilities 21 in this region or elsewhere? 22 Α. Yes. 23 Q. Are there any substantive differences 24 between Puget's PCS model than the production costing

25 models that are used by other utilities? (WINTERFELD - CROSS BY ADAMS) 3591 1 Α. Yes, there are. 2 What are the principal ones, just Ο. 3 generally? 4 Α. Well, there are quite a few so this is 5 strictly off the top of my head, but I think the most 6 significant ones relate to determining the 7 availability of surplus for purchase, the price of the 8 available surplus to the utility and the disposition 9 or sale of any surplus of the utility on the secondary 10 market in terms of prices. Particular differences 11 have been in the past with, for example, Washington 12 Water Power's model that uses a banding approach that 13 relates the price received or paid for nonfirm energy 14 into six separate pricing bands that are associated with specific resources or conditions with the prices 15 16 paid by the utility or received by the utility for 17 nonfirm. And for Pacific Power and Light in the last 18 rate case in Washington in which net power supply 19 costs were at issue, their modeling approach at that 20 time had some of the flavor of the banding of prices 21 received or paid for nonfirm as well as an on peak off 22 peak aspect to the pricing and availability and sale 23 of energy, so that conditions during a month were not 24 simply looked at as an average across the entire month

25 but were differentiated between hours on peak during (WINTERFELD - CROSS BY ADAMS) 3592 the month versus hours off peak during the month. 1 2 ο. Effectively that issue is one of the issues 3 analyzed by staff in this case, correct? 4 Α. What issue? 5 Ο. I'm sorry, sales of secondary versus of б secondary and prices for each? 7 Α. Yes. 8 Ο. Did you use the PCS model to calculate 9 proforma net power supply expense because you 10 concluded that it would provide the most accurate and reasonable estimate of power supply expenses? 11 12 No, I am afraid I can't say that. Α. Why did you use that model? 13 Q. Because that model is available and used by 14 Α. 15 the company. Would you say that the proforma power 16 Q. 17 supply expense that you calculated using the PCS model 18 is an exact calculation of the expenses that the company would incur over the range of hydro conditions 19 20 used in your analysis or an approximation? 21 Α. Well, I think any modeling is going to be 22 an approximation and I think the issue goes to the 23 degree of approximation or the factors that are looked 24 at by the model or considered by the model as opposed

25 to those factors that the analysts believes are (WINTERFELD - CROSS BY ADAMS) 3593 significant in the real world, in effect the prices 1 received or paid for secondary power and the overall 2 net power supply costs to the utility. And I quess I 3 4 would offer that I would say definitely I would 5 consider the Puget's PCS model an approximation 6 because I think there are several important factors 7 that affect their actual power supply costs that are 8 not considered or not considered very well in their 9 production costing system model. 10 ο. And these particular ones you addressed in 11 your testimony or Mr. Moast has addressed in his 12 testimony? 13 Well, I think we have at least partially. Α. We did not set out to make a list of areas of 14 improvement or areas of concern with the model, but 15 16 certainly in the area of secondary pricing that was 17 one significant factor and was addressed both by 18 myself and by Mr. Moast. 19 Ο. Are there any other particular areas of 20 concern that you have not addressed in this case? 21 Α. Well, as I indicated, I think the areas of 22 on peak versus off peak availability of power and the 23 pricing of the power; the linkage of secondary prices

24 to specific conditions in the region, particularly the

25 water condition occurring during the season or during (WINTERFELD - CROSS BY ADAMS) 3594 the year is very important, and as has been indicated 1 the Puget input to the production costing system model 2 basically has held the pricing in each of the months 3 4 constant irrespective of what the particular hydro 5 condition is for that month. б Q. Now, turning to the issue of secondary 7 prices on page 12 of your testimony am I correct that 8 one of the changes you made to the model of the PCS 9 input is to reduce the assumed prices for secondary or 10 nonfirm energy purchases, correct? That's correct. 11 Α. 12 And at line 25 of page 12 you testified Ο. that in your calculation of power supply expenses you 13 14 assumed a secondary purchase price that is 2.2 mill per kilowatt hour lower than the company's estimated 15 16 sales price; is that correct? 17 Α. Correct. 18 Is it correct that the company's inputs to Ο. 19 the PCS model used the same value as the secondary 20 purchase rate and the secondary sales rate in any 21 particular month? 22 Α. I would have to go back and review whether 23 under all conditions that was the case. I believe 24 that's correct, though.

