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**BEFORE THE
NORTH DAKOTA PUBLIC SERVICE COMMISSION**

In the Matter of Otter Tail Power Company's

Annual Rate Update

For its Renewable Resource Cost Recovery Adjustment

For Langdon, Ashtabula & Luverne Wind Farms

Case No. PU-16-14

**DIRECT TESTIMONY
OF
MIKE DILLER**

**ON BEHALF OF THE
NORTH DAKOTA PUBLIC SERVICE COMMISSION
ADVOCACY STAFF**

April 27, 2016

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1 Q: **Provide your name and qualifications.**

2 A: My name is Mike Diller. I am the Director of Economic Regulation for the
3 North Dakota Public Service Commission (commission). I am a utility analyst
4 and provide direction to a small staff. I have 30 years of utility regulatory
5 experience including service to both the Oklahoma Corporation Commission
6 and the commission.

7
8 I received a Bachelor of Science Degree in Accounting from Oklahoma
9 Christian College in Edmond, Oklahoma in 1981. I am a Certified Public
10 Accountant and member of the American Institute of Certified Public
11 Accountants. I have testified before the commission on numerous occasions
12 including acquisition and merger proposals, rate cases, settlements, advance
13 determination of prudence requests and rule changes.

14
15 Q: **What is the purpose of your testimony?**

16 A: I will provide the commission with an analysis of Otter Tail Power Company's
17 (Otter Tail) application for approval of its annual rate update to its Renewable
18 Resource Cost Recovery Adjustment Factor (RRA) for costs associated with
19 its Langdon, Ashtabula and Luverne wind farms. The proposal seeks to
20 increase the rate from 4.069% to 7.573% of customers' bills.¹ The increase
21 will cost the average residential customer using 1,000 kWh approximately \$3
22 a month.²

23
24 Q: **Please summarize your testimony.**

25 A: I recommend that Otter Tail's proposed RRA for costs associated with its
26 three wind farms be approved. My testimony builds on the analysis I have
27 done in past RRA filings. While my primary concern is to ensure costs are
28 reasonable and properly determined, most of my testimony deals with
29 explaining the large increase in the requested RRA compared to the current
30 RRA.

¹ Updated Application, Filed February 26, 2016, Page 5.

² Ibid, Page 6.

1 **Q: How did you begin your review of the RRA?**

2 A: I reviewed the current filing to make sure that actual costs from the previous
3 filing matched actual costs shown in the current filing and I noted no
4 exceptions. As a result, I have confidence that the beginning numbers for this
5 filing are reasonable based on previous work and analysis.
6

7 **Q: Did you review the RRA cost model and what did you conclude?**

8 A: Yes, I reviewed the assumptions, the worksheets and formulas used to
9 develop the RRA. I believe the cost model is materially correct and can be
10 relied upon for developing the RRA. To assist in that review, I develop charts
11 and analytics of my own to test the results and help identify cost outliers.
12 Several of the charts are included in my testimony to help bridge the gap
13 between lots of numbers and understanding.
14

15 I noticed that the income tax rates did not correctly reflect the recent decline
16 in North Dakota income tax rates. The differences in tax rates were not
17 material to the case and I concluded, for the sake of expediency, the
18 corrections can be made prospectively and trued-up in next year's filing.
19 Otter Tail noticed the same error when preparing testimony and agreed to
20 make the corrections in the next filing.
21

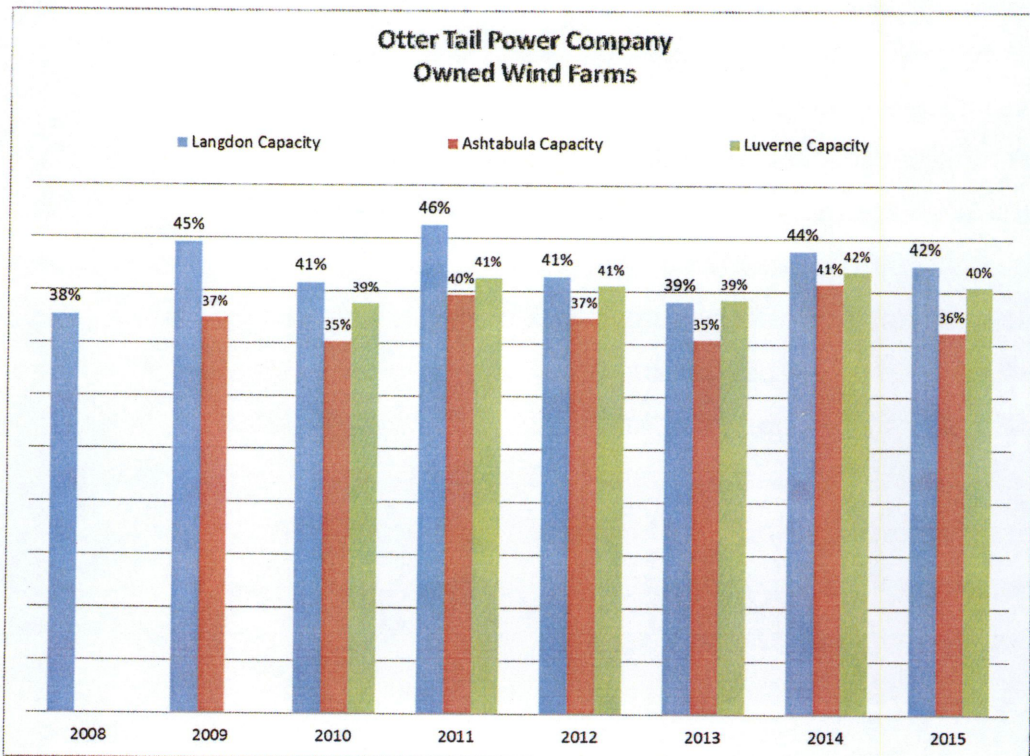
22 **Q: How will you present your detailed analysis?**

23 A: My analysis starts at a very high level before devolving into the mechanics to
24 explain why the proposed RRA is dramatically increasing. Even so, my
25 testimony will show that the delivered cost of energy from the Langdon,
26 Ashtabula and Luverne wind farms remains very low and that the cost of
27 service continues to track downward as the units depreciate. In addition to
28 the impact of depreciation, the downward cost cycle is largely enhanced by
29 the upfront and early tax incentives for wind farms such as bonus and
30 accelerated depreciation, production tax credits and investment tax credits.

