BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of Rocky Mountain Power for Approval of Its Proposed Energy Cost Adjustment Mechanism	))))))))))	DOCKET NO. 09-035-15 Exhibit No. DPU 3.0 Direct Testimony for Phase II of Charles E. Peterson

FOR THE DIVISION OF PUBLIC UTILITIES
DEPARTMENT OF COMMERCE
STATE OF UTAH

Direct Testimony for Phase II of

Charles E. Peterson

August 4, 2010

CONTENTS

I. INTRODUCTION ………………….. 1

II. DIVISION'S PROPOSED ECAM ……………………………………………….….... 7

III. COMPLIANCE OF DIVISION'S PROPOSED ECAM WITH ITS FIVE CRITERIA 20

IV. BACKTESTING THE DIVISION'S PROPOSAL ……………………………………. 24

V. ANALYSIS OF COMPANY FORECAST ACCURACY …………………….....……. 28

VI. COMPARISON OF DIVISION'S PROPOSAL WITH OTHER ADJUSTMENT MECHANISMS IN OTHER STATES AND COMPANIES ………………………….. 31

VII. CONCLUSIONS AND RECOMMENDATIONS ...…………………………………. 33

1

2 **Direct Testimony of Charles E. Peterson**

3

4 **I. INTRODUCTION**

5

6 **Q. Please state your name, business address and title.**

7 A. My name is Charles E. Peterson; my business address is 160 East 300 South, Salt Lake City,

8 Utah 84114; I am a Technical Consultant in the Utah Division of Public Utilities (Division,

9 or DPU).

10

11 **Q. On whose behalf are you testifying?**

12 A. The Division.

13

14 **Q. Are you the same Charles E. Peterson who filed direct testimony for the Division in**

15 **Phase I of this matter?**

16 A. Yes.

17

18 **Q. What is the purpose of your testimony in this matter?**

19 A. My testimony discusses the Division's recommendations with regard to the design of an

20 energy cost adjustment mechanism (ECAM) analysis and policy recommendations relative to

21 the Company's[1] application for an ECAM.

---

[1] Rocky Mountain Power (RMP) is an operating division of PacifiCorp primarily performing the retail distribution operations of PacifiCorp in the eastern part (i.e. Utah, Wyoming and Idaho) of PacifiCorp's system. RMP runs no electric generators; it has no debt, no preferred stock and no common stock. The fact that PacifiCorp files with the Commission under the name Rocky Mountain Power, doesn't change the fact that any energy cost adjustment

22 **Q. What is the Division's understanding of the purpose of Phase II in this Docket?**

23 A. In its Order dated February 8, 2010 the Commission determined that a final conclusion
24 regarding PacifiCorp's application for an ECAM could not be made based upon the
25 testimony in Phase I. The Commission concluded to proceed to Phase II and would allow
26 parties to provide additional comments on the Company's proposal, and examine other
27 ECAMs or means to address PacifiCorp's claimed difficulties. Based upon this
28 understanding the Division continues to support the testimony filed in Phase I regarding the
29 critique of the Company's ECAM proposal and at this time intends to file no additional
30 testimony specifically critiquing the Company's ECAM proposal; in this Phase II testimony
31 the Division is taking the opportunity to propose an ECAM that it believes resolves or
32 mitigates the deficiencies it believes are present in the Company's proposal as detailed in
33 Phase I testimony. To this end the Division is proposing an ECAM design that it believes to
34 be just and reasonable and in the public interest.

35

36 **Q. Please review the Division's position in this Docket.**

37 A. In Phase I in this Docket, the Division joined with several of the intervening Parties in
38 arguing that the ECAM as proposed by the Company had many issues that the Division was
39 uncomfortable with. Nevertheless, unlike many of the intervenors, the Division argued that
40 most of the problems were possibly design issues and not fundamental theoretical problems
41 with the concept of an ECAM itself. The Division suggested, and the Commission appeared

---

mechanism is necessarily for the whole Company (i.e. PacifiCorp) and not just its local distribution division. Therefore, throughout this testimony I will primarily refer to PacifiCorp, rather than RMP.

42 to agree, in its Order that the Docket continue to Phase II so that the Parties could attempt to
43 resolve the issues raised with a particular ECAM design proposal.[2]
44
45 **Q. In the Division's opinion, what issues raised by intervenors in this Docket need**
46 **resolution in order to move forward with an ECAM?**
47 A. First, the issue of interstate allocation of Pacific Northwest hydro power was raised in Phase I
48 particularly by Mr. Kevin Higgins who was testifying in behalf of the Utah Association of
49 Energy Users (UAE).[3] Briefly, the issue is one of interstate allocation of costs and benefits
50 between the states that PacifiCorp operates in. Under the currently accepted methodology
51 called "revised protocol," Oregon and, to a lesser extent, Wyoming keep the costs and
52 benefits of the hydro plants in the Pacific Northwest instead of sharing them on a pro rata
53 basis with the other states, even though the PacifiCorp system is operated on an integrated
54 basis. From Utah's perspective this "hydro endowment" has over time created distortions in
55 cost allocations that would continue and be passed through to Utah if an ECAM did not
56 account for this distortion: unless the ECAM were designed to remedy this inequity Utah
57 would pay more than its share of NPC. The Division supports the resolution of this issue as a
58 condition of implementing an ECAM and suggests that the Commission order the use of
59 "rolled-in" methodology for interstate allocation of the ECAM costs. This issue may
60 eventually become moot if the proposed settlement in the Multi-State Process (MSP) goes
61 into effect. However, it is very unlikely that the MSP process along with the necessary
62 approvals by the various states involved will resolve this issue before the Commission issues
63 an order in this Docket.

[2] Direct Testimony of Charles E. Peterson, in Phase I, November 16, 2009, lines 77-83.
[3] Direct Testimony of Kevin C. Higgins, in Phase I, November 16, 2009, lines 364-386.

64

65 Other issues raised by parties included the "special issues" raised by the Office of Consumer
66 Services (Office). These issues have to do with the Company's hedging practices and front
67 office transactions. While the Division has always agreed with the Office that these are
68 important issues to resolve, it has indicated that they need not necessarily be resolved in this
69 Docket before an ECAM can be implemented. However, the Division makes proposals
70 below for addressing these two issues while moving forward with an ECAM.

