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June 3, 2021

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 2020 Annual Report**

Dear Mr. Kahl:

Enclosed is Otter Tail Power Company's (Otter Tail's) 2020 Annual Report for North Dakota. As in past years, I am also enclosing a copy of Otter Tail Corporation's 2020 Annual Report to Shareholders and SEC Form 10-K for Otter Tail Corporation and Otter Tail's 2020 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](mailto: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 2020 earnings reflected a return on equity (ROE) of 7.90 percent. As shown on page 5 of the attached report, Otter Tail's normalized 2020 results reflected a 8.19 percent ROE.

If you have questions on the information provided, do not hesitate to contact me at (218) 739-8279 or [stommerdahl@otpc.com](mailto:stommerdahl@otpc.com).

Sincerely,

*/s/ STUART TOMMERDAHL*  
Stuart Tommerdahl  
Manager, Regulatory Administration

cjh  
Enclosures  
By electronic service and First Class mail

ANNUAL REPORT  
OF  
**OTTER TAIL POWER COMPANY**  
TO THE  
PUBLIC SERVICE COMMISSION OF NORTH DAKOTA  
FOR THE  
YEAR ENDED DECEMBER 31, 2020

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Otter Tail Power Company  
2020 North Dakota Annual Report

Operating Statement - With All Riders, Un-Normalized

	(A)	(B)	(C)	(D)	(E)	
Line No.	2020 Total Company	2020 North Dakota	N. D. % (B / A)	2019 North Dakota	Annual Change (B-D / D)	
	<b>Operating Revenues:</b>					
1	Residential	125,851,027	54,675,044	43.44%	58,841,982	-7.08%
2	Small Commercial and Industrial	91,497,362	43,377,651	47.41%	45,012,738	-3.63%
3	Large Commercial and Industrial	152,212,957	37,233,614	24.46%	44,770,721	-16.83%
4	Other Retail	7,201,760	2,934,658	40.75%	2,805,133	4.62%
5	Total Retail Revenue	376,763,106	138,220,966	36.69%	151,430,574	-8.72%
6	Other Electric Revenue	51,192,830	10,049,786	19.63%	7,377,244	36.23%
7	Total Revenue	427,955,936	148,270,752	34.65%	158,807,818	-6.64%
	<b>Operating Expenses:</b>					
8	Production Expenses	133,468,808	48,691,431	36.48%	59,732,506	-18.48%
9	Transmission Expenses	29,362,372	11,159,166	38.00%	12,199,427	-8.53%
10	Distribution Expenses	17,070,454	7,708,824	45.16%	8,367,280	-7.87%
11	Customer Accounting Expenses	15,030,388	6,657,277	44.29%	5,815,018	14.48%
12	Customer Service and Information Expenses	12,509,933	935,570	7.48%	868,269	7.75%
13	Sales Expenses	162,694	10,428	6.41%	18,288	-42.98%
14	Administration and General Expenses	40,964,684	15,419,874	37.64%	14,894,397	3.53%
15	Charitable Contributions	0	0	N/A	0	N/A
16	Depreciation Expense	64,037,074	23,273,526	36.34%	21,515,835	8.17%
17	General Taxes	17,026,036	5,861,303	34.43%	4,769,487	22.89%
18	Total Operating Expenses	329,632,443	119,717,399	36.32%	128,180,507	-6.60%
19	Net Operating Income Before Income Taxes	98,323,493	28,553,353	29.04%	30,627,311	-6.77%
	<b>Income Tax Expense:</b>					
20	Investment Tax Credit	(2,564,860)	(902,050)	35.17%	(487,525)	85.03%
21	Deferred Income Taxes	(629,375)	(897,141)	142.54%	697,291	-228.66%
22	Income Taxes	11,226,216	2,985,610	26.59%	4,627,523	-35.48%
23	Total Income Tax Expense	8,031,981	1,186,419	14.77%	4,837,289	-75.47%
24	Net Regulated Earnings	90,291,512	27,366,934	30.31%	25,790,022	6.11%

