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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**

Comments from Robert Millsap, for Renewable Energy Advisors

Renewable Energy Advisors (REA) offers comments regarding the testimony of Joelle Steward, in support of a Schedule 135 net metering facilities charge, and the testimony of Samuel Hadaway, in support of a 10% rate of return for Rocky Mountain Power (Company).

Comment Regarding the Testimony of Joelle Steward

The Company has requested that the Commission consider a separate facilities charge for Schedule 135 customers, arguing that the energy not used by these customers unfairly allocates distribution costs to other residential customers. The testimony characterizes a company challenged by "…the growth of customer generation and declining usage per customer". [1]

[1] 13-035-184 Exhibit JJJ – Direct Testimony of Joelle R. Steward p. 2-3

The magnitude of the customer generation component of this challenge is evidently demonstrated by the Company's 2014 forecast Schedule 135 penetration rate of 2,093 customers, about .28% of the Company's residential customers[2]. Compare this number to Arizona Public Service's (June 2013) 18,000 net-metered residential customers. The requested charge would total approximately $106,750 for the year ending 2014[3]. A smaller amount (after expenses) would be redistributed, theoretically, to 740,000 other customers. Although the argument is based on the idea thought that Schedule 135 customer is dodging costs by producing energy, the Company doesn't always have this kWh number. To remedy the situation, a flat $4.25 is calculated by assuming that Schedule 135 customers have the same demand profile without their arrays as the average Schedule 1 customer. This is an interesting assumption.

Much of the demand for solar energy is driven by the 30% Federal Investment Tax Credit, which expires at the end of 2016. Once the credit has expired, the economic case for solar just won't be very appealing. Imagine for a moment that Utah residential solar installations grow at the apparently- alarming 30% annual rate reported in the Company's testimony[4]. By the expiration of the Federal ITC at the end of 2016, residential net-metered customers would grow to about 3,500, just .48% of the Company's (2014) residential customer base.

Much higher rates, if that is what the Company has in mind, might drive some customers to net meter after 2016, but it is at worst tomorrow's problem, not today's. Imagine that the economics for residential solar installations, for some unforeseen reason, remain favorable. The net-metered customer count might continue to grow at 30% per year. We still would not reach 18,000 net-

[2] 13-035-184 Exhibit RRR – Exhibit to Steward Testimony
[3] Calculations from estimates provided in 13-035-184 Exhibit RRR-Exhibit to Steward Testimony
[4] 13-035-184 Exhibit JJJ – Direct Testimony of Joelle R. Steward p. 22

metered residential customers until 2023. We don't know how many residential customers the Company expects in 2023, but 18,000 is only 2.4% of the 2014 number. There must be more important irons in the fire.

If the Company is determined to proceed, we should also consider the capacity contribution provided by Schedule 135 customers. On an intuitive level, Schedule 135 customers produce valuable peak power. Peak power represents a much lower proportion of their over-all kWh use than that of the typical customer, so they effectively subsidize the peak power cost premium for the customers using Schedule 1. Commercial and industrial customers have a chance to recoup *part* of this discrepancy through lower power charges in Schedules 6, 8 and 9. Schedule 135 customers, on the other hand, are expected to trade peak power for off-peak power. While this allows customers with solar arrays to turn on the lights at night, it also reduces the Company's need to come up with *very* expensive power on hot afternoons. The benefits work in both directions.

Exhibit LLL provides the Generation-Demand component ($.032/kWh) and the Transmission-Demand component ($.013/kWh) for residential revenue requirements.[5] Adding them together and multiplying by the 68% capacity contribution payment ordered for fixed solar installations in Docket 12-035-100[6] should be a good starting point for this discussion. The differences between residential and utility-grade efficiencies are already accounted-for by the use of system kWh output as a metric, rather than capacity. Potential capacity contribution differences are minimized

[5] 13-035-184 Exhibit LLL-Exhibit to Steward Testimony p. 7-9

[6] 12-035-100 In the Matter of the Application of Rocky Mountain Power for Approval of Changes to Renewable Avoided Cost Methodology for Qualifying Facilities Projects Larger than Three Megawatts, Order on Phase Two Issues

by Utah State tax credit eligibility requirements for residential system orientation and shading limitations.[7] This calculation is just a logical extension of the Company's argument, is transparent and provides regulatory consistency.