71

72 **Q. Please review the conditions the Division believes must be satisfied before it would**
73 **support a power cost adjustment mechanism?**

74 A. As I testified last November, the Division's conditions for a power cost adjustment
75 mechanism include the following[4]:

76 1. That the mechanism does not reduce Company incentives to provide electricity to
77 customers at the lowest cost and least risk prudently possible.
78 2. That the mechanism does not reduce incentives to the Company to cover its load, and
79 prospective load growth, with owned generation rather than through market purchases.
80 3. That the mechanism does not unreasonably shift risk from the Company to ratepayers.
81 4. That incremental power costs be offset by any incremental revenues before any additions
82 are made to a balancing account.
83 5. That the mechanism only covers those costs that are truly outside of Company control
84 and cannot be anticipated and/or significantly mitigated.

85

[4] Ibid. lines 87-96.

86 **Q. Since the rounds of testimony in Phase I, what is the Division's understanding of the**
87 **problem or problems faced by the Company that an ECAM is expected to solve or**
88 **mitigate?**
89 A. The Company engages in extensive hedging through fixed-price swaps of its electric and
90 natural gas costs. These hedges are constructed based upon the Company's forecasts and
91 expectations of power needs from over 30 days to 4 years into the future. By 30 days from
92 the present, the Company has typically been approximately 100 percent hedged on the
93 expected wholesale electric and natural gas purchases. The Division's discussion and
94 position on the Company's hedging program was set forth in the direct testimony in this
95 Docket of Division witness Douglas Wheelwright, dated June 16, 2010.
96
97 However, fluctuation in load demand around the Company's forecasts for periods shorter
98 than 30 days out, including hourly system balancing needs, are not hedged, and this subjects
99 the Company to the vagaries of minute-by-by minute changes in customer loads as well as
100 market price fluctuations. It is this immediate to short-term volatility that the Company
101 wishes to protect itself against with an ECAM—essentially one interpretation is that the
102 Company wants to hedge its changes in expected NPC costs from zero to 30 days with an
103 ECAM.
104
105 In answer to DPU data requests 4.14 and 8.2, another aspect of the net power costs (NPC)
106 issue may have come into focus. Since 2006 through May 2010, the Company has paid out a
107 net $173 million as a result of being on the wrong side of its electric and natural gas swaps.
108 This is an average additional cost of $40 million annually on a system wide basis. The data

109 are limited to only about four years' experience, so they may not be indicative of the long-
110 term results; however, these results do not give the Division comfort regarding the
111 effectiveness and costs Company's hedging program.
112
113 In the 2009 general rate case the Company explicitly included its net hedging transactions in
114 its NPC.[5] In the general rate case a year earlier, Company witness Mr. Duvall included gas
115 swaps but not electric swaps in his testimony.[6] Prior to 2008, the Division does not believe
116 the Company provided specific information on its costs of hedging in NPC. The Company
117 seems to want to be assured of recovery of any future losses in its hedging activities.[7]
118
119 **Q. With this characterization of the problem, does the Division still support an ECAM?**
120 A. The position outlined above with the five broad criteria doesn't change. However, I would
121 note that it seems that this kind of volatility is what the Company "signed up" for when it
122 went into business as an electric utility. That is, it reflects some of the business risks that
123 stockholders and bondholders should be expected to face if they want to be rewarded with
124 premium returns over a risk-free rate. The hedging losses are the result of the Company's
125 own actions.
126

---

[5]Docket No. 09-035-23, the pre-filed direct testimony of Company witness Gregory N. Duvall, Exhibit GND-1, pages 4 and 5 dated June 2009.
[6] Docket No. 08-035-38, the pre-filed direct testimony of Company witness Gregory N. Duvall, Exhibit GND-1, page 4, dated July 2008.
[7] The Company has asserted, and indeed it is part of its written policies, that the hedging activities are only done to reduce volatility. Hedging is not done to make money from bets on future prices, or to explicitly benefit ratepayers. On the other hand, the bank or other counterparty to the hedge is likely expecting to make money, on average, from its hedging activity and does not enter into a hedging contract unless it expects to make money. It can be argued that unless this counterparty is, on average, successful that it would not remain in the hedging business. This suggests that it may be expected that PacifiCorp will be "out-of-the-money" more often than not and this is exactly what the data in DR 4.14 and DR 8.2 indicate.

127 **Q. With these criteria in mind, what does the Division propose as an ECAM for**
128 **PacifiCorp?**
129 A. The Division's proposal is explained in Section II below.
130
131
132 **II. DIVISION'S PROPOSED ECAM**
133
134 **Q. What initial conditions need to be in place before the Division's proposed ECAM to be**
135 **implemented?**
136 A. Aside from receiving Commission approval of the ECAM design itself, the Division's
137 proposal requires that the Commission, in a rate case, set or approve a forecast NPC and
138 forecast total revenue requirement as baselines in the ECAM prior to the implementation of
139 the ECAM. Adjustments under the ECAM will be made to a pass-through account based
140 upon differences to the approved NPC and revenue forecasts. The Division also proposes that
141 the Company be required to file a general rate case at least every three years in order to keep
142 the baselines and other elements of the Company's revenue requirement in balance.
143
144 **Q. Does the Division propose to include the amortization of the deferred NPC amounts**
145 **accrued under the Commission's deferred accounting order[8] in this ECAM?**
146 A. No. The Division believes that the amounts accrued under the deferred accounting order
147 should be kept separate from the amounts that accrue under the Division's or another party's
148 proposed ECAM that may be approved by the Commission. This would allow any actual

[8] See Report and Order on Deferred Accounting Stipulation in Docket Nos. 09-035-15 and 10-035-14, dated July 14, 2010.

