

1 **Q. Please state your name, business address and position with the Company.**

2 A. My name is Richard C. Woolley. My business address is 201 South Main, Suite
3 2200, One Utah Center, Salt Lake City, Utah. My position is Vice President of
4 Thermal Production and System Coordination for PacifiCorp.

5 **Qualifications**

6 **Q. Please describe your education and business experience.**

7 A. I have a Bachelor of Engineering degree and Master of Business Administration
8 degree. During my career with PacifiCorp, I have served as an Operations
9 Superintendent, a Maintenance Superintendent, and a Plant Manager at both
10 Centralia Plant and Wyodak Plant. In conjunction with the sale of Centralia
11 Plant, I joined Trans Alta as Vice President of Centralia Plant and Mine
12 Operations. In 2002, I rejoined PacifiCorp as Managing Director of Process
13 Support and became Vice President of Thermal Production and System
14 Coordination in 2004 with responsibility for all thermal generation assets.

15 **Summary of Testimony**

16 **Q. Please summarize your rebuttal testimony.**

17 A. My rebuttal testimony responds to certain issues raised by ICNU witnesses
18 Schoenbeck and Falkenberg regarding (1) the appropriate level of steam plant
19 maintenance costs to be reflected in rates, and (2) the treatment of certain
20 generating unit outages. My testimony makes the following points:

21 ? In response to Mr. Schoenbeck's contention that FY2003 maintenance costs
22 are not representative of annual maintenance costs, my testimony shows that:

23 ? FY2003 operation and maintenance ("O&M") expenses are a conservative

1 estimate of O&M expenses for the rate effective period given that
2 expenses are trending upward. This upward trend is due to the simple
3 reason that our thermal plants are aging.

4 ? Using the number of days of scheduled overhaul maintenance to gauge or
5 trend the level of maintenance performed from year to year – as suggested
6 by Mr. Schoenbeck – is an inaccurate measure of maintenance activity.

7 ? In response to Mr. Falkenberg’s testimony that certain generating unit outages
8 should be excluded from ratemaking calculations because they were the result
9 of “imprudence” and/or personnel error, my testimony shows that:

10 ? Neither the Hunter Unit 1 generator failure nor the Hunter Unit 3 outage
11 for balancing the turbine-generator was due to imprudence, and neither
12 should be excluded.

13 ? Outages caused by personnel error should not be excluded inasmuch as
14 these personnel errors cannot be completely eliminated.

15 ? In response to Mr. Falkenberg’s testimony that certain generating unit outages
16 should be excluded from ratemaking calculations because the events are
17 abnormal, are non-representative of future conditions, or are catastrophic in
18 nature, my testimony shows that:

19 ? PacifiCorp thermal plant main transformer failure rates are not out-of-line
20 with industry experience, and these outages should not be excluded.

21 ? PacifiCorp’s unplanned outage rate includes unusual and catastrophic
22 outage events. Although specific events cannot be predicted, the overall

1 unplanned outage rates can be estimated based on past experience. All
2 outages should be included in the rate making calculations.

3 ? PacifiCorp's thermal unit availability and capacity factor are significantly
4 better than the industry average.

5 **PacifiCorp Maintenance Expenses**

6 **Q. Based on Mr. Schoenbeck's analysis of the number of overhaul days, he**
7 **draws the conclusion that maintenance expense should not be set on the basis**
8 **of a single year's experience. Do you agree with his approach?**

9 A. No. Mr. Schoenbeck's table of Overhaul Days cannot be used to determine a
10 pattern of scheduled maintenance because the table does not take into
11 consideration the difference in unit ownership and difference in unit capacities.
12 Furthermore, there is no quantifiable relationship between number of overhaul
13 days and overhaul maintenance expenses because the overhaul scopes of work
14 vary widely from unit to unit and year to year. Clearly the cost of overhauls on
15 large units will be greater than on small units. Overhaul frequency is currently
16 averaging around four years and is generally driven by the boiler component
17 requirements. Other equipment like the turbines and generators may only need
18 inspection and repair every 6 to 10 years and must be integrated into the four year
19 overhaul cycle. A thirty day outage for boiler maintenance will require a fraction
20 of the expense per day of one that includes boiler and other large equipment such
21 as the turbines and generators. This will not be apparent when viewing only the
22 number of outage days.