A discussion regarding the 12-035-100 integration charges ordered for fixed solar ($.0028/kWh) might result in a lot of time spent talking about a small amount of money. It has been demonstrated though, that the geographic dispersion of solar should result in lower integration costs than for a single multi-MW facility envisioned in Schedule 38 proceedings.[8,9] Conveniently, this charge represents the generation and transmission costs associated with solar. By including it, we account for all costs and benefits of solar throughout the system. If the integration charge is included without adjustment, the capacity contribution credit minus integration costs for residential solar would be + $.0272/ generated kWh, a little higher than the Company's - $.0241 requested distribution charge for the same customers.[10] Since Schedule 135 customers clearly require a lower return-on-investment than does the Company, I expect that they would be willing to forego the net $.0031 / kWh production credit due to them.

[7] R638-2-7. Investment Tax Credit, Eligible Costs for Commercial and Residential Systems, Solar PV (Photovoltaic). http://www.rules.utah.gov/publicat/code/r638/r638-002.htm#T7

[8] Andrew Mills, et al. Understanding Variability and Uncertainty of Photovoltaics for Integration with the Electric Power System, Lawrence Berkeley National Laboratory Dec 2009

[9] Tim Mason et al. Solar Photovoltaic Integration Cost Study, Black and Veatch for Arizona Public Service Company, November 2012

[10] Calculated based on Company estimates provided in 13-035-184 Exhibits LLL, RRR and 12-035-100 Order on Phase Two Issues

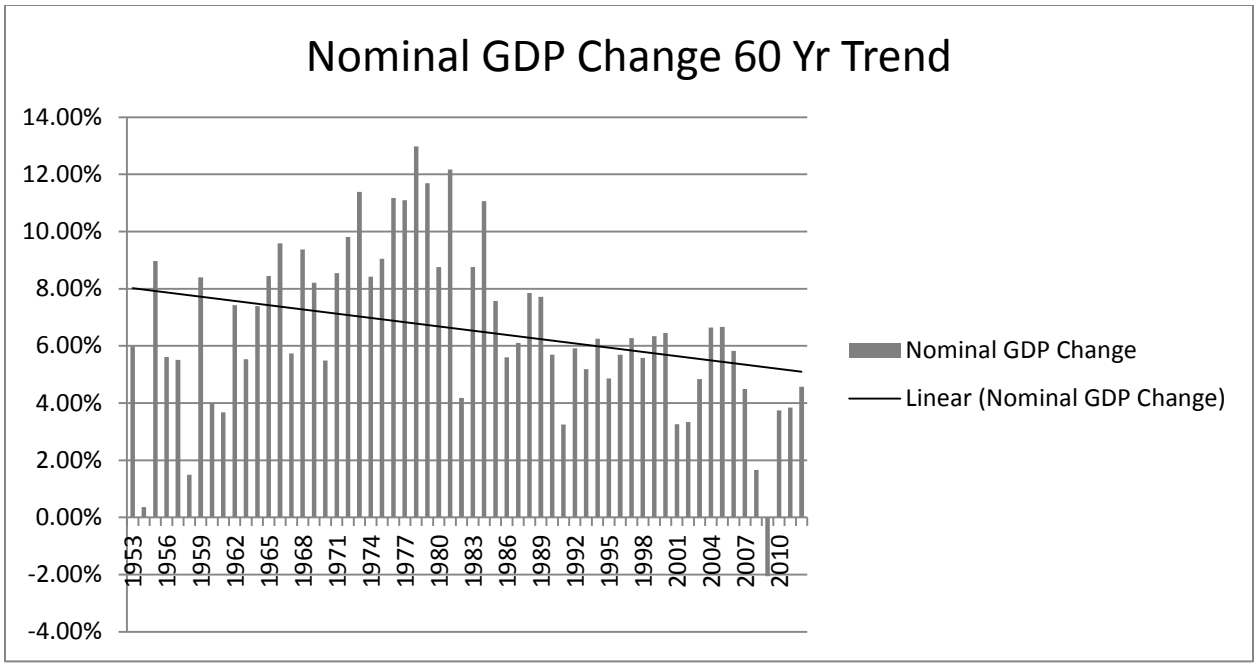
Comment Regarding the Testimony of Samuel Hadaway

