

Docket No. 20000-__-EM-20
Witness: David G. Webb

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

Direct Testimony of David G. Webb

April 2020

1 **Q. Please state your name, business address, and present position with PacifiCorp**
2 **d/b/a Rocky Mountain Power (“Rocky Mountain Power” or the “Company”).**

3 A. My name is David G. Webb and my business address is 825 NE Multnomah Street,
4 Suite 600, Portland, Oregon 97232. My title is Manager, Net Power Costs.

5 **QUALIFICATIONS**

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

7 A. I received a Master of Accountancy degree from Southern Utah University in 1999 and
8 a Bachelor of Science degree in Business Management from Brigham Young
9 University in 1994. I am a Certified Public Accountant licensed in the state of Nevada.
10 I have been employed by PacifiCorp since 2005 and have held various positions in the
11 regulation, finance, fuels, and mining departments. I assumed my current role
12 managing the regulatory net power cost group in 2019.

13 **Q. Have you testified in previous regulatory proceedings?**

14 A. Yes. I have previously provided testimony to the public utility commissions in Utah,
15 Wyoming, Idaho, and Oregon.

16 **PURPOSE OF TESTIMONY**

17 **Q. What is the purpose of your testimony in this proceeding?**

18 A. My testimony presents and supports the Company’s calculation of the Energy Cost
19 Adjustment Mechanism (“ECAM”) balancing account for the 12-month period of
20 January 1, 2019 through December 31, 2019 (“Deferral Period”). More specifically, I
21 provide the following:

- 22 • Background on the ECAM and an accounting of how the ECAM balance was
23 calculated for the Deferral Period;

- 1 • Details supporting the calculation of the Company’s request to recover \$13.9
2 million for excess ECAM-related costs and interest;
- 3 • Discussion of the main differences between adjusted actual net power costs
4 (“Actual NPC”) and net power costs in rates (“Base NPC”); and,
- 5 • Discussion about the Company’s participation in the energy imbalance market
6 (“EIM”) with California Independent System Operator (“CAISO”) and the
7 benefits from EIM that are passed through to customers.

8 **Q. What other witnesses present testimony for the ECAM and Tariff Schedule 95 in**
9 **this case?**

10 A. Mr. Robert M. Meredith, Director, Pricing and Cost of Service, provides testimony on
11 the proposed rates in Tariff Schedule 95, Energy Cost Adjustment Mechanism
12 (“Schedule 95”).

13 **SUMMARY OF THE ECAM DEFERRAL CALCULATION**

14 **Q. Please briefly describe the Company’s ECAM authorized by the Commission.**

15 A. The Commission’s Order in Docket No. 20000-368-EA-10 (“2010 Order”) approved
16 the ECAM to allow the Company to recover from or refund to customers 70 percent of
17 the difference between Actual NPC and Base NPC (which are established in a general
18 rate case) on an annual basis. The ECAM also includes the calculation of the changes
19 in the Embedded Cost Differential (“ECD”), chemical costs, and start-up fuel costs
20 during the Deferral Period. The details for the calculation of the ECAM deferral are
21 contained in Schedule 95. The ECAM was put in place in the 2010 Order for an initial
22 five-year period and extended in the 2015 general rate case (“2015 GRC”), Docket No.
23 20000-469-ER-15, without a sunset date.

1 **Q. Please summarize the Company's ECAM application.**

2 A. The ECAM deferral is calculated on a monthly basis as the difference between items
3 included in Base ECAM collected through rates and Wyoming-allocated Actual ECAM
4 costs, plus interest. The difference is subject to a 70/30 percent sharing band. For the
5 Deferral Period, the ECAM differential was approximately \$19.1 million before
6 applying the 70/30 percent sharing band. After applying the sharing band, the 2017
7 ECAM settlement adjustment, interest, and the true-up of forecast collections of the
8 2018 ECAM and 2019 ECAM deferrals, the Company is seeking approval to recover
9 \$13.9 million.

10 **Q. Have you provided detailed support for the calculation of the ECAM balance with**
11 **your testimony?**

12 A. Yes. Exhibit RMP___(DGW-1) includes a detailed calculation of the ECAM deferral
13 on a monthly basis.

14 **Q. Please describe the other exhibits to your testimony and how they are related to**
15 **the calculation of the ECAM deferral.**

16 A. The following exhibits are included to support the calculation in
17 Exhibit RMP___(DGW-1) and the ECAM deferral:

- 18 • Exhibit RMP___(DGW-2) provides the detailed calculation of the ECD
19 adjustment.
- 20 • Confidential Exhibit RMP___(DGW-3) details the monthly Actual NPC
21 amounts recorded in the Company's books on a total-Company and Wyoming-
22 allocated basis, adjustments made to Actual NPC for ratemaking purposes, and
23 the chemical and start-up fuel costs.

1 • Confidential Exhibit RMP___(DGW-4) illustrates the approved revenues
2 collected from prior ECAM dockets, including Dockets No. 20000-535-EA-18
3 (“2018 ECAM”) and 20000-558-EM-19 (“2019 ECAM”). Residual balances
4 from these dockets have been included in the current ECAM deferral
5 calculation consistent with Schedule 95.