1 **Q: Have the wind farms been successful?**

2 A: All three wind farms have great capacity factors continuing to prove that North
3 Dakota has some of the best wind resources in the country. During the last
4 three years, wind farms in the United States produced average capacity
5 factors of 32-34%.³ Following are the capacity factors for Otter Tail's three
6 wind farms:

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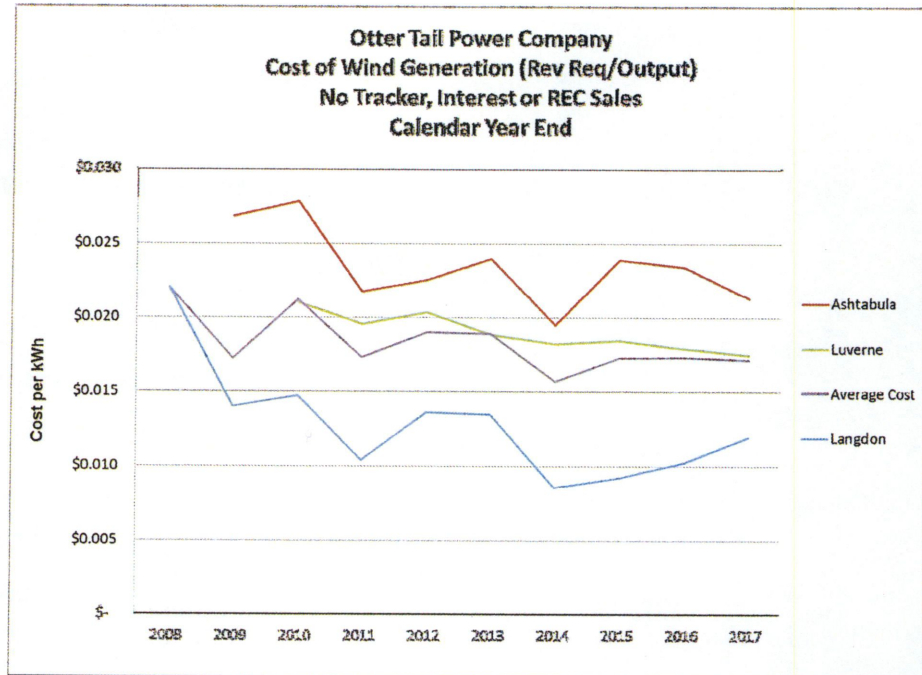
10 **Q: What is the cost per kWh generated from these wind farms?**

11 A: The average cost of electricity provided by Otter Tail's wind farms is less than
12 2 cents per kWh. The following chart eliminates the fluctuations that occur as
13 a result of the RRA true-up mechanism and renewable energy sales to reflect
14 a pure cost of energy produced.

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³ EIA Electric Power Monthly, Table 6.7.B, Capacity Factors for Utility Scale Generators.

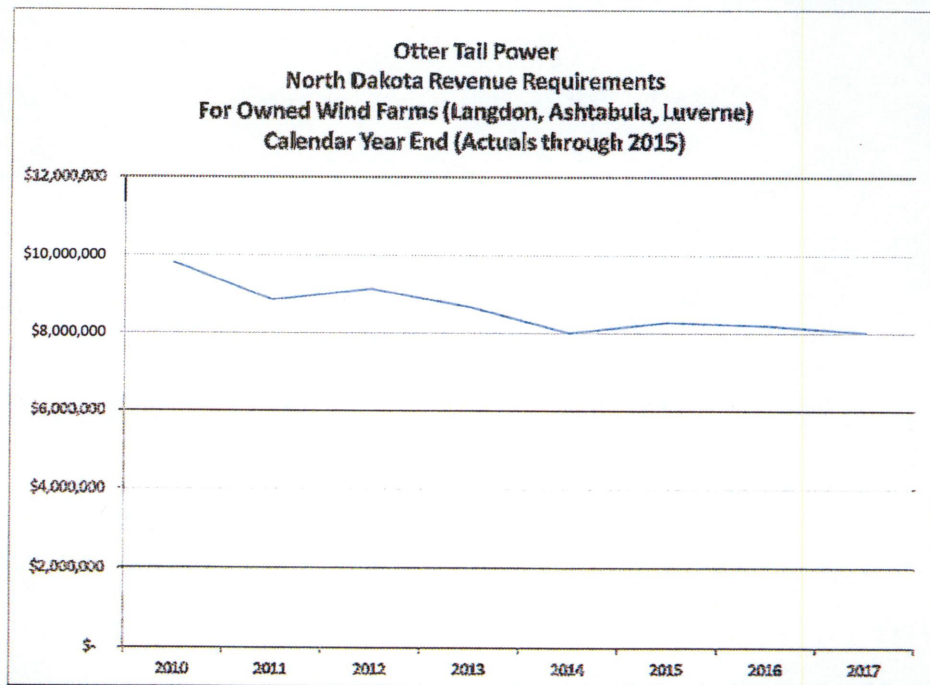
⁴ Various RRA Applications.



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Q: What are the revenue requirements for the RRA?

A: The following chart depicts RRA costs assigned to North Dakota.



