Volume 2A

Direct Testimony and Supporting Schedules:

Stuart D. Tommerdahl

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. EL18-___

Exhibit___

MAJOR PROJECTS, TEST YEAR REVENUES, ALLOCATION FACTORS & OTHER REGULATORY MATTERS

Direct Testimony and Schedules of

STUART D. TOMMERDAHL

April 20, 2018

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I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND OCCUPATION.

A. My name is Stuart D. Tommerdahl. I am employed by Otter Tail Power Company (OTP) as Manager, Regulatory Administration.

Q. PLEASE SUMMARIZE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I graduated from Moorhead State University, now Minnesota State University, Moorhead, Minnesota, in 1983 with a B.S. degree in Accounting and a minor in Economics. I am a Certified Public Accountant (Inactive) in Minnesota. From 1983 to 1992, I worked in several accounting, budgeting and financial reporting positions. In 1993, I joined OTP as Regulatory/Economic Analyst. From 1997 to 2003 I worked at Otter Tail Energy Services as Manager, Financial Planning /Analysis and subsequently Director, Financial Services.

In 2004, I returned to OTP as Manager, Risk Management. In March of 2012, I started my current position as Manager, Regulatory Administration. My primary responsibilities are to provide leadership in areas of revenue requirements analysis, pricing and rate design, tariff administration, load research, cost allocation methodologies to be used in cost of service studies, long range revenue forecasting, wholesale energy accounting, cost of energy, and unbilled revenue. A copy of my resume is included as Exhibit___(SDT-1), Schedule 1.

II. PURPOSE AND OVERVIEW OF DIRECT TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. My Direct Testimony describes a number of revenue requirement and regulatory issues associated with this case.

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

A. My Direct Testimony focuses on the following items:

- Overview of major capital projects since our last South Dakota rate case;

- 2017 normalized retail revenues;
- Jurisdictional and class cost allocation factors;
- Fuel Adjustment Clause Rider;
- Corporate cost allocations;
- New economic development rates;
- Lead Lag Study; and
- Merricourt project step increase rates

Lastly, my Direct Testimony also addresses a few miscellaneous regulatory issues.

Q. HAVE YOU INCLUDED BOTH SOUTH DAKOTA JURISDICTIONAL AND TOTAL COMPANY AMOUNTS IN YOUR DIRECT TESTIMONY AND SCHEDULES?

A. Yes. The dollar values presented in my Direct Testimony are jurisdictionalized to South Dakota values and labeled as (OTP SD). The South Dakota jurisdictional values are also presented in combination with total company values, labeled as (OTP Total).

There are certain power plant and transmission projects where OTP is only a part owner. In those circumstances, I included each of the following: the total project costs, labeled as (Total Plant or Total Project), and the OTP ownership allocation of the project amounts, labeled as (OTP Total).

Some categories of costs include costs that fall into numerous functions, each with its own jurisdictional allocation, and therefore a straightforward calculation of a jurisdictional amount based on a single allocator is not possible. Examples of these costs include certain labor cost categories, which may include costs functionalized as generation, transmission, distribution, administration and general, with each function having its own unique jurisdictional allocation. For costs that are categorized across functions like this, the South Dakota jurisdictional dollar values have been estimated by multiplying the Total Company costs by a single blended allocator. When such an estimate has been used, the dollar values are labeled as (SD EST).

Q. HOW IS YOUR DIRECT TESTIMONY ORGANIZED?

A. In Section III, I will discuss major capital projects OTP has completed since its last South Dakota rate case. In Section IV, I discuss the determination of 2017 normalized retail revenues. In Section V, I discuss jurisdictional and class allocation factors. In Section VI, I discuss a proposed change to OTP's Fuel Adjustment Clause Rider. Section VII includes a discussion of corporate cost allocations. In Section VIII, I discuss economic development rates. Section IX includes a discussion of the Lead Lag Study. In Section X, I discuss the Merricourt project step increase rate proposal. Section XI includes a discussion of miscellaneous issues, and Section XII includes my conclusions.

III. MAJOR CAPITAL PROJECTS SINCE LAST RATE CASE

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

A. In this section of my Direct Testimony, I will discuss major capital projects that OTP has completed since its last South Dakota rate case, including: (A) the Big Stone plant Air Quality Control System project (AQCS Project); (B) the Hoot Lake plant Mercury and Air Toxics Standards project (MATS Project); and (C) major transmission projects. I will also discuss OTP's new Customer Information System Project.

Q. WHEN WAS OTP'S LAST RATE CASE IN SOUTH DAKOTA?

A. OTP's last South Dakota rate case was filed before the South Dakota Public Utilities Commission (Commission) in 2010 and was based on a 2009 Test Year (Docket No. EL10-011).

A. Big Stone AQCS Project

Q. WHAT WILL YOU DISCUSS IN THIS SUBSECTION?

A. In this subsection of my Direct Testimony, I will explain the $0.9 million (OTP SD) of annual savings for South Dakota customers in the 2017 Test Year, which will continue for 30 years, as a result of OTP's completion of the Big Stone AQCS Project far under budget. I will also discuss the reductions in earnings for shareholders resulting from the under-budget completion of the AQCS Project.