149 ECAM to begin with a "clean slate." The Division proposes that the Commission determine
150 separately the amortization of amounts accrued under the deferral order in the next general
151 rate case, presumably after the Commission has determined to let the Company set up an
152 ECAM, or denied the formation of an ECAM in this Docket.
153
154 **Q. Does the Division propose to include renewable energy credits (RECs), sulfur dioxide**
155 **(SO_2) credits, or wheeling revenues in the ECAM?**
156 A. No. The Company has not heretofore included this item in its net power costs, and the
157 Division does not propose to include them as part of NPC and an ECAM now.
158
159 **Q. Is the Division proposing its ECAM as a "pilot" program?**
160 A. Yes. The Division believes there is benefit to trying this ECAM as a four year pilot program.
161 At the end of the pilot period, the Company must apply to the Commission to continue the
162 program with or without changes. Various interested parties could support or oppose the
163 Company's filing based upon the experience of the four year program.
164
165 From the Division's viewpoint, one major purpose of the pilot program is to test whether or
166 not the Division has the resources to adequately audit the ECAM. Whether or not the
167 Division supports continuation of the ECAM at the end of the pilot period may turn on this
168 issue.
169
170 **Q. You referred above to an annual ECAM period. What do mean by that?**

171 A. It is a twelve month period determined by the Commission for one complete cycle of the
172 ECAM. At the end of the ECAM period the Company will "close the books" on the ECAM
173 and apply to the Commission for either an increase in rates to recover an NPC shortfall or to
174 refund to customers for an over-collection of NPC over the ECAM period. The shortfall or
175 over-collection would be pro-rated and paid out over a twelve month period following
176 Commission approval of the application. The Division expects that this part of the ECAM
177 would function somewhat similar to the 191 Account for Questar Gas Company.
178

179 **Q. At what point in each year should an ECAM filing occur and how much time should be**
180 **given for review, testimony, and Commission decision?**
181 A. The Division would expect the Company to file for recovery of the accumulated ECAM
182 balance 30 days after the close of the twelve month ECAM period. The Division would
183 request 60 days to review and check the Company's application; a Commission decision
184 might be rendered 90 days after the application. It is doubtful that the Division could
185 complete an audit of the ECAM filing in 60 days. The Division recommends that the ECAM
186 rate adjustments be authorized on an interim basis and only be made final after the Division
187 completes its audit.
188

189 **Q. Earlier, you indicated the Division has concerns regarding its ability to review and**
190 **audit an ECAM program. What concerns do you have regarding the above schedule**
191 **that you are suggesting?**
192 A. The current staff at the Division is already stretched a little thin at times in terms of its ability
193 to perform all of the duties that it is assigned. The ECAM would be an additional major on-

194 going program that would come under the Division purview. Fewer general rate cases and
195 reduced work load during periods of ECAM review may mitigate the Divisions concerns.
196 Another possible mitigation, as mentioned above. is that the authorization of the ECAM rate
197 adjustments be granted on an interim basis until the Division can complete its audit. The
198 Division is willing to test the above schedule as part of the pilot program. Based upon our
199 experience in the first one or two ECAM cycles, we may propose changes before the end of
200 the pilot program.
201
202 **Q. Are the amounts in the formula system-wide or allocated Utah amounts?**
203 A. As with the Company's original ECAM proposal, the amounts would be kept on a system
204 basis. At the time the Company applies to the Commission for recovery or reimbursement of
205 the annual ECAM balance, the Company would propose the Utah allocation percentage.
206
207 **Q. In Phase I you testified that the Division would consider specific account items for**
208 **inclusion or exclusion from the ECAM, why have you not considered them now?**
209 A Earlier the Division did seriously consider specifying accounts within the total NPC for
210 possible inclusion or exclusion. But upon further consideration we decided that this could
211 overly complicate the ECAM with little apparent benefit. Further, the restricting of accounts
212 had the potential of endless arguments with the Company as to whether a given expense item
213 should be classified in one account or another. Taking the broader view will likely reduce the
214 amount of such conflict.
215

216 However, the major reason for backing away from specifying relatively narrow accounts for
217 inclusion and exclusion is the effects such a design could have on Company incentives. For
218 example, if short-term power purchases were treated favorably in the ECAM and long-term
219 purchases were excluded, there would be an incentive for the Company to move more to
220 short-term at the expense of long-term purchases. These could occur even if it were not in the
221 best interests of ratepayers to do so. In my Phase I testimony I indicated that the Division was
222 considering excluding specific items. Long-term purchases was one of the items the Division
223 considered to be within the control of the Company and thus a candidate for exclusion from
224 the ECAM. However, the potential for perverse incentives, such as the one suggested above
225 helped to dissuade the Division from pursuing that course. Similarly the Company would be
226 incented to increase any favorably treated activity in the ECAM and decrease NPC items that
227 are not favorably treated even though such changes were not least-cost/least risk. For these
228 reasons the Division has backed away from an earlier position that we would make
229 recommendations about specific NPC costs for inclusion and exclusion in the ECAM.
230
231 **Q. Are hedging costs included in the Division's ECAM?**
232 **A.** Yes, although we considered excluding them until there was a Commission approved
233 hedging plan both in place and implemented. However, as with other elements of an ECAM,
234 the Division determined that excluding hedging would create a perverse incentive for the
235 Company to stop hedging entirely (since physical gas costs would be passed on to
236 ratepayers). Excluding hedging would also, in effect, mean that the volatility of gas and
237 electricity markets would be fully flowed through to ratepayers. While we have been critical
238 of the Company's current hedging strategy as having the primary effect of revenue

239 stabilization, we do not advocate that rate payers should be exposed to market fluctuations
240 without any protections to preserve a degree of rate stability.
241
242 **Q. Does that then mean that the Division does not support the arguments put forth by the**
243 **Office in previous testimony that there should be no ECAM until the hedging issue is**
244 **"fixed"?**
245 A. This is partially true. As I will discuss further below, and as Mr. Wheelwright has stated in
246 his testimony, the Division proposes that the Commission (presumably in the existing
247 hedging docket) provide hedging guidance and a hedging plan that will be approved by the
248 Commission and followed by the Company. We are not, however, proposing that no ECAM
249 be approved until that occurs. Rather, until such a plan is approved and implemented, the
250 Division proposes a smaller cost-sharing percentage be used in the ECAM. After a plan is
251 implemented, and also contingent upon meeting front office transaction targets, the Division
252 would then support altering the ECAM to permit greater levels of cost sharing, closer to that
253 proposed by the Company.
254
255 **Q. The Division formally and informally mentioned that the ECAM may include a "dead**
256 **band" or multiple bands, what is the Division proposing with respect to a dead band or**
257 **multiple bands?**
258 A. The Division notes that a dead band is simply a sharing range where there is zero percent
259 sharing. The Division is proposing that a dead band of plus or minus 2 percent of the NPC
260 that are "in rates" be implemented.
261