6 **Q. Are you also providing exhibits for informational purposes?**

7 A. Yes. The following exhibits are provided for the Deferral Period:

- 8 • Exhibit RMP___(DGW-5) includes monthly market prices at major markets.
- 9 • Confidential Exhibit RMP___(DGW-6) reflect hourly logs of the Company’s
10 thermal and wind generation resources.
- 11 • Confidential Exhibit RMP___(DGW-7) is a list of hydro outages.
- 12 • Confidential Exhibit RMP___(DGW-8) is a list of thermal outages.

13 Additional information is also provided with the Company’s application
14 pursuant to the 16 Minimum Filing Requirements (“MFR”) ordered by the Commission
15 in Attachment A of the Commission’s 2010 Order.¹

16 **Q. Does the calculation of the ECAM deferral in this Application comply with**
17 **Schedule 95 as approved by the Commission?**

18 A. Yes.

19 **ECAM DEFERRAL CALCULATION**

20 **Q. Please describe the calculation of the ECAM deferral included in this filing.**

21 A. Table 1 below provides a summary of the total ECAM deferral and a breakdown of the

¹ Items 10, 11, and 12 were included in the Commission’s order when revenue from the sale of renewable energy credits (“REC”) and SO₂ allowances were anticipated to be part of the ECAM. These items are now provided along with the Company’s filing as it relates to the REC and SO₂ Revenue Adjustment Mechanism. The additional information is provided with the Company’s application as Attachment 1.

1 individual components of the ECAM. Additionally, Exhibit RMP___(DGW-1) presents
 2 the detailed calculation of the ECAM deferral on a monthly basis.

Table 1
Summary of ECAM Account Balance

<u>Incremental ECAM Deferral</u>	
Actual Collections of Base NPC	\$ 246,251,010
Actual Collections of Base ECD	(2,105,558)
Actual Collections of Base Chemical Costs	5,229,290
Actual Collections of Base Start-Up Fuel	1,218,256
Actual Collections of Base ECAM	250,592,999
Wyoming Allocated Actual Adjusted NPC	266,543,556
Actual Adjusted ECD	(2,105,558)
Wyoming Allocated Actual Chemical Costs	4,342,160
Wyoming Allocated Actual Start-Up Fuel	925,993
Actual Adjusted ECAM	269,706,151
Deferred ECAM	19,113,152
Deferred ECAM @ 70% Symmetrical Sharing	\$ 13,379,207
<u>ECAM Adjustment Balance</u>	
Beginning ECAM Adjustment Balance: Jan 1, 2019	\$ -
Incremental Deferral	13,379,207
2017 ECAM Settlement Adjustment	(100,000)
Interest	211,095
Ending ECAM Adjustment Balance: Dec 31, 2019	13,490,301
Accrued Interest through June 14, 2020	227,858
Interest Accrued through Rate Effective Period	247,196
Total ECAM Deferral	13,965,356
2018 ECAM Revenue True-Up	(17,426)
2019 ECAM Revenue True-Up	(15,671)
Requested ECAM Recovery	\$ 13,932,259

3 **Q. What revenue requirement components are included in the ECAM deferral**
 4 **calculation?**

5 A. The ECAM deferral calculation consists of four revenue requirement components:
 6 NPC, ECD, chemical costs, and start-up fuel costs. NPC are defined as the sum of fuel

1 expenses, wholesale purchase power expenses, and wheeling expenses, less wholesale
2 sales revenue. The ECD is an adjustment made under the 2017 Protocol allocation
3 methodology relating to the costs of hydro generation and Mid-Columbia contracts.
4 Chemical costs and start-up fuel costs relating to production at Company-owned power
5 plants are included as approved in the 2015 GRC.

6 **Q. How are the Wyoming-allocated Actual NPC calculated?**

7 A. Wyoming-allocated Actual NPC are calculated in three steps. First, unadjusted actual
8 NPC are established on a total-Company basis. Second, adjustments are made to the
9 unadjusted actual NPC to apply certain regulatory adjustments and to remove out-of-
10 period accounting entries. Third, the adjusted total-Company Actual NPC are allocated
11 to Wyoming on the basis of the 2017 Protocol.

12 **Q. What were the total-Company adjusted Actual NPC for the Deferral Period and
13 how were they determined?**

14 A. The total-Company adjusted Actual NPC in the Deferral Period were approximately
15 \$1,653 million. This amount captures all components of NPC as defined in the
16 Company's GRC proceedings and modeled by the Company's Generation and
17 Regulation Initiative Decision Tool ("GRID") model. Specifically, it includes amounts
18 booked to the following FERC accounts:

19 Account 447 – Sales for resale, excluding on-system wholesale sales and other
20 revenues that are not modeled in GRID

21 Account 501 – Fuel, steam generation; excluding fuel handling, start-up fuel
22 (gas and diesel fuel, residual disposal) and other costs that are
23 not modeled in GRID

- 1 Account 503 – Steam from other sources
- 2 Account 547 – Fuel, other generation
- 3 Account 555 – Purchased power, excluding the Bonneville Power
- 4 Administration residential exchange credit pass-through if
- 5 applicable
- 6 Account 565 – Transmission of electricity by others

7 **Q. What adjustments are made to Actual NPC and why are they needed?**

8 A. The Company adjusts Actual NPC to reflect the ratemaking treatment of several items,

9 including:

- 10 • out-of-period accounting entries booked in the Deferral Period that relate to
- 11 operations before implementation of the ECAM in December 2010;
- 12 • buy-through of economic curtailment by interruptible industrial customers;
- 13 • revenue from a contract related to the Leaning Juniper wind resource;
- 14 • situs assignment of the generation from Oregon solar resources procured to
- 15 satisfy Oregon Revised Statute 757.370 solar capacity standard;
- 16 • situs assignment of Oregon allocated excess amortization related to a prepaid
- 17 wheeling expense;
- 18 • situs assignment of certain Utah resources and Schedule 32 contract costs;
- 19 • coal inventory adjustments to reflect coal costs in the correct period;
- 20 • coal stripping cost amortization under Financial Accounting Standards Board
- 21 (“FASB”) Emerging Issues Task Force (“EITF”) 04-6;
- 22 • legal fees related to fines and citations included in the cost of coal; and,
- 23 • adjustments related to liquidated damages that occurred outside the Deferral

1 Period (all liquidated damage fees per a coal supply agreement are booked in
2 accordance with generally accepted accounting principles).

3 **Q. Please state the amount of the adjusted total-Company Actual NPC that were**
4 **allocated to Wyoming and describe how the amount was calculated.**

5 A. Wyoming-allocated Actual NPC were \$266.5 million during the Deferral Period. To
6 arrive at this value, the Company applied the allocation methodology approved by the
7 Commission using actual allocation factors from calendar year 2019. The actual
8 allocation factors were determined using jurisdictional loads during 2019 and were
9 16.803 percent for System Energy factor and 15.022 percent for System Generation
10 factor.

11 **Q. How much of Base ECAM did the Company collect from Wyoming customers**
12 **during the Deferral Period?**

13 A. During the Deferral Period, the Company received \$250.6 million in Base ECAM
14 revenue from Wyoming customers, \$19.1 million less than Wyoming allocated Actual
15 ECAM costs.

16 **Q. Please summarize the calculation of the Embedded Cost Differential (“ECD”).**

17 A. The ECAM accounts for the difference between the actual ECD and the ECD amount
18 credited to customers through base rates. The difference shown in
19 Exhibit RMP___(DGW-2) is approximately \$0.3 million to be recovered from
20 customers. The ECD amount included in base rates is a \$2.2 million benefit, or
21 reduction, to revenue requirement that was set in the Company’s 2015 GRC, and based
22 on actual customer usage during the deferral period, the Company credited
23 approximately \$2.1 million to Wyoming customers in base rates. This amount

1 compared to actual ECD, as calculated per the 2017 Protocol, of approximately \$1.9
2 million produces the difference of approximately \$0.3 million.

3 **Q. Please describe how the interest on the ECAM deferral balance was determined.**

4 A. Interest is accrued monthly on the ECAM deferral balance at the Commission-
5 prescribed interest rate on customer deposits in Tariff Schedule 300. Over the Deferral
6 Period, the ECAM balance accrued \$211,095 of interest recoverable from Wyoming
7 customers. An additional \$227,858 of interest recoverable from Wyoming customers
8 will accrue between January 1, 2020, and June 14, 2020, before commencement of the
9 collection period for the ECAM deferral, and \$247,196 of interest recoverable from
10 Wyoming customers is projected to accrue during the collection period ending June 14,
11 2021.

12 **Q. Have you included any residual balances from prior years' ECAM deferrals in the
13 Company's filing?**

14 A. Yes. Consistent with Schedule 95, to the extent the Company under- or over-collects
15 the amount approved in each ECAM docket, a true-up is required in a subsequent
16 ECAM filing to account for the residual balance and complete collection or return the
17 over-collection to customers. The residual balances from the 2018 ECAM and
18 2019 ECAM have been included in the total request for recovery in this current ECAM
19 filing. The collection period for the 2018 ECAM filing ended June 14, 2019. The
20 collection period for the 2019 ECAM filing is proposed to end June 14, 2020.

21 **Q. What amount is included in this filing for the 2018 ECAM residual balance?**

22 A. The 2018 final residual balance included in this filing is \$17,426. As shown in
23 Confidential Exhibit RMP___(DGW-4), the final residual balance for the 2018 ECAM

1 is an under-collection of \$152,428 less the previously estimated residual balance of
2 \$169,854 that was included in the 2019 ECAM. An estimate was required at the time
3 of filing the 2019 ECAM because the filing was made before the end of the collection
4 period. The Commission's Order in Docket No. 20000-558-EM-19 specified any true-
5 up to the residual balance should be accounted for in the 2020 ECAM. The net over-
6 collection, \$17,426, plus applicable carrying charges, is included as a decrease to the
7 current ECAM filing. Further details supporting the residual balance amount is
8 provided in Exhibit RMP___(DGW-4).

9 **Q. What amount is included in this filing for the 2019 ECAM residual balance?**

10 A. As shown in Exhibit RMP___(DGW-4), the Company expects that by June 14, 2020,
11 it will have \$15,671 more than the amount approved in the 2019 ECAM. This over-
12 collection, plus applicable carrying charges, is included as a decrease to the current
13 ECAM filing. As the collection period has not ended at the time of this filing, the
14 residual balance for the 2019 ECAM is an estimate but will be updated to the actual
15 residual balance when the Company files rebuttal testimony.