1 **Q. Do you agree with Mr. Schoenbeck's statement that the table of Major**
2 **Overhaul Costs "confirms the fact that FY2003 was an above normal major**
3 **overhaul year"?**

4 A. No. Three years of data is insufficient to form an opinion of normal overhaul
5 costs or trends. Confidential Exhibit No.____ (RCW-2C) restates the expenses
6 from Mr. Schoenbeck's table, Major Overhaul Costs for Large Thermal Plants,
7 and adds PacifiCorp plan expenses for future years. Historical and plan expenses
8 are stated in FY2004 \$ for comparison purposes. FY2003 overhaul expenses
9 were \$27,143,000. Confidential Exhibit No.____ (RCW-2C) shows that overhaul
10 expenses are expected to range from \$18,160,000 to \$30,396,000. FY2003
11 overhaul expenses are in line with typical annual overhaul expenses.

12 **Q. Can major overhaul costs alone be used as an indicator for maintenance**
13 **expenses or O&M expenses?**

14 A. No. Overhaul expenses are only 7 percent – 12 percent of total annual non-fuel
15 O&M expense. Confidential Exhibit No.____ (RCW-C3) shows the magnitude
16 and trend of total O&M expenses. The expenses are based on the PacifiCorp SAP
17 accounting system. Plant maintenance expenses are not budgeted separately in
18 SAP so non-fuel O&M expenses are provided. Confidential Exhibit
19 No.____ (RCW-C3) shows that non-fuel O&M expenses are gradually increasing.
20 Maintenance expenses, which are a component of non-fuel O&M, are increasing
21 because generating units are aging. The weighted average age of PacifiCorp's
22 thermal units is 29 years. Most units are in the second half of their life cycle and
23 the number of age related problems is increasing. The actual FY2003 non-fuel

1 O&M expenses are less than the average planned non-fuel O&M expenses for
2 FY2005-FY2008 and less than the 10-year average non-fuel O&M expenses for
3 the planned years. FY2003 non-fuel O&M expenses are thus a conservative
4 estimate for the non-fuel O&M expenses for the rate effective period.

5 **Q. Is it appropriate to use an average of four actual years of maintenance**
6 **expense to capture the cyclical aspect of maintenance schedules, as Mr.**
7 **Schoenbeck recommends?**

8 A. No. PacifiCorp maintenance expenses are increasing. Mr. Schoenbeck
9 acknowledges that “substantial increases in maintenance expense have occurred
10 each year.” Using an average of maintenance expenses for four recent years thus
11 will understate average maintenance expenses for the rate effective period.
12 FY2003 maintenance expense is a better indicator of expenses that can be
13 expected in the rate effective period of this rate case.

14 **Exclusion of Outages Related to “Imprudence” and Personnel Error**

15 **Q. As part of Mr. Falkenberg’s proposal to remove “outages that are**
16 **imprudent, non-representative, or abnormal” from the ratemaking**
17 **calculations, he proposes to exclude the Hunter Unit 1 generator outage “as a**
18 **very extreme and unusual event, and one whose prudence has not been**
19 **established.” What is PacifiCorp position on Hunter 1 generator outage?**

20 A. Mr. Widmer's testimony explains PacifiCorp reasons for including Hunter 1 in the
21 rate making calculation. The cost of repair and length of outage for the Hunter 1
22 generator was large in comparison to most forced outages. It is impossible to
23 predict or detect every component failure and, consequently, forced outages

1 occur. Occasionally, a large forced outage will occur because the component
 2 failure will cause damage that requires a long repair time. The length of a forced
 3 outage is no indication of PacifiCorp's imprudence.