Otter Tail Power Company  
2020 North Dakota Annual Report

Rate Base - With All Riders, Un-Normalized

Line No.	Description	(A)	(B)	(C)	(D)	(E)
		2020 Total Company	2020 North Dakota	N. D. % (B / A)	2019 North Dakota	Annual Change
1	Plant in Service	2,373,644,749	834,799,990	35.17%	765,746,233	9.02%
2	Net Capitalized Items - Big Stone Plant			0.00%		0.00%
3	Accumulated Depreciation	(853,390,558)	(328,763,121)	38.52%	(315,173,759)	4.31%
4	Net Plant in Service	1,520,254,191	506,036,869	33.29%	450,572,474	12.31%
5	Plant Held for Future Use	29,657	12,850	43.33%	13,017	-1.28%
6	Construction Work in Progress	191,777,483	7,483,072	3.90%	3,512,110	113.06%
7	Materials and Supplies	23,168,151	9,386,307	40.51%	9,075,646	3.42%
8	Fuel Stocks	8,487,756	2,972,301	35.02%	3,119,385	-4.72%
9	Prepayments	202,567	67,427	33.29%	(4,364,881)	-101.54%
10	Customer Advances	(2,335,639)	(777,448)	33.29%	(687,234)	13.13%
11	Cash Working Capital	11,236,025	7,583,388	67.49%	9,415,293	-19.46%
12	Accumulated Deferred Income Taxes	(292,877,268)	(110,133,800)	37.60%	(97,922,721)	12.47%
13	Total Average Rate Base	<u>1,459,942,923</u>	<u>422,630,966</u>	28.95%	<u>372,733,089</u>	13.39%
<b>ACTUAL</b>						
14	Rate of Return on Average Rate Base (page 1, Line 24 /line 13)	6.18%	6.48%			
15	Less: Weighted Cost of Ltd (Page 3, line 1 (D))	2.32%	2.32%			
16	Weighted Cost of Pref. Stock (Page 3 line 2 (D))	<u>0.00%</u>	<u>0.00%</u>			
17	Weighted Return on Equity	3.87%	4.16%			
18	% of Equity to Capital Structure (Page 3, line 3 (B))	<u>52.61%</u>	<u>52.61%</u>			
19	Return on Equity (Page 3, line 3 (C))	<u><u>7.36%</u></u>	<u><u>7.90%</u></u>			

Otter Tail Power Company  
2020 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	654,263,124	47.39%	4.89%	2.32%
2	Preferred Equity	0	0.00%	0.00%	0.00%
3	Common Equity	726,310,248	52.61%	7.91%	4.16%
4	Total	1,380,573,372	100.00%		6.48%

Otter Tail Power Company  
2020 North Dakota Annual Report

Operating Statement - With All Riders, Normalized

	(A)	(B)	(C)	(D)	(E)	
Line No.	2020 Total Company	2020 North Dakota	N. D. % (B / A)	2019 North Dakota	Annual Change (B-D / D)	
	<b>Operating Revenues:</b>					
1	Residential	126,268,126	55,059,321	43.61%	57,203,343	-3.75%
2	Small Commercial and Industrial	91,958,193	43,776,207	47.60%	44,017,312	-0.55%
3	Large Commercial and Industrial	152,226,104	37,283,890	24.49%	44,637,041	-16.47%
4	Other Retail	7,203,422	2,936,454	40.76%	2,794,837	5.07%
5	Total Retail Revenue	377,655,846	139,055,871	36.82%	148,652,533	-6.46%
6	Other Electric Revenue	51,192,830	10,049,786	19.63%	7,377,244	36.23%
7	Total Revenue	428,848,676	149,105,657	34.77%	156,029,777	-4.44%
	<b>Operating Expenses:</b>					
8	Production Expenses	133,468,808	48,691,431	36.48%	58,141,925	-16.25%
9	Transmission Expenses	29,362,372	11,159,166	38.00%	12,199,427	-8.53%
10	Distribution Expenses	17,070,454	7,708,824	45.16%	8,367,280	-7.87%
11	Customer Accounting Expenses	15,030,388	6,657,277	44.29%	5,815,018	14.48%
12	Customer Service and Information Expenses	12,509,933	935,570	7.48%	868,269	7.75%
13	Sales Expenses	162,694	10,428	6.41%	18,288	-42.98%
14	Administration and General Expenses	40,964,684	15,419,874	37.64%	14,894,397	3.53%
15	Charitable Contributions	0	0	N/A	0	N/A
16	Depreciation Expense	64,037,074	23,273,526	36.34%	21,515,835	8.17%
17	General Taxes	17,026,036	5,861,303	34.43%	4,769,487	22.89%
18	Total Operating Expenses	329,632,443	119,717,399	36.32%	126,589,926	-5.43%
19	Net Operating Income Before Income Taxes	99,216,233	29,388,258	29.62%	29,439,851	-0.18%
	<b>Income Tax Expense:</b>					
20	Investment Tax Credit	(2,564,860)	(902,050)	35.17%	(487,525)	85.03%
21	Deferred Income Taxes	(629,375)	(897,141)	142.54%	697,291	-228.66%
22	Income Taxes	11,447,168	3,189,336	27.86%	4,338,543	-26.49%
23	Total Income Tax Expense	8,252,933	1,390,145	16.84%	4,548,309	-69.44%
24	Net Regulated Earnings	90,963,300	27,998,113	30.78%	24,891,542	12.48%