25 Is it correct that the company arrived at Q. (WINTERFELD - CROSS BY ADAMS) 3595 1 the single purchase sale rate by taking the average of 2 purchases in sales over the previous four years? 3 Α. The particular set of monthly prices you're 4 referring to, yes, that's correct. 5 Ο. Am I correct you changed that assumption of б a single purchase sale rate on the basis that the 7 company had consistently purchased secondary energy at 8 lower rates than it had sold secondary energy for? 9 Α. That is correct. 10 ο. Would you agree that the result of averaging purchase rates and sales rates was to 11 12 overstate the average cost of secondary purchases? 13 That would tend to be the effect, yes. Α. 14 ο. And by lowering the secondary purchase rate by 2.2 mill per kilowatt hour, was it your intent to 15 16 correct that overstatement of secondary purchase costs 17 that resulted from this averaging? 18 Well, my purpose was, I think, to more Α. 19 appropriately reflect the differential that had 20 occurred historically between secondary purchases and 21 secondary sales. It was not really with a specific 22 purpose in mind of compensating or correcting for an 23 overstatement. It was that historically there had 24 been this difference and that was not being reflected

25 in the input assumptions to the model. As I indicate (WINTERFELD - CROSS BY ADAMS) 3596
1 in my testimony under the conditions and assumptions

2 used in the staff case there's virtually no secondary 3 energy purchase by Puget, according to the production 4 costing system model, so this change really had very 5 little, if any, effect in the total estimated net 6 power supply costs.

Q. I am trying to basically deal with the methodology here that you applied. I think you've indicated that this would overstate the average cost of secondary purchases. Would you agree that the results of this averaging of purchase and sales rates also would understate the average revenues from secondary sales?

14 Α. Yes. If you believe that you wanted to use 15 a secondary sales rate that reflected the average of 16 the same historical conditions that the company had 17 used, the adjustment I made would still tend to 18 understate that experience, secondary sales rate, 19 because it used the average rather than increasing be 20 the secondary sales rate to reflect what had actually 21 occurred over the last three or four year period for 22 the company.

23 Q. And am I correct or did you make any 24 adjustments to correct that understatement?

(WINTERFELD - CROSS BY ADAMS) 3597 1 Now, at line 12 of page 12 you state that Q. 2 the company, and I quote "has consistently sold and 3 purchased significant amounts of nonfirm energy during 4 the same month." Do you see that reference? 5 Α. Yes. б Q. Does this mean that even when the company 7 is a net purchaser of secondary energy in the month it 8 typically makes some nonfirm energy sales in that same 9 month? 10 Α. Yes, it does. And your testimony is that the company 11 Q. 12 typically buys energy at a lower price than it sells 13 energy; is that correct? 14 Α. That is correct. Is it correct that even when the company is 15 Q. 16 a net energy purchaser for a month it typically sells 17 some energy and has some net revenues from those 18 purchase sale transactions within the month? 19 Α. That's correct. And the effect of that 20 whether the purchases made during that month, or 21 excuse me, whether the sales made during that month 22 that they're a net purchaser, whether those sales are 23 made at a rate slightly below or slightly above the 24 purchases, the bottom line is they have some revenue

No, I didn't.

