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LOUIS F. RACINE (1917-2005)
WILLIAM D. OLSON, OF COUNSEL

September 27, 2007

Jean Jewell, Secretary
Idaho Public Utilities Commission
472 W. Washington Street
Boise, Idaho 83702

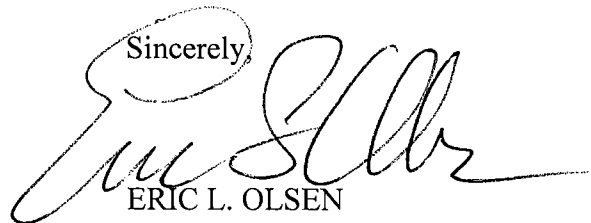
Re: PAC-E-07-05

Dear Mrs. Jewel:

Enclosed for filing please find nine copies of Direct Testimony of Anthony J. Yankel (with exhibits), Mark Mickelsen, and Stanley G. Searle.

Thank you for your assistance.

Sincerely,



ERIC L. OLSEN

ELO
Enclosures
cc: Service List

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**Eric L. Olsen ISB# 4811
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Attorneys for the Idaho Irrigation Pumpers Association, Inc.

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

**IN THE MATTER OF THE APPLICATION OF)
PACIFICORP DBA ROCKY MOUNTAIN)
POWER FOR APPROVAL OF CHANGES TO)
ITS ELECTRIC SERVICE SCHEDULES)
)
)
)**

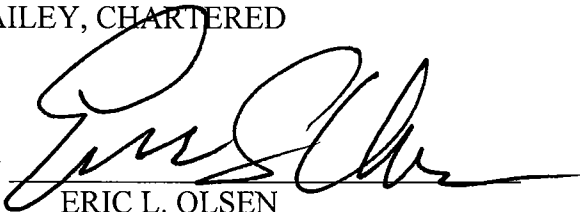
CASE NO. PAC-E-07-05

IDAHO IRRIGATION PUMPERS' ASSOCIATION, INC.'S NOTICE OF SERVICE

You will please take notice that IDAHO IRRIGATION PUMPERS' ASSOCIATION, INC., by and through their attorneys of record, served the Direct Testimony and exhibits of Anthony Yankel, Mark Mickelsen, and Stanley C. Searle upon the parties to this action by providing said documents to the following individuals in the manner specified in the attached Certificate of Service below.

Respectfully submitted this 27th day of September, 2007.

RACINE, OLSON, NYE, BUDGE &
BAILEY, CHARTERED

By 

ERIC L. OLSEN
Attorneys for the Idaho Irrigation Pumpers
Association, Inc.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 27th day of September, 2007, I served a true, correct and complete copy of the Direct Testimony of Anthony Yankel (with exhibits), Mark Mickelsen, and Stanley C. Searle to each of the following, via U.S. Mail postage prepaid, e-mail or hand delivery:

Jean Jewell (9 copies) Idaho Public Utilities Commission 472 W. Washington Street P.O. Box 83720 Boise, Idaho 83720-0074 E-mail: jean.jewell@puc.idaho.gov	U.S. Mail
James R. Smith Monsanto Company P.O. Box 816 Soda Springs, ID 83276 E-mail: jim.r.smith@monsanto.com	U.S. Mail
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Anthony Yankel 29814 Lake Road Bay Village, OH 44140 E-mail: tony@yankel.net	U.S. Mail
Idaho Irrigation Pumpers Association, Inc. c/o Lynn Tominaga P.O. Box 2624 Boise, ID 83701-2624 E-mail: lynn_tominaga@hotmail.com	U.S. Mail

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IDAHO PUBLIC
UTILITIES COMMISSION

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION)
OF ROCKY MOUNTAIN POWER FOR)
APPROVAL OF CHANGES TO ITS)
ELECTRIC SERVICE SCHEDULES)
)

CASE NO. PAC-E-07-05

IDAHO IRRIGATION PUMPERS

DIRECT TESTIMONY

OF

ANTHONY J. YANKEL

SEPTEMBER 28, 2007

1 Q. PLEASE STATE YOUR NAME, ADDRESS, AND EMPLOYMENT.

2

3 A. I am Anthony J. Yankel. I am President of Yankel and Associates, Inc. My
4 address is 29814 Lake Road, Bay Village, Ohio, 44140.