Q. WHAT IS THE BIG STONE AQCS PROJECT?

A. The Big Stone AQCS Project is a major environmental upgrade project at the Big Stone plant that went into service on December 29, 2015. To date, it is the largest capital project ever undertaken by OTP. The AQCS Project was needed for the continued operation of the Big Stone plant. The AQCS Project reduces nitrogen oxides and sulfur dioxide emissions at our Big Stone plant by approximately 90 percent and reduces mercury emissions by approximately 80 percent. In Docket No. EL12-027, a staff report concluded that: "Based on the evaluation of Otter Tail's IRP [Integrated Resource Plan] and the analysis conducted in the ADP proceedings in North Dakota and Minnesota, the AQCS project is found to be the least cost option compared to other alternatives."[1] OTP completed the Big Stone AQCS Project substantially under budget and on time. The Big Stone AQCS Project, including the associated capital costs and OTP's completion of the project far under budget, is discussed in detail in the Direct Testimony of OTP witness Mr. Kirk A. Phinney.

Q. IS OTP PROPOSING TO CHANGE HOW BIG STONE AQCS PROJECT CAPITAL COSTS ARE RECOVERED?

A. Yes. The South Dakota jurisdictional share of the Big Stone AQCS Project capital costs currently are being recovered through OTP's South Dakota Environmental Cost Recovery Rider (ECRR), as approved in Docket No. EL14-082. OTP witness Mr. Bryce C. Haugen describes, in his Direct Testimony, OTP's proposal to move the Big Stone AQCS Project capital costs from the ECRR into base rates effective at the time OTP is proposing to implement interim rates in this case.

Q. DOES THIS PROPOSAL INCREASE COSTS TO CUSTOMERS?

A. No. Moving the Big Stone AQCS Project from the ECRR into base rates is merely a change to how the costs of the project are recovered.

[1] Report entitled "Evaluation of Otter Tail's Air Quality Control System Project as the Least Cost Option Compared to Other Alternatives," filed January 25, 2013.

Q. DID OTP COMPLETE THE BIG STONE AQCS PROJECT AT A COST SUBSTANTIALLY BELOW BUDGET?

A. Yes. Mr. Phinney explains in his Direct Testimony that the final capital cost for the Big Stone AQCS Project is $365.5 million (Total Plant), which is $125 million below the total original project budget of $491 million (Total Plant). OTP's total company share of this savings in capital costs is $67.6 million (OTP Total), and the South Dakota jurisdictional share is $6.3 million (OTP SD).

Q. HAVE YOU DETERMINED THE SAVINGS IN THE 2017 TEST YEAR FROM COMPLETING THE BIG STONE AQCS PROJECT BELOW BUDGET?

A. Yes. I have determined that the under-budget completion of the Big Stone AQCS Project reduced the 2017 Test Year revenue deficiency and will save South Dakota customers approximately $0.9 million annually (OTP SD). This determination was based on a cost of completion of $365.5 million (Total Project) (approximately $125 million (Total Project) below budget) and reflects OTP's 53.9 percent ownership share and the South Dakota jurisdictional allocation of 9.342 percent. This savings for South Dakota customers is the result of (1) the reduction in the South Dakota jurisdictional share of the *return of capital* (depreciation) on approximately $125.5 million (Total Project) savings; plus (2) the reduction in the annual *return on capital* (earnings for investors plus tax effect) on $125.5 million (Total Project) savings. My calculation of the estimated annual savings for South Dakota customers for the 2017 Test Year is set forth on Exhibit__(SDT-1), Schedule 2.

Q. HAVE YOU ALSO DETERMINED THE CUMULATIVE SAVINGS FOR SOUTH DAKOTA CUSTOMERS OVER THE INITIAL 10 YEARS OF USE AND THE FULL 30-YEAR LIFE OF THE BIG STONE AQCS PROJECT?

A. Yes. I estimate that OTP's South Dakota customers will receive cumulative savings of approximately $8.0 million (OTP SD) over the initial 10-years of use of the Big Stone AQCS Project. I estimate that, over the 30-year life of the AQCS Project, OTP's under-budget completion of the Big Stone AQCS Project will reduce OTP's South Dakota customer costs by approximately $17.2 million (OTP SD) with a net present value of $7.8

million (OTP SD). These savings for OTP's South Dakota customers are also the result of the South Dakota jurisdictional share of the reduction in *the return of* approximately $125.5 million (Total Project) of capital (reflected in depreciation) plus the reduction in *the return on* approximately $125.5 million (Total Project) of capital. My calculations are also set forth on Exhibit__(SDT-1), Schedule 2.

Q. IN ADDITION TO CUSTOMER SAVINGS, DOES THE UNDER-BUDGET COMPLETION ALSO HAVE AN EFFECT ON SHAREHOLDERS?

A. Yes. While the lower investment from the under-budget completion of the Big Stone AQCS Project provides substantial savings for South Dakota customers, there is a corresponding effect on OTP shareholders in the form of reduced earnings resulting from the reduced investment.

