Before the South Dakota Public Utilities Commission
State of South Dakota

In the Matter of the Application of Otter Tail Power Company
For Authority to Increase Rates for Electric Utility
Service in South Dakota

Docket No. EL25-

Exhibit___

ALLOCATORS

Direct Testimony and Schedules of

ANNALISE M. SMITH

June 4, 2025

TABLE OF CONTENTS

ATTACHED SCHEDULES

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND CURRENT EMPLOYER.

A. My Name is Annalise M. Smith. I am employed by Otter Tail Power Company (OTP).

Q. PLEASE SUMMARIZE YOUR CURRENT RESPONSIBILITIES.

A. I am the Supervisor of Load Research and Customer Data Analysis. My responsibilities in this position are to lead the load research and customer data analysis team responsible for the calculation of jurisdictional and class cost allocation factors, statistical analysis of load research data, and calculation of billing determinants.

Q. HAVE YOU INCLUDED AN ATTACHMENT OF YOUR QUALIFICATIONS AND EXPERIENCE?

A. Yes. A summary of my qualifications and experience is included as Exhibit ____ (AMS-1), Schedule 1.

II. PURPOSE AND OVERVIEW OF DIRECT TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. My Direct Testimony describes the development of jurisdictional allocation factors used in the Jurisdictional Cost of Service Study (JCOSS) sponsored by OTP witness Ms. Christy L. Petersen and the class allocation factors used in the Class Cost of Service Study (CCOSS) sponsored by OTP witness Ms. Amber M. Grenier.

Q. PLEASE PROVIDE A BRIEF OVERVIEW OF YOUR DIRECT TESTIMONY.

A. OTP calculates its jurisdictional and class allocation factors to accurately capture jurisdictional and class relative shares of system usage, and therefore these factors provide a reasonable basis for allocating costs between jurisdictions and classes.

Q. HOW IS YOUR DIRECT TESTIMONY ORGANIZED?

A. In Section III, I discuss jurisdictional and class allocation factors.

III. JURISDICTIONAL AND CLASS ALLOCATORS

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR DIRECT TESTIMONY?

A. In this section of my Direct Testimony, I introduce and discuss the allocation factors OTP uses in its jurisdictional and class cost of service studies.

Q. WHAT IS THE ROLE OF JURISDICTIONAL AND CLASS ALLOCATORS IN THE RATEMAKING PROCESS?

A. Jurisdictional allocators are used to allocate system costs among jurisdictions and class allocators are used to allocate jurisdictional costs among customer classes.

Q. WHY ARE JURISDICTIONAL AND CLASS ALLOCATORS NECESSARY?

A. OTP operates an integrated electrical system that serves customers across multiple jurisdictions. This integrated system design takes advantage of economies of scale to provide least-cost energy solutions for all our customers. Because OTP operates as one system, costs of investment in the system and the expenses necessary to operate the system need to be allocated among the jurisdictions. Costs allocated to each jurisdiction need to be further allocated to customer classes in order to design rates.

Q. HOW DO THESE ALLOCATIONS OCCUR?

A. OTP uses the JCOSS to allocate system costs and revenues to the jurisdictions in which it provides service, as described in more detail by Ms. Petersen. OTP then uses the CCOSS to allocate jurisdictional costs and revenues to the customer classes within each jurisdiction, as described in more detail by Ms. Grenier.

Q. WHAT ALLOCATORS DID OTP USE IN ITS TEST YEAR JCOSS AND CCOSS?

A. Table 1 below identifies the main allocators used in the 2024 Test Year JCOSS and CCOSS. The OTP Cost Allocation Procedures Manual (CAPM), included as Exhibit___(AMS-1), Schedule 2, provides additional detail regarding the development of each allocator.

Table 1
JCOSS and CCOSS Allocators

Cost Function	Classification	JCOSS Allocator	CCOSS Allocator
Production Plant	Base Demand	E1	E1-E8760
	Peak Demand	D1	D1
	Base Energy (Wind)	E2	E2-E8760
Transmission Plant	Demand-Related	D2	D2
Distribution Plant	Demand-Related (Primary)	D3	D3
	Demand-Related (Secondary)	D4	D4
	Customer-Related (Primary)	C2	C2
	Customer-Related (Secondary)	C3	C3
	Street Lighting	C4	C4
	Area Lighting	C5	C5
	Meters	C6	C6
	Load Management	C9	C9

Q. HAS OTP CHANGED THE CAPM SINCE ITS LAST SOUTH DAKOTA RATE CASE?

A. Yes. OTP has added a new allocator and refined the calculation of some allocators. We also have included minor clarifications and formatting updates since OTP's last South Dakota rate case in 2018. Schedule 2, identifies, in redline, the CAPM content changes from the CAPM presented in OTP's last South Dakota rate case.

