

# Memorandum

To: Commissioners Fedorchak, Christmann, and Haugen-Hoffart

From: Chris Hanson *CH*

Date: August 18, 2023

Re: Otter Tail Power Company (OTP), 2022 Electric, Annual Report  
Case No. PU-23-249

In Case No. PU-17-398, the Commission authorized a return on equity (ROE) of 9.77% for OTP's ND electric rate case. Staff reviewed OTP's electric annual report for 2022. OTP reports an ROE of 8.73% for 2022, which represents an earnings deficiency of approximately \$4.1 million.

OTP reports two major outage event days for 2022. The first was a dechero on 5/12/22 which caused more than 250 broken transmission and distribution poles affecting the entire system and causing a prolonged interruption for 24,000 customers primarily in Minnesota and South Dakota. The second was 6/20/22 where high winds caused interruptions to customers in Western Minnesota.

Normalized for major event outages, the system average interruption frequency index (SAIFI, or the average number of interruptions per customer) was 1.62 interruptions per customer, the system average interruption duration index (SAIDI, or the average outage duration per customer) was 118.6 minutes per customer, and the customer average interruption duration index (CAIDI, or the average restoration time) was 73.2 minutes.

OTP is implementing an Outage Management System (OMS), which will have the ability to calculate major event days and reliability indices according to the IEEE 1366 standard at a more granular customer level. There are several phases to this implementation. The initial phases beginning with the Outage Map were completed in December 2022 and continuing with the GIS update expected to be completed in August 2023 and culminating with the integration to the Automated Metering Infrastructure in 2024.

Given the level of 2022 under-earnings compared to 2022 over-earnings of \$1.1 million, Staff recommends the Commission close the case.

Attachment 1 – Return Calculation

Attachment 2 – Return on Equity Chart

Attachment 3 – Net Operating Income

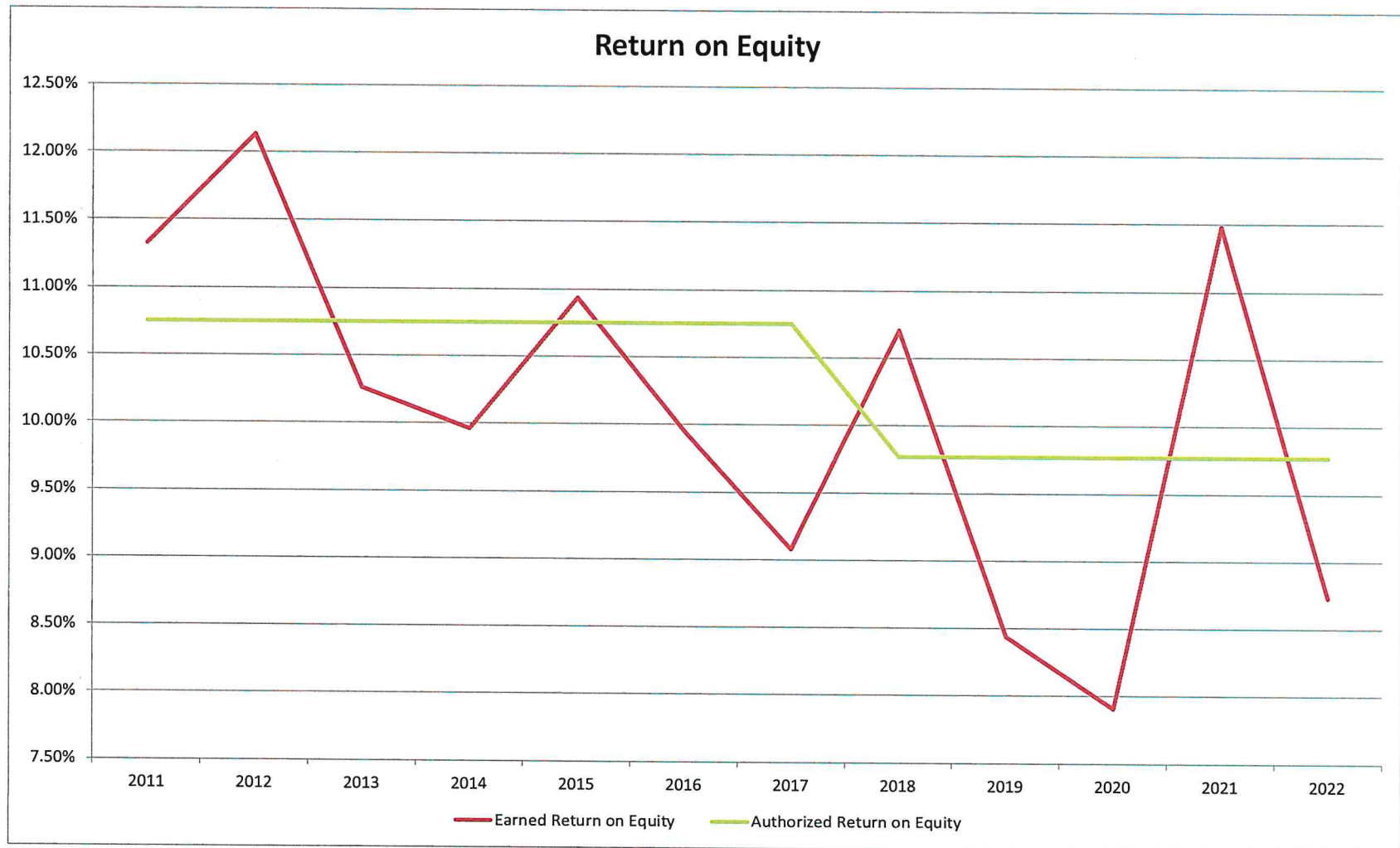
Attachment 4 – Reliability Indices

Otter Tail Power Company  
 North Dakota  
 Revenue Excess / Deficiency & Rate Base  
 (\$ in 000s)

