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May 17, 2019

Steve Kahl
Executive Secretary/Director of Administration
North Dakota Public Service Commission
State Capitol - 600 East Boulevard
Bismarck, ND 58505-0480

RE: Otter Tail Power Company's Annual Report

Dear Mr. Kahl:

Enclosed is Otter Tail Power Company's (Otter Tail's) 2018 Annual Report for North Dakota. As in past years, I am also enclosing a copy of Otter Tail Corporation's 2018 Annual Report to Shareholders and SEC Form 10-K for Otter Tail Corporation and Otter Tail's 2018 FERC FORM No. 1. I am also forwarding an electronic copy of the North Dakota Annual Report in .PDF format by email to you at ndpsc@nd.gov.

Pages 1-3 reflect operating statement, rate base and capital structure values which include Otter Tail's current base rate recoveries as well as recoveries through Otter Tail's renewable, transmission, and environmental cost recovery riders on an actual, un-normalized basis. Page 4-6 reflects the same information except it is on a normalized basis to adjust for the impacts of anomalous items, including weather. Otter Tail's actual 2018 earnings reflected a return on equity (ROE) of 10.71 percent. As shown on page 5 of the attached report, Otter Tail's normalized 2018 results reflected a 10.22¹ percent ROE.

If you have questions on the information provided, don't hesitate to contact me at (218) 739-8279 or stommerdahl@otpc.com.

Sincerely,

/s/ STUART TOMMERDAHL
Stuart Tommerdahl
Manager, Regulatory Administration

mmo
Enclosures
By electronic service and First Class mail

¹ The 2018 return reflects production tax credits still in effect in 2018 which lowered tax expense approximately \$1.2 million.

ANNUAL REPORT
OF
OTTER TAIL POWER COMPANY
TO THE
PUBLIC SERVICE COMMISSION OF NORTH DAKOTA
FOR THE
YEAR ENDED DECEMBER 31, 2018

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Otter Tail Power Company
2018 North Dakota Annual Report

Operating Statement - With All Riders, Un-Normalized

	(A)	(B)	(C)	(D)	(E)	
Line No.	2018 Total Company	2018 North Dakota	N. D. % (B / A)	2017 North Dakota	Annual Change (B-D / D)	
	Operating Revenues:					
1	Residential	124,179,006	56,471,702	45.48%	52,843,667	6.87%
2	Small Commercial and Industrial	62,062,362	27,676,607	44.59%	27,387,525	1.06%
3	Large Commercial and Industrial	192,103,917	63,582,840	33.10%	62,046,155	2.48%
4	Other Retail	6,982,771	3,007,652	43.07%	2,928,551	2.70%
5	Total Retail Revenue	385,328,056	150,738,802	39.12%	145,205,898	3.81%
6	Other Electric Revenue	54,400,791	9,968,035	18.32%	10,173,735	-2.02%
7	Total Revenue	439,728,847	160,706,836	36.55%	155,379,633	3.43%
	Operating Expenses:					
8	Production Expenses	166,469,545	61,605,278	37.01%	57,048,873	7.99%
9	Transmission Expenses	30,508,613	12,258,546	40.18%	12,882,935	-4.85%
10	Distribution Expenses	18,267,829	8,353,547	45.73%	8,136,880	2.66%
11	Customer Accounting Expenses	13,135,058	5,716,245	43.52%	5,641,432	1.33%
12	Customer Service and Information Expenses	11,489,127	871,183	7.58%	1,016,506	-14.30%
13	Sales Expenses	307,640	47,220	15.35%	55,140	-14.36%
14	Administration and General Expenses	40,574,819	15,427,038	38.02%	16,878,020	-8.60%
15	Charitable Contributions	0	0	N/A	0	N/A
16	Depreciation Expense	54,048,537	20,549,343	38.02%	20,040,246	2.54%
17	General Taxes	15,577,084	4,863,193	31.22%	5,020,337	-3.13%
18	Total Operating Expenses	350,378,252	129,691,594	37.01%	126,720,369	2.34%
19	Net Operating Income Before Income Taxes	89,350,595	31,015,242	34.71%	28,659,264	8.22%
	Income Tax Expense:					
20	Investment Tax Credit	(4,515,659)	(1,692,174)	37.47%	(3,443,139)	-50.85%
21	Deferred Income Taxes	(4,328,715)	(390,123)	9.01%	6,629,933	-105.88%
22	Income Taxes	12,702,415	4,234,976	33.34%	0	100.00%
23	Total Income Tax Expense	3,858,041	2,152,679	55.80%	3,186,794	-32.45%
24	Net Regulated Earnings	85,492,554	28,862,563	33.76%	25,472,470	13.31%