Q. DID OTP USE THESE SAME ALLOCATORS IN ITS LAST SOUTH DAKOTA RATE CASE?

A. Yes, for the most part. We used the same energy, demand, and customer allocation factors outlined in the CAPM for cost allocations as we did in our last South Dakota rate case, except for the addition of a demand allocator (D5) for both the JCOSS and CCOSS. We are also proposing certain refinements to how we calculate the D1, D2, D3, D4, E1-E8760, and E2-E8760 allocators.

Q. PLEASE DESCRIBE HOW THE D5 ALLOCATION FACTOR WAS CALCULATED.

A. The calculation for the D5 allocator is based on contribution to OTP's average monthly three-hour transmission peak demand. Peak demand for each month is selected from a twelve-month coincident peak (12CP). The three hours include the peak hour, the hour prior to the peak hour, and the hour after the peak hour. This

allocator is proposed to be used to allocate certain transmission-related costs as described in more detail in Ms. Grenier's testimony.

Q. PLEASE DISCUSS THE CHANGES TO THE PROCESS OF CALCULATING THE D1 AND D2 ALLOCATION FACTORS.

A. The calculation for D1 and D2 uses an annual six-hour average on OTP's peak day. Previously, those six-hours were fixed and included hours ending 9:00, 10:00, and 11:00 a.m., and 6:00, 7:00, and 8:00 p.m. OTP has changed the calculation to make those six hours flexible, allowing OTP to use the hours surrounding the peak hours in the calculation. The hours included in the calculation are the morning peak hour, the hour prior to the morning peak hour, the hour after the morning peak hour, the afternoon peak hour, the hour prior to the afternoon peak hour, and the hour after the afternoon peak hour. Additionally, OTP has set the D1 and D2 allocation factors for the Controlled Service classes to zero kilowatts (kW). Setting these classes to zero kW reflects OTP's ability to completely turn off these loads during high priced periods, as well as during OTP's peak. These classes are considered a low-cost resource and prevent OTP from needing to obtain additional capacity.

Q. PLEASE DISCUSS THE CHANGES TO THE PROCESS OF CALCULATING THE D3 AND D4 ALLOCATION FACTORS.

A. OTP has set the water heating load for D3 and D4 allocation factors to zero kW. This prevents double counting because the majority of our residential customers have their water heater on their residential rate. For instance, an end use survey conducted every 3-5 years, consistently shows that the majority of OTP customers have electric water heating.

Q. PLEASE DISCUSS THE CHANGE TO THE CALCULATION OF THE E1-E8760 ALLOCATION FACTOR.

A. Historically, the E1-E8760 allocator was calculated based on applying a 10/24ths factor to annual kilowatt hours (kWhs) for water heating and deferred loads. We have refined the calculation to better weigh the avoided capacity costs realized by those controllable levels of service. The refinement excludes kWhs related to up to 14 hours of control for water heating and deferred loads based on the highest

priced 14 of 24 hours using forecasted marginal hourly capacity costs. The CAPM further describes the process for the development of this factor.

Q. IS OTP MAKING ANY OTHER REFINEMENTS TO THE E1-E8760 ALLOCATORS?

A. Yes. Historically, the E8760 factors were calculated using hourly marginal energy costs. We have refined the calculation to use OTP's hourly day ahead pricing. Marginal costs are forecasted costs whereas the day ahead pricing is historical costs. Using the day ahead pricing allows OTP to align the historical embedded costs with the historical market costs that the Company incurred.

Q. DOES THIS REFINEMENT APPLY TO BOTH THE E1-E8760 ALLOCATOR AND THE E2-E8760 ALLOCATOR?

A. Yes. The refinement applies to the E8760 component of both the E1-E8760 allocator and the E2-E8760 allocator.

Q. ARE THE ALLOCATORS USED IN THE CURRENT CASE BASED ON HISTORICAL INFORMATION?

A. Yes. OTP is using a historic 2024 Test Year in this case, and developed the allocation factors based on 2024 actual information, adjusted for the known and measurable changes. This is consistent with the historical Test Year used in OTP's last South Dakota rate case. The process of developing the allocators is described in the CAPM.

Q. WHAT KNOWN AND MEASURABLE CHANGES ARE INCLUDED IN THE CALCULATION OF THE JCOSS AND CCOSS ALLOCATORS?

A. We calculate the JCOSS and CCOSS allocators to incorporate each of the known and measurable sales adjustments discussed by Ms. Grenier in her Direct Testimony.