262 The purpose of the dead band is to insure that the Company has adequate interest to keep the
263 NPC at, or a bit below, the NPC that was included in rates. If actual NPC is below NPC in
264 rates, then the Company keeps the entire amount within the dead band. The dead band (and
265 the sharing percentage discussed below) mitigates the argument that the Company's
266 authorized ROE should be reduced since with an ECAM, the Company's cash flows become
267 less volatile and more certain. The Company and its stockholder have to face some risk in
268 order to justify a relatively high authorized ROE.
269

270 **Q. What about sharing bands outside the dead band?**

271 A. For costs that deviate between 2% and 30% of forecast NPC, the Division is proposing cost
272 sharing that will change over time, depending upon whether specific goals are reached.
273 These goals center on hedging and front office transactions or "FOTs." Rather than simply
274 rule out an ECAM until these issues are somehow resolved, the Division proposes to move
275 forward with a more limited ECAM that eventually moves forward to an ECAM that is more
276 similar to what the Company has proposed if hedging and FOT goals are met.
277

278 **Q. What is the Division proposing for goals on front office transactions?**

279 A. The Division has considered the issue raised by the Office of Consumer Services (Office) in
280 this matter regarding front office transactions (FOTs). The FOT issue has also been raised by
281 the Division in recent PacifiCorp Integrated Resource Plans. FOTs represent power purchase
282 contracts the Company has entered into through transactions in the wholesale electric energy
283 markets. FOTs are made to cover projected shortfalls in Company owned or controlled
284 generation. The Division understands that these FOTs may be for power purchases up to

285 about three years into the future, however, that the majority of FOTs are for one year or less.
286 The FOT issue is the concern of the Office, Division, and other parties is that the Company is
287 relying too heavily on FOTs. Specifically the concerns consider that the Company is using
288 FOTs instead of acquiring additional generation capacity thereby putting ratepayers at risk to
289 the vagaries of the wholesale markets. The Division believes, and the Company has admitted
290 as much in its own IRP,[9] that reliance on wholesale markets increase risk. The Company has
291 stated that its own goal is to reduce reliance on FOTs over time;[10] a goal the Division
292 supports.
293
294 **Q. What level of FOTs has the Company made recently and what is it projecting for the**
295 **near and long terms?**
296 A. In the 2008 IRP Update the Company added roughly 350 MW of front office transactions as
297 part of its bridging strategy to cover the termination of the 2012 Lake Side II CCCT
298 construction contract. Although the annual front office transactions at the Nevada-Utah
299 Border market hub were eliminated, as the Company acquired transmissions service from
300 Nevada Power, the Company increased the maximum availability at the Mona hub from 200
301 to 300 MW beginning in 2013. In the long term (through 2028) the Company still relies
302 heavily on front office transactions. The Division has expressed concerns repeatedly
303 regarding the Company's continued reliance on front office transactions to cover much of the
304 capacity deficiency.
305
306 **Q. Given these levels of FOTs, what is the Division proposing as targets?**

[9] Docket No. 09-2035-01, PacifiCorp's 2008 Integrated Resource Plan, May 28, 2009, pp. 233 and 234.
[10] Ibid. at p. 10.

307 A. The Division proposes to provide an incentive, based upon the Company's own stated goals,
308 for the Company to meet those goals. The Division proposes to increase the sharing
309 percentage toward 90 percent as the Company meets its FOT goals. Based upon the 2008
310 IRP Update (see Docket No. 09-2035-01), the Company is anticipating that FOTs as a
311 percent of system peak load will decline to approximately 7 percent in 2015 and 6.5 percent
312 in 2019.[11] Based on these percentages, the Division proposes to make the target ratios of
313 FOTs to system peak load of 7.0 percent in 2015 and 5.5 percent in 2020. The 2020 target is
314 set about 1 percentage point lower than the Company forecast as a long-term incentive for
315 the Company to work harder to reduce its reliance on FOTs. The 2020 year is one year
316 passed the end of the 2008 IRP Update If these targets are met the Company may apply for
317 an increase in the sharing percentage to 80 percent in 2015 and 90 percent in 2019. When an
318 application is made to increase the sharing percentage, the Company or intervening party
319 may propose an alternative that is more cost effective. For example, if in 2019 the
320 Company's FOTs still account for 7 percent or more of peak load, the Company could still
321 apply for the increase in the sharing percentage if it can demonstrate that the higher level of
322 FOTs is more in the public interest in terms of least cost/least risk than having a lower
323 percentage.
324
325 **Q. Are there other conditions that might be set to the Company receiving a sharing**
326 **percentage increase?**
327 A. Yes. The Division recommends that the Company complete a study of the risks and benefits
328 of FOTs and file the study with the Commission at least 90 days prior to its application for a
329 percentage increase in the sharing percentage in 2015. In this report the Company should

[11] 2008 IRP Update, Tables 3.2 and 5.3. Calculated as 794/11,355=6.99% ; 794/12,112=6.55%.

330 discuss and, to the extent possible, demonstrate the optimal relationship between peak load
331 and FOTs. As an additional requirement for approval of an increase in the sharing percentage
332 in 2015, the Division recommends that the Company be required to have a Commission-
333 approved hedging program in place.
334

335 **Q. You also stated earlier in your testimony that the Division also had a hedging target?**
336 A. Yes. As I began to explain previously, the Division also proposes that for a change in the
337 sharing band to occur in 2015, the Company must have in place a Commission approved
338 hedging plan, as described in other testimony in this docket by Mr. Wheelwright. Also, in
339 2020, for the Company to be able to move to greater cost sharing, it would need to
340 demonstrate that it has maintained compliance with such an approved plan.
341

342 **Q. What levels of cost sharing are you proposing within the timeframes that you outline**
343 **above?**
344 A. The Division proposes to begin the ECAM with a sharing percentage of 70 percent outside
345 the dead band range. That is, if NPC falls outside the dead band range, then the Company
346 would receive 70 percent of the additional costs should the NPC be higher than the NPC in
347 rates; or pay back to ratepayers 70 percent of the any savings should NPC come in under the
348 NPC in rates. If the targets outlined above are met, the Company may apply for an increase
349 in the sharing percentage from 70 to 80 percent in 2015 and from 80 to 90% percent in 2020.
350 When an application is made to increase the sharing percentage, the Company or intervening
351 party may propose an alternative level of FOTs above or below the applicable target that it
352 believes is more cost effective. For example, if in 2020 the Company's FOTs still account for