Q. HAVE YOU DETERMINED THE REDUCED EARNINGS FOR SHAREHOLDERS IN THE 2017 TEST YEAR AND IN OTHER YEARS?

A. Yes. As a result of OTP's under budget completion of the Big Stone AQCS Project, the return to shareholders will be reduced (after OTP income taxes) by approximately:

A. $0.3 million (OTP SD) in the 2017 Test Year;

B. $2.9 million (OTP SD) during the first 10 years; and

C. $5.4 million (OTP SD) over the 30-year life of the Big Stone AQCS Project.

The net present value of reduced earnings is $2.0 million (OTP SD) over the first 10 years and $2.7 million (OTP SD) over the 30-year life of the Big Stone AQCS Project. My calculations are set forth on Exhibit__(STD-1), Schedule 2.

Q. IS IT APPROPRIATE FOR THE COMMISSION TO CONSIDER THESE CUSTOMER SAVINGS AND LOWER EARNINGS IN SETTING OTP'S RETURN ON EQUITY?

A. Yes. OTP witness Mr. Robert B. Hevert recommends that the Commission consider OTP's under-budget completion of the Big Stone AQCS Project when setting OTP's return on equity (ROE). Considering this accomplishment in setting the ROE for OTP would help to reinforce that prudent execution of capital projects and the resulting cost

savings for customers is a priority of both utilities and regulators. While OTP has always made the prudent execution of capital expenditures one of its most important business priorities, OTP believes that reinforcement of that priority in the setting of OTP's authorized ROE is appropriate in this case from a regulatory perspective.

B. Hoot Lake MATS Project

Q. WHAT WILL YOU DISCUSS IN THIS SUBSECTION?

A. In this subsection, I will discuss the Hoot Lake MATS Project, which OTP also completed under budget.

Q. WHAT IS THE HOOT LAKE MATS PROJECT?

A. The Hoot Lake MATS Project involved the upgrade of Electrostatic Precipitators and the installation of an Activated Carbon Injection system at Hoot Lake. The Hoot Lake MATS Project is designed to control mercury and particulate matter emissions at the plant. The project is described in greater detail in Mr. Phinney's Direct Testimony.

Q. DID OTP COMPLETE THE HOOT LAKE MATS PROJECT AT A COST SUBSTANTIALLY BELOW BUDGET?

A. Yes. Mr. Phinney explains in his Direct Testimony that the final capital cost for the Hoot Lake MATS Project is $7.145 million (OTP Total), which is $2.8 million (28 percent) below the total original project budget of $10 million (OTP Total).

Q. IS OTP PROPOSING TO CHANGE TO HOW HOOT LAKE MATS PROJECT CAPITAL COSTS ARE RECOVERED?

A. Yes. The South Dakota jurisdictional share of the Hoot Lake MATS Project capital costs currently are being recovered through the ECRR. Mr. Haugen describes OTP's proposal to move the Hoot Lake MATS Project capital costs from the ECRR into base rates effective at the time OTP is proposing to implement interim rates in this case.

Q. DOES THIS PROPOSAL INCREASE COSTS TO CUSTOMERS?

A. No. Moving the Hoot Lake MATS Project from the ECRR into base rates is merely a change to how the costs of the project are recovered.

C. Transmission Projects

Q. WHAT WILL YOU DISCUSS IN THIS SUBSECTION OF YOUR DIRECT TESTIMONY?

A. In this subsection, I will provide background information and a description of OTP's major completed transmission projects, which are included in OTP's proposal to roll transmission projects now included in OTP's Transmission Cost Recovery Rider (TCRR) into base rates. Mr. Haugen will explain that proposal in his Direct Testimony.

Q. PLEASE BRIEFLY DESCRIBE THE MAJOR TRANSMISSION PROJECTS IN WHICH OTP HAS INVESTED SINCE OTP'S LAST RATE CASE?

A. OTP has been involved with numerous transmission projects since OTP's last rate case in 2010. The most significant completed projects include: (1) the Big Stone South to Brookings multi-value project (MVP); (2) the CAPX2020 transmission projects, including Fargo to Monticello, Bemidji to Grand Rapids, and Brookings to Hampton; (3) the Casselton to Buffalo 115kV project, and (4) the Oakes Area transmission project. The Commission has reviewed and approved each of these projects for cost recovery in prior proceedings as noted in Mr. Haugen's testimony.

Q. WHAT WAS THE PURPOSE OF THE BIG STONE SOUTH TO BROOKINGS PROJECT?

A. The Big Stone South-Brookings County project is a 70-mile, 345kV transmission line built between a new Big Stone South Substation near Big Stone City, S.D., and the Brookings County Substation near Brookings, S.D. The project is one of 17 MVPSs approved by the Midcontinent Independent System Operator (MISO) in December 2011. The MVPs will help expand and enhance the region's transmission system, reduce congestion, provide access to affordable energy sources and meet public policy

requirements, including renewable energy mandate. The project was placed in service in September 2017.