The Company suggests that the Commission should approve a 10% return-on-equity, based partly on the dividend cash flow models presented in Exhibit EE.[11] The three models are based on an assortment of short term (analyst) and long term (economy) growth estimates. I ask the Commission to consider a projected long-term growth rate that is lower than the rate used in these models. As a passage from Mr. Hadaway's testimony affirms, "Over long horizons, however, there is little forecastability in earnings, and analysts' estimates tend to be overly optimistic.…"[12]

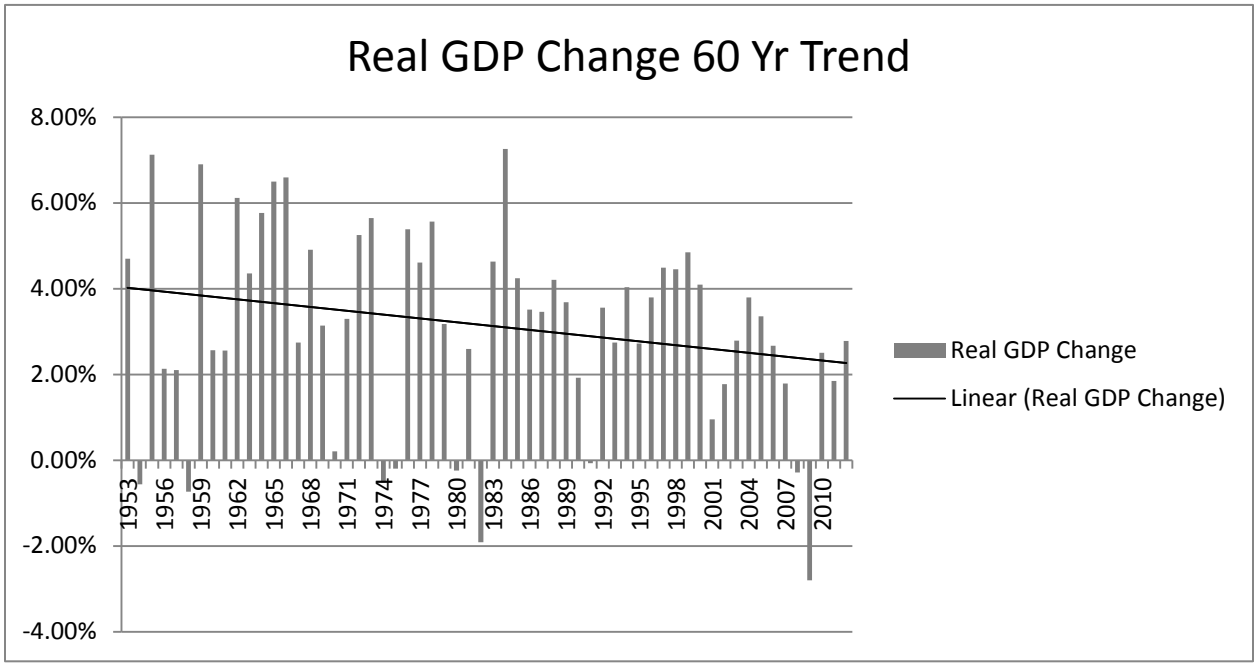
It is extremely important to be realistic when considering these estimates. If the Company expects flat or low-growth kWh consumption, and at the same time expects an annual 5.6% increase in revenues, ratepayers will quickly find themselves avoiding the use of very expensive electricity. High rates encourage the development of renewable energy, but they hurt all of us both directly and indirectly. It is a particularly hard scenario to swallow when wholesale rates are so low.

The following charts provide annual GDP trends over various periods of time. The data is from the U.S. Dept. Commerce[13] and is very similar to the data provided in the testimony.