353 7 percent or more of peak load, the Company could still apply for the increase in the sharing
354 percentage if it can demonstrate that the higher level of FOTs is more in the public interest in
355 terms of least cost/least risk than having a lower percentage.
356
357 **Q. What benefits might be derived from increasing the sharing percentage?**
358 A. Among the benefits is that it addresses the Office's (and Division's) concerns about FOTs
359 while continuing to give the Company flexibility in its energy procurement. This proposal
360 sets out a road map for improvements and incents the Company to work towards a sharing
361 percentage that apparently is more in line with the Company managements' desires over a
362 certain and relatively short time period. These percentage targets may be revisited in 2015
363 and 2020 in the Company's prospective application to raise the sharing percentage to take
364 into account current conditions. This approach gives some meaning to the Company's
365 planning processes and conclusions from those processes.
366
367 This plan to escalate cost sharing contingent upon the achievement of three reasonable goals
368 should be seen as a middle ground approach for the short term that becomes more similar to
369 the Company's proposal as time moves forward and hedging and FOT issues are resolved.
370 Whereas previous testimony from some other parties would provide no ECAM until these
371 issues are resolved, this proposal offers the Company a substantial degree of relief from price
372 volatility compared to the status quo and offers it an increasingly favorable ECAM approach
373 if it meets these goals.
374

375 **Q. The Division's proposal for escalating cost sharing was for a range of actual to forecast**
376 **NPC of between 2% and 30%. What do you propose if actual costs are above or below**
377 **30% of forecast?**
378 A. The Division proposes an outer sharing band at 30 percent or above of the difference from
379 the NPC in rates. This would give the Company additional protection from potentially
380 catastrophic changes in NPC (or, alternatively fully benefit ratepayers from significant
381 declines in costs beyond 30 percent). An example of such a situation occurred 2000 during
382 the California energy crisis. The Company's finances were severely tested and the Company
383 applied for relief in the various jurisdictions it serves. For the most part some relief was
384 granted. In a situation where there is similar distress, the ECAM could help protect the
385 Company; however, there would also be the opportunity first in the ECAM review and in a
386 general rate case to review the prudence of the Company's actions leading up to and during
387 the period of distress.
388
389 **Q. Does the Division propose a carrying charge for accumulated balances in an ECAM**
390 **account?**
391 A. Yes. The Division proposes a carrying charge that is equal to the Company's long term
392 borrowing costs. The amounts in an ECAM are relatively risk free, subject of course to
393 prudence review. While the time value of money should be recognized for balances in this
394 account, it should not be subject to carrying charges that include equity level rates of
395 return. The Company's opportunity cost is to the cost of debt since these funds could be
396 used to pay down debt levels, which would improve the Company's borrowing capacity

397 when it needed to issue debt for construction or other purposes. Currently, the Company's
398 cost of long term debt (set in the Company's rate case in Docket No. 09-35-23) is 5.98%.
399

400 **Q. Please summarize the Division's proposed ECAM design.**

401 A. The Division's ECAM proposal consists of the following primary elements:

402 • In a general rate case the Commission determines the NPC baseline for the ECAM
403 until the next general rate case.

404 • In the same general rate case as above, the Commission determines the revenue
405 requirement that will be used as the revenue baseline in the ECAM.

406 • The Company will file a general rate case at least every three years.

407 • The Commission will allow the Company to set up a pass-through account similar
408 to Questar Gas Company's 191 account. At the end of the annual ECAM period, the
409 Company will file with the Commission its request to adjust rates based on the
410 balance in this pass-through account.

411 • The adjusted rates are on an interim basis until the Division can complete its audit.

412 • The basic formulae for the ECAM are

413 Db = ((NPCa –NPCf)/NPCf)
414 If Absolute(Db) is less than or equal to 2.0 percent, then stop, no further
415 action is warranted. Otherwise, proceed to next formula.
416
417 Ea = 98% x P x [(NPCa – NPCf) – (Ra – Rf)]
418 ✓ Db is dead band.
419 ✓ Ea is the annual ECAM adjustment.
420 ✓ 98% accounts for the dead band.
421 ✓ P is the sharing ratio approved by the Commission.
422 ✓ NPCa equals the actual annual NPC.
423 ✓ NPCf is the forecast NPC approved by the Commission in a general rate
424 case.
425 ✓ Ra is actual annual revenues.

426 ✓ Rf is the forecast revenues over the annual ECAM period approved by the
427 Commission in a general rate case.
428 • The true-up of the ECAM pass-through account be performed annually

429 • The sharing ratio "P" has three tiers.
430 ✓ At plus and minus 2 percent from the baseline NPC, "P" equals zero (the
431 "dead band."
432 ✓ Between greater plus or minus 2 percent and plus or minus 30 percent, "P"
433 initially equals 70 percent.
434 ✓ If certain conditions are met "P" in the second tier may be increased to 80
435 percent before the end of 2015, and raised again to 90 percent in 2020.
436 ▪ The conditions for 2015 include
437 • The Commission approves a hedging program for the
438 Company;
439 • The Company complete a study of the benefits and risks of
440 its FOT purchases; and
441 • The Company meets or beats the 7 percent target for FOTs
442 vs. system peak power.
443 ▪ The condition for 2020 is
444 • The Company meets or beats the 5.5 percent target for FOTs
445 vs. system peak power.
446 ✓ At plus or minus 30 percent or greater, "P" becomes 100 percent.
447 • The initial ECAM is a 4-year pilot program at the end of which the Company must

448 make a positive filing to continue and/or modify the ECAM.