Otter Tail Power Company
 2018 North Dakota Annual Report

Rate Base - With All Riders, Un-Normalized

Line No.	Description	(A)	(B)	(C)	(D)	(E)
		2018 Total Company	2018 North Dakota	N. D. % (B / A)	2017 North Dakota	Annual Change
1	Plant in Service	2,000,555,540	749,677,606	37.47%	735,002,015	2.00%
2	Net Capitalized Items - Big Stone Plant			0.00%		0.00%
3	Accumulated Depreciation	<u>(766,602,846)</u>	<u>(304,826,044)</u>	39.76%	<u>(292,313,667)</u>	4.28%
4	Net Plant in Service	1,233,952,694	444,851,563	36.05%	442,688,348	0.49%
5	Plant Held for Future Use	29,657	13,151	44.34%	13,175	-0.18%
6	Construction Work in Progress	151,373,342	3,806,470	2.51%	4,548,243	-16.31%
7	Materials and Supplies	20,359,858	8,419,740	41.35%	7,859,575	7.13%
8	Fuel Stocks	8,596,276	3,076,506	35.79%	3,390,720	-9.27%
9	Prepayments	<u>(28,407,439)</u>	<u>(10,241,149)</u>	36.05%	<u>(10,522,615)</u>	-2.67%
10	Customer Advances	<u>(1,021,117)</u>	<u>(368,122)</u>	36.05%	<u>(361,641)</u>	1.79%
11	Cash Working Capital	9,728,129	3,246,413	33.37%	4,818,181	-32.62%
12	Accumulated Deferred Income Taxes	<u>(269,215,827)</u>	<u>(98,148,403)</u>	36.46%	<u>(100,884,294)</u>	-2.71%
13	Total Average Rate Base	<u>1,125,395,573</u>	<u>354,656,168</u>	31.51%	<u>351,549,692</u>	0.88%
ACTUAL						
14	Rate of Return on Average Rate Base (page 1, Line 24 /line 13)	7.60%	8.14%			
15	Less: Weighted Cost of Ltd (Page 3, line 1 (D))	2.50%	2.50%			
16	Weighted Cost of Pref. Stock (Page 3 line 2 (D))	<u>0.00%</u>	<u>0.00%</u>			
17	Weighted Return on Equity	5.10%	5.64%			
18	% of Equity to Capital Structure (Page 3, line 3 (B))	<u>52.66%</u>	<u>52.66%</u>			
19	Return on Equity (Page 3, line 3 (C))	<u>9.68%</u>	<u>10.71%</u>			

Otter Tail Power Company
2018 North Dakota Annual Report

Average Weighted Cost of Capital - With All Riders, Un-Normalized

		(A)	(B)	(C)	(D)
Line No.	Description	Average Balance	Ratio	Cost	Weighted Cost
1	Long Term Debt	521,046,487	47.34%	5.27%	2.50%
2	Preferred Equity	0	0.00%	0.00%	0.00%
3	Common Equity	579,641,733	52.66%	10.71%	5.64%
4	Total	1,100,688,221	100.00%		8.14%