4 Moreover, Mr. Falkenberg's adjustment seems to presume that PacifiCorp
 5 has been found to be imprudent in connection with the Hunter 1 outage. This
 6 issue was thoroughly litigated in two separate proceedings, and in neither case
 7 was the Company found to be imprudent. In Oregon Docket UM 995, the OPUC
 8 stated as follows:

9 We find that PacifiCorp's investigation of the Hunter 1 failure has been
 10 thorough and comprehensive. We find no evidence that the failure was
 11 due to a loose core, and no evidence that PacifiCorp overlooked signs of a
 12 loose core in its 1992 and 1999 inspections or at any other point. We find
 13 ICNU's other proffered explanations of the failure inconsistent with the
 14 preponderance of evidence in the record. On this record, we must agree
 15 with PacifiCorp that the cause of the Hunter 1 failure is undetermined.
 16 (Order No. 02-469, p. 81.)

17
 18 In Docket No. 20000-ER-02-184, the Wyoming PSC rejected allegations that the
 19 Company's imprudence led to the Hunter outage.

20 The credible evidence in this case did not allow a clear or unqualified
 21 finding of prudence or imprudence on the part of PacifiCorp; and we could
 22 not, and did not, base our decision on a simple finding of prudence or
 23 imprudence. We found credible evidence on the subject presented by both
 24 sides in this controversy. Our solution in this situation was to treat the
 25 Hunter No. 1 outage costs as we would the impact of any other generator
 26 outage considered in a general rate case, directing that the effect of the
 27 outage be included in the four-year rolling average of historical outage
 28 rates and maintenance to determine the thermal availability information
 29 factored into normalized net power costs. (Order Denying Rehearing,
 30 ¶ 19.)

31
 32 **Q. Do you agree with Mr. Falkenberg that PacifiCorp "admitted to
 33 imprudence" in the Jim Bridger Unit 4 outage in June 2000?**

34 A. No. In response to a question from Wyoming PSC Chairman Ellenbecker,

Rebuttal Testimony of Richard C. Woolley

Exhibit No.__(RCW-1T)

1 PacifiCorp witness Barry Cunningham in Docket No. 20000-ER-02-184
2 acknowledged that PacifiCorp performed an investigation of the Jim Bridger
3 Unit 4 outage and found that the failure resulted, in part, from personnel error.
4 Simply because personnel error contributed to the incident does not mean or
5 imply that PacifiCorp was imprudent.

6 **Q. Do you agree that “because this outage was the result of imprudence, it**
7 **should be removed from calculation of net power costs”?**

8 A. No. Power plants are operated and maintained by people and unfortunately
9 people make errors. Personnel errors do occur and cannot be completely
10 eliminated. The number and frequency of personnel errors can be minimized by
11 good training, good procedures, continuous emphasis on safety, and learning
12 through investigation of failures. Mr. Cunningham was able to respond to
13 Chairman Ellenbecker's question in detail because PacifiCorp had conducted a
14 thorough investigation of the Jim Bridger incident and had determined that
15 personnel error had contributed to the failure. The fact that PacifiCorp
16 investigated the incident and identified personnel error as a contributing factor is,
17 if anything, evidence that PacifiCorp is a prudent operator. The investigation is
18 also evidence that PacifiCorp emphasizes continuous improvement through
19 learning from past experience. The fact that personnel error contributed to the
20 Jim Bridger Unit 4 June 2000 failure is no evidence of PacifiCorp's imprudence
21 and is no reason for removing the outage from the rate making calculations.

1 **Q. Mr. Falkenberg claims that outage incidents “under the categories of**
2 **“Operator Errors”, “Maintenance Errors”, “Subcontractor Errors” or**
3 **“Other Safety Problems”...are imprudent outages and customers should not**
4 **bear the associated costs.” Do you agree?**

5 A. No. Personnel errors alone are not an indication of imprudence, for the same
6 reasons as I expressed earlier in my testimony. Recording the cause of each
7 outage incident as accurately as practical in the PacifiCorp Availability database
8 is essential to having good information for making decisions on how to improve
9 plant performance. PacifiCorp recognizes that personnel error does contribute to
10 some outages. PacifiCorp is committed to minimizing these incidents by
11 maintaining an emphasis on continuous improvement.