449 • REC revenues, SO_2 credits, and wheeling revenues are treated outside of the

450 ECAM.

451

452

453 **III. <u>COMPLIANCE OF DIVISION'S PROPOSED ECAM WITH ITS FIVE CRITERIA</u>**

454

455 **Q. In your Testimony in Phase I of this Docket and repeated above, the Division proposed**

456 **five criteria by which it would judge an ECAM. Please explain why the Division**

457 **believes that its proposed ECAM is consistent with its first criterion.**

458 A. The first criterion is that the ECAM does not reduce Company incents to provide power at
459 the lowest cost and least risk prudently possible. At issue here is whether or not PacifiCorp
460 management and owners have enough self-interest at stake, or "skin in the game," that would
461 influence them to continue to make concerted efforts to prudently lower costs and reduce
462 risks. The 2 percent dead band and the 70 percent sharing percentage continue to put
463 significant sums at risk for stockholders to potentially absorb. These in turn should motivate
464 management to continue to pursue a lowest-cost, least-risk strategy. At the same time
465 ratepayers are picking up much of the costs that may be out of the Company's control thus
466 allowing the Company a better chance to achieve its allowed rate of return.
467 By comparison, in its original ECAM proposal, PacifiCorp was determined to shift nearly all
468 of the risk of NPC recovery onto ratepayers with few if any material benefits to ratepayers
469 besides helping the financial strength of the Company. Even with sharing levels (assuming
470 the Company meets the goals outlined above), the Company maintains an incentive to reduce
471 its costs.
472
473 **Q. The second criterion deals with incentives to build plant rather than purchase FOT**
474 **power. The proposal to allow adjustment to the sharing percentage in the second tier is**
475 **intended to deal with this criterion, correct?**
476 A. Yes. The Division also believes that even without that incentive, the Division's ECAM
477 proposal is at least neutral in this regard. As an aside, the Company does not necessarily have
478 to build plant. It could also enter into long-term power purchase agreements, purchase
479 existing plants including transmission lines, or find some other way of acquiring secure,
480 long-term capacity.

481

482 **Q. The third criterion deals with shifting too much risk to ratepayers. What are your**

483 **comments about this criterion?**

484 A. The Division agrees with the Company that ratepayers should pay for costs prudently

485 incurred by the Company. However, the Division also believes that the Company's

486 stockholder should face the normal business risks that it is being compensated for by the

487 authorized return on equity.[12] As I said above, the Division believes that its proposal keeps

488 stockholder's "skin in the game." At the same time ratepayers are at risk for a fair portion of

489 the variability of NPC.

490

491 **Q. Criterion number 4 (that incremental revenues offset incremental costs) is directly met**

492 **by having revenues in the basic ECAM formula, correct?**

493 A. Yes. The purpose of the revenue adjustment is to account for the fact that whether NPC

494 increases because of growth in the system or because of higher costs, those incremental NPC

495 costs above the NPC baseline are at least partially offset by incremental revenues. At the

496 margin the Company's non-NPC (e.g. the amount of plant in service, the number of

497 employees, etc.) are mostly fixed, at least over a relatively short time frame. The only

498 significant variable costs are NPC. Thus, to the extent that NPC is higher due to higher (or

499 lower) demand, then that demand is offset by incremental revenues. The Division believes

[12] The Division might consider accepting PacifiCorp's original ECAM proposal so long as the Company recognized and was willing to accept that approximately one-third of its revenue requirement, and the most unpredictable portion of its revenue requirement, would then be 90 percent guaranteed by ratepayers. This significant shifting of risk should result in a significant reduction in authorized return on equity since the expected stockholder cash flows would be much less volatile.

500 that in order for the Company to recover only a fair portion of incremental NPC, then
501 incremental revenues collected by the Company must be taken into account.[13]
502
503 **Q. The final criterion says that the Company should only recover those costs that are**
504 **outside of the Company's control and cannot be anticipated or significantly mitigated.**
505 **How does the Division's proposal meet this criterion?**
506 A. The Division was taking the position earlier in this Docket that individual cost items need to
507 be examined and included or excluded from the ECAM by applying this criteria. The
508 Division agrees with the fifth criterion in principle, but the problem lies with the application.
509 As discussed above, the Division has backed away from this primarily because of the
510 potential for creating perverse or unintended incentives for the Company. The fifth criterion
511 is partially met because NPC in total cannot be completely controlled or anticipated. In
512 general though, the Division believes the five criteria are substantially met by meeting the
513 other four criteria discussed above. To the extent that the Company has NPC that are not
514 being well accounted for in this proposal, or on the other hand, if the Company would
515 systematically over-collect under this proposal, then this is a strong justification for the
516 proposed pilot period wherein the Division, the Company, and other parties can study this
517 and other issues as they actually occur in a live "experiment."
518
519 **Q. In your testimony in Phase I of this Docket, you discussed four functions of utility rates**
520 **as set forth by Bonbright, that you said had some relationship to the ECAM issue.[14] Do**
521 **you have any comments regarding those four functions?**

[13] For a lengthier discussion of this point see my Phase I Testimony at lines 361-380.
[14] Ibid. lines 614-623.

522 A. Yes, I have brief comments that summarize what the Division believes its proposed ECAM's
523 relationship is to these four functions. To review the four functions are:
524 1. The Capital Attraction Function;
525 2. The Efficiency or Incentive Function;
526 3. The Consumer Rationing Function; and
527 4. The Income-Distribution Function.
528
529 The proposed ECAM should enhance capital attraction since almost any ECAM
530 would improve the reliability of the Company's cash flows over the status quo. The
531 Division believes that its proposed ECAM maintains Company incentives to continue
532 to pursue least cost/least risk strategies. Similar to my Phase I testimony, the
533 Division's ECAM proposal probably does nothing to enhance consumer self-
534 rationing. If there were monthly or even weekly price adjustments, then that might
535 assist in consumer self-rationing, or it might simply confuse consumers. In any event,
536 the ECAM probably fails the third function. The Division believes that its proposed
537 ECAM maintains a reasonable balance between the interests of customers and the
538 Company in distributing income from ratepayers to the Company.
539
540 In sum the Division believes that its ECAM proposal is consistent with the principles
541 it has previously espoused in this Docket.
542
543
544 **IV. BACKTESTING THE DIVISION'S PROPOSAL**
545
546 **Q. Has the Division tested its proposed ECAM to see how it might function?**
547 A. Yes, to a limited degree at least.
548

549 **Q. Please describe what you have done.**

550 A. DPU Exhibit 3.1 summarizes the annual actual and forecast NPC by year along with the
551 beginning balances (on a system-wide basis) of the Division's proposed ECAM pass-through
552 account had it been in place during those years. Additionally the annual amounts to be
553 refunded to ratepayers or paid to the Company are set forth in the year those amounts are to
554 be paid out of the pass-through account. DPU Exhibit 3.2 sets forth the monthly detail of the
555 forecasts and adjustments to the ECAM pass-through account.
556