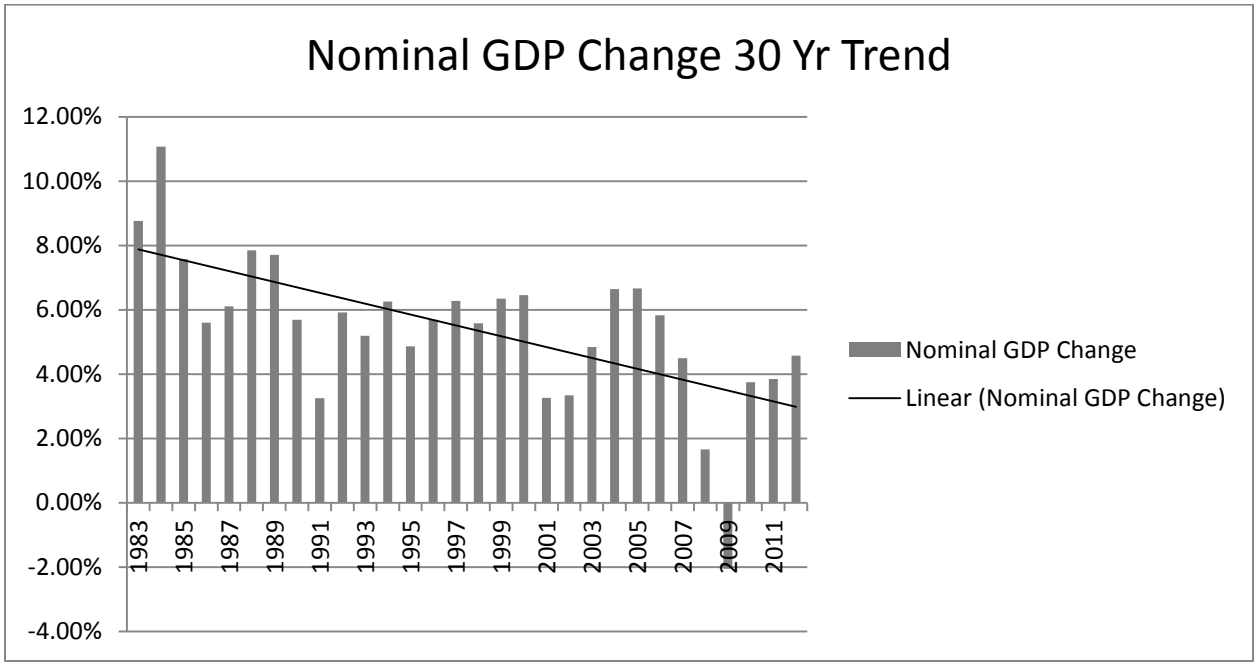
[11] 13-035-184 Exhibit EE-Exhibit to Hadaway Testimony
[12] 13-035-184 Exhibit X-Direct Testimony of Samuel C Hadaway p. 23, reference to (Louis K. C. Chan, Jason Karceski, and Josef Lakonishok, "The Level and Persistence of Growth Rates," The Journal of Finance, April 2003, p. 683).
[13] U.S. Dept. Commerce Current and "Real" Gross Domestic Product, http://www.bea.gov/national/index.htm#gdp