12 **Q. How does PacifiCorp’s record with respect to personnel errors compare with**
13 **that of other utilities?**

14 A. PacifiCorp examined data from the NERC GADS data base for the population of
15 coal-fired units with capacity factors greater than 70 percent for the period of
16 1983-2002. The loss of Equivalent Availability Factor (“EAF”) for the cause
17 codes related to personnel error among this population is 0.06 percent per unit-
18 year. The PacifiCorp rate for the same cause codes and period is 0.04 percent per
19 unit-year. PacifiCorp also evaluated the loss data for all coal-fired units for the
20 five-year period, 1998-2002. The loss of Equivalent Availability Factor for the
21 industry was 0.06 percent per unit-year and the rate for PacifiCorp is 0.03 percent
22 per unit-year. PacifiCorp’s performance is thus in line with – and in fact is
23 slightly better than – the industry standard. Both the fact that PacifiCorp records

1 incidents as caused by personnel error and the fact that PacifiCorp's recorded rates
2 are in line with industry indicate that PacifiCorp is a prudent operator. There is
3 no basis for removing the outage incidents reported under the categories of
4 "Operator Errors", "Maintenance Errors", "Subcontractor Errors" or "Other
5 Safety Problems" from the ratemaking calculations.

6 **Q. Mr. Falkenberg would also exclude the November 1999 Hunter Unit 3 outage**
7 **to balance the generator "is an instance of imprudence." Do you agree with**
8 **this treatment?**

9 A. No. Weights are attached to the generator rotor at various locations to balance the
10 rotor when it is rotating. The balance weights in the generator were consolidated
11 by PacifiCorp personnel during the 1998 overhaul in order to make room for
12 additional weights in the event balancing was required in the future. At the time
13 the balance weights were consolidated, the balance weights were reinstalled in a
14 more accessible machined groove in the retaining ring after checking with the
15 manufacturer's field engineer at the Hunter Plant site. The generator had higher
16 than normal vibration after return to service. The consolidated balance weights
17 were relocated to the original machined groove in the rotor during the November
18 1999 outage. The relocation of the weights resolved the vibration problem. The
19 incident is not an example of imprudence. In fact, PacifiCorp was being proactive
20 in consolidating the balance weights in order to be prepared for any future
21 balancing. PacifiCorp personnel did consult the manufacturer's field engineer
22 when relocating the balance weights. Clearly, an error was made in relocating the
23 weights although it was not obvious at the time and took many months to

1 understand and determine the nature of the problem. This incident falls in the
 2 category of personnel error and, as previously discussed in this testimony, should
 3 remain in the rate making calculations.

4 **Exclusion of “Unusual,” “Non-Representative,” or “Catastrophic” Outages**

5 **Q. Do you agree with Mr. Falkenberg’s observation that the level of Hunter**
 6 **transformer related outages “is extremely high compared to other**
 7 **PacifiCorp plants, and to the utility industry in general”?**

8 A. No. Mr. Falkenberg's statement that the “level of outages is extremely high
 9 compared to other PacifiCorp plants” is misleading. The total number of
 10 PacifiCorp outages related to main transformers for the period of 1983-2002 was
 11 65.

Plant	Number of Outages	Duration, Hours
Cholla	2	1164
Carbon	5	203
Craig	2	197
Dave Johnston	6	61
Gadsby	3	523
Hayden	1	29
Huntington	11	367
Hunter	16	1505
Jim Bridger	8	1204
Naughton	6	248
Wyodak	5	521
Total	65	6022

12
 13 Sixteen of the outages occurred at the Hunter Plant. It is not unusual to have
 14 problems with a specific model or manufacturer's equipment at one plant and not
 15 have problems with similar equipment at other plants. The fact that Hunter Plant
 16 had more problems with the Unit 1 and 2 main transformers than most PacifiCorp

1 plants is not unusual. Mr. Falkenberg's statement that the PacifiCorp "level of
2 outages is extremely high compared" "to the utility industry in general" is an
3 exaggeration. PacifiCorp plants operate at high capacity factors and,
4 consequently, the equipment operates continuously near maximum capacity.
5 PacifiCorp examined the North American Electric Reliability Council ("NERC")
6 statistics for the population of coal-fired generating units built between 1950 and
7 1983 that operate at greater than 70 percent capacity factor. This population of
8 296 generating units is representative of operation similar to PacifiCorp plants.
9 The average EAF loss due to main transformers for this group for the period of
10 1998-2002 is 0.2 percent. The average EAF loss due to main transformers for
11 PacifiCorp for the same period is 0.4 percent. While the PacifiCorp losses are
12 greater than the industry, these losses are a very small part of the total EAF losses
13 for the PacifiCorp units.