5

6 Q. WOULD YOU BRIEFLY DESCRIBE YOUR EDUCATIONAL
7 BACKGROUND AND PROFESSIONAL EXPERIENCE?

8

9 A. I received a Bachelor of Science Degree in Electrical Engineering from
10 Carnegie Institute of Technology in 1969 and a Master of Science Degree in Chemical
11 Engineering from the University of Idaho in 1972. From 1969 through 1972, I was
12 employed by the Air Correction Division of Universal Oil Products as a product design
13 engineer. My chief responsibilities were in the areas of design, start-up, and repair of new
14 and existing product lines for coal-fired power plants. From 1973 through 1977, I was
15 employed by the Bureau of Air Quality for the Idaho Department of Health & Welfare,
16 Division of Environment. As Chief Engineer of the Bureau, my responsibilities covered a
17 wide range of investigative functions. From 1978 through June 1979, I was employed as the
18 Director of the Idaho Electrical Consumers Office. In that capacity, I was responsible for all
19 organizational and technical aspects of advocating a variety of positions before various
20 governmental bodies that represented the interests of the consumers in the State of Idaho.
21 Since 1979, I have been in business for myself. I am a registered Professional Engineer. I
22 have presented testimony before the Federal Energy Regulatory Commission (FERC), as

1 well as the State Public Utility Commissions of Idaho, Montana, Ohio, Pennsylvania, Utah,
2 and West Virginia.

3

4 Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

5

6 A. I am testifying on behalf of the Idaho Irrigation Pumpers Association (IIPA).

7

8 Q. WHAT ISSUES WILL YOU ADDRESS IN THIS PROCEEDING?

9

10 A. I will address the following issues in this case:

- 11 • Inequities of the present Revised Protocol interjurisdictional allocation
12 methodology as it punishes all Idaho customers for the system benefit
13 provided by the Irrigation Load Curtailment Program;
- 14 • The lack of representation of Irrigation Load Curtailment customers in the
15 Company's load research program results in excessive costs being
16 allocated to the Irrigators;
- 17 • The loss of the BPA credit will have a sobering impact upon both
18 Irrigators and Residential customers. Programs need to be developed or
19 better aligned with costs in order for Irrigators to take better control of
20 their overall costs while paying for the costs they place upon the system.

21

22 Q. PLEASE GIVE AN OVERVIEW OF THE RECOMMENDATIONS THAT
23 YOU WILL BE MAKING IN THIS CASE.

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A. I will make the following recommendations:

- Because of the situs treatment of the curtailment credit given to Irrigators under Schedule 72, the revenue requirement for Residential and all other Idaho customers is increased, the more Irrigators join in the Load Curtailment Program. I recommend that the Irrigator Load Curtailment program be regarded as system benefit resources, and not treated as situs.
- The Company's load research data does not fully reflect the level of Irrigation Load Curtailment, and thus, the Company's cost of service study attributes too much demand to the Irrigators and thus, increases the allocated costs. I recommend that the Company's coincident peak data for the Irrigators be adjusted in order to reflect the actual level of Load Curtailment that is taking place. This adjustment increases the rate of return for the Irrigators. I recommend that (in keeping with the Company's proposal) that the Irrigators get no more than 2/3 of the average jurisdictional percentage increase.
- The present credit for Irrigation customers on Schedule 72 is considerably below the benefit provided to the system. I recommend that this credit be increased by \$40/kW-year, in order to bring more Irrigators into the program, benefit the entire system at a cost less than avoided cost, and to provide an overall benefit to the system that is greater than what is presently being realized.

- 1 • I recommend that time-of-day rates be established for Irrigators as an
2 additional option that could both benefit the system and the customers that
3 choose that rate.

1 **Interjurisdictional Treatment of Irrigation Curtailment Program**

2 Q. HOW MUCH INTERRUPTIBILITY IS THERE GENERALLY IN THE
3 IDAHO JURISDICTION?

4
5 A. Generally speaking, there is 67 MW of economic curtailment associated with
6 Monsanto and 95 MW of emergency interruptibility as well. The Irrigation Load
7 Curtailment program in the test year 2006, generally reduced peak demands by another 50
8 MW. This totals to 212 MW. Approximately an additional 25 MW or Irrigation Load
9 Curtailment was expected in 2007.

10 Elsewhere on the system there is approximately 189 MW of interruptible load, 97
11 MW of curtailable load. Additionally, the Utah Cool Keeper Air Conditioning Load Control
12 Program achieved an estimated maximum reduction in 2006 of 90 MW¹. This totals to 376
13 MW. Although the Idaho Jurisdiction is allocated 6.3% of the system generation costs², it
14 provides approximately 36% of the megawatts available for system
15 interruptibility/curtailment benefits.

16

17 Q. IS THERE A PROBLEM WITH THE DISPARITY IN THE AMOUNT OF
18 INTERRUPTION CAPABILITY IN IDAHO VERSUS THE REST OF THE SYSTEM?

19

20 A. There would not be a problem if allocations were performed on a basis that
21 reflected the system benefits of these various interruptibility/curtailment programs. Under

¹ See Response to IIPA Request 1.13.

² Exhibit 11, page 10.1 lists Idaho's SG allocation factor as 6.3064%

1 the Revised Protocol method (which is presently being used to do jurisdictional allocations
2 on the PacifiCorp system), interruptions and curtailments that occur to special contract
3 customers are treated as a system benefit. This is appropriate. However, in spite of the fact
4 that the Idaho Irrigation Curtailment program reduced peak demand by approximately 50
5 MW in 2006 (and was expected to provide 75 MW in 2007)³, it is labeled as DSM and
6 simply allocated situs to Idaho. Thus, although the benefits of such interruptions are spread
7 system wide, the cost of the program is kept within the jurisdiction that is supplying the
8 system benefit. In Idaho's case, it actually increases the Idaho jurisdiction costs, while
9 providing the system a benefit.

