BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of Rocky Mountain Power for Authority To Increase its Retail Electric Utility Service Rates in Utah and for Approval of Its Proposed Electric Service Schedules and Electric Service Regulations	)))))	Docket No. 13-035-184 DPU Exhibit 2.0 REB-RR

Artie Powell, PhD

Pre-Filed Rebuttal Testimony

Revenue Requirement

Division of Public Utilities

June 4, 2014

PRELIMINARIES

Q: **WOULD YOU STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS FOR THE RECORD, AND EXPLAIN FOR WHOM YOU ARE TESTIFYING?**

A: My name is Artie Powell; I am the manager of the energy section within the Utah Division of Public Utilities; my business address is 160 East 300 South, Salt Lake City, Utah. My testimony is on behalf of the Division.

Q: **DID YOU PREVIOUSLY FILE TESTIMONY IN THIS CASE?**

A: Yes. I filed direct testimony on several revenue requirement issues on May 1, 2014. I also filed cost of service direct testimony on May 22, 2014.

Q: **WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

A: I rebut Mr. Kevin Higgins' proposal to remove the escalation portion of the Company's forecast of non-labor O&M expense. Although perhaps couched in subtle language, Mr. Higgins is in essence asking the Commission to make a broad brush policy decision to ignore inflationary effects. From an economic point of view, categorically ignoring the effects of inflation on decision making may lead to poor or erroneous decisions and in general is simply bad policy.

Q: **WOULD YOU SUMMARIZE MR. HIGGINS' ADJUSTMENT TO NON-LABOR O&M EXPENSE?**

A: Mr. Higgins proposes removing the inflation escalator applied by the Company to its test period non-labor O&M expense. According to Mr. Higgins, this reduces the Company's revenue requirement by approximately $2.4 million on a Utah basis.

Q: **WHAT REASONS DOES MR. HIGGINS' PROVIDE FOR THIS ADJUSTMENT?**

A: Mr. Higgins indicates that he has two major concerns with the Company's practice of applying inflation escalators to non-labor O&M. First, according to Mr. Higgins, the application of escalators to the O&M expense, "help[s] to make inflation a self-fulfilling prophecy" and is a serious concern for public policy. He recommends that "regulators should use extreme caution before approving prices that guarantee inflation before it occurs."[1]

Second, Mr. Higgins argues that the use of escalators here builds a "cost cushion into the Company's test period costs" and "goes well beyond the basic rationale advanced by advocates for using a projected test period, which is to ameliorate the effect of regulatory lag on the recovery of investment in new plant."[2]

Q: DO YOU AGREE WITH MR. HIGGINS THAT THE ESCALATION SHOULD BE REMOVED FROM THE COMPANY'S TEST PERIOD NON-LABOR O&M COSTS?

A: No, I do not agree with Mr. Higgins' reasoning.

Q: WOULD YOU PLEASE EXPLAIN?

A: Inflation is defined as "a rise in the *general* level of prices and not a rise in some particular price or group of prices."[3] Without empirical evidence to link the use of escalation in the Company's test period forecast to an increase in the general level of prices, one cannot claim that the use of escalators in the Company's test period forecast will cause inflation, and, therefore, there is no self-fulfilling prophecy.

I agree with Mr. Higgins that regulators should use caution in applying or approving such escalation but this is an argument supports choosing judiciously the magnitude of the escalation and not an argument to ignore inflation or its effects. With inflation today at relatively low levels, one might argue to take the escalation out of this case. As a general rule, however, ignoring inflation is

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[1] Kevin C. Higgins, Pre-filed Direct Testimony, May 1, 2014, Docekt No. 13-035-184, lines 254-262.

[2] Higgins, lines 264-268.

[3] Michael Parkin, *Macroeconomics*, (1984), Prentice-Hall, Inc., Englewood, Cliffs, New Jersey, p. 69.

inconsistent with economic theory and, thus, is unlikely to lead to good public policy.

Q: PLEASE EXPLAIN WHY IGNORING THE EFFECTS OF INFLATION IS INCONSISTENT WITH ECONOMIC THEORY?

A: Ignoring the effects of inflation can lead to poor or even erroneous economic choices. I discussed this issue in my direct revenue requirement testimony in relation to the method of forecasting the Company's test period generation overhaul expense.[4] I will not repeat the arguments here. Instead, let me illustrate with a simple example.