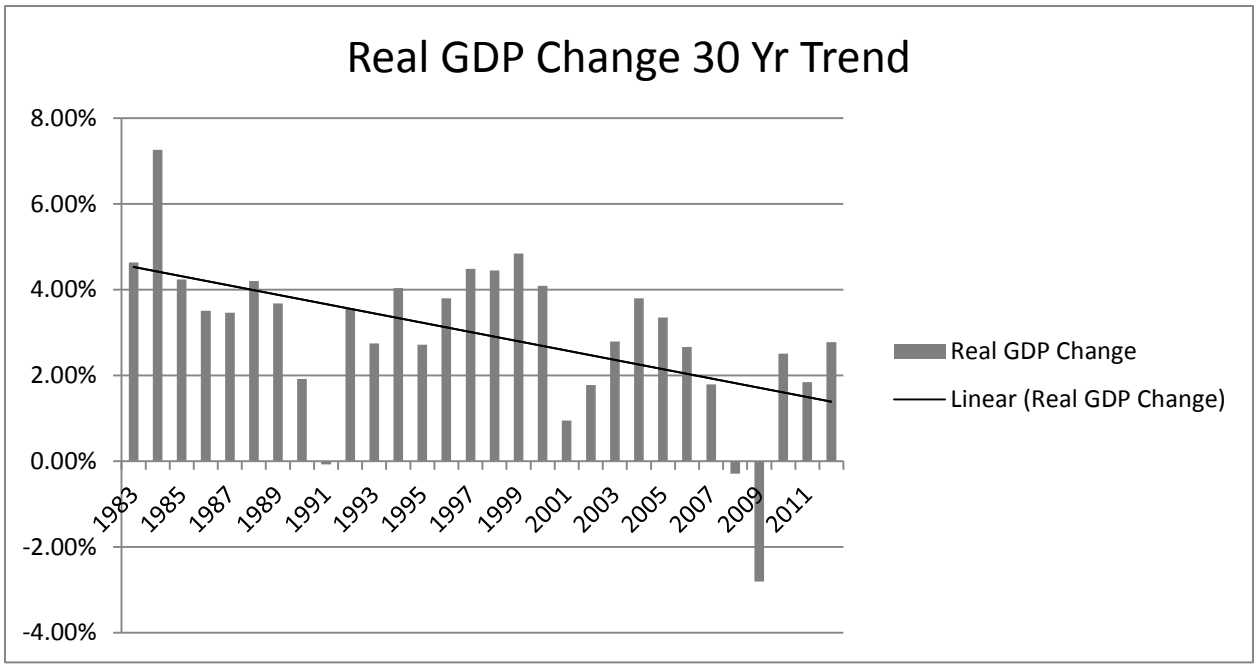


This chart removes the effects of inflation:



Looking back over a shorter 30 year period is not encouraging.





The trend lines are linear best-fit lines, not meant to suggest that the U.S. economy will erode as they ultimately cross into the negative quadrant, but to illustrate that growth has indeed slowed

as the economy has matured. Looking at the charts, a 150 year 5.6% growth rate seems very unlikely.

A more credible estimate is readily available:

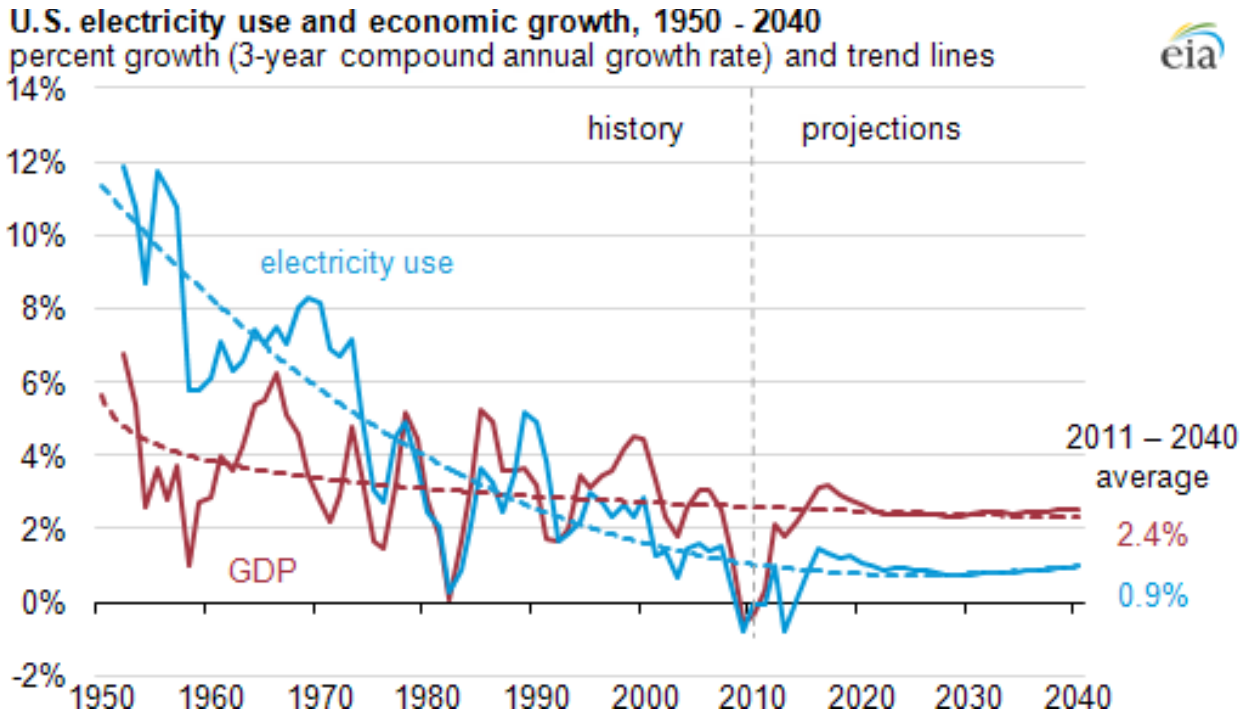
As of the Sept. 2013 Federal Reserve Board policy meeting, the Federal Reserve was targeting 2% inflation and expecting 2.1% - 2.5% longer-run real GDP growth.[14]