10

11 Q. HOW DOES SITUS TREATMENT OF THE IDAHO IRRIGATION LOAD
12 CURTAILMENT PROGRAM NEGATIVELY IMPACT IDAHO RATEPAYERS?

13

14 A. The July 2007 Report prepared for the Company entitled "Assessment of
15 Long-Term, System-Wide Potential for Demand-Side and Other Supplemental Resources"
16 (DSM Report) has information regarding costs and benefits of curtailment programs. It
17 states that there is a system benefit of \$98/kW-year for a program that can reduce demand by
18 1 kW. Given the Idaho Jurisdiction's GS (System Generation) allocation factor of 6.3%, this
19 means that for every kW of demand that is reduced because of the Idaho Irrigation Load
20 Curtailment program, the Idaho Jurisdiction gets a benefit from such a decrease of \$6.18 (\$98
21 x 0.063064 = \$6.18).

³ According to the Company's Response to IPUC 24-d, there will be approximately 50 MW per month on Schedule 72A and 50 MW on Schedule 72 which is split evenly between the two curtailment periods.

1 On the other side of the ledger are the expenses that bring about this benefit. There
2 are certainly some administrative costs, installation costs, and ongoing field expenses. One
3 of the most obvious expenses is the “credit” that is paid to Irrigators for participation in the
4 program. Currently, that credit is set at \$11.19/kW-year⁴. In the Company’s filing, this
5 credit is treated as entirely situs, meaning that the Idaho Jurisdiction pays \$11.19 (plus its
6 share of the other related expenses) in order to receive a benefit of \$6.18. There is a net cost
7 to Idaho of \$5.01 for every kW of demand that is saved for the system (\$11.19 - \$6.18 =
8 \$5.01).

9 This result is completely unjust for the Irrigators who are “given” a credit and then
10 have their overall rates increased to cover the credit that they rightfully deserve. Effectively,
11 the Irrigators are taking money out of their left pocket and putting it in their right pocket in
12 order to pay themselves for the \$98/kW-year benefit that they provide to the system. It’s
13 even more unjust that this jurisdictional cost of \$5.01 is allocated 22% to the Residential
14 customers. The net impact on the Idaho Residential class is that they pay \$1.11 for each \$98
15 of system benefit caused by the Irrigator and receive nothing in return⁵.

16

17 Q. WHAT DO YOU RECOMMEND TO CORRECT THIS PROBLEM?

18

19 A. This is the first full general rate case in the Idaho Jurisdiction of PacifiCorp in
20 a very long time. Because of this, the Revised Protocol Interjurisdictional Allocation has
21 been around for a couple of years, but never used to establish rates in Idaho. I recommend
22 that for purposes of this case that this portion of the Revised Protocol be ignored and a more

⁴ Based upon Schedule 72, the 6 hour/day and 2 day/week option.

⁵ (\$11.19 cost – (\$98 x 6.063064) benefit) x 22.2% allocator = \$1.11 cost.

1 appropriate "system" treatment of these costs be utilized. Over the long-term, this defect in
2 the Revised Protocol should be corrected, such that it reflects the treatment of the benefit of
3 the Irrigation Load Curtailment program in a manner similar to the treatment of the benefit of
4 the Monsanto interruptible program.

5

6 Q. UNDER THE REVISED PROTOCOL METHOD, MONSANTO IS
7 TREATED AS A FIRM CUSTOMER, ITS INTERRUPTIBLE LOAD ADDED BACK FOR
8 COST OF SERVICE PURPOSES AND A SEPARATE CREDIT IS GIVEN FOR THE
9 INTERRUPTIBILITY. SHOULD THE INTERRUPTIBLE PORTION OF THE
10 IRRIGATION LOAD BE ADDED BACK TO THE IRRIGATION LOAD FOR PURPOSES
11 OF COST OF SERVICE?

12

13 A. That would be in keeping with the Revised Protocol. However, unlike
14 Monsanto, the source of this data is less clear. There are two different sources (and thus
15 values) of Irrigation interruptible load. In order to be consistent, with the rest of the data, the
16 load to be added back to the Irrigators must come from the same load research data that
17 established their overall usage. I raise this concern because the interruptibility of the
18 Irrigators is undervalued in the load research data. Although the Company's 2006 "Schedule
19 72 Idaho Irrigation Load Control Progress Report" (2006 Schedule 72 Report) indicates that
20 the Company avoided in July on Tuesdays/Thursdays as high as 46.7 MW and on
21 Mondays/Wednesdays 47.5 MW (See Exhibit 301), the load research data represents far less
22 interruptions. If the same load research data is used to add back the interruptibility, there will
23 be a wash and the problem will go away. If a different source of data (i.e., from the 2006

- 1 Schedule 72 Report) is used to add back the interruptibility portion, it is possible to attribute
- 2 load to Irrigators which does not exist.