14 **Q. Mr. Falkenberg recommends that outages related to transformer failures at**
15 **Hunter Plant be removed from the ratemaking calculations because the**
16 **problem was unusual and is not expected to recur. Do you agree with Mr.**
17 **Falkenberg's reasoning and recommendation?**

18 A. No. Mr. Falkenberg's reasoning could be used to exclude many unusual outages
19 whose cause is corrected and are not expected to recur. Mr. Falkenberg
20 acknowledges that "there are always outages at generators, and costs associated
21 with solving them." PacifiCorp was proactive in correcting the transformer
22 problem and costs associated with correcting the problem are included in the base
23 rates. However, the process and efforts involved in resolving this problem were

1 no different than are applied to resolving other emergent problems. The
2 characteristics and nature of these main transformer problems do not make them
3 unique from other problems that plant personnel resolve in the course of doing
4 business. There is no basis for claiming that the main transformer problems are
5 unique and should be removed from the rate making calculations.

6 **Q. Mr. Falkenberg recommends removal of three other outages that were**
7 **identified in the Oregon UE 134 case and in the Utah Hunter/Excess Power**
8 **Cost case. Should these outages be removed from the rate making**
9 **calculations on the basis that the outages were unusual and catastrophic?**

10 A. Mr. Widmer's testimony discusses the ratemaking treatment of these items. Each
11 of these three forced outages was relatively long. Two of the forced outages
12 occurred on jointly owned plants operated by other utilities. PacifiCorp share of
13 Colstrip Unit 4 operated by PPL Montana is 74 MW. The outage duration was 16
14 days to repair generator damage caused by a loose baffle. PacifiCorp's share of
15 Hayden 1 operated by Xcel is 45 MW. The outage duration in this case was 76
16 days to repair a crack in a steam turbine rotor. PacifiCorp owns and operates the
17 Dave Johnston Unit 3 and the outage duration cited here was 43 days to repair a
18 ground in the generator field winding. In all three incidents the outages occurred
19 on large rotating equipment that is highly stressed and is aging. The occurrence
20 of an occasional forced outage of long duration in large fleet of generating units
21 can be expected and is not unusual or abnormal. While PacifiCorp and the
22 operators of its jointly owned plants try to minimize the risk of such failures, it is
23 not possible to completely eliminate the failures. For this reason, forced outages

1 of long duration should not be removed from the rate making calculation.

2 Removal of the forced outages of long duration implies that no forced outages of
3 long duration will occur in the future and that is not realistic.

4 **Q. How does PacifiCorp’s record regarding Equivalent Availability Factor and
5 Capacity Factor compare with other utilities’?**

6 A. PacifiCorp’s equivalent availability factor and capacity factor are significantly
7 better than the industry averages. Thus, even after taking into account
8 “unusual,” “non-representative,” or “catastrophic” outages, PacifiCorp is able to
9 achieve a higher than average utilization of generating assets.

	Industry		PacifiCorp	
Calendar Year	EAF	CF	EAF	CF
<i>1999-2002</i>	<i>83.58%</i>	<i>69.30%</i>	<i>86.83%</i>	<i>80.02%</i>

10

11 **Q. Please summarize the Company’s position regarding the removal of outages
12 from the availability calculations for ratemaking purposes.**

13 A. Outages should not be removed. Exclusion of “unusual”, “non-representative”, or
14 “catastrophic” outages assumes that similar outages will not occur. Although
15 PacifiCorp strives to reduce unplanned outages, with the Company’s aging fleet
16 and high capacity factors it is illogical and unreasonable to assume that no
17 “unusual”, “non-representative”, or “catastrophic” outages will occur.

18 Unadjusted recent forced outage rates provide a probable value of forced outage
19 rates for future years. Additionally, PacifiCorp’s overall performance, as
20 measured by its Equivalent Availability Factor and Capacity Factor, indicates
21 there is no basis for adjusting the forced outage rate.