16 DIFFERENCES IN NPC

17 **Q. On a total-Company basis, what was the difference between Actual NPC and Base
18 NPC for the Deferral Period?**

19 A. On a total-Company basis, Actual NPC for the Deferral Period were \$1,653 million,
20 more than Base NPC for the Deferral Period by approximately \$136 million. Table 2
21 below provides a high level summary of the difference between the Base NPC and
22 Actual NPC by category on a total-Company basis.

1

Table 2
Net Power Cost Reconciliation (\$ millions)

	TOTAL
Base NPC	\$ 1,517
Increase/(Decrease) to NPC:	
Wholesale Sales Revenue	250
Purchased Power Expense	15
Coal Fuel Expense	(86)
Natural Gas Expense	(35)
Wheeling, Hydro and Other Expense	(8)
Total Increase/(Decrease)	\$ 136
Adjusted Actual NPC	\$ 1,653

2 **Q. Please describe the Base NPC the Company used to calculate the NPC component**
3 **of the ECAM deferral.**

4 A. The Base NPC of \$1,517 million was set in the 2015 GRC using a test period of January
5 through December 2015. Base rates from the 2015 GRC became effective January 1,
6 2016.

7 **Q. Please describe the differences between Actual NPC and Base NPC.**

8 A. From an accounting perspective, and as shown in Table 2, Actual NPC were higher than
9 Base NPC due to a \$250 million reduction in wholesale sales and a \$15 million increase
10 in purchased power expense. The items were partially offset by a \$35 million reduction
11 in natural gas expense, \$86 million reduction in coal fuel expense, and an \$8 million
12 reduction in wheeling and other expenses.

13 **Q. Please explain the changes in wholesale sales revenue.**

14 A. Wholesale sales revenue declined relative to Base NPC due to higher market prices and
15 a reduction in the wholesale sales volume of market transactions (represented in GRID
16 as short-term firm and system balancing sales).

1 Revenue from market transactions was approximately \$207 million lower than
2 Base NPC and the average price of actual market sales transactions was \$5.97/MWh,
3 or 22 percent, higher than the average price in Base NPC. Actual wholesale market
4 volumes were 8,644 gigawatt-hours (“GWh”), or 63 percent, lower than Base NPC.

5 **Q. Please explain the changes in purchased power expense.**

6 A. Purchased power expense increased due to a \$150 million increase in qualifying facility
7 (“QF”) transactions, but was partially offset by a \$15 million decrease in market
8 purchase transactions (represented in GRID as short-term firm and system balancing
9 purchases) and the expiration of the Hermiston purchase power agreement and the
10 Georgia-Pacific Camas contract, which resulted in lower purchased power costs of
11 \$74 million. Actual market purchases were 3,786 GWh (46 percent) lower than Base
12 NPC and the average price of actual market purchase transactions was \$20.49/MWh
13 (73 percent) higher than Base NPC.

14 **Q. Please explain the changes in wheeling expenses.**

15 A. Actual long-term wheeling expense decreased by \$9 million when compared to Base
16 NPC due to expired wheeling contracts. This was partially offset by an increase of
17 \$7 million of short-term wheeling expenses.

18 **Q. Please explain the changes in coal fuel expense.**

19 A. Coal fuel expense decreased because coal generation volume decreased 6,016 GWh
20 (15 percent) compared to Base NPC. The average cost of coal generation increased
21 from \$19.39/MWh in Base NPC to \$20.27/MWh in the Deferral Period, however the
22 lower generation results in an overall decrease of approximately \$86 million in coal
23 fuel expense.

1 **Q. Please explain the changes in natural gas fuel expense.**

2 A. The total natural gas fuel expense in Actual NPC decreased by \$35 million compared
3 to Base NPC mainly due to a lower average cost of natural gas generation from
4 \$27.51/MWh in Base NPC to \$23.79/MWh (14 percent) in the Deferral Period.
5 Reduced costs were slightly offset by an increase in natural gas generation volume of
6 351 GWh (3 percent) higher than Base NPC during the Deferral Period.

7 **Q. Please provide an update of the Enbridge natural gas pipeline rupture and its**
8 **impact on Company operations and costs.**

9 A. On October 9, 2018, the Enbridge natural gas pipeline that transports natural gas
10 produced in the Western Canadian Sedimentary Basin to consumers in British
11 Columbia (“B.C.”) and, through interconnecting pipelines, the Northwestern United
12 States (“U.S.”), experienced a massive rupture. The pipeline was brought back into
13 service in late October 2018, however, at a reduced capacity until testing of the many
14 segments of the pipeline were completed. Spot natural gas prices at the Sumas B.C.-
15 U.S. border trading point traded as high as \$159 per million British thermal units on
16 days of intense demand due to cold weather and reduced natural gas supply in the first
17 quarter of 2019. The pipeline returned to full capacity in the fourth quarter of 2019.

18 The pipeline rupture and reduced operating capacity impacted electricity prices
19 primarily at the Mid-Columbia power market hub, but also increased electricity prices
20 at other trading points where PacifiCorp transacts. Because of PacifiCorp’s
21 geographical and resource diversity, the impact to the Company was not as severe as
22 other utilities and power producers that have a high reliance on Sumas natural gas
23 supplies. PacifiCorp has one natural gas-fired generator—the Chehalis plant—that is

1 sourced from the Sumas natural gas hub. Due to the pipeline rupture, there were times
2 of limited availability of natural gas flowing to the Sumas gas hub and limited ability
3 to withdraw out of storage facilities at Jackson Prairie. With the inability to run
4 Chehalis due to limited gas availability and supplies, plus the impact of uneconomical
5 market conditions, the result contributed to higher prices at Mid-Columbia ultimately
6 increasing net power costs.