557 **Q. Where do the data come from in DPU Exhibits 3.1 and 3.2?**

558 A. The forecast numbers come primarily from attachments to the Company's response to DPU
559 DR 4.3. These data have been supplemented by exhibits filed with Company's general rate
560 case applications after 2004. Specifically they are taken from testimony exhibits of
561 Company witness Gregory Duvall. Citations to the exact sources are included on the attached
562 exhibits. There are breaks in the historical period covered due to the data from the general
563 rate cases not covering all months. Where there was overlap between two forecast years, the
564 latest forecast data were used. The actual historical NPC data are compiled from the data
565 found in DPU DR 4.3 and the Company's Variance Report filing for calendar year 2009.
566 Data on historical retail load and revenues come from the Energy Information
567 Administration, of the United States Department of Energy (EIA). Forecast revenues for
568 2004 through 2008 were estimated by taking forecast load in MWh and multiplying it by
569 average monthly revenues per MWh derived from PacifiCorp data filed with the EIA. After
570 2009, forecast revenues were based upon Mr. Duvall's initial load forecasts in both general
571 and major plant addition rate cases, and actual monthly load data were taken from the

572 Company's 2009 Variance Report. The ECAM pass-through adjustments are made by simply
573 applying the ECAM design to the data. Based upon the Company's current interest rate on
574 long-term debt, an interest rate equal to 6 percent annually was applied. DPU Exhibit 3.3
575 sets forth the calculation of forecast revenue.
576
577 **Q. What are the results of your back testing?**
578 A. As summarized on DPU Exhibit 3.2, the payout to the Company ranged from $138,000 per
579 month in 2009 to $9,837,000 per month in 2010. The payout was given a boost in 2010 by
580 the revenue forecast used that accounted for the decline in load during the 2009 recession.
581 Cumulatively, over the 6 years tested, the Company would have recovered nearly an
582 additional $189 million on a system basis. If hedging gains and losses had been excluded, the
583 total payout to the Company would likely have been several tens of millions of dollars less.
584
585 **Q. Under the Division's proposal is it possible for the Company to recover more than its**
586 **net power costs?**
587 A. Yes. This situation could occur, for example, if actual revenues fell significantly below
588 forecast revenues and actual NPC did not fall below forecast NPC, or did not fall as much.
589 As set forth on DPU Exhibit 3.2 this might have happened in 2009 if the proposed ECAM
590 had been in place due to the decline in load. The reverse situation is also possible, i.e. the
591 Company could under-recover NPC if actual revenues increased faster than expected and
592 faster than any increase in NPC than expected NPC. However, in this latter situation, the
593 Company could take solace in that the higher revenues would represent higher cash flows to
594 the Company's benefit when viewed outside of the ECAM.

595

596 **Q. The data used in your analysis come from several sources, may not be completely**
597 **compatible and have missing values. Do you consider this a problem?**
598 A. No. The purpose of the Exhibits 3.1 through 3.3 is illustrative only. That is, they show, to
599 some degree of accuracy, approximately what the results of Division's ECAM proposal
600 would have been if it had been in effect for these past years. These exhibits give a flavor of
601 the magnitude and range of differences between Company forecasts and actual NPC are and
602 the amounts that would be accumulated and paid out in the ECAM balancing account under
603 the Division's proposal. Based upon this limited purpose, the flaws in the data set are not
604 significant.
605
606 **Q. The Division's proposal contemplates annual true-ups but you have prepared your**
607 **exhibits on a monthly basis. Are you now proposing to do monthly true-ups in some**
608 **sense?**
609 A. No. DPU Exhibits 3.1 through 3.3 are illustrative of the ECAM process only and were done
610 on a monthly basis to give more of a flavor of the possible variability than three or four
611 annual data points would. In practice, the application of the dead bands, and sharing bands,
612 etc. would only occur at the end of the annual ECAM period.
613
614 **Q. What do you conclude from this back testing exercise?**
615 A. As will be discussed further below, the Company's forecasts have tended to under-forecast
616 actual NPC. This comes as no surprise since that was discussed by me in Phase I and by the

617 Company's own witnesses.[15] The monthly differences between forecast and actual NPC are
618 frequently large, ranging over 30 percent or more. As Exhibit 3.1 shows, the Company
619 would have collected, or be in line to collect, a cumulative amount of about $77 million[16] in
620 Utah if the Division's proposed ECAM had been in place over the 6 year period examined.
621 This is not an insignificant amount since it represents simply additional revenues to the
622 Company with no added expenses (excluding income taxes). Therefore this analysis suggests
623 that the Company would have been noticeably better off financially under the Division's
624 proposal than under the status quo. Ratepayers also benefit from the Company's improved
625 financial strength and potentially from reduced rates when the Company refunds excess NPC
626 collections.
627
628
629 **V. <u>ANALYSIS OF COMPANY FORECAST ACCURACY</u>**
630
631 **Q. Do you have comments regarding the accuracy of the Company's NPC forecasts as**
632 **provided in the recent rate cases?**
633 A. Yes. The previous section used the Company's general rate NPC forecasts as the assumed
634 baseline for the Division's ECAM proposal. As was apparent in the above discussion and
635 summarized on DPU Exhibit 3.1, the Company sometimes under-forecast NPC by a wide
636 margin. A simple test of the Company's forecasting ability is to compare the results of the
637 Company's forecast with a (presumably) simple mechanical forecast and see how it stacks
638 up.

[15] Rebuttal Testimony (Phase I) of Karl A. McDermott, December 10, 2010, page 12.
[16] Calculated by multiplying the sum at the bottom of Exhibit 3.2, $189 million by 41 percent (the approximate Utah allocation factor).

639

640 **Q. Did you perform such a test?**

641 A. Yes. I decided to test the Company's forecast against two very simple naïve forecasts. The
642 first naïve forecast, which I will refer to as Naïve I, was to assume that this month's NPC (the
643 forecast month) is equal to the same month last year (the historical month). For example,
644 NPC in January 2009, February 2009, March 2009, … etc., are forecast to be the same as the
645 actual NPC in January 2008, February 2008, March 2008, … etc.

646

647 The second naïve forecast, or Naïve II, is a bit more complicated in that it is the same as
648 Naïve 1 except that the forecast month is assumed to be 2.3 percent higher than the historical
649 month. The 2.3 percent is the same as the Company's 2007-2009 operating revenue growth
650 rate.