25

Α.

credits that are in effect coming back that reduces 25 (WINTERFELD - CROSS BY ADAMS) 3598 their net purchase cost for the month on an effective 1 2 basis. That is, if you take the sales revenues that 3 they receive in a month and in effect credit against 4 the cost of the purchases and divide by the net 5 purchases you end up with a much lower net cost to the 6 company than simply looking at their net purchase 7 price without including the sales credit and dividing 8 through by the amount of net purchase. 9 Q. Would you agree with this statement, does 10 that mean that the net cost of secondary power is less than the amount that would be calculated by 11 12 multiplying the net energy deficit for the month by 13 the average purchase rate? 14 Α. That's another way of saying it. Now, in a month when the company is a net 15 Q. energy seller, does it typically buy secondary power 16 17 during this same month? 18 Α. Yes. And typically does the company use this 19 Q. 20 purchase energy to sell additional secondary power 21 during the month? 22 Α. That would tend to be the effect measured 23 across the entire month. They may be purchasing at 24 periods of time when they're actually requiring

25 purchases but that would allow them to in effect store (WINTERFELD - CROSS BY ADAMS) 3599 1 energy or do other transactions that later on would 2 result in additional sales. Does that mean that in a month when the 3 Ο. 4 company is a net seller of surplus power its net 5 revenues are higher than the amount that would be б calculated by multiplying the net energy surplus for 7 the month by the average sale rate? 8 Α. That is correct. 9 Does the PCS model that you used to Q. 10 calculate proforma supply expense account for these additional revenues from secondary power purchases and 11 12 sales within a month? 13 No, it doesn't. Α. Did you make any adjustment outside the PCS 14 ο. model to account for those revenues? 15 No, I did not. 16 Α. 17 ο. One last question which is really a 18 question in the nature of clarification. At page 14 19 of your testimony, the first paragraph in the answer 20 at the top of the page you discuss briefly the BPA 21 sale agreement and a couple of pages later you talk 22 about a BPA capacity purchase and could you just 23 briefly explain what is going on? 24 Α. Okay. I think I guess I would assume by

25 referring to a capacity purchase you're referring to (WINTERFELD - CROSS BY ADAMS) 3600 page 16, lines 4 to 7, and that's not a BPA capacity 1 2 purchase. That's simply prospective capacity purchase 3 and not from BPA as far as I know. 4 Q. So there is not a capacity purchase from 5 BPA? б Α. No. Perhaps there will be but as far as I 7 know not at this time. It was being contemplated from 8 San Diego Gas and Electric or Douglas PUD or some 9 other utility. 10 ο. Well, let me rephrase the question, and I guess what I am trying to understand is why there 11 12 would be a capacity purchase, as you properly point 13 out I guess from Pacific Power and Light --14 Α. No. No again? 15 Q. 16 You're just reading too quickly. There are Α. 17 two adjustments. One had to do with the capacity 18 purchase. The other had to do with a purchase from Pacific Power and Light but they are two separate 19 20 transactions. 21 Q. Okay. What was the capacity purchase from? 22 Α. That's what I indicated, I don't know that 23 that's been -- the agreement has been executed or not 24 but it was contemplated I believe to be either San

25 Diego Gas and Electric or Douglas PUD.

(WINTERFELD - CROSS BY ADAMS)

Q. Sorry. This is late Friday afternoon.
 It's not filtering well. Have you looked at all at
 the rationale for a capacity purchase which appears to
 be also at the same time there's an energy, a firm
 winter energy sale to BPA which is your reference at
 page 14?