Q. PLEASE BRIEFLY DESCRIBE THE CAPX2020 TRANSMISSION PROJECTS.

A. The three CAPX2020 transmission projects in which OTP has invested are part of the CAPX2020 portfolio of five projects formed to upgrade and expand the electric transmission grid to ensure continued reliable and affordable service. The total CAPX2020 portfolio involves an 800 mile, nearly $2 billion investment initiative, including four 345kV transmission lines and one 230kV line involving 11 transmission-owning utilities in South Dakota, North Dakota, Minnesota and Wisconsin. The CAPX2020 portfolio projects were approved by MISO as part of its Transmission Expansion Planning process, which identifies issues and opportunities, develops alternatives for consideration, and evaluates those alternatives to determine effective transmission solutions.

Q. PLEASE DESCRIBE OTP'S CAPX2020 PROJECTS.

A. OTP has participated in three CAPX2020 projects: (1) CAPX2020 Fargo to Monticello; (2) CAPX2020 Bemidji to Grand Rapids; and (3) CAPX2020 Brookings to Hampton. The CAPX2020 Fargo to Monticello project includes 240 miles of 345kV line running from Fargo, North Dakota to Monticello, Minnesota and associated upgrades. The project was energized April 2, 2015.

The CAPX2020 Bemidji to Grand Rapids project, which is inclusive of the Bemidji to Cass Lake segment, is a 70-mile 230kV line running from Bemidji, Minnesota to Grand Rapids, Minnesota. The project was energized September 2012.

Finally, the CAPX2020 Brookings to Hampton includes 250 miles of 345kV line running from Brookings, South Dakota to Hampton, Minnesota. The project, which connects to new renewable generation resources in southern and western Minnesota and North Dakota and South Dakota, was energized March 26, 2015.

Q. PLEASE DESCRIBE THE CASSELTON TO BUFFALO AND OAKES PROJECTS.

A. The Casselton to Buffalo project includes 16 miles of 115kV line and related modifications and replacements. The project was completed and placed in-service in November 2017. The Oakes projects includes upgrades to the transmission system around Oakes, North Dakota. This project was completed in late 2015.

Q. IS OTP NOW RECOVERING THE COST OF THESE PROJECTS IN OTP'S TCRR?

A. Yes. The South Dakota allocated portion of the costs of each of these transmission projects is included in the eight completed projects that OTP is recovering through the TCRR.

Q. WHAT IS OTP'S PROPOSAL REGARDING THOSE COMPLETED TRANSMISSION PROJECTS CURRENTLY BEING RECOVERED IN OTP'S TCRR?

A. OTP is proposing to roll the recovery of these investments out of the TCRR and into base rates at the time Otter Tail proposes interim rates to go into effect in this case. Mr. Haugen discusses the roll-in of these projects into base rates in his Direct Testimony.

D. Customer Information System

Q. WHAT WILL YOU DISCUSS IN THIS SUBSECTION OF YOUR DIRECT TESTIMONY?

A. In this subsection, I will provide background information and a description of OTP's new Customer Information System which OTP refers to internally as "CISone."

Q. IS OTP NOW IMPLEMENTING CISONE?

A. Yes. As OTP witness Mr. Bruce Gerhardson briefly describes in his Direct Testimony, OTP is implementing CISone to replace an existing legacy customer information system that OTP built internally and has been using for almost 30 years. Among other things, customer billing will be one of the key functional business operations that will transfer from the legacy system to the new CISone system. Mr. Gerhardson outlines numerous other functional improvements CISone will provide as OTP builds critical technical infrastructure to address changing needs of both customers and OTP employees. OTP's

current estimated cost of the system is $15.8 million (OTP Total) / $1.5 million (OTP SD).

Q. PLEASE FURTHER DESCRIBE THE ADDITIONAL FUNCTIONALITY THAT CISONE WILL PROVIDE OTP'S CUSTOMERS AND EMPLOYEES.

A. There are many benefits that OTP customers and employees will realize once CISone is implemented. Much of this is due to the limitations of the current system due to its age. One significant source of high-level benefit will be the system's ability to "talk" to other OTP systems through interfaces, allowing data to flow in real-time rather than through overnight batches and file transfers as is currently done. This will allow information exchange at a much more rapid pace. Other benefits include:

- **Ease of new or updated rate implementation:** The existing CIS is limited due to field and capacity constraints and updating or changing rates or riders takes significant database modification. CISone will allow OTP to more easily prepare for rate/rider updates and changes, as well as provide a better process to test those changes.
- **Customer Self Service (CSS):** CISone will better support self-service and online business.
- **Mobile work management (MWM):** Mobile field workers will have access to information much more quickly, and they will have access to information that was not previously available to them in the field. "Apps" will be available through smartphones and tablets.
- **A new system will be able to support future initiatives:** CISone will support initiatives such as two-way Geographic Information System (GIS) integration, Advanced Metering Infrastructure (AMI), and Outage Management System (OMS) support.
- **Less reliance on CIS programmers and technicians:** More functions will be shifted to system end-users.
- **Improved automation:** The current CIS system is not capable of meeting current functional demands without significant manual intervention, which will not be needed with CISone.
- **Elimination of reusing of data fields:** This will minimize the risk of data corruption.