651

652 DPU Exhibits 3.4 and 3.5 set forth the comparison of the actual NPC actual with the
653 Company's general rate forecasts and the Naïve I and Naïve II forecasts.

654

655 **Q. Please discuss the results.**

656 A. The Naïve II forecast did slightly better overall than the Naïve I forecast, which is to be
657 expected in an inflationary environment. The Company was able to clearly forecast better
658 than either of the naïve forecasts. The possible exception was 2008 wherein one of the
659 measurements (mean absolute deviation, MAD) showed the naïve forecasts to be better. The
660 Company passes this test. On a monthly basis all forecasts showed wide deviations from
661 actual. Looking at the bottom of DPU Exhibit 3.5, on a percentage basis the Company's

662 forecast appears to really stand out only for 2009 and possibly the April 2005 to March 2006
663 period. One might argue that the Company's performance in 2009 was somewhat benefitted
664 by the recession that was earlier unexpected that brought what normally would have been an
665 under-forecast into line with the actual NPC.
666
667 **Q. Wouldn't it be expected that that a more sophisticated, intelligently-driven forecast be**
668 **noticeably better than the naïve forecasts you described?**
669 A. That would be a general expectation; especially when the Company can draw on not only its
670 own internal expertise, but the expertise of outside experts as well. By design, the naïve
671 forecasts are so simplistic that any effort to apply actual expertise with some sophistication
672 generally should yield better forecasts than the naïve forecasts. The Company's forecasting
673 results, which I would call disappointing for some of the periods, may highlight either the
674 inherent unpredictability of NPC, or the poor quality of the Company's forecasts. If the latter
675 is the case, then there may be some hope for improvement. This analysis is based upon a
676 relatively brief history and no effort is made to include in the evaluation the costs the
677 Company incurs to develop its forecasts with the nearly costless naïve forecasts. A longer
678 history, or the future, might show the Company forecasting better than this analysis.
679
680 **Q. Did you perform any other analysis with respect to the Company's forecasting**
681 **accuracy?**
682 A. Yes. DPU Exhibits 6a, 6b, and 6c give a comparison between actual NPC and various
683 iterations of Company forecasts available to the DPU for a given year and month. The

684 expectation would be that later forecasts would usually be more accurate the earlier forecasts,
685 since the later forecasts would be based upon more information closer to the forecast period.
686
687 **Q. What do DPU Exhibits 6a through 6c demonstrate?**
688 A. DPU Exhibit 6c suggests that, on a monthly basis, the later forecasts were better only about
689 half of the time. This suggests that the Company may not be able to materially improve its
690 forecasts based on a few months of additional data.
691
692 **Q. What do you conclude?**
693 A. Based on my analysis the Company has been able to beat the naïve forecasts it was tested
694 against. Nevertheless, the Company's forecasts have shown a wide difference from the
695 actual, particularly in 2008. The evidence from this analysis that updated forecasts during
696 rate cases are better than the original forecasts is ambiguous at best.
697
698
699 **VI. <u>COMPARISON OF DIVISION'S PROPOSAL WITH OTHER ADJUSTMENT</u>**
700 **<u>MECHANISMS IN OTHER STATES AND COMPANIES</u>**
701
702 **Q. Has the Division compared its proposed ECAM with power adjustment mechanisms in**
703 **other states and in other electric utility companies?**
704 A. Yes. DPU Exhibit 3.7 summarizes power cost adjustment mechanisms from a selection of
705 company tariffs reviewed by the Division in the western United States and elsewhere in the

706 country. Based upon DPU Exhibit 3.7, DPU Exhibit 3.8 tallies the frequencies of the
707 characteristics of the selected companies' power cost adjustment mechanisms.
708
709 **Q. What do these Exhibits demonstrate?**
710 A. First and foremost they demonstrate that there are a wide variety of designs of power
711 adjustment mechanisms. DPU Exhibit 3.8 shows, for example, that eight companies have
712 dead bands, and one company has hedging restrictions built into its mechanism. Among the
713 selected companies, sharing ratios are more popular in the western United States, while intra-
714 period adjustments appear more frequently in other parts of the country. The majority of the
715 selected companies' energy cost adjustment mechanisms are based off of forecasts.
716 Incentives are purposely or inadvertently built into 14 of the mechanisms.
717
718 **Q. What is the significance of these different power cost adjustment mechanism in this**
719 **Docket?**
720 A. As one reviews the different mechanisms set forth on DPU Exhibit 3.7, one should note that
721 many of the various features found in the Division's ECAM are also found in many of the
722 power cost adjustment mechanism around the country. Further, even when the Division has a
723 seemingly unique feature such as the incentives for FOT and hedging changes, that feature
724 arguably parallels features in other companies such as Duke Energy and Florida Power &
725 Light.
726
727 **Q. What conclusions do you draw from these data?**

728 A. The primary conclusion is that the Division's proposal is reasonably mainstream; that is,
729 similar power cost adjustment mechanisms have been implemented in other states. This adds
730 support to the Division's ECAM proposal being found to be just and reasonable and in the
731 public interest.

732 **VII. CONCLUSIONS AND RECOMMENDATIONS**

733

734 **Q. What conclusions have you reached?**

735 A. The ECAM design proposed by the Division meets the criteria set forth in earlier Division
736 testimony. It is also consistent with three of the four functions of utility rates found in
737 Bonbright. Generally the recommended ECAM fits within the complex of power cost
738 adjustment mechanisms found in other states and utilities; that is, the Division's proposal is
739 not significantly different from mechanism found elsewhere. I have shown that the proposed
740 ECAM, if it had been applied in the past would have resulted in net recovery to PacifiCorp in
741 Utah of about $77 million since 2005. I have also presented evidence that Company forecasts
742 of NPC have often not been particularly accurate even for one year or less. Whether or not it
743 is possible for the Company to improve its forecasts is an open question. The Company's
744 inability to forecast a major portion of its revenue requirement may bring into question the
745 use of long-term forecasts generally and forecast test periods.

746

747 Based upon the analysis the Division has performed and detailed above, the Division believes
748 that its ECAM proposal is just and reasonable and in the public interest.

749

750 **Q. What do you recommend?**

751 A. The Division recommends that the Commission approve the Division's proposed ECAM as a
752 four year pilot program as described above.
753
754 **Q. Does this conclude your testimony?**
755 **A.** Yes.