Otter Tail Power Company
2018 North Dakota Annual Report

Operating Statement - With All Riders, Normalized

	(A)	(B)	(C)	(D)	(E)	
Line No.	2018 Total Company Description	2018 North Dakota	N. D. % (B / A)	2017 North Dakota	Annual Change (B-D / D)	
	Operating Revenues:					
1	Residential	120,862,515	55,270,529	45.73%	53,526,382	3.26%
2	Small Commercial and Industrial	60,760,505	27,208,600	44.78%	27,644,407	-1.58%
3	Large Commercial and Industrial	190,808,199	63,188,783	33.12%	62,359,381	1.33%
4	Other Retail	6,949,005	2,998,275	43.15%	2,934,385	2.18%
5	Total Retail Revenue	379,380,223	148,666,187	39.19%	146,464,555	1.50%
6	Other Electric Revenue	54,400,791	9,968,035	18.32%	10,173,735	-2.02%
7	Total Revenue	433,781,014	158,634,221	36.57%	156,638,290	1.27%
	Operating Expenses:					
8	Production Expenses	164,134,095	60,736,570	37.00%	57,233,292	6.12%
9	Transmission Expenses	30,508,613	12,258,546	40.18%	12,882,935	-4.85%
10	Distribution Expenses	18,267,829	8,353,547	45.73%	8,136,880	2.66%
11	Customer Accounting Expenses	13,135,058	5,716,245	43.52%	5,641,432	1.33%
12	Customer Service and Information Expenses	11,489,127	871,183	7.58%	1,016,506	-14.30%
13	Sales Expenses	307,640	47,220	15.35%	55,140	-14.36%
14	Administration and General Expenses	40,574,819	15,427,038	38.02%	16,878,020	-8.60%
15	Charitable Contributions	0	0	N/A	0	N/A
16	Depreciation Expense	54,048,537	20,549,343	38.02%	20,040,246	2.54%
17	General Taxes	15,577,084	4,863,193	31.22%	5,020,337	-3.13%
18	Total Operating Expenses	348,042,802	128,822,886	37.01%	126,904,788	1.51%
19	Net Operating Income Before Income Taxes	85,738,212	29,811,336	34.77%	29,733,502	0.26%
	Income Tax Expense:					
20	Investment Tax Credit	(4,515,659)	(1,692,174)	37.47%	(3,443,139)	-50.85%
21	Deferred Income Taxes	(4,380,532)	(441,940)	10.09%	7,035,886	-106.28%
22	Income Taxes	11,930,613	3,993,385	33.47%	0	100.00%
23	Total Income Tax Expense	3,034,421	1,859,271	61.27%	3,592,747	-48.25%
24	Net Regulated Earnings	82,703,791	27,952,065	33.80%	26,140,755	6.93%

Otter Tail Power Company
 2018 North Dakota Annual Report

Rate Base - With All Riders, Normalized

Line No.	Description	(A)	(B)	(C)	(D)	(E)
		2018 Total Company	2018 North Dakota	N. D. % (B / A)	2017 North Dakota	Annual Change
1	Plant in Service	2,000,555,540	749,677,606	37.47%	735,002,015	2.00%
2	Net Capitalized Items - Big Stone Plant			0.00%	0	0.00%
3	Accumulated Depreciation	<u>(766,602,846)</u>	<u>(304,826,044)</u>	39.76%	<u>(292,313,667)</u>	4.28%
4	Net Plant in Service	1,233,952,694	444,851,563	36.05%	442,688,348	0.49%
5	Plant Held for Future Use	29,657	13,151	44.34%	13,175	-0.18%
6	Construction Work in Progress	151,373,342	3,806,470	2.51%	4,548,243	-16.31%
7	Materials and Supplies	20,359,858	8,419,740	41.35%	7,859,575	7.13%
8	Fuel Stocks	8,596,276	3,076,506	35.79%	3,390,720	-9.27%
9	Prepayments	<u>(28,407,439)</u>	<u>(10,241,149)</u>	36.05%	<u>(10,522,615)</u>	-2.67%
10	Customer Advances	<u>(1,021,117)</u>	<u>(368,122)</u>	36.05%	<u>(361,641)</u>	1.79%
11	Cash Working Capital	9,507,837	3,180,209	33.45%	4,831,575	-34.18%
12	Accumulated Deferred Income Taxes	<u>(269,215,827)</u>	<u>(98,148,403)</u>	36.46%	<u>(100,884,294)</u>	-2.71%
13	Total Average Rate Base	<u>1,125,175,281</u>	<u>354,589,964</u>	31.51%	<u>351,563,087</u>	0.86%
ACTUAL						
14	Rate of Return on Average Rate Base (page 4, Line 24 /line 13)	7.35%	7.88%			
15	Less: Weighted Cost of Ltd (Page 6, line 1 (D))	2.50%	2.50%			
16	Weighted Cost of Pref. Stock (Page 6 line 2 (D))	<u>0.00%</u>	<u>0.00%</u>			
17	Weighted Return on Equity	4.85%	5.39%			
18	% of Equity to Capital Structure (Page 6, line 3 (B))	<u>52.66%</u>	<u>52.66%</u>			
19	Return on Equity (Page 6, line 3 (C))	<u>9.21%</u>	<u>10.23%</u>			