7 **IMPACT OF PARTICIPATING IN THE EIM**

8 **Q. Are the actual benefits from participating in the EIM with CAISO included in the**
9 **ECAM deferral?**

10 A. Yes. Participation in the EIM provides benefits to customers in the form of reduced
11 Actual NPC. The EIM benefits are embedded in Actual NPC through lower fuel and
12 purchased power costs. The Company is able to calculate the margin realized on its
13 EIM imports and exports, the inter-regional benefit. The Company's EIM inter-regional
14 benefit for the deferral period was approximately \$57.2 million.

15 **Q. How does the Company calculate its actual EIM benefits?**

16 A. Using actual information from the EIM, including five- and 15-minute pricing, the
17 Company identifies the incremental resource that could have facilitated the transfer to
18 an adjacent EIM area or the CAISO in each five-minute interval. The benefit is then
19 calculated as the difference between the revenue received less the expense of generation
20 assumed to supply the transfer. In the event of an import, the benefit is equal to the cost
21 of the import minus the avoided expense of the generation that would have otherwise
22 been dispatched.

1 **Q. Please summarize your testimony.**

2 A. The ECAM deferral of \$13.9 million, including interest and prior ECAM residual
3 balance true-ups, for the Deferral Period, was accurately calculated in compliance with
4 previous Commission orders. Therefore, I respectfully request that the Commission
5 approve this application as filed with rates effective June 15, 2020.

6 **Q. Does this conclude your direct testimony?**

7 A. Yes.

Rocky Mountain Power
Exhibit RMP__ (DGW-1)
Docket No. 20000-__-EM-20
Witness: David G. Webb

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of David G. Webb

Calculation of Wyoming ECAM Deferral

April 2020

Wyoming Energy Cost Adjustment Mechanism
 Deferral Period: January 1, 2019 - December 31, 2019
 Exhibit 1 - Calculation of Wyoming ECAM Deferral

Line No.	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Total	Reference
Incremental ECAM Deferral Calculation														
1 Actual Collections of Base NPC	\$ 21,868,298	\$ 20,141,236	\$ 22,251,159	\$ 20,066,252	\$ 17,936,569	\$ 21,922,114	\$ 19,946,602	\$ 19,770,026	\$ 22,116,377	\$ 17,880,108	\$ 23,166,524	\$ 19,185,744	\$ 246,251,010	Wyoming Schedule 95
2 Actual Collections of Base ECD	(186,984)	(172,217)	(190,258)	(171,576)	(153,366)	(187,444)	(170,553)	(169,043)	(189,105)	(152,883)	(186,084)	(164,047)	(2,105,588)	Wyoming Schedule 95
3 Actual Collections of Base Chemicals	464,387	427,711	472,517	426,119	380,894	465,529	423,578	419,829	469,655	379,695	491,865	407,421	5,228,290	Wyoming Schedule 95
4 Actual Collections of Base Start-Up Fuel	108,187	99,643	110,091	99,272	88,736	108,453	98,680	97,807	109,414	68,457	114,610	94,916	1,218,256	Wyoming Schedule 95
5 Actual Collections of Base ECAM	22,253,888	20,496,374	22,643,500	20,420,067	18,252,834	22,308,653	20,296,308	20,118,618	22,506,341	18,195,377	23,575,005	19,524,035	260,692,999	Σ Lines 1-4
6 Wyoming Allocated Actual Adjusted NPC	21,476,750	26,675,917	21,957,064	17,099,835	17,773,165	20,181,184	26,667,064	28,348,847	24,378,384	20,522,863	20,299,719	21,148,765	286,543,556	Exhibit 3.1
7 Actual Adjusted ECD	(175,463)	(175,463)	(175,463)	(175,463)	(175,463)	(175,463)	(175,463)	(175,463)	(175,463)	(175,463)	(175,463)	(175,463)	(2,105,588)	Exhibit 2.1
8 Wyoming Allocated Chemical Costs	468,851	377,767	360,724	337,839	296,924	246,324	369,840	375,551	345,139	342,160	357,219	439,227	4,342,160	Exhibit 3.7
9 Wyoming Allocated Start-Up Fuel Costs	47,282	37,156	39,829	35,469	32,239	36,175	34,463	33,534	31,684	24,851	27,199	26,684	322,993	Exhibit 3.9
10 Actual Adjusted ECAM	21,817,420	26,960,376	22,271,154	17,329,917	17,976,686	20,340,220	26,397,904	28,622,768	24,639,924	20,739,986	20,536,673	21,495,163	289,706,151	Σ Lines 6-9
11 Deferred ECAM	(436,468)	6,454,002	(372,346)	(3,090,390)	(273,968)	(1,968,433)	6,659,596	8,504,150	2,133,883	2,644,609	(3,016,331)	1,975,148	19,113,152	Line 10 - Line 5
12 Deferred ECAM @ 70% Symmetrical Sharing	\$ (305,528)	\$ 4,517,801	\$ (260,642)	\$ (2,163,273)	\$ (191,778)	\$ (1,377,903)	\$ 4,661,717	\$ 5,952,905	\$ 1,493,508	\$ 1,781,226	\$ (2,111,432)	\$ 1,382,604	\$ 13,379,207	Line 11 x 70%
ECAM Adjustment Balance														
13 Annual Interest Rate	3.53%	3.53%	3.53%	3.53%	3.53%	3.53%	3.53%	3.53%	3.53%	3.53%	3.53%	3.53%	3.53%	Wyoming Schedule 300
14 Beginning ECAM Adjustment Balance	\$ -	\$ (406,124)	\$ 4,117,128	\$ 3,868,214	\$ 1,713,137	\$ 1,526,117	\$ 150,677	\$ 4,819,694	\$ 10,795,533	\$ 12,322,994	\$ 14,143,091	\$ 12,070,157	\$ -	Prior Month Line 18
15 Incremental Deferral	(306,528)	4,517,801	(260,642)	(2,163,273)	(191,778)	(1,377,903)	4,661,717	5,952,905	1,493,508	1,781,226	(2,111,432)	1,382,604	13,379,207	Line 12
16 2017 ECAM Settlement Adjustment	(100,000)	-	-	-	-	-	-	-	-	-	-	-	(100,000)	Docket No. 20000-514-EA-17
17 Interest	(596)	5,450	11,728	8,197	4,757	2,463	7,300	22,934	33,954	38,870	38,499	37,540	211,095	Line 13 / 12 * (Line 14 + Line 15 x 50%)
18 Ending ECAM Adjustment Balance	\$ (406,124)	\$ 4,117,128	\$ 3,868,214	\$ 1,713,137	\$ 1,526,117	\$ 150,677	\$ 4,819,694	\$ 10,795,533	\$ 12,322,994	\$ 14,143,091	\$ 12,070,157	\$ 13,490,301	\$ 13,490,301	Σ Lines 14-17