1 Q. Does this conclude your rebuttal testimony?

2 A. Yes.

**Exhibit RCW-1R
Overhaul History & 2004 Ten-Year Plan - O&M Our Share (\$000)**

Fiscal Years - SAP O&M Expenses

	Actual Expenditures - Actual \$				Actual Expenditures - 2004 \$				2005 Ten-Year Plan - All Years in 2004 \$						
	2001	2002	2003	2004	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Carbon2	-	303	-	307	-	311	-	307	1,275	300	-	1,622	-	300	-
Cholla4	3,150	-	-	705	3,275	-	-	705	4,981	-	-	-	7,864	-	-
Colstrip3	-	755	-	100	-	774	-	100	736	-	25	713	-	25	713
Colstrip4	1,067	-	100	588	1,109	-	101	588	74	25	713	-	25	713	-
Craig1	-	-	449	1,410	-	-	456	1,410	-	98	541	-	98	541	-
Craig2	500	1,200	-	711	520	1,231	-	711	758	-	98	541	-	-	639
DaveJohnston1	115	73	1,435	1,680	120	75	1,456	1,680	-	600	-	-	2,104	-	629
DaveJohnston2	949	65	-	-	987	67	-	-	492	-	3,313	-	629	295	-
DaveJohnston3	767	-	-	-	797	-	-	-	98	2,778	-	777	-	3,173	-
DaveJohnston4	212	855	-	4,794	220	877	-	4,794	-	1,013	-	5,381	-	910	246
Hayden1	98	-	80	414	102	-	81	414	-	-	393	-	-	393	-
Hayden2	-	145	-	-	-	149	-	-	195	-	-	187	-	-	187
Hunter1	2,185	513	-	-	2,272	526	-	-	5,338	-	-	899	1,152	4,471	-
Hunter2	202	537	2,600	803	210	551	2,638	803	-	-	978	2,639	578	678	2,372
Hunter3	995	4,085	878	650	1,034	4,189	891	650	-	1,475	4,907	-	959	-	5,058
Huntington1	193	6,689	806	-	201	6,859	818	-	910	8,743	959	-	2,323	4,376	-
Huntington2	716	-	6,741	-	744	-	6,841	-	-	-	8,945	-	959	2,300	3,912
JimBridger1	401	501	4,034	854	417	514	4,094	854	-	-	4,294	-	496	-	3,105
JimBridger2	392	3,294	131	424	407	3,378	133	424	-	3,712	-	496	-	3,042	-
JimBridger3	131	218	377	4,255	136	224	383	4,255	-	496	-	3,335	-	496	-
JimBridger4	2,065	823	474	119	2,147	844	481	119	4,107	-	483	-	3,299	-	483
Naughton1	-	-	4,570	85	-	-	4,637	85	977	988	-	4,748	-	-	1,067
Naughton2	-	570	3,762	370	-	584	3,817	370	-	-	4,748	-	1,022	-	4,748
Naughton3	317	-	311	5,680	329	-	315	5,680	-	1,103	-	6,521	-	1,202	-
Wyodak	3,014	-	-	54	3,133	-	-	54	641	4,293	-	-	-	589	4,691
Total Partner	17,468	20,626	26,748	24,003	18,160	21,150	27,143	24,003	20,583	25,624	30,396	27,859	21,509	23,502	27,850