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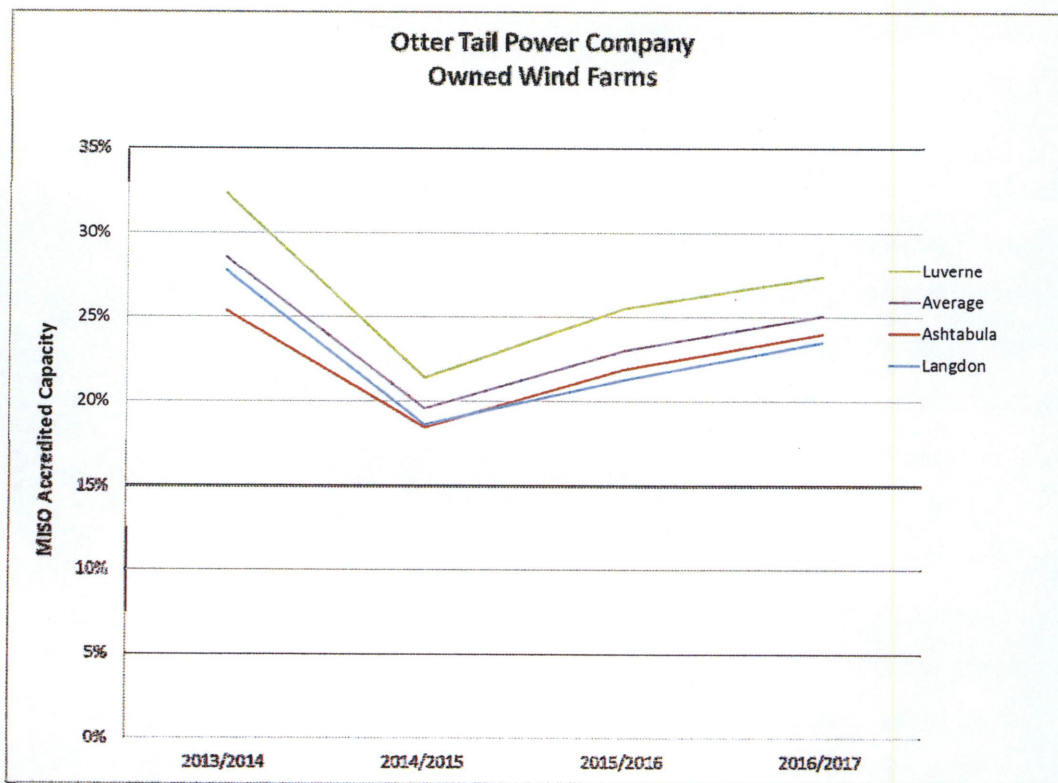
⁵ Updated Application Filed February 26, 2016, Revised Attachments 1-3.

1 As you can see from the two charts, the cost of Otter Tail's wind farms
2 continues to trend downward. The volatility in cost per kWh is due to the
3 varying production levels from one year to the next.

4
5 **Q: How often do the wind farms run during peak hours?**

6 **A:** The following chart illustrates the "accredited capacity" from the Mid-
7 Continent Independent System Operator (MISO). Accredited capacity is
8 determined by historical observations at peak hours and reduces the overall
9 generation capacity that each utility in the MISO region must carry to meet its
10 obligation.

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⁶ Ibid.

⁷ Various RRA Applications to the ND commission.

1 Otter Tail's wind resources not only provide energy at prices lower than any
2 other generation resource available but the accredited capacity from MISO
3 also reduces the need to build or acquire additional generation capacity.
4 According to Otter Tail's application, Luverne received the highest accredited
5 capacity for a wind farm in the MISO region for the 2016/17 planning year.⁸
6

7 **Q: If the costs trend downward, why is the RRA increasing?**

8 A: The increase is the result of a Perfect Storm provided by a cost anomaly due
9 to tax implications of the newly extended bonus depreciation and a large
10 over-recovery carryforward that artificially lowered the RRA last year thereby
11 magnifying the increase requested in the current application.
12

13 **Q: How can bonus depreciation increase costs?**

14 A: Bonus depreciation is a good thing for ratepayers. It provides cost free
15 capital to the utility by delaying the payment of income taxes that otherwise
16 would be required. But in this case, the bonus depreciation for other non-
17 RRA investments is so large that it limits the extent to which Production Tax
18 Credits (PTC's) can be used to reduce taxes. Still, it is to Otter Tail's
19 advantage and ultimately ratepayers to elect to take bonus depreciation when
20 it is available and preserve other tax advantages such as PTC's for future tax
21 years.
22

23 Please note that bonus depreciation is only available in the year an asset is
24 placed into service. Since Otter Tail has not placed any new wind farms into
25 service since 2009, bonus depreciation is not available for the proposed RRA.
26 However, bonus depreciation does reduce the revenue requirements
27 company-wide and for Otter Tail's other riders like the Environmental Rider
28 (Big Stone AQCS) and the Transmission Rider, as follows:
29

⁸ Initial Application filed Dec. 31, 2015, PU-16-14, Page 10.

Recovery Mechanism	January - December 2015 Revenue Requirement			January - December 2016 Revenue Requirement		
	Without Bonus Depreciation	With Bonus Depreciation	Change 2015	Without Bonus Depreciation	With Bonus Depreciation	Change 2016
Renewable Rider	\$7,612,115	\$8,274,389	\$662,274	\$6,799,750	\$7,974,995	\$1,175,245
Environmental Rider ⁹	9,470,693	9,284,142	(\$186,551)	13,124,209	11,399,458	(1,724,751)
Transmission Rider ⁴	5,803,480	5,758,730	(\$44,750)	6,400,824	6,084,430	(316,394)
Total Projected Revenue Requirement	\$22,886,288	\$23,317,261	\$430,973	\$26,324,783	\$25,458,883	(\$865,900)

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As a result of bonus depreciation, Otter Tail expects a net reduction in revenue requirements for its three investment riders of \$434,927 (\$430,973-\$865,900) for the two years ending 2016. The renewable rider is negatively impacted while both the environmental rider and the transmission rider are positively impacted by bonus depreciation. The net benefits of bonus depreciation to ratepayers will continue for the life of the qualifying assets.

Please note that the PTC's continue to be passed on to consumers through the RRA in the year generated. However, the benefits of the PTC's are limited because a regulatory asset must be booked for the timing difference between the immediate benefit realized by customers and the time when tax savings can actually be monetized by Otter Tail through its income tax return. This timing difference creates a regulatory asset that ratepayers must pay a return on. Once there is sufficient income to utilize the tax savings of PTC's, the regulatory asset for the timing difference is eliminated resulting in future reductions to the RRA revenue requirements.

Q: What caused the artificially low RRA currently in use?
A: I think Otter Tail's table on Page 5 of its updated RRA application illustrates the problem quite well. Still, I have taken the same numbers and added some percentages to try and accentuate further the impact of the recent true-up adjustments included in the current and proposed RRA.

⁹ Environmental Cost Recovery Rider Application filed March 31, 2016, Case No. PU-16-148, P. 10.

	Apr 15 - Apr 16 Current RRA	%	May 16 - Mar 17 Proposed RRA	%
Revenue Requirement	\$ 7,269,678	100%	\$ 7,392,185	100%
True-Up Adjustment	(1,828,499)	-25%	1,869,367	25%
Total Revenue Requirement	<u>\$ 5,441,178</u>		<u>\$ 9,261,552</u>	
Percent	100%		170%	10

The true-up adjustments lowered the revenue requirements needed last time by 25% and increased the revenue requirements for the current application by 25% resulting in an overall proposed increase of 70%. Had we known what we know today, we would not have made a true-up adjustment last time and the RRA rates would have remained virtually unchanged.