Q. ARE THERE OTHER ADJUSTMENTS TO THE BILLING DETERMINANTS USED TO CALCULATE JCOSS AND CCOSS ALLOCATION FACTORS?

A. Yes. By the end of 2025, OTP is expecting to have all AMI meters installed. With this assumption, the C6 allocation factor is calculated using AMI meter costs. Since

all meters will be AMI, there will no longer be a meter reading cost, therefore the C7 allocation factor has been set to 0.

A. Jurisdictional Allocation Factors

Q. DOES OTP USE THE SAME JURISDICTIONAL ALLOCATION METHODOLOGIES ACROSS ALL OF ITS JURISDICTIONS?

A. Yes. Each of our jurisdictions has approved generally the same jurisdictional cost allocation methodology. However, we are proposing new allocators and refinements in calculations that have not been proposed in other jurisdictions yet. These refinements will be incorporated into other jurisdictions in subsequent rate cases.

Q. IS IT IMPORTANT TO MAINTAIN CONSISTENCY IN JURISDICTIONAL ALLOCATION METHODOLOGIES ACROSS JURISDICTIONS?

A. Yes. Maintaining consistency in cost allocation across jurisdictions helps minimize the potential for any over- or under-recovery of costs from an overall system perspective.

Q. HOW DO THE JCOSS ALLOCATION FACTORS COMPARE TO OTP'S LAST SOUTH DAKOTA RATE CASE?

A. Table 2 below compares the 2024 Test Year JCOSS allocation factors to those used in the 2017 Test Year from OTP's last South Dakota rate case.

Table 2
Comparison of JCOSS Allocation Factors

Cost Function	Classification	JCOSS Allocator	2017 Test Year	2024 Test Year	Change
Production Plant	Base Demand	E1	9.36427%	9.79517%	0.43090%
	Peak Demand	D1	9.24181%	10.76217%	1.52036%
	Base Energy (Wind)	E2	9.04493%	9.57047%	0.52554%
Transmission Plant	Demand-Related	D2	9.18743%	10.69440%	1.50697%
Distribution Plant	Demand-Related (Primary)	D3	9.82667%	12.60509%	2.77842%
	Demand-Related (Secondary)	D4	10.16694%	10.86462%	0.69768%
	Customer-Related (Primary)	C2	8.71355%	8.93027%	0.21672%
	Customer-Related (Secondary)	C3	8.71153%	8.92835%	0.21682%
	Street Lighting	C4	11.02573%	7.29629%	-3.72944%
	Area Lighting	C5	6.57469%	7.87004%	1.29535%
	Meters	C6	9.16243%	9.31656%	0.15413%
	Load Management	C9	9.65983%	9.63518%	-0.02465%

Q. WHAT IS CONTRIBUTING TO THE GENERAL INCREASE IN THE D1, D2, AND D3 JCOSS ALLOCATION FACTORS?

A. The increase in the JCOSS D1, D2, and D3 allocation factors is the result of relative growth in OTP's South Dakota demand (as compared to other jurisdictions served by OTP), primarily stemming from the Large General Service (LGS) class.

Q. WHAT IS CONTRIBUTING TO THE GENERAL INCREASE IN THE C5 JCOSS ALLOCATION FACTORS?

A. The increase in the JCOSS C5 allocation factors is due to the conversion of light emitting diode (LED) lighting. This factor is based on the installed cost of the street lighting. South Dakota's LED lighting for street lighting has grown since OTP's last South Dakota rate case (as compared to other jurisdictions served by OTP).

Q. WHAT IS CONTRIBUTING TO THE GENERAL DECREASE IN THE C4 JCOSS ALLOCATION FACTORS?

A. The decrease in the JCOSS C4 allocation factors is a result of South Dakota's LED lighting conversion. This factor is based on the installed cost of area lighting. LED lighting for area lighting in South Dakota has grown since OTP's last South Dakota rate case, however, when compared to other jurisdictions served by OTP, the

growth is not as substantial. Therefore, we are seeing a decrease in the JCOSS C4 allocation factor.

B. Class Allocation Factors

Q. HOW DO THE CCOSS ALLOCATION FACTORS COMPARE TO OTP'S LAST SOUTH DAKOTA RATE CASE?

A. Table 3 below shows the differences between the 2024 Test Year CCOSS allocation factors and those used in the 2017 Test Year from OTP's last South Dakota rate case.