Rocky Mountain Power
Exhibit RMP__ (DGW-2)
Docket No. 20000-__-EM-20
Witness: David G. Webb

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of David G. Webb

Calculation of Embedded Cost Differential Adjustment

April 2020

**Embedded Cost Differential Summary
 Wyoming 2020 ECAM**

Exhibit 2.1

		<u>Jan 1, 2019 - Dec 31, 2019</u>	<u>Ref</u>
Base ECD			
	ECD - GRC 20000-469-ER-15 January 1, 2019 - December 31, 2019	(2,232,518) (1) (2,105,558)	 (2)
	ECD - 2017 Protocol	<u>(1,851,000)</u>	(3)
	Variance - Wyoming ECD Adjustment	254,558	(4)

Reference:

- (1) Exhibit 2.2 - ECD calculation as reflected in GRC Docket 20000-469-ER-15 with ordered ROR
- (2) Exhibit 2.5 - Actual Base ECD collections through Schedule 95
- (3) Exhibit 2.4 - 2017 Protocol Baseline ECD as reflected in Docket 20000-486-EA-15
- (4) Variance between 2017 Protocol ECD and Actual Base ECD collections through Schedule 95

**Embedded Cost Differential Summary
 Wyoming 2020 ECAM
 Base ECD**

Exhibit 2.2

	<u>Factor</u>	<u>Total Company</u>	<u>WY Allocated</u>	<u>Ref</u>
ECD - GRC 20000-469-ER-15				(1)
Company Owned Hydro	DGP	(26,607,497)	(7,102,924)	
Company Owned Hydro	SG	26,607,497	4,246,344	
Mid-C Contract	MC	(15,149,742)	(1,793,714)	
Mid-C Contract	SG	15,149,742	2,417,778	
		<u>-</u>	<u>(2,232,518)</u>	
Factors 20000-469-ER-15				
Divisional Generation - Pacific	DGP		26.695%	
System Generation	SG		15.959%	
Mid-Columbia	MC		11.840%	

Reference:

(1) See Exhibit 2.3

**WYOMING
ANNUAL EMBEDDED COSTS
2015 GRC Final Order**

Exhibit 2.3

Docket No. 20000-469-ER-15

Company Owned Hydro - West

Account	Description	Amount	Mwh	\$/Mwh	Differential
535 - 545	Hydro Operation & Maintenance Expense	33,011,850			
403HP	Hydro Depreciation Expense	25,243,978			
404IP / 404HP	Hydro Relicensing Amortization	8,149,689			
	Total West Hydro Operating Expense	66,405,517			
330 - 336	Hydro Electric Plant in Service	836,235,670			
302 & 182M	Hydro Relicensing	173,622,224			
108HP	Hydro Accumulated Depreciation Reserve	(257,924,930)			
1111P / 111HP	Hydro Relicensing Accumulated Reserve	(59,938,049)			
154	Materials and Supplies	6,504			
	West Hydro Net Rate Base	692,001,419			
	Pre-tax Return	10.40%			
	Rate Base Revenue Requirement	71,944,809			
	Annual Embedded Cost				
	West Hydro-Electric Resources	138,350,327	3,540,782	39.07	(26,607,497)

Mid C Contracts

Account	Description	Amount	Mwh	\$/Mwh	Differential
555	Annual Mid-C Contracts Costs	5,667,248	340,790	16.63	(10,209,472)
	Grant Reasonable Portion	(4,940,269)			(4,940,269)
		726,979			(15,149,742)