- **Easier detection and correction of billing issues**: Detection and correction will be facilitated.
- **Advanced ad-hoc reporting:** The new CIS system will come with many reports and queries that previously would have taken significant programming to develop.
- **More advanced "Checkout and Lock" features:** These features will mitigate the risk of data corruption and account errors.
- **A more robust primary/secondary failover system:** CISone is designed so that an in the event of a failure it will result in less downtime to restore.
- **Better ability to drive consistent business processes across all jurisdictions:** CISone will facilitate consistency across all jurisdictions.

Q. WHEN DOES OTP ANTICIPATE IMPLEMENTING CISONE?

A. CISone is currently scheduled to "go-live" in the 4th quarter, 2018. Implementation will only occur after CISone has been fully tested to confirm that OTP's customer billings will be accurately and correctly computed and accounted for. OTP will keep the Commission informed on the schedule during the course of this case.

Q. HOW DOES IMPLEMENTATION OF CISONE RELATE TO THE IMPLEMENATION OF FINAL RATES IN THIS RATE CASE?

A Because the implementation of the CISone system closely aligns with the timeline of this rate case and the potential implementation date of final rates, OTP is evaluating the feasibility of simultaneously implementing final rates the same month as CISone is implemented. If simultaneous implementation is not feasible, OTP is also considering implementation of final rates in the current CIS system if this case has concluded prior to CISone implementation and the Commission deems that to be the most appropriate approach.

CISone also could potentially be ready for implementation ahead of implementation of final rates. If OTP implements CISone ahead of final rates, OTP believes it would be appropriate to have a two or three month "window" between implementation of CISone and final rates for further confirmation of CISone system operation. With interim rates in effect, OTP would be open to delaying implementation of final rates as an option to best align the schedules of this case and CISone

implementation. Customers would be protected and compensated for any delay by interest applied to any interim refund.

Q. IS OTP SEEKING RECOVERY OF CISONE COSTS IS THIS CASE?

A. Yes. OTP included the CISone project, including costs, in the 2017 Test Year as a known and measurable change. CISone will only be included in final rates, not in Otter Tail's proposed interim rates. The CISone system will have a ten-year depreciable life. OTP has included a Test Year adjustment to annualize the costs associated with CISone, based on this ten-year life, into the 2017 Test Year. OTP witness Mr. Tyler A. Akerman provides further detail of the normalizing adjustment in his Direct Testimony.

Q. WILL THE IMPLEMENTATION OF CISONE RESULT IN ANY CHANGES TO OTP'S CUSTOMER BILL CALCULATIONS, RATE DESIGNS, TARIFF LANGUAGE, OR OTP'S GENERAL RULES AND REGULATIONS?

A. Yes. Before filing this rate case, OTP met with Commission Staff to inform them that OTP anticipates CISone will necessitate some changes to OTP's tariffs and bills, as well as changes to the language in OTP's rate book. OTP will need Commission approval to make those changes. OTP proposes to make a separate filing sometime in the second quarter of 2018 to seek approval of the CISone tariff and bill changes. Because of the potential scenarios related to timing of the final rates and CISone, OTP and Commission Staff agreed handling these changes in a separate filing would provide greater flexibility in terms of seeking Commission approvals for CISone related changes. This flexibility is necessary should the schedule indicate CISone could be implemented ahead of the completion of this case and implementation of final rates.

Q. ARE THERE ANY RATE PROPOSALS IN THIS CASE THAT OTP WILL NOT BE ABLE TO IMPLEMENT IN OTP'S CURRENT CIS SYSTEM?

A. Yes. In this case, OTP is proposing to implement an E8760 allocation of fuel and purchased power costs recovered through the Fuel Adjustment Clause rider (also known as the Fuel Clause, FCA or Energy Adjustment). I will discuss this proposed change to OTP's Fuel Clause in greater detail later in my Direct Testimony but as a summary,

implementing this E8760 allocation results in a distinct and separate Fuel Clause rate for each customer class. OTP's current legacy billing system is not able to facilitate a separate Fuel Clause rate for each class. This functionality is being designed into CISone. OTP proposes that, if final rates go into effect before CISone is implemented, the Commission allow OTP to delay the transition to a 10-class FCA rate until after CISone is implemented. In the interim, OTP proposes to charge all classes the same FCA rate. In OTP's recent Minnesota general rate case, the Minnesota Public Utilities Commission approved delaying a similar E8760 Fuel Clause rate implementation until OTP's CISone system is placed in service. A similar proposal is included in OTP's current North Dakota case. OTP is seeking consistency of the use of an E8760 allocator across all jurisdictions.

Q. HAS OTP PROVIDED SEPARATE RATE SCHEDULES TO REFLECT EACH OF THESE SCENARIOS?

A. Yes. In Volume 3, a proposed version of Section 13.01 is provided that would be applicable to the application of the E8760 allocation to the Fuel Clause once CISone is placed into service. In this version, each customer class's specific Energy Adjustment Factor Ratio (EAF Ratio) is included. A second proposed version of Section 13.01 is provided that would be applicable in the event final rates in this case are implemented ahead of the implementation of CISone. In this version, each customer class's specific EAF Ratio is set to 1.000. In this instance, all customers would be charged the same FCA rate as I noted above.