Suppose there are two plans to complete a ten year project. Plan A, requires no upfront payment and annual payments of $9,200. Plan B, requires an upfront payment of $15,000 but lower annual payments of $7,000. If we ignore inflation and assume the first year payments are constant over the ten years, then Plan A is better, or less costly, than Plan B: the levelized payment or cost of Plan A is $137 less than the levelized payment for Plan B. See ***Table 1***.

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[4] Artie Powell, Pre-Filed Direct Testimony, May 1, 2014, Docket No. 13-035-184, lines 80-222.

Table 1: Comparison of Projects; No Inflation

	Plan A	Plan B
0		15,000
1	9,200	7,000
2	9,200	7,000
3	9,200	7,000
4	9,200	7,000
5	9,200	7,000
6	9,200	7,000
7	9,200	7,000
8	9,200	7,000
9	9,200	7,000
10	9,200	7,000
Total	92,000	85,000
PV	59,042	59,924
Levelized	9,200	9,337
Plan A - Plan B	-137	

However, if inflation is considered in the analysis, the outcome and the decision may be entirely different. For example, instead of assuming that the annual payments for the two plans are constant, suppose they both increase by 5% per year. In this case, Plan B is less costly than Plan A: the levelized payment for Plan B is $336 less than that of Plan A. See ***Table 2***.

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Table 2: Comparison of Projects, Inflation Included

	Plan A	Plan B
0		15,000
1	9,200	7,000
2	9,660	7,350
3	10,143	7,718
4	10,650	8,103
5	11,183	8,509
6	11,742	8,934
7	12,329	9,381
8	12,945	9,850
9	13,593	10,342
10	14,272	10,859
Total	115,717	103,045
PV	71,746	69,589
Levelized	11,179	10,843
Plan A - Plan B	336	

Q: DO YOU AGREE WITH MR. HIGGINS' ASSERTION THAT THE PURPOSE OF A FUTURE TEST YEAR IS TO MITIGATE REGULATORY LAG?

A: I agree that is one purpose or effect of a future test year. However, I think the broader purpose is to match rates to the conditions the Company is likely to encounter in the rate effective period. Ignoring inflation as a general policy is not likely to yield a good match in my opinion.

Again, in the current economic environment, the Commission may choose to remove the escalation in this case but I recommend that such decisions be made on a case-by-case basis and not as a general policy.

Q: USING DATA FROM PAST CASES, MR. HIGGINS SHOWS THAT ACTUAL EXPENSES WERE LOWER THAN THE COMPANY'S PRIOR TEST PERIOD PROJECTIONS. DO YOU HAVE ANY COMMENTS?

A: Yes. Accepting his analysis, I believe Mr. Higgins' analysis demonstrates that removing inflation will not address an underlying issue of over forecasting the test period expense.

If the Company systematically over estimates expenses in any category, then an adjustment should be directed at the forecast or the forecasting method.

Q: MR. HIGGINS ARGUES THAT THERE MAY BE LIMITED CIRCUMSTANCES, SUCH AS THE HIGH INFLATION EXPERIENCED IN THE 1970S, WHICH WARRANT CONSIDERATION OF INFLATION. DO YOU AGREE?

A: While, I agree that inflation was historically high in the 1970s, for several reasons I believe Mr. Higgins' proposal to consider inflation only on a limited—during "severe increasing-cost environment"—basis problematic. First, what constitutes a severe increasing-cost environment would always be in the eye of the beholder and controversial.

Second, even relatively mild inflation can over time have significant impacts on economic decisions. For example, at three percent inflation the purchasing power of a dollar will decline to 97 cents in one year; 87 cents in five years; and less than 50 cents in 25 years. See ***Table 3***.

Table 3: Inflation and Purchasing Power

	Years					
Inflation	1	5	10	15	20	25
0%	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00
1%	$0.99	$0.95	$0.90	$0.86	$0.82	$0.78
3%	$0.97	$0.86	$0.74	$0.63	$0.54	$0.47
5%	$0.95	$0.77	$0.60	$0.46	$0.36	$0.28
10%	$0.90	$0.59	$0.35	$0.21	$0.12	$0.07
15%	$0.85	$0.44	$0.20	$0.09	$0.04	$0.02

Third, as I previously explained, ignoring inflation (even when relatively mild) can lead to bad decisions and is inconsistent with economic practice and theory.

While perhaps not entirely avoiding controversy, evaluating the application of inflation to non-labor O&M on a case-by-case basis is consistent with economic practice and theory.

Q: DOES THAT CONCLUDE YOUR REBUTTAL REVENUE REQUIREMENT TESTIMONY?

A: Yes.