3601

7 Α. Rationale, no, I haven't. And more 8 specifically I haven't really looked at whether there 9 is any relationship between the two. That is, will a 10 sale of firm energy to Bonneville require additional capacity or in any way affect the need of the company 11 12 for additional capacity is not something I've looked 13 at nor is it really something with modeling tools that 14 Puget at least has available to it that is something that could be looked at very readily. 15

16 So without any linkage between these two, Ο. 17 have you looked at the rationale underlying a firm 18 energy sale winter sale to Bonneville by Puget? 19 Α. No. I think my testimony really goes to 20 the effect that we have not been presented a lot of 21 information or analysis as to the benefits from such a 22 sale given the uncertainties that Puget has in the 23 resources that they may have available, that is, their 24 net surplus, the cost at their margin of operating

25 some of these resources, or what the nonfirm secondary (WINTERFELD - CROSS BY ADAMS) 3602 sales market might be and might be at that point in 1 2 time under various water conditions, and whether the sales rate that they are receiving for nonfirm energy 3 4 under these various water conditions would meet or 5 exceed the price that they would be seeking from б Bonneville Power or if they're short of power that 7 they may be paying on the secondary energy market for 8 additional energy. 9 Hasn't Puget historically been energy Q. 10 short? Α. 11 In the last few years it has been close to being in load resource balance and I believe under the 12 existing poor hydro conditions it has in fact been 13 14 deficit. But you have made no analysis, then, of 15 Q. 16 where these sales to Bonneville are coming from, where 17 this energy is coming from? 18 Α. Well, I believe the information on loads 19 and resources provided by Mr. Lauckhart such as in the 20 SDM model would basically show that if they have the 21 resources available to it under average hydro 22 conditions and with the new contracts that they would 23 expect to be in place that they would be surplus and 24 therefore at least overall for the year would have

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energy to be made available, even though during the
25
       (WINTERFELD - CROSS BY ADAMS)
                                                            3603
    winter months, I believe either four or five out of
 1
 2
     six of the winter months they would be deficit in
 3
    providing the sale to Bonneville.
 4
         Q.
                Thank you.
 5
                MR. ADAMS: That's all I have.
 6
                JUDGE HAENLE: Commissioners, do you have
 7
    questions?
 8
                CHAIRMAN NELSON: No.
 9
10
                          EXAMINATION
    BY COMMISSIONER HEMSTAD:
11
12
                Late Friday afternoon I will try to make
          Q.
     this as short as possible. I find it very frustrating
13
    all this discussion about water flow. I assume it is
14
    your view that the most recent 40-year data is the
15
16
    best data?
17
         Α.
                No. I would say that use of the most
18
    recent 40 years in a rolling or moving average data is
    a better methodology for normalizing power supply
19
20
     expense.
21
                I don't know if, qualitatively, it's better
22
    data or poorer data.
23
          Q.
                Well, is it better or poorer data than if
24
    you had most recent 50 years data as a rolling base?
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25 Actually, that's a good question. I've Α. (WINTERFELD - EXAM BY COMMISSIONER HEMSTAD) 3604 been waiting for someone to ask that question. 1 Ι 2 think the answer is that as we get an additional ten 3 years of natural stream flow data that could be 4 included through the regulation model so that we're 5 having a period of time longer than simply 50 years to 6 look at it, that would certainly potentially be an 7 issue to look at. I think in general, though, unless 8 you think that there will be in the future cycles in 9 the data that fit well whatever happened to your 10 historic data, you don't get a lot of mileage out of studying the historical data. Because I think the 11 12 real issue is if you go back not just 50 years or 13 150 or 300 years or whatever and look at some of 14 these factors you see there will be cycles in the data but they're not regular cycles that you see in the 15 16 sine wave coming out of your electrical receptacle 17 that occur regularly over 40 years or 50 years or 18 whatever. There are many different factors 19 influencing the weather that combine to produce some 20 cycles but I don't think they combine to produce 21 cycles in something that we can look at the last 50 or 22 60 years of data and say that we've discovered what 23 the cycle is in that data and therefore we ought to 24 use categorically this number of years and we will get

25 the best results in the future.