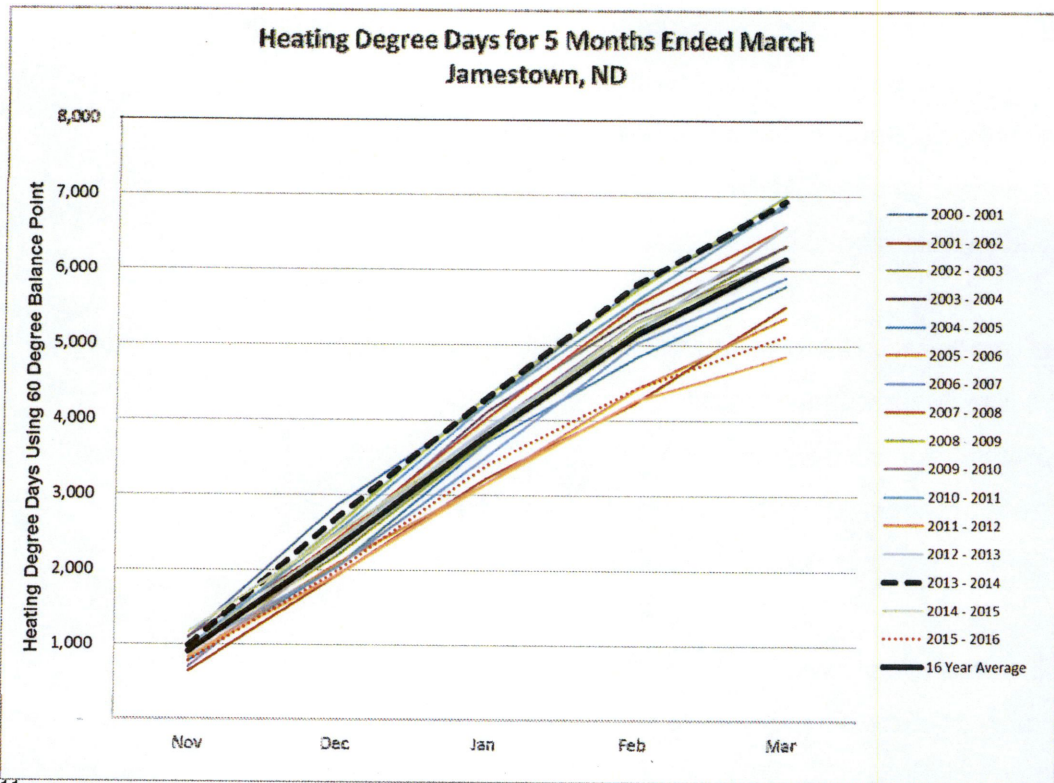
Q: What caused the large negative true-up in the current RRA?

A: It is necessary to go all the way back to the 2014 RRA, filed December 31, 2013, in order to explain what caused the large negative true-up adjustment in last year's RRA. When the commission approved the 2014 RRA, the true-up adjustment was based on 7 months' actual cost plus 5 months' forecasted cost for the year ended March 31, 2014. Based on those estimates, the 2014 rate was built on an estimated negative true-up of \$191,211 through March, 2014. However, the 2014 RRA generated higher than expected revenue than originally projected due to high sales volumes from a very cold 2013 / 2014 winter. In addition, the original cost data was updated to reflect additional Renewable Energy Credit sales and PTC's not included in the original forecast.

Q: What proof do you have that the weather was colder than normal?

A: The following chart illustrates heating degree days for the 5 months ended March for each of the last 16 years to correspond with the 5 months of estimated sales included in the 2014 RRA filing. Clearly, the 2013 / 2014 winter was much colder than normal resulting in higher sales volumes and RRA collections.

¹⁰ Updated Application, Filed Feb. 26, 2016, Page 3.



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3 **Q: What has caused the large positive true-up balance?**

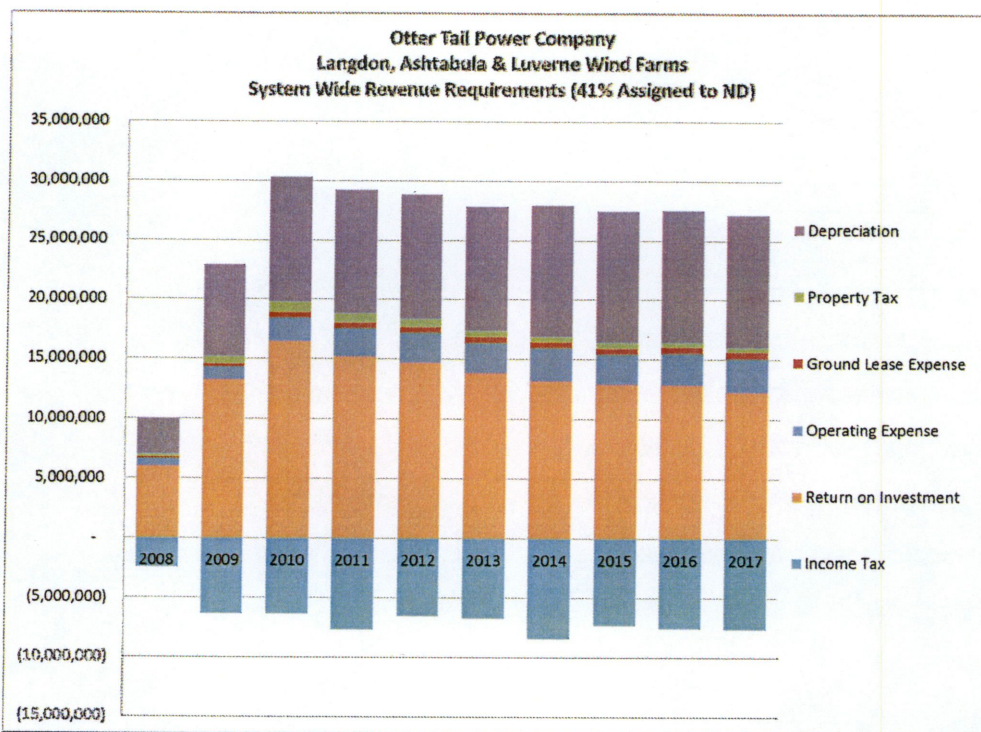
4 A: The currently approved RRA is built on estimated revenue requirements of
5 \$7.3 million for the year ended March 31, 2016. However, the actual costs
6 through 2015 plus updated estimates for the 3 months ended March, 2016,
7 show a revenue requirement of \$8.5 million which accounts for \$1.2 million of
8 the under-recovery carry-forward. In addition, another \$.2 million in revenue
9 requirements is added for a one month delay in implementing the rate. The
10 rest of the difference is attributable to lower than expected revenues likely
11 due to a warmer than normal 2015 / 2016 winter; see above chart.