Load Research Data and Irrigator Interruptibility

1
2 Q. DOES THE COMPANY'S LOAD RESEARCH DATA FULLY REFLECT
3 THE IRRIGATION LOAD CURTAILMENT PROGRAM?

4
5 A. No. In fact, the Irrigation load research data was not set up to reflect the
6 Irrigation Load Curtailment program. The load research meters for Irrigators were put in
7 place in 1999, long before the Irrigation Load Curtailment program went into place⁶.

8
9 Q. HOW WELL WAS THE IRRIGATION LOAD CURTAILMENT
10 PROGRAM REPRESENTED IN THE LOAD RESEARCH DATA?

11
12 A. The Company has indicated that 18 (32%) of the Irrigation customers in its
13 load research sample were on the Irrigation Load Curtailment program⁷. However, a closer
14 review indicates that the Irrigation Load Curtailment program was under-represented in the
15 2006 data, based on demand. Two of those 18 sample customers only had limited data and
16 this data was not used. Additionally, the load research data indicates that four of these
17 sample customers did not undergo interruptions in 2006. As indicated on Exhibit 302, of the
18 12 sample customers that were being interrupted, the following breakdown by strata
19 occurred:

20	Stratum 1	2 customers
21	Stratum 2	1 customer
22	Stratum 3	9 customers
23	Stratum 4	zero customers

⁶ See Response to IPUC Request 25.

1 Although three of the smaller customers are represented in this sample, there are no large
2 (Stratum 4) customers represented.

3 Of most significance is that most of these sample customers are on the
4 Monday/Wednesday interruption schedule, and even at that, they only reflect an interruptible
5 load of 44.7 MW of potential interruption. In contrast to this level, the Company's 2006
6 Schedule 72 Report (Exhibit 301, page 2) indicated that at the beginning of the season it had
7 50.8 MW of firm, scheduled resources each day. Thus, the Monday/Wednesday load
8 research data reflected only 88% of the potential Irrigation curtailment on the day of the
9 week which defined the coincident peaks in June and July. Of more concern is the
10 Tuesday/Thursday interruption group where the load research data only reflects 17.6 MW of
11 the 50.8 MW of potential of interruption.

12

13 Q. HOW SHOULD THIS INFORMATION BE USED TO CORRECT THE
14 IRRIGATION PEAK LOAD DATA?

15

16 A. If interrupted Irrigation load is going to be added back to the Irrigator usage in
17 the cost of service study, then, in order to be consistent, the interruptible data must come
18 from the load research. If one of the sample customers was operating around the time of a
19 system peak (but was interrupted), then this interruptible load should be added to the
20 Irrigation firm peak demand. Exhibit 303 lists the load research predicted interruptions for
21 the June and July peaks as 44.1 MW and 35.6 MW respectively. Exhibit 304 lists the load
22 research predicted interruptions for the August and September peaks as 8.8 MW and 2.4 MW

⁷ Response to IIPA Request 5.1 lists 18 samples being on the load curtailment program, while the other 39 were not.

1 respectively. If the Commission decides to add back any interruptions to the Irrigators'
2 demand (in order to be consistent with the Monsanto treatment), the Irrigation coincident
3 peak loads should be increased by 44.1, 35.6, 8.8, and 2.4 MW for the summer months of
4 2006.

5 If the Irrigation Load Curtailment data is going to be simply used in a standard cost-
6 of-service study to reflect actual usage at the hour of peak of each month, then the data
7 should be adjusted to reflect the fact that the load research sample does not fully represent the
8 extent of the interruptions on the system—the Irrigation peak loads (at sales level) in the
9 Company's cost of service study should be adjusted as follow:

10	June	+ 6.8 MW
11	July	- 11.1 MW
12	August	- 28.5 MW
13	September	- 44.3 MW

14 In this manner, the Company's load research data and ultimately the cost-of-service study
15 will reflect the level of curtailment by month that was calculated to occur in the Company's
16 2006 Schedule 72 Report.

Revenue Spread To The Irrigators

1
2 Q. WHAT DOES THE COMPANY'S FILING SUGGEST WITH RESPECT TO
3 THE RATE OF RETURN AND RATE SPREAD TO THE IRRIGATORS?
4

5 A. The Company's filing lists the rate of return for the Irrigators at 6.03%, which
6 is 1.05 times greater than the jurisdictional average rate of return of 5.76%. Since the filing
7 in this case, some errors have been addressed. After correcting these errors, Monsanto's rate
8 of return went up and the rate of return for other customer groups went down. The
9 Company's Response to Monsanto Request 9.6 now has the rate of return for Irrigators at
10 6.06%—equivalent to the new jurisdictional average of 6.07%.
11

12 Q. IS THE COMPANY'S LOAD RESEARCH DATA APPROPRIATE TO USE
13 IN THE DEVELOPMENT OF THE RATE OF RETURN FOR THE IRRIGATORS?
14

15 A. No, for two reasons. First, as pointed out above, from purely the perspective
16 of adequately covering the Load Curtailment program, the load research sample does not
17 fully reflect the curtailable load on Monday's and Wednesday's, which impacts the June and
18 July data. For the months of August and September, (when the peaks occurred on Tuesdays)
19 less than 15% of the curtailable load is reflected in the load research data.