Table 3
Change in CCOSS Allocation Factors

Class Allocator	Residential	Farm	General Service	Large General Service
Generation Demand (D1)	-4.4743%	-0.4741%	-4.0220%	10.7368%
Transmission Demand (D2)	-4.4743%	-0.4741%	-4.0220%	10.7368%
Primary Demand (D3)	-3.8600%	-1.0049%	-6.8282%	18.5022%
Secondary Demand (D4)	-2.2182%	-0.5042%	-2.0545%	13.0862%
12CP Demand (D5)				
Energy (E1-8760)	-4.5023%	-0.4480%	-3.1526%	8.9755%
Energy (E2-8760)	-3.7989%	-0.3835%	-2.4518%	9.9542%
Total Retail Customers (C1)	0.0784%	-0.0598%	0.1220%	0.2095%
Retail Service Locations (C2)	0.9566%	-0.3541%	-0.7058%	0.3741%
Secondary Service Locations (C3)	0.9387%	-0.3550%	-0.6866%	0.3658%
Street Lighting (C4)	0.0000%	0.0000%	0.0000%	0.0000%
Area Lighting (C5)	0.0000%	0.0000%	0.0000%	0.0000%
Meter (C6)	11.1250%	0.0799%	-11.3853%	1.4636%
Meter Reading (C7)				
System Service Locations (C8)	0.9566%	-0.3541%	-0.7058%	0.3741%
Load Management (C9)	-0.5349%	0.0047%	-0.0226%	0.0002%

Class Allocator	Outdoor Lighting	Controlled Service Deferred	Controlled Service Interuptible	Controlled Service Off-Peak
Generation Demand (D1)	-0.2365%	-0.1073%	-1.1455%	-0.2771%
Transmission Demand (D2)	-0.2365%	-0.1073%	-1.1455%	-0.2771%
Primary Demand (D3)	-0.2473%	-0.5199%	-3.1400%	-2.9019%
Secondary Demand (D4)	-0.0320%	-3.6652%	-1.2638%	-3.3482%
12CP Demand (D5)				
Energy (E1-8760)	-0.3653%	-0.0937%	0.0000%	-0.4137%
Energy (E2-8760)	-0.3234%	0.2051%	-2.1895%	-1.0122%
Total Retail Customers (C1)	0.0983%	-0.1035%	-0.2501%	-0.0949%
Retail Service Locations (C2)	-0.1885%	-0.0329%	-0.0247%	-0.0247%
Secondary Service Locations (C3)	-0.1804%	-0.0329%	-0.0247%	-0.0247%
Street Lighting (C4)	0.0000%	0.0000%	0.0000%	0.0000%
Area Lighting (C5)	0.0000%	0.0000%	0.0000%	0.0000%
Meter (C6)	-0.2169%	0.6318%	0.2253%	-1.9234%
Meter Reading (C7)				
System Service Locations (C8)	-0.1885%	-0.0329%	-0.0247%	-0.0247%
Load Management (C9)	0.0000%	4.0262%	0.5539%	-4.0274%

Q. DO YOU HAVE ANY PRELIMINARY OBSERVATIONS REGARDING TABLE 4?

A. Yes. OTP has reorganized the rate schedules that comprise the controlled services classes (Controlled Service, Controlled Service Deferred, and Controlled Service Interruptible) since its last South Dakota rate case, so the values for those classes in the table above are not directly comparable to those in the previous case. We condensed customer classes with Irrigation moving into Farm and OPA moving into General Service. Ms. Grenier discusses these issues in more detail in her Direct Testimony. Additionally, there is not a direct comparison for the D5 and C7 allocators as the D5 allocator is new and we have set the C7 allocator to zero, as discussed above.

Q. WHAT IS CONTRIBUTING TO THE GENERAL INCREASE IN THE D1, D2, D3, AND D4 CCOSS ALLOCATION FACTORS FOR THE LARGE GENERAL SERVICE CLASS?

A. The primary contributor to the increase in the D1, D2, D3, and D4 allocation factors for the LGS class is the addition of new large customers or growth by existing customers within that class. The LGS class is now significantly larger (by demand) than it was during our last South Dakota rate case and therefore has a larger share of the D1, D2, D3, and D4 allocators.

Q. WHAT IS CONTRIBUTING TO THE GENERAL INCREASE IN THE E1-E8760 AND E2-E8760 CCOSS ALLOCATION FACTORS FOR THE LARGE GENERAL SERVICE CLASS?

A. Again, this is a reflection of the growth of the LGS class since our last South Dakota rate case. The LGS class is now significantly larger (by sales volume) than it was during our last South Dakota rate case and therefore has a larger share of the E1-E8760 and E2-E8760 allocators.

Q. WHAT IS CONTRIBUTING TO THE GENERAL INCREASE IN THE C6 CCOSS ALLOCATION FACTORS FOR THE RESIDENTIAL CLASS?

A. The primary contributor to the increase in the C6 allocation factor for the Residential class is that this class saw a larger percentage increase in the meter costs as compared to other classes. There are some rates that saw a decrease in meter costs, so this would be another contributing factor.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.