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13 **Q: What caused the increase in revenue requirements?**

14 A: Following is a chart of revenue requirements by expense category:

¹¹ Data taken from <http://www.weatherdatadepot.com>



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Even though this chart uses calendar year end data rather than the fiscal year ended March for the RRA, it helps point out where volatility in revenue requirements occurs. There is very little new investment occurring after the Luverne wind farm came on line in 2009, so depreciation remains very constant from one year to the next. The property tax, ground lease and operating expense categories are slowly changing over time but together cause little cost variation. The changing positive revenue requirements driver is primarily the change in the return on investment required. As the assets are depreciated over time; less return is required. In this case, the downward trend in the return component tapers off in 2015 and 2016.

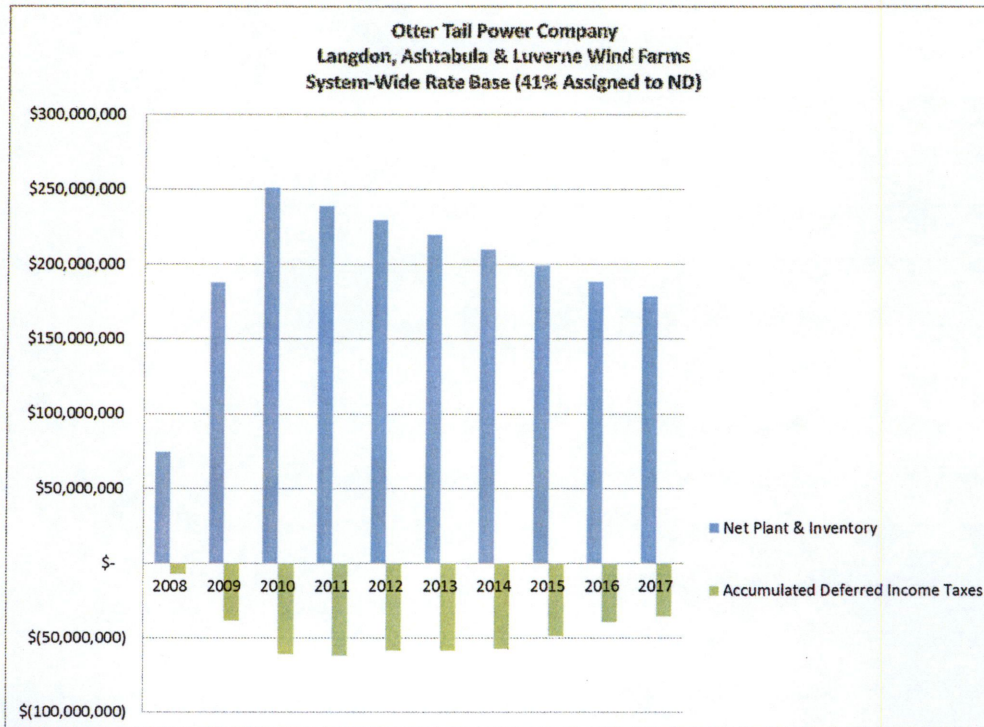
In addition, the negative income tax expense is less in 2015 and 2016 when compared to 2014 creating an increase in revenue requirements this year. The change is largely due to variance in energy production of the wind farms from one year to the next and the corresponding PTC's generated.

¹² Data from Otter Tail's Updated Application filed Feb. 26, 2016, Revised Attachments 1-3.

1 **Q: Shouldn't the return on investment continue to decline?**

2 A: Yes, that would be true if it were not for Accumulated Deferred Income Taxes.

3 The following chart is a summary of the wind farms' rate base components.



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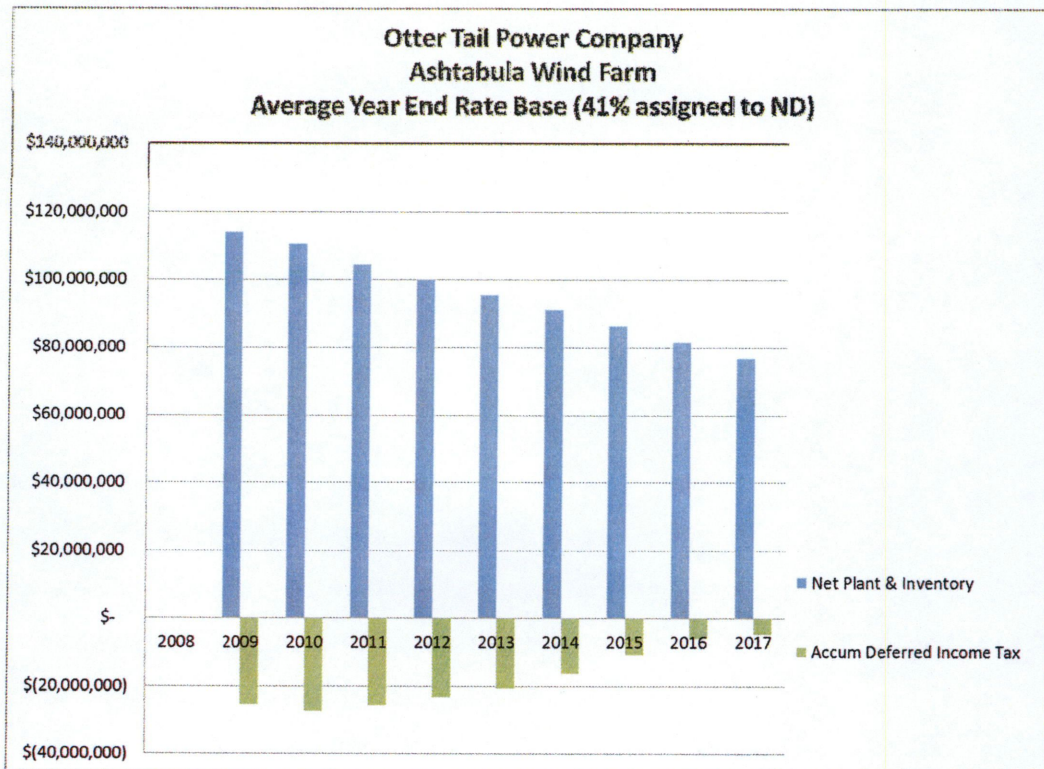
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6 As you can see, the Net Plant balance is being reduced systematically as the
7 wind farms are being depreciated. The variance in rate base pattern is
8 occurring in the Accumulated Deferred Income Tax (ADIT) balance which is a
9 large reduction to rate base for taxes collected but not paid to the taxing
10 authorities. Since wind farms are depreciated over 5 years for tax purposes
11 and 25 years for rate recovery from ratepayers, one would expect that the
12 ADIT balance would begin to decline after the fifth year of service and then
13 begin to slowly move to zero over the course of the next 20 years of the
14 estimated life of the wind farms. The problem here is that the rate of decline
15 in the ADIT balance based on 2015 and 2016 levels would zero out the ADIT
16 balance by the end of 2021 instead of the farms' end life of approximately
17 2034.