IV. 2017 NORMALIZED RETAIL REVENUES

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

A. This section describes how 2017 South Dakota normalized retail revenues were determined. First, I will describe how 2017 South Dakota actual retail revenues were established. I will then describe the adjustments made to determine total 2017 normalized retail revenues for the 2017 Test Year.

A. 2017 Actual Retail Revenues

Q. PLEASE DEFINE RETAIL REVENUES.

A. For the purposes of ratemaking, retail revenues are the total retail revenues (billed and unbilled) on a calendar month basis, plus or minus the adjustments I discuss below. In other words, the calendar month revenue includes revenue for the billed sales and estimated revenue for electricity that has been delivered to customers, but not yet billed. This includes revenues collected through base rates as well as revenues applicable to OTP's various cost recovery riders.

Q. WHAT DO YOU MEAN BY "REVENUES ON A CALENDAR MONTH BASIS"?

A. Calendar month revenues are determined by making an adjustment for unbilled revenues to billing month retail revenues. Billing month revenues do not coincide with the calendar month, as they are billed on cycles (20 cycles in a month for OTP). Total 2017 billed revenues for the South Dakota retail jurisdiction were $33,113,281.

To have retail revenues match to the calendar year for which expenses are incurred, the incremental amount of revenues that have not been billed at the end of the year for each of the 20 billing cycles are estimated using a comprehensive model. This model calculates the unbilled revenues for 2017 that were billed in January 2018, net of the December 2016 unbilled revenues that were billed in January of 2017. For 2017, the unbilled revenue calculation increased South Dakota retail revenues by $108,870.

In addition, total billed revenues are also adjusted by the amount of any over or under collection balance attributable to OTP's cost recovery riders to reflect the actual calendar year revenue requirement within that rider. The total amount of these adjustments was a decrease to South Dakota retail revenue of ($292,279). OTP's total South Dakota retail revenues for 2017 before any normalizing adjustments were $32,929,872.

B. Weather Normalization

Q. HAVE ACTUAL 2017 SOUTH DAKOTA RETAIL REVENUES BEEN WEATHER ADJUSTED TO ARRIVE AT THE 2017 TEST YEAR REVENUES?

A. Yes, actual 2017 South Dakota retail revenues have been weather normalized as described below.

Q. WHAT IS THE PURPOSE OF WEATHER NORMALIZING HISTORIC DATA?

A. If OTP were using a projected test year based on a budget, a weather normalization adjustment would not be necessary, since budgets assume normal weather. However, in a test year based on historic data, the historic sales data needs to be adjusted to produce retail revenue and variable costs that are representative of the effects of "normal" weather.

Q. PLEASE DESCRIBE THE WEATHER NORMALIZATION METHODOLOGY USED BY OTP.

A. OTP's weather normalization process utilizes a similar methodology to what was used in OTP's last South Dakota general rate case. For 2017, the weather normalization adjustment results in an increase to South Dakota base revenues of $202,124. The weather normalization adjustment also results in increased fuel expenses and associated FCA revenues of approximately $133,229 for South Dakota. The combination of these adjustments is shown as Test Year Adjustment TY-05 in Schedule 10 to Mr. Akerman's Direct Testimony.

OTP's weather normalization process utilizes the current year plus the prior 20 years of OTP hourly weather data, monthly revenue, and monthly kWh data. A statistical regression procedure is used to determine weather normalization models for each of 40 different rate groups within each of OTP's three states. Variables used include: (i) kWh/day; (ii) heating and cooling degree days; (iii) the number of months since January 1997; and (iv) up to 13 autoregressive terms. The results are checked for accuracy and reasonableness using graphs and reports. Weather normalized kWh sales are then priced on current rates using a calendar month basis. The resulting revenue amounts do not include FCA revenues.

Consequently, to include the impact of weather normalization on the FCA, weather normalized kWh sales are multiplied by the appropriate total cost of energy rate for each of the twelve months to determine the fuel and purchased power costs. As noted above, total FCA fuel and purchased power costs and associated FCA revenues for South Dakota are $133,229.

Q. DOES WEATHER NORMALIZATION RESULT IN AN ADJUSTMENT TO UNBILLED REVENUES FOR THE 2017 TEST YEAR?

A. Yes, but not separately. As stated in the previous question, weather normalization is computed on a calendar month basis, which includes unbilled sales.

C. Billing Adjustments

Q. DO THE 2017 TEST YEAR SALES REFLECT ANY BILLING ADJUSTMENTS?

A. Yes. During 2017 OTP made minor bill adjustments attributable to time periods prior to 2017. There have also been billing adjustments made in early 2018 that were attributable to 2017.

Test Year Adjustment TY-06 in Schedule 10 to Mr. Akerman's Direct Testimony moves the revenues and associated estimated fuel costs to the proper year. These adjustments increase 2017 South Dakota revenues by $4,325, and associated fuel costs by $2,179.