Attachment 1

**Revenue Excess (Deficiency) Calculation:**

	2011						2018					
Cost of Capital	8.68%	\$266,903	\$295,435	\$334,736	\$356,396	\$350,542	\$351,550	\$354,656	\$372,733	\$422,631	\$474,498	\$557,324
Return Required		8.30%	8.15%	8.03%	8.27%	8.22%	8.13%	7.64%	7.63%	7.46%	7.28%	7.25%
Net Income	\$16,481	\$22,141	\$24,064	\$26,893	\$29,485	\$28,824	\$28,575	\$27,095	\$28,428	\$31,517	\$34,520	\$40,430
Return Excess (Deficiency)	17,052	24,007	23,317	25,603	29,821	27,340	25,472	28,863	25,790	27,367	35,325	37,323
Income Tax Factor	\$571	\$1,867	(\$747)	(\$1,290)	\$336	(\$1,484)	(\$3,102)	\$1,768	(\$2,638)	(\$4,150)	\$805	(\$3,107)
Revenue Excess (Deficiency)	1.6220	1.6220	1.6115	1.6115	1.6078	1.6078	1.6078	1.3228	1.3228	1.3228	1.3228	1.3228
	\$925	\$3,028	(\$1,204)	(\$2,078)	\$540	(\$2,386)	(\$4,988)	\$2,339	(\$3,490)	(\$5,490)	\$1,065	(\$4,110)



Otter Tail Power Company  
North Dakota Electric Operations  
Return Calculation  
(\$ in 000s)

Attachment 3

Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Operating Revenues	\$125,008	\$138,315	\$148,488	\$160,126	\$156,793	\$154,590	\$155,380	\$160,707	\$158,808	\$148,271	\$165,874	\$209,349
Production	53,506	54,798	59,589	66,743	58,885	54,725	57,049	61,605	59,733	48,691	53,029	82,769
Gross Margins	\$71,502	\$83,517	\$88,900	\$93,384	\$97,908	\$99,865	\$98,331	\$99,102	\$99,075	\$99,579	\$112,845	\$126,580
Change in Margins from Prior Yr	\$1,877	\$12,015	\$5,383	\$4,484	\$4,524	\$1,957	(\$1,534)	\$771	(\$26)	\$504	\$13,266	\$13,735
Transmission	5,496	7,117	8,884	10,807	11,668	12,458	12,883	12,259	12,199	11,159	12,119	14,388
Distribution	6,773	7,129	7,545	7,556	7,131	7,668	8,137	8,354	8,367	7,709	7,664	7,839
Customer Accounting	5,078	5,432	5,848	5,820	5,594	5,456	5,641	5,716	5,815	6,657	5,445	6,187
Cust. Service and Info. Exp.	1,102	1,193	1,156	1,107	1,064	1,178	1,017	871	868	936	1,101	1,168
Sales Expense	167	140	158	119	18	16	55	47	18	10	31	42
Admin. and General	13,090	13,142	16,195	17,012	16,331	15,985	16,878	15,427	14,894	15,420	15,416	20,082
Depreciation Expense	13,547	18,601	19,204	18,339	17,734	20,190	20,040	20,549	21,516	23,274	24,842	26,709
General Taxes	3,991	4,544	4,674	5,086	5,148	4,931	5,020	4,863	4,769	5,861	5,943	6,464
Sub-total (Lines 4-12)	\$49,244	\$57,299	\$63,665	\$65,845	\$64,688	\$67,883	\$69,671	\$68,086	\$68,448	\$71,026	\$72,561	\$82,879
NOI Before Int. & Income Taxes	\$22,258	\$26,217	\$25,235	\$27,539	\$33,220	\$31,981	\$28,659	\$31,015	\$30,627	\$28,553	\$40,284	\$43,702
Income Tax	5,206	2,210	1,918	1,936	3,399	4,641	3,187	2,153	4,837	1,186	4,959	6,379
<b>Net Income</b>	<b>\$17,052</b>	<b>\$24,007</b>	<b>\$23,317</b>	<b>\$25,603</b>	<b>\$29,821</b>	<b>\$27,340</b>	<b>\$25,472</b>	<b>\$28,863</b>	<b>\$25,790</b>	<b>\$27,367</b>	<b>\$35,325</b>	<b>\$37,323</b>

**Attachment 4**

<b>Reliability Index</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
System Average Interruption Frequency Index (SAIFI)	1.3143	1.445	1.321	1.181	1.620
System Average Interruption Duration Index (SAIDI)	85.30	128.20	91.30	79.00	118.60
Customer Average Interruption Duration Index (CAIDI)	64.90	88.70	69.10	66.89	73.20