20 Second, there are major calibrations made to the Irrigation load research data as
21 follows:

22	June	117%
23	July	100%
24	August	107%

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September 144%

The weighted average calibration during these four months was 111%, i.e., the sample load research data was adjusted upward by 11% in order to be brought in line with actual energy usage of the entire population of Irrigators.

Q. WHAT REVENUE SPREAD DO YOU RECOMMEND TO THE IRRIGATORS?

A. Based on the above, it is obvious that there are some serious data issues associated with the Irrigation load. These data issues all tend to lower the Irrigators' rate of return. In spite of these issues, the Irrigators have been showing a rate of return at or above the jurisdictional average. Company witness Griffith has proposed that Schedule 10 get 2/3 of the average jurisdictional percentage increase. Given the additional problems I have pointed out with respect to the Company's demand data for Schedule 10, it would not be appropriate to give the Irrigators more than 2/3 of the jurisdictional average percentage increase as initially proposed by the Company.

Rate Design

1
2 Q. WHAT IS THE IMPACT OF THE RECENT LOSS OF THE BPA CREDIT
3 ON THE IRRIGATION CUSTOMERS?
4

5 A. In the filing, the revenue from Schedule 10 was only listed⁸ as \$35,569,932.
6 There was an additional \$3,834,747 collected because of the RMA adjustment. The BPA
7 credit for Irrigators listed⁹ in the Company's filing was \$17,555,537. Thus, the Irrigators
8 effectively paid only \$21,849,142¹⁰. Absent any increase in this case to the Irrigators, the
9 Irrigators' effective rate will jump \$17.6 million or 80% above what they have been paying¹¹.
10 Although such a rate increase is intolerable for any customer group, there are limited options
11 in this case that would supply a benefit similar to that of the BPA credit. Additionally, the
12 only other large customer class in this jurisdiction is the Residential class and it lost its BPA
13 credit¹⁰ of \$13,101,921. Instead of directly replacing the BPA credit, the Commission must
14 look elsewhere in order to find methods for mitigating the impact of this loss.
15

16 Q. IF THE COMMISSION CANNOT DIRECTLY REPLACE THE BPA
17 CREDIT, HOW CAN IT GO ABOUT MITIGATING THE IMPACT OF THE LOSS OF
18 THE BPA CREDIT FOR THE IRRIGATORS?
19

⁸ Company Exhibit 35, page 4

⁹ Company Response to IIPA Request 1.31

¹⁰ $\$35,569,932 + \$3,834,747 - \$17,555,537 = \$21,849,142$

¹¹ Increasing the amount paid by \$17,555,000 over the \$21,849,000 paid in the past is an 80.3% increase.

1 A. One of the simplest and most straightforward ways to mitigate the impact of
2 the loss of the BPA credit would be to provide interruption/curtailment options that are fully
3 cost justified. By developing appropriated interruption/curtailment programs, the Irrigators
4 will be given the opportunity to better control their own costs, while providing a benefit to
5 the system. First, I recommend that the present Irrigation Load Curtailment Credit Rider
6 (Schedule 72) be priced more appropriately to reflect the benefit that the Company claims to
7 be accruing to the system. Second, I recommend that a Time-Of-Day (TOD) rate be
8 established as another option for the Irrigators.

9

10 **Irrigation Load Control Credit Rider (Company Study)**

11 Q. PLEASE GIVE A BRIEF OVERVIEW OF THE EXISTING IRRIGATION
12 LOAD CURTAILMENT PROGRAM ON THE PACIFICORP SYSTEM.

13

14 A. At present Schedule 72 is the main vehicle for Irrigators which consists of
15 fixed/pre-scheduled times and days for interruptions of Irrigation load. There is also a pilot
16 program (Schedule 72A) that is a “Company Option” program that is just completing its first
17 season of operation. Because there is little data compiled regarding the Company Option
18 program, I will focus my comments on the designated day (Schedule 72) program.

19 Under the designated day program, there are three options/levels of interruptibility for
20 Irrigators:

- 21 * 6 hours/day for 2 days/week
22 * 3 hours/day for 2 days/week; and
23 * 3 hours/day for 4 days/week.