(WINTERFELD - EXAM BY COMMISSIONER HEMSTAD) 3605 1 But the longer the cycle on a rolling Q. 2 basis, the greater the likelihood of a smoothing 3 impact in water flow data? That's correct. And the trade-off for that 4 Α. 5 is as you use the longer years you are dampening the 6 effect of the future. Information that you're putting 7 in the model to adjust to reflect those in your 8 conditions. You're getting some more stability but 9 there's a trade-off in that. 10 ο. So you don't have a view as to whether there are trends or whether it's purely random or even 11 12 -- is that a reasonable statement, at least it's not determinable whether it's a trend or random? 13 Well, I guess I would say I think the 14 Α. analyses that have been done by Dr. Blackmon and in 15 16 the past by other intervenors and just looking at the 17 data that's even been presented in this case to me 18 suggests clearly that it's not exclusively a random 19 process. There is some nonrandom influence affecting 20 the data. Whether it's a trend or a cycle, I haven't 21 analyzed and I don't know, as I say, that it's going 22 to be beneficial to analyze what trend or cycles 23 affected the last 50 years because I don't think we 24 can say with any confidence that they're going to

25 affect next year or the next 50 years. It would be (WINTERFELD - EXAM BY COMMISSIONER HEMSTAD) 3606 like trying to predict El Ninos for the next ten years 1 2 based on what happened for the last ten years. 3 Q. Well, what I find frustrating is that the 4 most recent data for using it is now 15 years 5 out-of-date? б Α. Yes. 7 ο. Now that will be apparently somewhat 8 updated by the end of this year when the next -- the 9 more recent ten years is added but right now we're 10 looking at data 15 years old as the most recent. Mr. Adams was, I think, inquiring along this line. We 11 12 have the water data but apparently we don't have the 13 analytical consequences sufficient to be able to put 14 into a model so that we can use the more recent water 15 data? 16 That's my understanding. There is a Α. 17 Columbia River water study group or some committee or 18 group to that effect that has been headed up, at least in the past, by staff for the Bonneville Power 19 20 Administration, has represented it from other federal 21 agencies and also from state water agencies as well as 22 I believe other interested parties such as utilities 23 or utility groups that sit down with this data and go 24 through the analytical process of transforming the

25 managed flows back into kind of reverse engineering (WINTERFELD - EXAM BY COMMISSIONER HEMSTAD) 3607 the natural flows that would have occurred without the 1 effects of management depletions. And whether that 2 3 group could do its work on any shorter schedule than 4 every ten years or not, I don't know, but certainly it 5 seems to be within the control of the utility 6 community and federal and state agency community --7 ο. I am puzzled why that can't be updated 8 on an annual basis even at a reasonable cost, but 9 apparently you don't have information to respond to 10 that? Yes. I don't know if that issue has ever 11 Α. been put to Bonneville or other affected parties as to 12 what it would take to make this process happen more 13 14 quickly. 15 Q. And there are no mechanisms that could be 16

used as proxies for that? What I am concerned about is if there are any trends or some of the data that -the charts we've looked at would suggest more recent below the average water flows but none of that is able to be considered. So we have a very artificial environment if we're attempting to make these ultimate judgments here.

A. I guess I don't know. I could speculate itwould be nothing more that there might be a shortcut

25 process where you could go through to basically adjust (WINTERFELD - EXAM BY COMMISSIONER HEMSTAD) 3608 1 the more current data to a past level of depletions. 2 So typically what's done is they look at a certain 3 level of depletions and certain projects as they exist 4 on the river and the way those projects are going to 5 be operated and they look back historically in terms б of reverse engineering what went on and I suppose they 7 could do the same thing and look forward in some 8 manner. Again, as far as I know no one has sat down 9 with this committee or group and has said how can we 10 work together to make this process happen more quickly, even if it's in some truncated fashion. 11 12 I want to focus briefly on the PRAM Q. 13 adjustment issue. From the testimony that has been presented from various witnesses I am left with the 14 impression that the weather and stream flow 15 16 fluctuations are if not the primary are at least the 17 major factors in driving the PRAM adjustments 1 and 2. 18 Is that a fair statement? Recent experience would indicate that for 19 Α. 20 at least PRAM 1 and PRAM 2. I don't know if that will 21 continue to be or not. 22 Ο. But that has been the case? 23 Α. That has been the case. 24 Q. And those adjustments take into account