1 **Q: What is causing the rapid deterioration of the ADIT balance?**

2 A: To further explain this abnormality, I have selected the Ashtabula Wind
3 Farm to further explore the reason for the decline in the ADIT balance. The
4 net plant in service balance is being systematically reduced by accumulated
5 depreciation as one would expect but the ADIT balance deterioration is even
6 more pronounced for Ashtabula.

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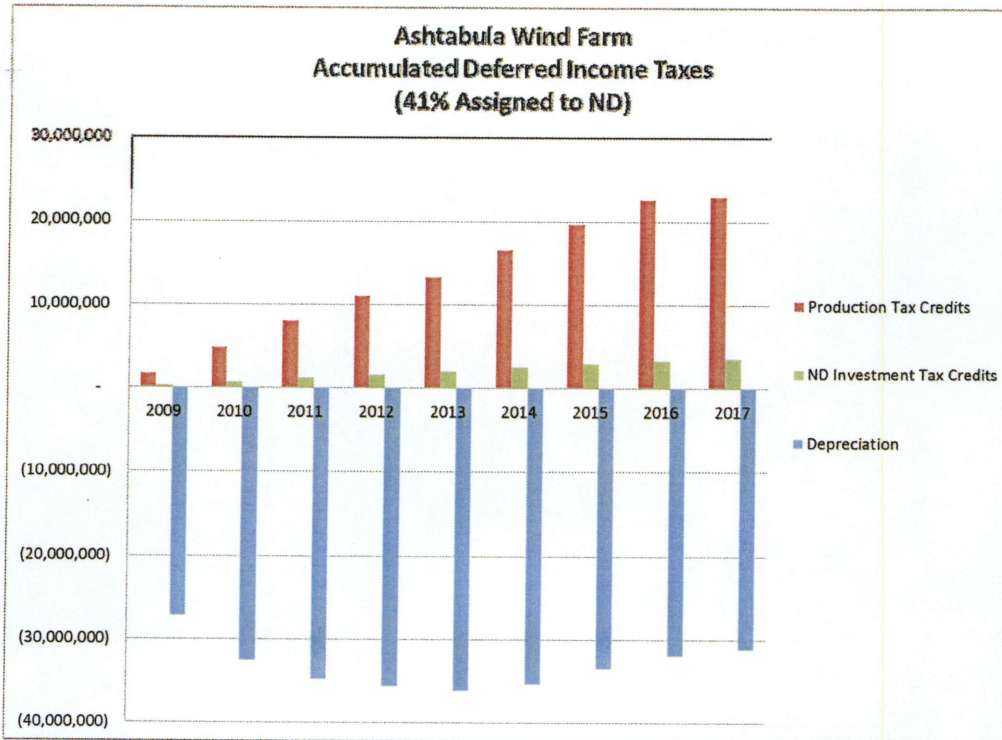
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10 **Q: What is causing the rapid decline in Ashtabula's ADIT balance?**

11 A: The following chart depicts the three primary components giving rise to ADIT
12 and identifies the primary cause for the deterioration of the ADIT balance.

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In this chart, balances below zero reduce rate base and therefore the return required on Otter Tail's investment. The inverse is true for the positive balances requiring additional return dollars to compensate Otter Tail for its investment in North Dakota.

The ADIT related to depreciation increases initially as one would expect given the 5-year tax depreciation life compared to the 25 year straight-line depreciation for rate recovery. The depreciation ADIT balance represents income taxes collected from ratepayers but not paid to the taxing authorities because of accelerated depreciation for tax purposes. When the tax depreciation is gone after Year 5, the balance slowly erodes to zero over the remaining 20 year plant life. As a result, the accelerated tax depreciation provides cost free capital to Otter Tail over the life of the asset and is recognized as a reduction to rate base.

1 The rate base addition of the ADIT balance related to NDITC's is a result of
2 giving ratepayers credit for tax deductions that the company has not been
3 able to use on its North Dakota tax returns. The RRA allocates the 15%
4 NDITC's to ratepayers ratably over the life of the plant but Otter Tail has had
5 insufficient state income to make use of the credits. As a result, ratepayers
6 are receiving monthly credits for NDITC's but must pay a return on the credits
7 until Otter Tail can monetize the tax benefits through its North Dakota income
8 tax return.

9
10 Similarly and to a much grandeur scale, PTC's are generated based on the
11 first 10 years of production (currently 2.4 cents per kWh) and are passed
12 through to customers in the RRA when generated. Because of large plant
13 additions in other areas of the company and corresponding bonus
14 depreciation, Otter Tail is not able to use all of its PTC's as they are
15 generated. Again, ratepayers are benefiting from the flow-through of PTC's
16 through the RRA as they are generated but must pay a return on any credits
17 received that Otter Tail is unable claim on its tax return.