D. Total 2017 Normalized Retail Revenues

Q. WHAT ARE THE TOTAL NORMALIZED SOUTH DAKOTA RETAIL REVENUES FOR 2017?

A. Table 1 below summarizes OTP's total 2017 normalized South Dakota retail revenues.

Table 1

Total 2017 SD Normalized Retail Revenue Summary

Revenue Component	**SD Total**
Billed Revenues	$33,113,281
Unbilled Revenue	$108,870
Rider Revenue Adjustments	$(292,279)
Total 2017 Retail Revenue	**$32,929,872**
Weather Normalization Adjustments (Base + Fuel)	$335,353
Billing Adjustments	$4,325
Total 2017 Normalized Retail Revenue	**$33,269,550**

Mr. Haugen provides further detail in his Direct Testimony as to OTP's proposed class revenue responsibilities.

V. 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 will discuss the use of jurisdictional and class allocators. I will discuss Test Year allocators used by OTP, including the E8760 allocator.

Q. WHAT ARE THE ROLES 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 to design rates.

Q. HOW DO THESE ALLOCATIONS OCCUR?

A. System costs and revenues are allocated to jurisdictions in the Jurisdictional Cost of Service Study (JCOSS) described in more detail by Mr. Akerman. Jurisdictional costs and revenues are allocated to customer classes in the Class Cost of Service Study (CCOSS) described by Mr. Haugen.

A. Test Year JCOSS and CCOSS Allocators

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

A. Table 2 below identifies the main allocators used in the 2017 Test Year JCOSS and CCOSS. The OTP Cost Allocation Procedures Manual (CAPM), included as Exhibit__(SDT-1), Schedule 3, provides additional detail regarding the development of each allocator.

Table 2

JCOSS and CCOSS Allocators

Cost Function	Classification	JCOSS Allocator[2]	CCOSS Allocator[3]
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

[2] *See* Volume 4A, Section C, Supporting Information, Schedule B-7.
[3] *See* Volume 4A, Section C, Supporting Information, Schedule E-3.

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

A. Yes. OTP has refined the language pertaining to the classification and allocation of wind generation resources, as well as other minor clarifications and formatting updates since OTP's last South Dakota rate case in 2010. Exhibit (SDT-1), Schedule 3, provides the content changes in red-line and clean versions.

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

A. Yes. We used the same energy, demand and customer allocation factors outlined in the CAPM for cost allocations in this case as we did in our last South Dakota rate case except for the addition of an E8760 allocator for the CCOSS and Fuel Clause Adjustment Rider.

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

A. Yes. OTP is using a historic 2017 Test Year in this case and developed the allocation factors based on 2017 actual information, adjusted for the known and measurable changes I discussed earlier. 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. DOES OTP USE THE SAME ALLOCATION METHODOLOGIES ACROSS ALL OF ITS JURISDICTIONS?

A. Yes. Each of our jurisdictions has approved the same jurisdictional cost allocation methodology. OTP's proposal to implement the E8760 allocator for class cost of service allocations is also consistent with what has been approved or proposed in OTP's other jurisdictions as well.

B. E8760 Allocator

Q. WHAT IS AN E8760 ALLOCATOR?

A. An E8760 allocator applies a cost factor to each kWh of energy consumed for every one of the 8,760 hours in the year to develop a weighted cost of energy factor. The E8760 allocator reflects changes in the cost of energy from hour to hour.

Q. HOW IS AN E8760 ALLOCATOR DIFFERENT FROM THE E1 AND E2 ALLOCATORS?

A. While the E8760 allocator reflects changes in the cost of energy from hour to hour, OTP's E1 and E2 allocation factors are computed based solely on energy consumed, without any consideration for the associated date and time of consumption and corresponding hourly cost of that energy. The difference between the E1 allocator and the E2 allocator is that E1 excludes residential demand control, interruptible, irrigation, and a portion of water heating and deferred sales.

Q. HOW DID OTP DEVELOP THE E1-E8760 AND E2-E8760 ALLOCATORS?

A. The class E8760 allocators were developed in five steps as follows:

Step 1: Develop Load Shapes. OTP developed class-based load shapes for each of the 8,760 hours based on load research data from 2016, the last full year of data available.

Step 2: Apply Load Shapes to Class Sales within South Dakota. The 2016 class-based load shapes were applied to 2017 class sales for South Dakota. This resulted in a distribution of all sales within each class, across all 8,760 hours of the year for South Dakota.

Step 3: Apply Hourly Costs to Class-Based Load Shapes for South Dakota: OTP multiplied the actual hourly class sales by hourly 2017 MISO Day Ahead Locational Marginal Prices for the OTP load zone, which results in hourly costs by class.

Step 4: Sum Class Hourly Costs: This results in total energy costs over the 8,760 hours for each class.

Step 5: Compare Class Energy Costs to Total Energy Costs: This results in the E8760 allocators, which are shown in Table 3 below.

Q. HAS OTP USED THE E1-E8760 AND E2-E8760 ALLOCATORS IN THE CCOSS?

A. Yes. OTP allocated energy-related production plant costs using the E1-E8760 and E2-E8760 allocators in the CCOSS.

VI. FUEL ADJUSTMENT CLAUSE RIDER

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

A. In this section of my Direct Testimony, I will discuss a proposed change to the name of the Fuel Adjustment Clause Rider, Electric Rate Schedule 13.01, and the use of the E8760 allocator I just discussed, in that rider. I will also discuss removal of any reference to non-asset-based trading from that rate schedule.