25 annualized fluctuations in weather and stream flow? (WINTERFELD - EXAM BY COMMISSIONER HEMSTAD) 3609 1 No. They take into account monthly data. Α. 2 Monthly data but then translated into an Ο. 3 annual adjustment, is that a fair statement? 4 Α. Well, the adjustment is calculated or 5 summarized and applied annually. My understanding is, б though, that in terms of the adjustment for historical 7 conditions the company is actually recording monthly 8 the difference between what was estimated in the 9 prior PRAM and what conditions it is currently 10 experiencing and on a monthly basis records a deferral either credit or surcharge, and simply then 11 12 accumulates that over the period of time, and then 13 when the PRAM filing occurs that's when the effect of the accumulation of those deferrals then affects rates 14 15 one way or another. 16 In the short term, and as the consequences Q. 17 of PRAM 1 and PRAM 2 there has been a substantial 18 volatility in rates paid by ratepayers. 19 Α. That's right. 20 Ο. Why couldn't a mechanism be devised that 21 would take -- that would look at the issue of weather 22 and stream flow over some other longer period, and 23 thereby having a smoothing mechanism on rate 24 volatility?

25 Α. As far as I know from a methodology there's (WINTERFELD - EXAM BY COMMISSIONER HEMSTAD) 3610 nothing that would prevent that. I think it really 1 clearly is a policy issue and a rate making policy 2 3 issue. Mechanically I think certainly that could be 4 done. 5 Ο. Well, one of the values to be pursued is б rate stability? 7 Α. That would tend to stabilize rates. 8 0. It would stabilize rates and over any 9 reasonably, well, let's say call it mid term period 10 the shareholders and the ratepayers would end up in an approximate neutral position, wouldn't they? In other 11 12 words, neither would be benefited or harmed? 13 Yes. Using a smoothing process should not Α. be to either -- the detriment of either group's 14 interests, and so as I say I think it would just be a 15 matter of policy. Possibly also a matter of the 16 17 financial implications and taxation implications also, 18 I don't know. 19 COMMISSIONER HEMSTAD: I have no further 20 questions. 21 JUDGE HAENLE: Have you any redirect, 22 Mr. Trotter? 23 MR. TROTTER: Yes. 24 MR. PAINE: I apologize in advance but may

25 I clarify one area that was generated by responses to (WINTERFELD - EXAM BY COMMISSIONER HEMSTAD) 3611 Mr. Adams? 1 2 JUDGE HAENLE: Mr. Trotter, would you 3 prefer to do it last or prefer to go it another round? 4 MR. TROTTER: If I can be assured I will be 5 last. б JUDGE HAENLE: You will get the last word 7 ultimately. 8 MR. TROTTER: As long as it's brief. 9 MR. PAINE: It will be. 10 11 CROSS-EXAMINATION 12 BY MR. PAINE: 13 Just explaining what data stream flow data Ο. is available subsequent to 1978 and what ends at 1978. 14 Is it true that regulated hydro generation data is 15 16 based on regulated stream flow data? 17 Α. That's right. 18 Q. That is the data that ends in 1978; is that 19 correct? 20 Α. Yes, that's what I believe I said. 21 Q. Subsequent to 1978 other stream flow data 22 is available; is that not correct? 23 Α. I don't know what you mean by "other stream 24 flow data."