18
19 In conclusion, the lack of sufficient taxable income in recent years to take full
20 advantage of all the tax benefits immediately has caused a temporary stall in
21 the downward trend in revenue requirements.

22

23 **Q: Should the commission stop the flow-through of tax benefits?**

24 **A:** I believe we are having this hearing out of concern for the higher requested
25 RRA. Delaying the pass through of tax benefits until realized by Otter Tail
26 would push the RRA higher. No, our ratepayers are paying less than 2 cents
27 a kWh for the wind generated electricity. There is no need to panic. Otter
28 Tail's investment cycle will generate higher returns and higher taxes that can
29 then be minimized by using PTC's in later tax periods. When that occurs, the

1 return requirements for PTC's not used but given to customers will be
2 eliminated and lower future revenue needs.

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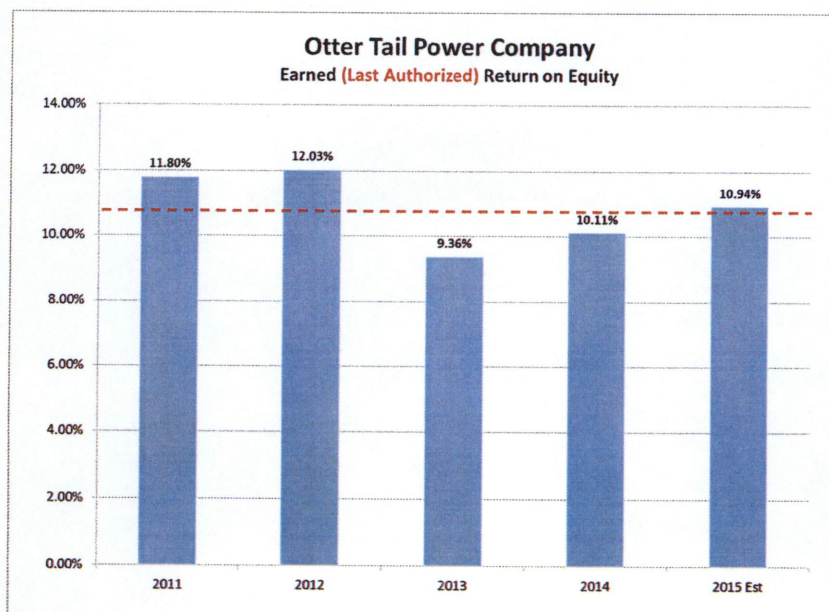
4 **Q: Do you still favor the "percent-of-bill" method for cost assignment?**

5 A: Yes. Wind farms primarily provide an energy resource which argues to
6 assign costs on an energy basis or kWh basis. However, the average
7 capacity accreditation by MISO of 25% for the wind farms argues for
8 something other than a straight per kWh energy charge. Using the percent-
9 of-bill method honors the rate design that was last authorized by the
10 commission and gives consideration to both energy and capacity (demand)
11 costs.

12

13 **Q: Should the commission consider Otter Tail's current earnings?**

14 A: Yes. Riders such as the RRA are delaying the need to file general rate
15 increases so a review of the Company's earnings should be considered when
16 approving any rider for additional revenue collections. Otter Tail's return on
17 equity has vacillated above and below 10.75%, as follows:



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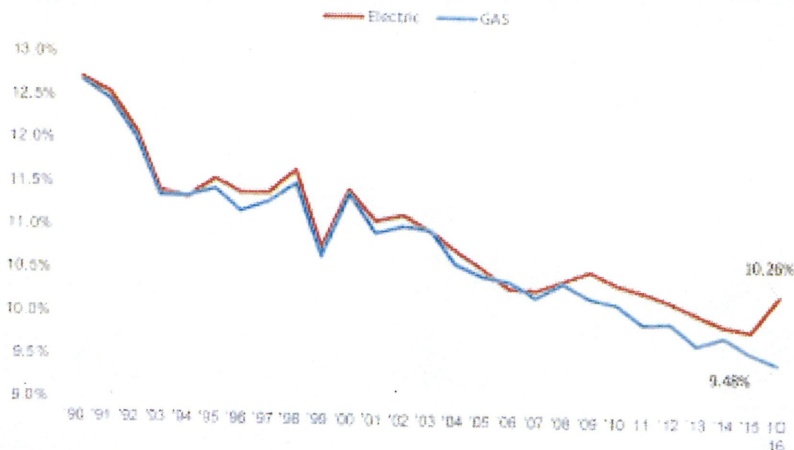
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¹³ Data taken from various annual reports; 2015 estimates provided by Otter Tail.

1 **Q: What is a reasonable return on Otter Tail's invested equity?**

2 A: The return on equity (ROE) authorized by the commission for Otter Tail's last
3 rate case in 2009 was 10.75%.¹⁴ However, the average ROE authorized by
4 state commissions has declined since 2009.

Graph1: Average authorized ROEs — electric and gas rate decisions



Source: RRA, a part of S&P Global Market Intelligence

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5

6 Northern States Power Company's North Dakota electric operation is
7 currently operating under an authorized return on equity of 10.25%, effective
8 2015.¹⁶ Staff believes that a 10.25% ROE is a reasonable benchmark for
9 today's economic environment.

10

11 **Q: What is one ROE percentage point worth to Otter Tail?**

12 A: In 2014, an ROE percentage point was worth about \$2.6 million.¹⁷ Based on
13 estimates provided by Otter Tail for 2015, the value of an ROE percentage
14 point has increased to nearly \$3 million. So, if 2015 estimates are indicative
15 of future earnings and 10.25% is a reasonable ROE benchmark today, Otter
16 Tail is over-earnings about \$2.07 million a year. To be fair though, the early
17 winter months of 2016 were very mild and so the Company is starting off
18 behind in sales and potential earnings.