Otter Tail Power Company  
2020 North Dakota Annual Report

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4	Net Plant in Service	1,520,254,191	506,036,869	33.29%	450,572,474	12.31%
5	Plant Held for Future Use	29,657	12,850	43.33%	13,017	-1.28%
6	Construction Work in Progress	191,777,483	7,483,072	3.90%	3,512,110	113.06%
7	Materials and Supplies	23,168,151	9,386,307	40.51%	9,075,646	3.42%
8	Fuel Stocks	8,487,756	2,972,301	35.02%	3,119,385	-4.72%
9	Prepayments	202,567	67,427	33.29%	(4,364,881)	-101.54%
10	Customer Advances	(2,335,639)	(777,448)	33.29%	(687,234)	13.13%
11	Cash Working Capital	11,243,360	7,588,951	67.50%	9,277,896	-18.20%
12	Accumulated Deferred Income Taxes	(292,877,268)	(110,133,800)	37.60%	(97,922,721)	12.47%
13	Total Average Rate Base	<u>1,459,950,258</u>	<u>422,636,529</u>	28.95%	<u>372,595,692</u>	13.43%
<b>ACTUAL</b>						
14	Rate of Return on Average Rate Base (page 4, Line 24 /line 13)	6.23%	6.62%			
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Otter Tail Power Company  
2020 North Dakota Annual Report

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		(A)	(B)	(C)	(D)
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1	Long Term Debt	654,263,124	47.39%	4.89%	2.32%
2	Preferred Equity	0	0.00%	0.00%	0.00%
3	Common Equity	726,310,248	52.61%	8.17%	4.30%
4	Total	1,380,573,372	100.00%		6.62%

Otter Tail Power Company  
2020 North Dakota Annual Report

## Miscellaneous

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	
Line No.	Description	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
	Customer Related (ND):										
	<b>Year End # of Customers (1)</b>										
1	Residential	45,614	45,620	45,862	45,882	45,743	45,689	45,379	45,191	44,951	44,554
2	Commercial	12,430	12,395	11,465	11,439	11,385	11,333	11,286	11,270	11,188	11,152
3	Industrial	278	277	980	979	978	984	947	950	952	918
4	Other	890	889	497	499	503	509	504	504	504	506
5	<b>Total Customers</b>	<b>59,212</b>	<b>59,181</b>	<b>58,804</b>	<b>58,799</b>	<b>58,609</b>	<b>58,515</b>	<b>58,116</b>	<b>57,915</b>	<b>57,595</b>	<b>57,130</b>
	<b>KWH's Sold</b>										
6	Residential	602,784,894	629,175,343	630,555,383	591,880,809	580,345,390	609,253,548	669,563,374	652,328,505	583,154,678	620,333,270
7	Commercial	511,173,319	517,757,884	309,037,831	300,470,972	291,700,647	296,940,142	339,108,033	319,824,033	281,752,844	300,862,002
8	Industrial	596,367,789	653,782,339	861,510,082	854,040,398	856,544,193	852,769,327	899,948,129	867,335,225	841,489,786	849,256,868
9	Other	29,522,372	29,278,133	29,467,197	29,625,196	29,262,956	29,829,127	30,127,525	29,593,473	29,084,463	32,138,905
10	Subtotal	1,739,848,374	1,829,993,699	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
11	Unbilled sales	(1,967,352)	(9,672,097)	3,250,372	11,845,290	5,681,679	(9,116,877)	(5,251,688)	17,390,019	11,804,152	(6,735,687)
12	<b>Total kWh</b>	<b>1,737,881,022</b>	<b>1,820,321,602</b>	<b>1,833,820,865</b>	<b>1,787,862,665</b>	<b>1,763,534,865</b>	<b>1,779,675,267</b>	<b>1,933,495,373</b>	<b>1,886,471,255</b>	<b>1,747,285,923</b>	<b>1,795,855,358</b>
	<b>System Wide Reliability Indices</b>										
13	SAIDI (total minutes)	91.3	128.2	85.3	86.5	110.5	100.6	74.2	99.7	84.1	105.6
14	SAIFI (frequency)	1.3	1.5	1.3	1.4	1.7	1.7	1.2	1.3	1.5	1.6
15	CAIDI (duration)	69.1	88.7	64.9	61.5	65.7	58.4	59.9	78.6	57.7	67.9

(1) Otter Tail implemented its new customer information system in February 2019. During this conversion, total customer counts by class were updated resulting in the change from 2018 to 2019.