25 Q. Have you heard the term "modified stream (WINTERFELD - CROSS BY PAINE) 3612 flow data"? 1 2 Α. I have heard that term. 3 Do you know whether that data is available ο. 4 subsequent to 1978 through water year 1992? You have to give me some specific 5 Α. 6 reference. Whose modification? 7 ο. Modified, as I understand it, modified 8 stream flow data is natural stream -- again a term of 9 art -- natural stream flow data adjusted to reflect 10 depletions? No, I don't know that that's available. 11 Α. 12 Q. What about natural stream flow data? Do you know if natural stream flow data as it is defined 13 is available through water year 1992? 14 No, I don't believe it is. 15 Α. 16 MR. PAINE: Thank you. 17 JUDGE HAENLE: Anyone else? 18 Go ahead, Mr. Trotter. 19 20 CROSS-EXAMINATION BY MR. TROTTER: 21 22 0. Starting with the hydro realization 23 adjustment. Could you refer to page 7 of Exhibit 24 864. You were asked some questions regarding some

25 arithmetic with respect to the numbers in the box in (WINTERFELD - CROSS BY TROTTER) 3613 1 the upper right-hand corner? 2 Α. Yes. 3 And the numbers you accepted there you Ο. 4 would accept just as a matter of arithmetic? 5 Α. That is correct. You weren't accepting that those were valid б Q. 7 computations for purposes of an adjustment in this 8 case, were you? 9 Α. No. As I indicated there were certain 10 factors that were not considered and also this was for a 47-month period only. 11 12 And the reasons you were opposing the Ο. 13 company's adjustments set forth on pages 7 through 9 of your testimony? 14 That is correct. 15 Α. 16 Q. Did you ask the company to update its study 17 represented by Exhibit 864? 18 Α. I asked if the company had updated the 19 study and if they had updated or modified the study if 20 they could provide that, and their response was no, 21 that they had not updated the study, that there were 22 certain problems in obtaining data from some of the 23 mid Columbia operators and therefore at this time they 24 had no plans to do so because of problems that were

25 created apparently with the form or availability of (WINTERFELD - CROSS BY TROTTER)

3614

1 this data.

2 Q. You were asked whether 50-year water data 3 was better than the 40-year rolling average based on 4 the last two years experience. Do you recall that 5 question?

6 A. Yes.

7 Q. Is that a relevant comparison in your 8 opinion?

9 No, I really don't think so. That simply Α. 10 says for two years that have actually occurred to make a judgment about a methodology and it just as easily, 11 12 the results could have been reversed and the 40-year 13 average could have been closer to the actual two years 14 experience than the 50-year average. As I've indicated the estimates that are provided by the two 15 16 methods in terms of reliability are very, very close 17 and so when you try to judge the validity of either 18 methodology based on two years you're really looking 19 at coincidental data and your conclusions then could 20 not be expected to hold in the future.

21 Q. Did the company supply you any information 22 in support of the 50-year proposal additional to what 23 has been provided in the past?

A. No, it didn't. I referred earlier in

25 response to the company's response to staff request (WINTERFELD - CROSS BY TROTTER) 3615 1 2334 and since their original response they did update 2 that with some meeting minutes that took place or that 3 reported the results of some of the meetings between 4 Puget and other interested parties, but there was no 5 analysis or studies supporting the use of the 50-year 6 -- over the 40 years worth of water records. 7 ο. Turning to the coal plant availability 8 adjustment. Turn to page 10 of your testimony. The 9 NERC reports that Puget used -- segregated the coal 10 plants by unit size; is that right? 11 That's right. Α. 12 And on page 10 of your testimony, lines 12 Q. through 15 you cite several other factors that affect 13 14 plant performance including age, unit location, type of coal burned, type of cycling duty and so on. Do 15 16 you see that? 17 Α. Yes, I do. 18 Are those factors accounted for in the NERC Ο. 19 statistics used by Puget? 20 Α. No, they're not, and any one of those 21 factors could explain why the average for the set of 22 plants or units in the group would be either more or 23 less than Puget's experience. 24 ο. So the term national objective standard it