Otter Tail Power Company
2018 North Dakota Annual Report

Average Weighted Cost of Capital - With All Riders, Normalized

		(A)	(B)	(C)	(D)
Line No.	Description	Average Balance	Ratio	Cost	Weighted Cost
1	Long Term Debt	521,046,487	47.34%	5.27%	2.50%
2	Preferred Equity	0	0.00%	0.00%	0.00%
3	Common Equity	579,641,733	52.66%	10.22%	5.38%
4	Total	1,100,688,221	100.00%		7.88%

Otter Tail Power Company
2018 North Dakota Annual Report

Miscellaneous

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	
Line No.	Description	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
	Customer Related (ND):										
	Year End # of Customers										
1	Residential	45,862	45,882	45,743	45,689	45,379	45,191	44,951	44,554	44,424	44,340
2	Commercial	11,465	11,439	11,385	11,333	11,286	11,270	11,188	11,152	11,170	11,194
3	Industrial	980	979	978	984	947	950	952	918	896	878
4	Other	497	499	503	509	504	504	504	506	509	532
5	Total Customers	58,804	58,799	58,609	58,515	58,116	57,915	57,595	57,130	56,999	56,944
	KWH's Sold										
6	Residential	630,555,383	591,880,809	580,345,390	609,253,548	669,563,374	652,328,505	583,154,678	620,333,270	588,526,166	600,554,154
7	Commercial	309,037,831	300,470,972	291,700,647	296,940,142	339,108,033	319,824,033	281,752,844	300,862,002	301,965,143	318,238,797
8	Industrial	861,510,082	854,040,398	856,544,193	852,769,327	899,948,129	867,335,225	841,489,786	849,256,868	823,343,090	751,574,603
9	Other	29,467,197	29,625,196	29,262,956	29,829,127	30,127,525	29,593,473	29,084,463	32,138,905	31,276,297	31,552,451
10	Subtotal	1,830,570,493	1,776,017,375	1,757,853,186	1,788,792,144	1,938,747,061	1,869,081,236	1,735,481,771	1,802,591,045	1,745,110,696	1,701,920,005
11	Unbilled sales	3,250,372	11,845,290	5,681,679	(9,116,877)	(5,251,688)	17,390,019	11,804,152	(6,735,687)	1,283,596	4,072,195
12	Total kWh	1,833,820,865	1,787,862,665	1,763,534,865	1,779,675,267	1,933,495,373	1,886,471,255	1,747,285,923	1,795,855,358	1,746,394,292	1,705,992,200
13	System Wide Reliability Indices (1)										
14	SAIDI (total minutes)	85.3	86.5	110.5	100.6	74.2	99.7	84.1	105.6	92.9	62.1
15	SAIFI (frequency)	1.3	1.4	1.7	1.7	1.2	1.3	1.5	1.6	1.6	1.1
16	CAIDI (duration)	64.9	61.5	65.7	58.4	59.9	78.6	57.7	67.9	57.0	56.9

(1) Otter Tail has begun the process of implementing a new interruption monitoring system through the use of bellwether cellular meters. Installation was completed in North Dakota in 2017 and progress will continue in 2018 in Minnesota and South Dakota. This will help to identify interruptions more easily and more quickly. Please see the Status on Smart Metering for more information.

**BEFORE THE
NORTH DAKOTA PUBLIC SERVICE COMMISSION**

Case No. PU-19-

**Otter Tail Power Company's
Report on Status of Smart Metering
and Smart Grid Technologies**

May 17, 2019

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Otter Tail Power Company 2018 Annual Report to North Dakota

Report on Status of Smart Metering

In its Order dated August 8, 2007, Case No. PU-06-290, the North Dakota Public Service Commission, at ordering paragraph no. 2, required that:

"Each jurisdictional electric utility shall include in its annual reports to the Commission, beginning with reports filed for 2007, a discussion of progress towards the feasibility of making smart metering available for all customers."

References to smart grid and smart metering have been used interchangeably as the utility industry moves to adopt changes that make sense for each utilities' service areas. We've used technology to improve employee productivity and customer service for many years. Smart grid investments occur in many aspects of our work and our mission, which is:

To produce and deliver electricity as reliably, economically, and environmentally responsibly as possible to the balanced benefit of customers, shareholders, and employees and to improve the quality of life in the area in which we do business.