**BEFORE THE  
NORTH DAKOTA PUBLIC SERVICE COMMISSION**

**Case No. PU-21-**

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

**June 1, 2021**

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## Otter Tail Power Company 2020 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
- Interruption Monitoring System

This update focuses on updates to our:

- Customer Information System
- Advanced Metering Infrastructure project
- Load Management System

In addition, we provide high-level information related to technologies that encompass smart metering in our Innovation 2030 (I2030) initiative.

## **Customer Information System (CIS)**

Otter Tail Power Company's CIS, Cayenta Utilities (CU), was implemented in Q1 2019 and we continue to update and upgrade the system on a routine base, as well as an effort to continually enhance the end users experience. As Otter Tail continues down the I2030 path, CU will be an integral interface with many of the systems implemented. The ability to easily move information between systems was one of the main reasons the legacy mainframe system previously used needed to be replaced. As part of the CIS project, we also implemented Cayenta Utilities mobile work management (MWM) tool for our short cycle service orders. Our field representatives receive all of their short cycle orders through an MWM app on their smart phone.

As mentioned, a significant benefit to the new system is its ability to connect and integrate with our other systems, including systems deployed with AMI and MDM. This allows Otter Tail to achieve the full benefits associated with the I2030 projects. In addition, projects outside the scope of I2030, namely those associated with Customer Experience, will further enhance our ability to get valuable information in the hands of our customers to assist them with energy decisions in their homes and businesses. The CIS project was a foundational effort necessary to get our organization to the next steps within our AMI/MDM project, among many others.

## **Advanced Metering Infrastructure (AMI)**

Otter Tail Power continues to move forward with our AMI project as part of our Smart Grid initiative. In August 2020 we presented information regarding our AMI project to the ND PSC during a Periodic Information Exchange (PIE). In February 2021, the Company filed an Advanced Determination of Prudence with the ND PSC for the AMI project. In this filing we indicated the AMI communication infrastructure will support many other systems and we specifically expect the AMI system to support our new load management system.

Otter Tail continues to move forward in the development of the AMI project. We have completed the evaluation of three out of our expected four RFPs. We are currently working through contract negotiations with the vendors and expect to complete these negotiations late in 2021. Information from our RFP process and ongoing cost estimate updates continue to support the cost information we provided in our ADP filing.

Otter Tail continues to be on track for initial deployment in 2022 and expect to complete installation by the end of 2024.

## **Load Management**

As part of our Smart Grid initiatives the Company recognizes the need to replace our load management system. The radio communication system that forms the backbone of the Company's program is approaching its obsolescence. Much of the hardware used to support the current "legacy" radio system and its associated load control switches is antiquated and/or obsolete. The communication system installed as part of the AMI implementation will provide

the foundation for upgrading to an updated system along with the potential for improvement and expansion of the Company's DR offerings in the future.

Much of the hardware and software used to support the existing DR system is also antiquated and/or obsolete as well. Most of the software that supports the DR system was procured in 2003 and is currently operating with limited support from the vendor, putting it at risk of losing functionality. As a result, the DR system is essentially limited to existing functionality, limiting Otter Tail's ability to grow and enhance its DR offerings.

To determine our future needs the Company has started initial planning and working toward the development of a new load management system. At this stage of the project, we are contacting some vendors and consultants to help form our future strategy to develop this project.

## **Innovation 2030 Initiative**

As part of our Smart Grid initiatives, our I2030 Portfolio includes projects that support our objectives of increased customer engagement, increased safety and reliability, and increased business efficiency through technology and process opportunities. I2030, a company initiative that began in 2016, continues in the planning, development, and execution stages of several technologies. The Company has currently completed the deployment of a new Staking system, Enterprise Service Bus and Financial Information System within the I2030 initiative. Other areas under consideration as part of I2030 include an Outage Management System (OMS), and Work Management System. Two other initiatives include replacement of aging Transmission and Distribution assets and a system wide telecommunications strategy. We continue to review our evaluation and business case justifications for all projects within the portfolio.