1 During 2006, approximately 91% of the curtailable Irrigation load was under the “6 hour/day
2 for 2 days/week” option. Because of this, as a general matter, I will focus most of my
3 comments on this “6 hour/day, 2 day/week” option. The present credit under Schedule 72 for
4 this option varies monthly as follows:

5	June	\$3.05 /kW month
6	July	\$3.64/kW month
7	August	\$3.49/kW month
8	September	\$1.01/kW month

9 The total credit (assuming that an Irrigator operates each month of the summer season) is
10 \$11.19 per kW. Although Schedule 72 has an allowance for an energy credit as well as a
11 demand credit, thus far, the energy credit has always been set at zero.

12

13 Q. HAS THE IRRIGATION LOAD CURTAILMENT PROGRAM UNDER
14 SCHEDULE 72 ENJOYED A GREAT DEAL OF SUCCESS?

15

16 A. Success is a relative measure. According to the Company’s 2006 Schedule 72
17 Report during the Irrigation Season, there was an average of 50.8 MW of firm scheduled
18 curtailment at the beginning of the season¹² and an average of 47.1 MW at the end of the
19 season. This level of curtailment is significant when compared to the jurisdictional
20 coincident demands used to allocate demand costs¹³ during the summer months that range
21 from 492—666 MWs.

¹² Exhibit 301, page 2.

¹³ Company Exhibit 11, page 10.12

1 However, as pointed out in the 2006 Schedule 72 Report¹⁴, only 20.1% of the total
2 available irrigation sites participated. Of more concern, the Report made the following
3 observation:

4 The reader should note that the Commission approved a ~21% increase in
5 participation credits over the 2005 Program year. Despite increased
6 participation credits there was no corresponding increase in participation sites.
7 In fact, participation marginally waned (9.9% decrease in avoided MW;
8 12.58% decrease in the number of participating sites; 2.25% decrease in the
9 number of participating customers). ... While it is not entirely clear, the fact
10 of the matter is that the Irrigation Management Team can offer no definitive
11 explanation for the lower-than-expected-participation. (Emphasis added)
12

13 Q. CAN THE CURRENT INTERRUPTIBILITY CREDIT OFFERED IN
14 SCHEDULE 72 IN ANY WAY OFFSET THE LOSS OF THE BPA CREDIT?

15

16 A. Only to a very minor extent. Both the BPA credit and the interruptibility
17 credit existed in 2006 for approximately 20% of the Irrigators and approximately 25% of the
18 Irrigation load¹⁵. Thus, for those customers that were already receiving the interruptibility
19 credit, the loss of the BPA credit is simply a loss that cannot be offset by the present
20 interruptibility credit. However, for the other 75% of load that was not previously on
21 Schedule 72, the movement to an Irrigation Load Curtailment program could help offset
22 some of the loss.

23

24 Q. HOW MUCH OF THIS LOSS COULD BE OFFSET?

25

¹⁴ Exhibit 301, page 1.

¹⁵ According to the 2006 Schedule 72 Report at page 2 the participating load hit a maximum of 100,132 kW during July 2006; according to Company Exhibit 30, Tab 5, page 13, the Irrigation non-coincident peak @ input was 429,860 kW (374,874 assuming losses of 1.14668); thus, 26.71% participated (100,132 / 374,874 = 0.2671)

1 A. That is not an easy question to answer with any precision. It must be
2 understood that, unlike the BPA credit, there is an offsetting cost associated with Schedule 72
3 that did not exist with the BPA credit. The BPA credit was simply a credit, with no
4 corresponding costs to the Irrigator. However, there are definite costs associated with the
5 Irrigation Load Curtailment program—some are tangible and some are intangible. On the
6 tangible side, there are clearly additional labor costs associated with restarting irrigation
7 equipment after an interruption and also additional labor costs associated with operating the
8 irrigation system on weekends or other times when the curtailed pumping activity must be
9 made up. There are also intangible costs such as the fact that occasionally equipment
10 problems arise that prevent restarting the equipment, crops could be excessively stressed and
11 yield/profits lowered, etc. No matter what the specific reason causing the participation to
12 drop in 2006 (in spite of a 21% increase in the credit), the economics of the cost/benefit ratio
13 had to come into play and 12.6% of the Irrigators from 2005 decided not to participate in
14 2006.

15 In order to put some ballpark limits on this answer, I will assume that there is only
16 benefit associated with Schedule 72 and no costs to the Irrigators (in spite of the fact that
17 12.6% of the sites in 2006 decided that the costs exceeded the benefits). As stated above, I
18 will assume that 25% of the 2006 Irrigation load participated in the program. According to
19 the 2006 Schedule 72 Report, the total credits paid out were \$925,577. If it were possible, to
20 induce the rest of the Irrigators to participate under the same rates as specified in Schedule
21 72, the increase in the credit would be \$2.8 million¹⁶. Even assuming that this \$2.8 million

¹⁶ $\$925,577 \times (75\% / 25\%) = \$2,776,731$

1 credit increase comes at no cost to the Irrigators, such an increase in the level of this credit is
2 a far cry from the loss of the BPA credit that amounts to \$17.6 million.