Qualified Facilities

Account	Description	Amount	Mwh	\$/Mwh	Differential
555	Utah Annual Qualified Facilities Costs				
555	Oregon Annual Qualified Facilities Costs				
555	Idaho Annual Qualified Facilities Costs				
555	WYU Annual Qualified Facilities Costs				
555	WYP Annual Qualified Facilities Costs				
555	California Annual Qualified Facilities Costs				
555	Washington Annual Qualified Facilities Costs				
	Total Qualified Facilities Costs	-	-	-	-

All Other Generation Resources
(Excl. West Hydro, Mid C, and QF)

Account	Description	Amount	Mwh	\$/Mwh	Differential
500 - 514	Steam Operation & Maintenance Expense	1,175,657,257			
535 - 545	East Hydro Operation & Maintenance Expense	9,285,646			
546 - 554	Other Generation Operation & Maintenance Expense	37,764,754			
555	Other Purchased Power Contracts	73,767,758			
40910	Production Tax Credits	0			
4118	SO2 Emission Allowances	(1,450,623)			
	James River	0			
	REC Revenues	-			
403SP	Steam Depreciation Expense	205,046,911			
403HP	East Hydro Depreciation Expense	6,635,724			
403OP	Other Generation Depreciation Expense	9,333,861			
403MP	Mining Depreciation Expense	0			
404IP / 404 HP	East Hydro Relicensing Amortization	322,873			
406	Amortization of Plant Acquisition Costs	4,750,825			
	Total All Other Operating Expenses	1,521,114,985			
310 - 316	Steam Electric Plant in Service	6,905,617,779			
330 - 336	East Hydro Electric Plant in Service	161,913,393			
302 & 186M	East Hydro Relicensing	9,780,080			
340 - 346	Other Electric Plant in Service	290,064,197			
399	Mining	325,768,618			
108SP	Steam Accumulated Depreciation Reserve	(2,682,772,820)			
108OP	Other Generation Accumulated Depreciation Reserve	(130,311,406)			
108MP	Other Accumulated Depreciation Reserve	(88,730,600)			
108HP	East Hydro Accumulated Depreciation Reserve	(57,875,907)			
1111P / 111HP	East Hydro Relicensing Accumulated Reserve	(5,167,104)			
114	Electric Plant Acquisition Adjustment	143,167,971			
115	Accumulated Provision Acquisition Adjustment	(109,306,488)			
151	Fuel Stock	175,921,740			
253.16 - 253.19	Joint Owner WC Deposit	(5,938,440)			
253.98	SO2 Emission Allowances	(1,496,644)			
154	Materials & Supplies	103,368,811			
154	East Hydro Materials & Supplies	0			
	Total Net Rate Base	5,034,003,181			
	Pre-tax Return	10.40%			
	Rate Base Revenue Requirement	523,366,556			
	Annual Embedded Cost				
	All Other Generation Resources	2,044,481,540	43,884,331	46.59	
Total Annual Embedded Costs		2,183,558,846	47,765,904	45.71	

WYOMING
ANNUAL EMBEDDED COSTS
2017 Protocol Amount

Exhibit 2.4

Revenue Requirement (\$000)	Total Company	California	Oregon	Utah	Idaho	Wyoming
2017 Protocol Baseline ECD	(9,578)	(324)	(8,238)	0	836	(1,851)
2017 Protocol Equalization Adjustment	(9,074)	(324)	(2,600)	4,400	150	(1,600)
2017 Protocol Adjustment		(0)	(5,638)	4,400	986	(251)

Reference:

Docket 20000-486-EA-15

Wyoming Energy Cost Adjustment Mechanism
Deferral Period: January 1, 2019 - December 31, 2019

Exhibit 2.5

3.8 - Actual Collections of Base NPC, ECD, Chemicals and Start-Up Fuel

Purpose: To show the actual collections of the ECAM Base rates and calculate the portion for Base NPC, ECD, Start-Up Fuel, and Chemicals.
 Cross Reference: Exhibit 1 - Used to determine the NPC deferral

	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Total	Ref
Actual Collections of ECAM Base	22,253,888	20,496,374	22,643,500	20,420,067	18,252,834	22,308,653	20,298,308	20,118,618	22,506,341	18,195,377	23,575,005	19,524,035	250,592,999	
ECD	(186,984)	(172,217)	(190,258)	(171,576)	(153,386)	(187,444)	(170,553)	(189,043)	(189,105)	(152,863)	(198,094)	(164,047)	(2,105,558)	(1)
NPC	21,868,298	20,141,236	22,251,159	20,066,252	17,936,569	21,922,114	19,946,802	19,770,026	22,116,377	17,880,108	23,166,524	19,185,744	246,251,010	
Chemicals	464,387	427,711	472,517	426,119	380,894	465,529	423,578	419,829	469,655	379,695	491,955	407,421	5,229,290	
Start-Up Fuel	108,187	99,643	110,081	99,272	88,736	108,453	98,680	97,807	109,414	88,457	114,610	94,916	1,218,256	

WY Docket No. 20000-469-ER-15

ECD	(2,232,518)	-0.84%
NPC	261,099,235	98.27%
Chemicals	5,544,601	2.09%
Start-Up Fuel	1,291,714	0.49%
ECAM Base	<u>265,703,033</u>	