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25
     looks only at age of the plant and it is not a
       (WINTERFELD - CROSS BY TROTTER)
                                                            3616
     standard at all, is it?
 1
 2
          Α.
                That's right. If it only considers one
 3
     factor when you suspect that there may be several
 4
     factors affecting plant performance would not be a
 5
    good standard.
 6
          Q.
                Do you have any concerns about the
 7
     consistency of the NERC data?
 8
          Α.
                Well, I do is that NERC data might be
 9
     applied to Puget and its coal-fired units. As I
10
     indicated earlier there seemed to be some discrepancy
     in the net maximum capacity being reported by Puget
11
12
     for its coal units and the actual production of those
13
     coal units over the last three or four years. In fact
14
     they were several months in the last three or four
    years when Centralia or the Colstrip units were
15
16
    producing for an entire month more than 100 percent of
17
     their supposedly maximum output. The NERC data in
18
     terms of equivalent availability is based on a
19
     consistent approach to find a necessary maximum
20
     capacity and the computations then that ensue from
21
     that, and if you're in effect understating your
22
     capacity you would expect as compared with other units
23
     in the NERC database to have equivalent availability
24
     figures that are consistently higher than those of
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25 comparable units even if you could define that test of (WINTERFELD - CROSS BY TROTTER) 3617 1 comparability. 2 Turning to record requisition 585 regarding Ο. 3 the company's new load forecast. Was that data 4 supplied to staff on Friday before it distributed its direct case? 5 6 Α. It was supplied a day or two days before 7 staff was required to distribute. I don't know if it 8 was the Friday before or the Thursday but this was 9 very little time between staff distribution and when 10 the data was supplied. And you referred to or were referred to 11 Q. 12 Exhibit 808 and there's been a lot of discussion about page 2 of that exhibit, and you urged counsel Meyer to 13 refer to page 3 or 4 of that exhibit. Do you recall 14 15 that? 16 Α. Yes. 17 Ο. Could you explain the significance of that? 18 Well, the significance is that the first Α. 19 two pages refer to stream flow at the Dalles when at 20 least the point could be made that what's significant 21 for Puget, for Water Power, for Pacific Corp is not

the flow at a single point on the river but what their actual hydro generation capability would be across the various water years and water conditions. And that's 25 shown on page 3 and 4. Therefore, in terms of (WINTERFELD - CROSS BY TROTTER) 3618 comparison, comparing any ten-year period with another 1 2 ten-year period I guess I feel that it's much more relevant to look at the actual Water Power hydro 3 4 generation in making the comparison than looking at 5 stream flows at a point on the Columbia. б Q. And finally with respect to the 40-year 7 proposal or continuation of the 40-year rolling 8 average. Is it significant in your mind that another 9 jurisdiction might use a different vintage of data? 10 Α. Well, I guess I would say I wouldn't think that this Commission should be bound or unduly 11 12 influenced by what other jurisdictions are doing. I 13 think in several areas of rate making the Commission 14 apprises itself of what other jurisdictions are doing but it looks at the facts before it and makes its own 15 16 decisions. So, yes, there are other jurisdictions and 17 they may use 50. In the case of Idaho for Idaho Power 18 Company they use a 20-year rolling average, but I 19 think the Commission has to be aware of what other 20 jurisdictions are doing but make its decision based on 21 the information presented to it and the specific 22 circumstances for the utility that it's making a 23 decision for. 24 MR. TROTTER: No further questions.

25 JUDGE HAENLE: Anything more of the (WINTERFELD - CROSS BY TROTTER) 3619 witness? 1 2 All right. Thank you, sir, you may step 3 down. I think that takes care of all the witnesses. 4 I want to note for the record that we have the public hearings for both the rate design and general cases 5 б June 21 in Bellingham beginning at 1:30, June 23 in Olympia beginning at 1:30 and June 24 in Kent 7 beginning at 4:30. Anything we need to discuss? 8 9 MR. ADAMS: One matter we need to discuss 10 off the record. 11 JUDGE HAENLE: We will be in recess then 12 until June 21 at 1:30. 13 (Hearing adjourned at 4:30 p.m.) 14 15 16 17 18 19 20 21 22 23 24