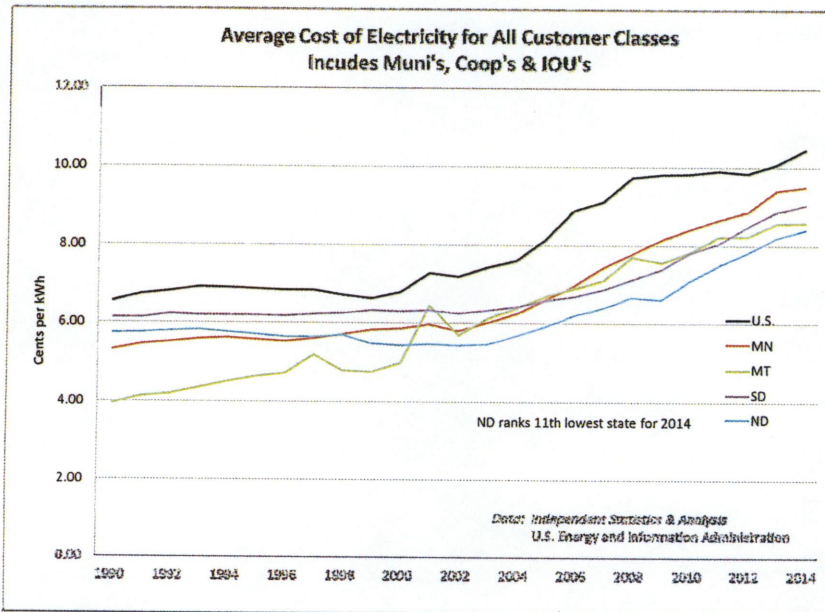
¹⁴ Case No. PU-08-862.

¹⁵ Regulatory Focus, Regulatory Research Associates, April 15, 2016.

¹⁶ Case No. PU-12-813.

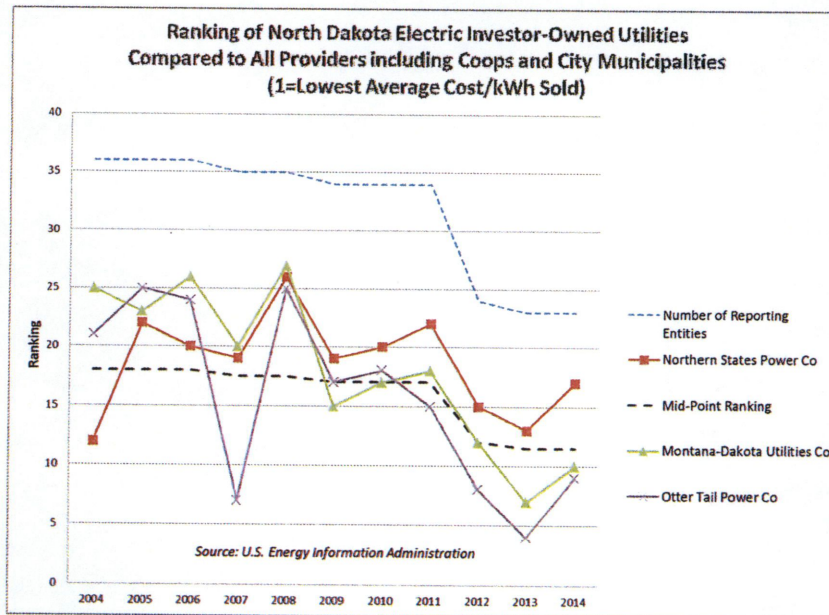
¹⁷ Calculated from Otter Tail's 2014 annual report.

- 1 **Q: What else should the commission consider when considering ROE?**
 2 A: When considering an appropriate ROE range, the commission should look at
 3 Otter Tail's rates. Otter Tail's rates compare favorably to those charged in
 4 neighboring states and the nation as a whole.



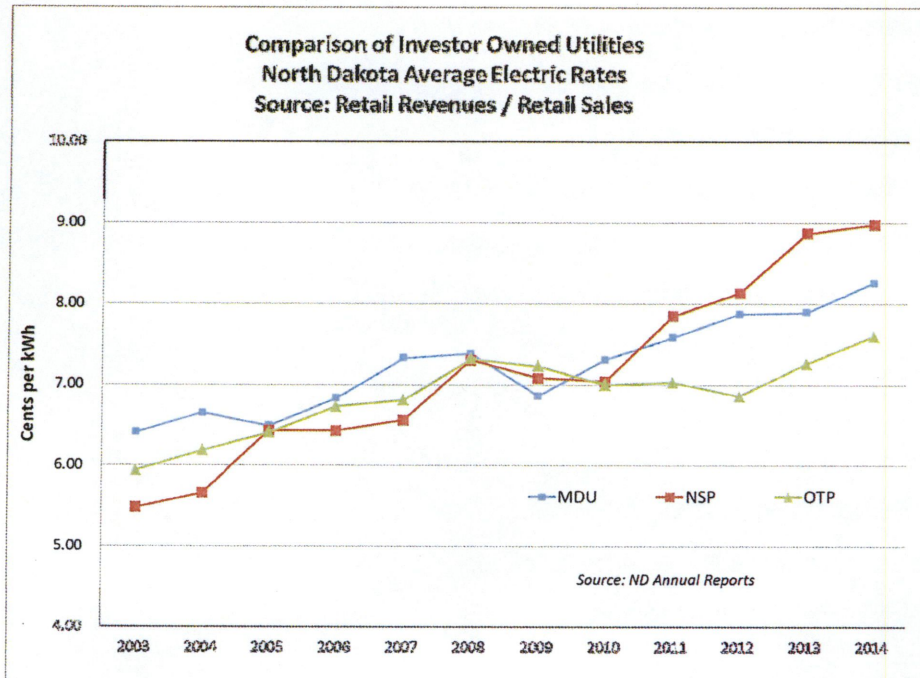
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Otter Tail ranks favorably with the other electric service providers within the state.



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1 While Otter Tail is the smallest of the three investor-owned electric utilities
2 operating in North Dakota and operates the most rural system of the three, its
3 rates are considerably lower.



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While differing investment cycles can distort rate comparisons, consistently providing low cost energy over time in comparison to peer companies, the general region, and the country as a whole is indicative of good management and should warrant a higher than average ROE.

Q: Aside from updating the North Dakota income tax rate next time, have any other refinements to the RRA been agreed to?

A: Yes. Otter Tail and the staff have agreed to update the ROE to 10.5% instead of the 10.75% currently in use. Otter Tail also agreed to update its E2 allocation factor used for allocating jurisdictional costs to North Dakota from 41.018% to 39.209%; further reducing future RRA revenue requirements and earnings levels. These two adjustments will reduce Otter Tail's earnings by about \$.442 million between May 1, 2016 and March 31, 2017.

1

2 **Q: Does this conclude your testimony?**

3 **A: Yes it does.**