**Exhibit RCW-2
Generation
2005 Ten-Year Plan - O&M Our Share (\$000) - without Currant Creek**

Fiscal Years - SAP O&M Expenses

	Actual Expenditures - Actual \$				Actual Expenditures - 2004 \$				2005 Ten-Year Plan - All Years in 2004 \$							
	2001 Actual	2002 Actual	2003 Actual	2004 Actual	2001 Actual	2002 Actual	2003 Actual	2004 Actual	2005 Budget	2006 Budget	2007 Plan	2008 Plan	2009 Plan	2010 Plan	2011 Plan	2012 Plan
Hunter	26,866	32,373	33,441	34,570	27,931	33,196	33,935	34,570	33,736	29,774	36,057	33,710	32,677	35,154	37,443	30,874
Huntington	21,670	29,918	32,979	29,751	22,528	30,679	33,466	29,751	26,932	34,240	35,447	25,443	28,772	32,086	29,275	26,321
DaveJohnston	25,470	27,493	28,420	36,625	26,479	28,192	28,840	36,625	30,989	36,016	34,956	38,045	34,620	36,264	32,762	36,963
Wyodak	10,157	8,400	8,416	9,822	10,560	8,614	8,541	9,822	10,289	14,101	10,160	9,573	9,600	10,604	14,498	9,677
JimBridger	30,412	33,457	37,468	40,219	31,617	34,308	38,021	40,219	40,480	41,096	41,722	40,973	40,847	40,604	40,823	41,596
Naughton	19,907	21,250	31,028	28,100	20,696	21,790	31,487	28,100	23,434	25,399	27,732	34,068	24,005	24,480	28,798	29,320
Carbon	9,639	8,819	9,876	10,792	10,021	9,044	10,022	10,792	12,260	10,551	10,433	11,750	11,834	10,398	10,433	11,745
Gadsby	4,266	31,242	6,962	8,027	4,435	32,037	7,065	8,027	7,981	8,340	8,384	9,666	9,475	9,475	8,455	8,384
LittleMt	(40)	563	1,174	722	(41)	578	1,191	722	805	810	795	795	1,290	786	786	786
Blundell	1,398	2,325	1,586	1,872	1,453	2,384	1,609	1,872	2,055	2,131	2,455	2,044	2,039	2,039	2,047	2,088
WValley	-	10	14,794	18,973	-	10	15,013	18,973	19,737	20,105	20,120	20,179	20,120	20,120	20,179	20,120
Craig	7,035	7,926	7,075	8,865	7,314	8,128	7,180	8,865	7,489	7,214	7,755	7,657	7,214	7,657	7,657	7,116
Hayden	3,239	3,094	3,019	3,781	3,367	3,173	3,063	3,781	3,628	3,480	3,824	3,608	3,421	3,912	3,706	3,514
Cholla	15,916	15,481	15,326	16,691	16,546	15,875	15,552	16,691	21,475	16,796	16,747	16,679	26,842	19,200	19,632	19,585
Hermiston	6,790	5,899	7,750	6,951	7,059	6,049	7,865	6,951	6,290	10,299	8,878	6,984	10,008	10,083	7,211	10,731
Colstrip	4,785	5,002	4,818	5,327	4,974	5,129	4,890	5,327	5,411	4,685	5,300	5,275	4,685	5,300	5,275	4,710
JamesRiver	229	2	3	812	238	2	3	812	10	49	767	49	49	49	49	49
FooteCreek	1,639	1,651	1,866	1,667	1,704	1,693	1,894	1,667	1,756	2,012	2,062	2,113	2,756	2,712	2,767	2,823
Hydro	23,212	25,072	26,806	30,438	24,132	25,710	27,202	30,438	31,840	34,919	35,671	36,328	37,154	36,204	36,105	34,242
Engr	3,842	7,897	6,644	5,544	3,995	8,097	6,742	5,544	7,041	6,136	6,658	6,628	6,628	6,628	6,628	6,628
HyRel	-	489	(173)	(381)	-	501	(175)	(381)	(106)	36	46	36	46	-	-	-
ResD	733	733	445	6,024	762	752	451	6,024	1,297	1,580	1,580	1,580	1,580	1,580	1,580	1,580
Safety	3,631	1,502	2,211	2,131	3,775	1,541	2,243	2,131	3,302	3,302	3,302	3,302	3,302	3,302	3,302	3,302
AdminG	2,124	208	9,244	3,114	2,208	213	9,380	3,114	13,080	9,196	11,202	11,202	11,202	11,202	11,202	11,202
Total	222,919	270,807	291,180	310,437	231,753	277,693	295,479	310,437	311,212	322,267	332,056	327,688	330,166	330,263	330,616	323,359

Average for FY2005 - FY2008 = \$323,306

Average for FY2005- FY2014 = \$328,253