3

4 Q. ARE THE PRESENT CREDITS LISTED UNDER SCHEDULE 72
5 APPROPRIATE?

6

7 A. No, from two perspectives. First, as demonstrated in the Company's 2006
8 Schedule 72 Report, in spite of an increase in the level of the credit, participation declined.
9 There is an interest in the program on the part of the Irrigators, but they are either finding a
10 cost/benefit ratio that is very low or one of little value to them. From a policy standpoint, it
11 makes little sense to offer programs that have only marginal benefits to the customers.

12 As pointed out above, on July 11, 2007 Quantec issued its Report to the Company
13 entitled "Assessment of Long-Term, System-Wide Potential for Demand-Side and Other
14 Supplemental Resources" (DSM Report). In the Company's DSM Report, it was clearly
15 demonstrated that the benefits of the Irrigation Load Curtailment program far exceeds the
16 costs associated with that program (even under the Report's assumption of a doubling of the
17 credit paid). From a policy standpoint, it is inappropriate to have a DSM type resource with
18 such a large advantage to the system being under utilized by the customers because the credit
19 being paid is such a small fraction of the benefit being realized.

20

21 Q. PLEASE ELABORATE ON THIS DSM REPORT.

22

23 A. As stated in the Executive Summary:

1 This study's principal goal is to develop reliable estimates of the magnitude,
2 timing, and costs of alternative DSM resources, comprised of capacity-focused
3 program options (defined throughout this report as Class 1 or Class 3 DSM
4 resources), energy-efficiency products and services (defined as Class 2 DSM
5 resources, and other "supplemental" resources such as solar, combined heat and
6 power, and dispatchable standby generation. The analysis of resource potential
7 in this study are augmented by an examination of the benefits of consumer
8 awareness and education initiatives (class 4 DSM resources) and an analysis of
9 how future structural changes, such as technological innovation,
10 macroeconomic conditions, and public policy, might affect the findings and
11 conclusion of this study.
12

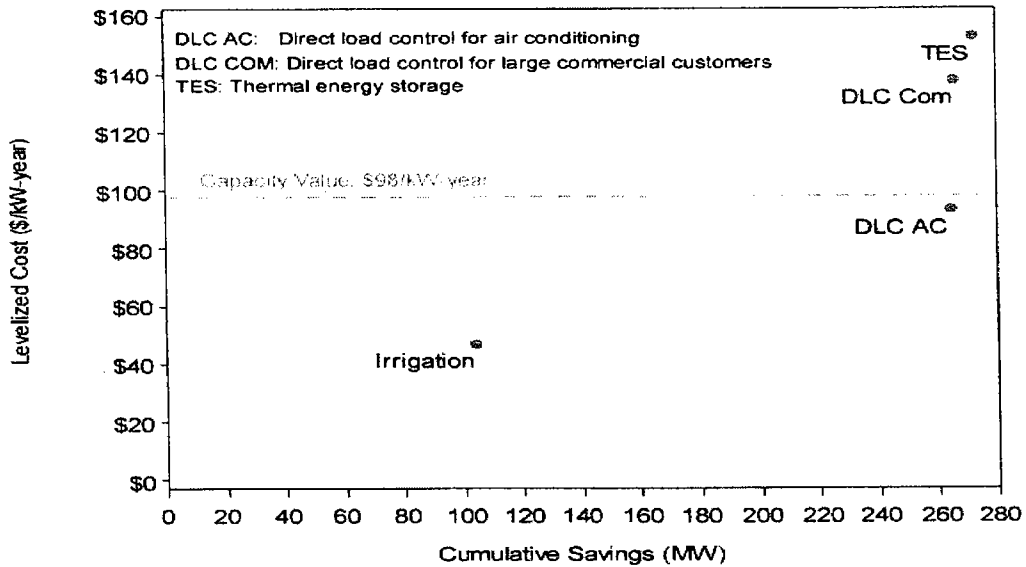
13 Thus, the DSM Report was designed to (and virtually did) cover all aspects of DSM and
14 alternative resources. The Irrigation Load Curtailment program was viewed as one of only
15 three "firm" options that represent a Class 1 resource. Of these three Class 1 options, the
16 Irrigation Load Curtailment program had the lowest costs per unit of avoided capacity and in
17 fact these costs were calculated to be less than half of the cost of the next closest option. The
18 Irrigation Load Curtailment program was calculated to have a levelized cost of \$47/kW-year
19 (based upon a \$20/kW-year credit) compared to an avoided cost of capacity in the Rocky
20 Mountain Power region of \$98/kW-year.
21

22 Q. DOES THE QUANTEC REPORT DEMONSTRATE THE RELATIONSHIP
23 BETWEEN THE COSTS OF AVOIDED CAPACITY, THE LEVELIZED COST OF THE
24 IRRIGATION LOAD CURTAILMENT PROGRAM, AND OTHER CLASS 1
25 PROGRAMS?
26

27 A. Yes, it does. The Report contains a figure that demonstrates that the Irrigation
28 Load Curtailment program not only is far more cost effective than any other Class 1 DSM