The following lists some of the smart grid-type applications that we discussed in past filings and are still in place today. However, this filing does not go into detail for each of these areas:

- Peak-shaving technologies
- Energy storage systems
- Time-varying rates
- Electricity metering
- Power Profiler
- Bill Analyzer

This update focuses on updates to our:

- Interruption Monitoring System
- Customer Information System

In addition, we provide high-level information related to technologies that encompass smart metering in our Innovation 2030 initiative.

Interruption Monitoring System

In order to monitor and improve the reliability of our company's electrical system, we installed and commissioned an Interruption Monitoring System (IMS) in mid-2004. We installed voltage and interruption monitoring devices manufactured by Sensus on each of the approximately 730 distribution feeders in our system. These intelligent field devices report interruptions, over and under voltage alarms, and power reliability status using commercial cellular networks (GSM and 1XRTT).

Our current IMS communication platform utilizes 2G commercial cellular network. The two cellular networks described above (GSM and 1XRTT) each have separate life expectancies due to planned shutdown of 2G service. The devices using GSM no longer were going to be useable by the end of 2016 and the devices using 1XRTT by the end of 2017 or 2018. The supplier (Sensus) has no plans for upgrading the current monitors to 3G or 4G networks and discontinued manufacturing the devices in 2015.

With the known shutdown dates, we initiated replacement plans for this system through cellular Advanced Metering Infrastructure (AMI) meters. In late 2015 we solicited feedback from approximately one dozen potential IMS vendors. After a comparison of alternatives, we selected a least-cost AMI meter solution that includes hosted head-end systems for reading meter data, which we'll use for billing and reliability analytics. We started deploying the AMI meters in North Dakota in late 2016 and finished in 2017. We deployed a total of 450 meters in North Dakota. Progress in 2018 included deploying to our Minnesota and South Dakota jurisdictions.

This deployment gives our company better reliability coverage than the old Sensus IMS as it covers all three phases of each feeder (through either three single-phase meters or one three-phase meter), whereas the Sensus solution was deployed only on one phase of each feeder. This replacement project also includes software design to create/modify a system that allows us to continue to run similar reliability metrics as we'd done historically.

In conclusion, the IMS replacement project provides us valuable experience with AMI without a full deployment.

Customer Information System (CIS)

We developed and maintained a mainframe Customer Information System (CIS) over the past 30 years. The system served the company well but its capabilities and features require updates to meet expected future customer and company needs. In early 2016 we selected Cayenta as our vendor to replace the CIS and Meter Information System (MIS) with Cayenta Utilities. The new CIS, internally branded CISone, was placed in service in the first quarter of 2019. CISone will greatly expand functionality to both customers and our company and includes upgrades to rates/billing management, customer interfaces and connections, service order management, and business intelligence.

A significant benefit of CISone is its ability to connect and integrate with our other systems, including systems deployed with an AMI or smart meter. For example, the legacy CIS did not have the capabilities or features needed to take some forms of billing determinates from AMI.

Therefore, in order to achieve the benefits of AMI, we first needed a CIS and billing system that is able to handle new AMI data and billing determinants. CISone will offer many benefits both to customers and the company, one of which is providing the necessary foundation for a successful smart meter deployment.

Innovation 2030 Initiative

As part of our Smart Grid initiatives, our Innovation 2030 Portfolio is inclusive of programs and projects that work towards the goal of increased customer engagement, increased safety and reliability, and increased business efficiency through technology and process opportunities. Innovation 2030, a Company initiative that began in 2016, is in the planning stages and includes technologies such as AMI, Outage Management System (OMS), Staking and Enterprise Service Bus. We have continued over the last year on evaluation and business case justifications for all of the projects within the portfolio and currently are under way with our Staking project for implementation in 2019. This will assist in the innovation and business efficiency of our work order and staking process through the use of technology and integration. Our goal is to also have signoff and implementation of our Enterprise Service Bus as a foundation to our Innovation 2030 portfolio by the end of 2019 as well.

As well as our Staking and Enterprise Service Bus projects that are moving forward in 2019, we are continuing to assess and complete discovery on business case justifications surrounding AMI and OMS as two of our larger initiatives within our Innovation 2030 portfolio.

Ultimately, other projects included in this initiative will move from conceptual design to execution after assessing and evaluating the full value updates to these functions and technologies are able to offer our customers.