Variable	Central tendency[1]					Range[2]				
	2013	2014	2015	2016	Longer run	2013	2014	2015	2016	Longer run
Change in real GDP	2.0 to 2.3	2.9 to 3.1	3.0 to 3.5	2.5 to 3.3	2.2 to 2.5	1.8 to 2.4	2.2 to 3.3	2.2 to 3.7	2.2 to 3.5	2.1 to 2.5
June projection	2.3 to 2.6	3.0 to 3.5	2.9 to 3.6	n.a.	2.3 to 2.5	2.0 to 2.6	2.2 to 3.6	2.3 to 3.8	n.a.	2.0 to 3.0
Unemployment rate	7.1 to 7.3	6.4 to 6.8	5.9 to 6.2	5.4 to 5.9	5.2 to 5.8	6.9 to 7.3	6.2 to 6.9	5.3 to 6.3	5.2 to 6.0	5.2 to 6.0
June projection	7.2 to 7.3	6.5 to 6.8	5.8 to 6.2	n.a.	5.2 to 6.0	6.9 to 7.5	6.2 to 6.9	5.7 to 6.4	n.a.	5.0 to 6.0
PCE inflation	1.1 to 1.2	1.3 to 1.8	1.6 to 2.0	1.7 to 2.0	2.0	1.0 to 1.3	1.2 to 2.0	1.4 to 2.3	1.5 to 2.3	2.0
June projection	0.8 to 1.2	1.4 to 2.0	1.6 to 2.0	n.a.	2.0	0.8 to 1.5	1.4 to 2.0	1.6 to 2.3	n.a.	2.0
Core PCE inflation[3]	1.2 to 1.3	1.5 to 1.7	1.7 to 2.0	1.9 to 2.0		1.2 to 1.4	1.4 to 2.0	1.6 to 2.3	1.7 to 2.3	
June projection	1.2 to 1.3	1.5 to 1.8	1.7 to 2.0	n.a.		1.1 to 1.5	1.5 to 2.0	1.7 to 2.3	n.a	

Adding inflation to real GDP, the resulting 4.1% - 4.5% nominal GDP growth rate also looks somewhat more reasonable than 5.6%, considering the historical charts.

[14] Minutes of the Federal Open Market Committee, Summary of Economic Projections Sept. 17-18, 2013 http://www.federalreserve.gov/monetarypolicy/fomcminutes20130918ep.htm

Whether-or-not electric utilities will grow as fast as the economy is the more important question. As the Commission is probably aware, the U.S. Energy Information Administration does not think so. The following chart compares historical energy and economic growth rates, along with the Administration's expectation for future growth rates:[15]



While there is clearly year-to-year correlation, long-term electricity use has not, and is not predicted to, grow at the same rate as the economy. The combined 3.3% nominal growth estimate should better-represent actual investor expectations for the comparison utilities, and we must estimate the same in the dividend cash flow model.

[15] UI.S Energy Information Administration- Today in Energy 3/22/2013
http://www.eia.gov/todayinenergy/detail.cfm?id=10491#

If the Commission chooses to consider a dividend cash flow model to compare the Company with public utilities, I believe that 3.3% is an appropriate and justifiable nominal long-term growth rate expectation for these utilities. The growth rate can easily be adjusted in Exhibit EE[16], to preview the potential effect on the calculations. The use of a 3.3% long-term nominal growth rate, for example, reduces the Two Stage Model indicated Group Average ROE to 7.4%.

I appreciate the hard work of the many parties involved in this docket. Despite the broad range of short-term goals represented, I hope that our shared future will remain in focus.

I thank the Commission again for the opportunity to comment.

Submitted Respectfully,

Robert Millsap

For Renewable Energy Advisors

This document will be submitted electronically to:

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[16] 13-035-184 Exhibit EE-Exhibit to Hadaway Testimony input "Backup-1 Do Not Print", cell M 3; output "Page 4", cell M 23