Reference:

(1) To Exhibit 2.1

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Rocky Mountain Power

Exhibit RMP__ (DGW-3)

Docket No. 20000-__-EM-20

Witness: David G. Webb

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

CONFIDENTIAL

Exhibit Accompanying Direct Testimony of David G. Webb

Monthly Actual Net Power Costs (Total-Company and Wyoming-Allocated)

April 2020

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IS PROVIDED ELECTRONICALLY
ON THE CONFIDENTIAL CD**

CONFIDENTIAL

Rocky Mountain Power

Exhibit RMP__ (DGW-4)

Docket No. 20000-__-EM-20

Witness: David G. Webb

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

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Exhibit Accompanying Direct Testimony of David G. Webb

Calculation of Wyoming Residual Balances from 2018 and 2019 ECAMs

April 2020

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UNDER SEPARATE COVER**

Rocky Mountain Power
Exhibit RMP__ (DGW-5)
Docket No. 20000-__-EM-20
Witness: David G. Webb

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of David G. Webb

Summary of Monthly Market Prices at Major Markets

April 2020

Wyoming Energy Cost Adjustment Mechanism		Exhibit RMP (DGW-5) - Summary of Monthly Market Prices at Major Markets																						
Start Date	End Date	COB	Palo Verde			Mid-Columbia			Mona			Four Corners			MEAD									
			Historical Prices			Historical Prices			Historical Prices			Historical Prices			Historical Prices									
			HLH	LLH		HLH	LLH		HLH	LLH		HLH	LLH		HLH	LLH								
			ICE	ELEC	COB N-S	ICE	ELEC	PV	ICE	ELEC	MID-C	ICE	ELEC	MONA	ICE	ELEC	4C	ICE	ELEC	MEAD 230	ICE	ELEC	MEAD 230	
			POD:																					
1/1/2019	1/31/2019		\$34.48	\$31.80		\$29.58	\$28.84		\$32.14	\$30.48		\$29.52	\$27.80		\$28.06	\$24.84		\$32.92	\$31.88					
2/1/2019	2/28/2019		\$94.28	\$79.57		\$60.80	\$58.31		\$91.85	\$79.85		\$64.05	\$39.99		\$60.84	\$56.63		\$65.29	\$62.57					
3/1/2019	3/31/2019		\$65.83	\$74.04		\$26.91	\$27.36		\$78.24	\$119.98		\$40.85	\$36.52		\$32.07	\$32.14		\$28.93	\$28.64					
4/1/2019	4/30/2019		\$20.73	\$19.05		\$18.65	\$17.54		\$17.00	\$15.61		\$17.80	\$17.24		\$16.89	\$14.55		\$20.37	\$18.70					
5/1/2019	5/31/2019		\$17.50	\$10.45		\$12.80	\$10.42		\$14.95	\$8.28		\$15.18	\$11.59		\$13.02	\$9.03		\$15.36	\$12.07					
6/1/2019	6/30/2019		\$21.19	\$15.85		\$23.12	\$15.24		\$19.72	\$13.16		\$22.34	\$14.30		\$22.25	\$14.00		\$24.37	\$16.15					
7/1/2019	7/31/2019		\$33.27	\$22.66		\$42.36	\$22.63		\$30.45	\$23.16		\$40.58	\$21.62		\$42.02	\$22.86		\$42.82	\$24.15					
8/1/2019	8/31/2019		\$36.50	\$22.72		\$40.70	\$23.47		\$32.00	\$22.96		\$41.13	\$21.11		\$42.36	\$24.26		\$40.34	\$24.93					
9/1/2019	9/30/2019		\$37.92	\$24.70		\$34.96	\$23.38		\$31.04	\$25.16		\$32.87	\$22.17		\$32.87	\$21.64		\$35.34	\$24.90					
10/1/2019	10/31/2019		\$33.13	\$28.25		\$29.84	\$23.17		\$33.94	\$29.99		\$28.31	\$24.05		\$27.48	\$21.10		\$28.43	\$23.25					
11/1/2019	11/30/2019		\$36.90	\$28.30		\$37.44	\$30.48		\$36.91	\$28.18		\$35.28	\$31.69		\$33.81	\$27.81		\$36.82	\$32.45					
12/1/2019	12/31/2019		\$36.06	\$32.68		\$28.65	\$27.85		\$35.49	\$32.40		\$31.80	\$30.12		\$30.15	\$27.75		\$31.16	\$27.78					

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Rocky Mountain Power

Exhibit RMP__ (DGW-6)

Docket No. 20000-__-EM-20

Witness: David G. Webb

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

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Exhibit Accompanying Direct Testimony of David G. Webb

Hourly Generation Logs of Thermal and Wind Generation Resources

April 2020

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Rocky Mountain Power

Exhibit RMP__ (DGW-7)

Docket No. 20000-__-EM-20

Witness: David G. Webb

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

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Exhibit Accompanying Direct Testimony of David G. Webb

List of Hydro Outages

April 2020

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Rocky Mountain Power

Exhibit RMP__ (DGW-8)

Docket No. 20000-__-EM-20

Witness: David G. Webb

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

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Exhibit Accompanying Direct Testimony of David G. Webb

List of Thermal Outages

April 2020

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