1 program, but that the other programs have costs that are near, or actually exceed the avoided
 2 capacity cost of \$98/kW-year. The following figure from that Report is reproduced below:

**Figure 6. Class 1 DSM: Rocky Mountain Power Territory Supply Curve
 (Cumulative MW in 2027)**



3

4 Q. WHAT COMPONENTS MAKE UP THE IRRIGATION LOAD
 5 CURTAILMENT LEVELIZED COST OF \$47/KW-YEAR FOUND IN THE REPORT?

6

7 A. The Report assumes a number of costs in the development of this levelized
 8 cost figure of \$47/kW-year. They include:

9	Standard Program Development	\$400,000 one time
10	Installation costs	\$1,000 per new participant
11	Marketing costs	\$500 per new participant
12	On-going maintenance	\$10 per kW in the program
13	Incentive Payment	\$20 per kW in the program

14 I do not agree with all of these costs, but at this point I only wish to address the Incentive
 15 Payment value which is obviously contrary to what is presently being paid to Irrigators.
 16 Even the DSM Report recognizes the fact that this Incentive Payment level is above what is
 17 actually being paid when it states on page 37:

1 Although PacifiCorp currently pays \$11/kW-year for incentives (2006
2 program year), participation level assumptions are based on a higher incentive
3 amount of \$20/kW-year in recognition that greater penetration will require
4 higher incentives and the emergence of the dispatchable control option is
5 expected to increase the value of the control to PacifiCorp.
6

7 Without consideration of an Incentive Payment, the levelized avoided cost would be only
8 \$27/kW-year. Given the capacity value of \$98/kW-year in the Rocky Mountain Power
9 service area, the Incentive Payment could be \$71/kW-year, before the avoided capacity cost
10 of \$98/kW-year would be reached. If the levelized avoided cost for the Irrigation Load
11 Curtailment program were \$98/kW-year, it would mean that the cost of this program would
12 be only slightly higher than the Company's levelized cost (\$93/kW-year) of its Direct Load
13 Control program for air-conditioning, but significantly below the Company's levelized cost
14 (\$138/kW-year) of its Direct Load Control program for large commercial customers.

15

16 Q. GIVEN THE FACT THAT THE COMPANY'S STUDY INDICATES THAT
17 THE IRRIGATION LOAD CURTAILMENT CREDIT COULD BE INCREASED BY A
18 FACTOR OF ALMOST "7" BEFORE THE COST OF THE PROGRAM WOULD EQUAL
19 THE CAPACITY VALUE OF THESE INTERRUPTIONS, WHAT LEVEL OF CREDIT
20 DO YOU RECOMMEND IN THIS CASE?

21

22 A. It is clearly a loss to the system (and to the Irrigation customers in particular)
23 to have only 20% participation in a program that provides a savings of \$98/kW-year, but only
24 costs the Company \$27/kW-year (not counting the credit payment). Given that the present
25 cost of the program (less credit paid) is \$27/kW-year and the avoided capacity cost is
26 \$98/kW-year, the difference available for a credit payment is \$71/kW-year. At the moment,

1 the credit payment is \$11/kW-year, leaving another potential \$60/kW-year available for
2 credit payments. I recommend that in this case that 2/3 of this additional available credit
3 (\$40/kW-year) be added to the existing credit being given to the Irrigators. The total credit
4 would thus be \$51.19/kW-year ($\$11.19 + \$40.00 = \51.19). I make this recommendation in
5 part as an initial movement towards the full benefit of the program and in part as a
6 replacement of the BPA credit.

7

8 Q. HOW DOES AN INTERRUPTIBILITY CREDIT OF \$51.19/KW-YEAR
9 COMPARE WITH THE LOSS OF THE BPA CREDIT?

10

11 A. An interruptibility credit of \$51.19/kW-year is on a par with, but does not
12 fully make up for the loss of the BPA credit. During 2006, the BPA credit amounted to
13 \$17.6 million. The Irrigation Load Curtailment program in 2006 (representing 25% of the
14 Irrigation load or an average billing demand¹⁷ of 89,808 kW) resulted in a \$0.9 million
15 reduction to the Irrigators bill. Once again, the \$17.6 million BPA credit came without costs,
16 while the Load Curtailment credit has costs that are not addressed in this analysis. If we
17 assume full participation in the Load Curtailment program of the average billing demand¹⁸ of
18 342,412 kW, then at a credit of \$51.19/kW-year, the overall credit would be \$17,528,000.

19

¹⁷ According to page 2 of the 2006 Schedule 72 Report, the following participation rates were realized: June 82,653 kW; July 100,132 kW; August 95,322 kW; and September 81,128 kW.

¹⁸ According to Exhibit 30, Tab 5, page 13, the following non-coincident demands were realized: June 416,761 kW; July 429,860 kW; August 388,153 kW; and September 335,773 kW. The average of these four months is 392,637 kW at input. Assuming losses at 1.14668, the average amount at sales level is 342,412 kW.