Q. IS OTP PROPOSING A NEW NAME FOR THE FUEL ADJUSTMENT CLAUSE RIDER?

A. Yes. OTP proposes to change the name of Electric Rate Schedule 13.01 from the Fuel Adjustment Clause Rider to the Energy Adjustment Rider to be consistent with the naming conventions of the comparable riders in OTP's other jurisdictions. I will use that proposed term throughout the rest of my testimony.

Q. DOES OTP PROPOSE TO USE AN E8760 ALLOCATOR TO ALLOCATE FUEL COSTS IN ITS ENERGY ADJUSTMENT RIDER?

A. Yes. OTP proposes to use an E8760 allocator in its Energy Adjustment Rider.

Q. WHAT IS THE RATIONALE FOR COMPUTING AND USING AN E8760 ALLOCATOR FOR ENERGY ADJUSTMENT RIDER?

A. Energy usage can vary significantly between customer classes over the course of a day, week, month or year. At the same time, costs to provide that energy also vary each day, week, month or year. The E8760 allocator takes into account when energy is used and the associated cost of that energy and creates an appropriate weighting of the overall cost each class is accountable for. As a result, the E8760 allocator yields a distinct and

separate Energy Adjustment Rider rate for each customer class that more accurately reflects the cost causation responsibility of that class for energy costs.

Q. HOW DOES THE USE OF THE E8760 ALLOCATOR IMPACT CLASS ALLOCATIONS OF FUEL COSTS?

A. For illustrative purposes, Table 3 below shows how the 10 customer classes are impacted using the average fuel rate and applying the E2-E8760 allocator. The average fuel rate shown is based on total system costs, which is consistent with how fuel is calculated and as summarized in Volume 1, Statement P.

Table 3

Fuel Allocation	**A**	**B**	**C**
Customer Classes	**Avg Fuel $/kWh**	**E2-E8760 Allocation Ratio**	**E2-E8760 Avg Fuel $/kWh**
			(A*B)
Residential (RDC/RES)	$ 0.026153	1.0240	$ 0.026779
Farms (FAR)	$ 0.026153	1.017	$ 0.026587
General Service (TUS/GSO/GSU)	$ 0.026153	1.031	$ 0.026975
Large General Service (PLG/SLG/TLG)	$ 0.026153	0.981	$ 0.025661
Irrigation Services (IRR)	$ 0.026153	0.912	$ 0.023838
Outdoor Lighting (ALT/SLT)	$ 0.026153	0.808	$ 0.021140
OPA (OPA)	$ 0.026153	1.007	$ 0.026327
Controlled Service Water Heating (WHR)	$ 0.026153	1.038	$ 0.027154
Controlled Service Interruptible (LDF/SDF)	$ 0.026153	1.013	$ 0.026484
Controlled Service Deferred (DFL/FTD)	$ 0.026153	0.946	$ 0.024739

Q. HOW DOES OTP PROPOSE TO USE THE E2-E8760 ALLOCATOR IN THE ENERGY ADJUSTMENT RIDER?

A. OTP proposes to allocate costs through the Energy Adjustment Rider using the E2-E8760 allocation method as a basis for cost allocation. OTP proposes to continue calculating a monthly average fuel rate and then apply the E2-E8760 allocation ratio to derive an E2-E8760 based fuel cost per kWh which is then applied to each of the 10 customer classes.

Q. WHEN DOES OTP PROPOSE TO IMPLEMENT USE OF THE E2-E8760 ALLOCATOR FOR THE ENERGY ADJUSTMENT RIDER?

A. OTP proposes to begin use of the E2-E8760 allocator for Energy Adjustment Rider purposes at the time final rates go into effect, provided the CISone system is in service. As described earlier in my testimony, CISone is scheduled to "go-live" in the 4th quarter of 2018. OTP's current legacy billing system is unable to calculate a separate Energy Adjustment Rider rate for each of the ten customer classes, which is necessary to implement use of the E8760 allocator. Therefore, implementation would need to be delayed until CISone is in service.

Q. IS OTP PROPOSING A MODIFICATION TO THE ENERGY ADJUSTMENT RIDER RELATED TO NON-ASSET BASED TRADING?

A. Yes. OTP is proposing to remove Paragraph 13 of Electric Rate Schedule 13.01, as OTP is currently no longer involved in non-asset-based trading. I discuss this change to non-asset-based trading later in my testimony.

VII. CORPORATE COST ALLOCATIONS

Q. WHAT WILL YOU DISCUSS IN THIS SECTION OF YOUR DIRECT TESTIMONY?

A. In this section of my Direct Testimony, I will explain how corporate costs that are incurred by Otter Tail Corporation in connection with the services provided by Otter Tail Corporation for the operation of OTP are handled in the 2017 Test Year.

Q. PLEASE DESCRIBE THE OWNERSHIP STRUCTURE OF OTP AND OTTER TAIL CORPORATION.

A. OTP is a wholly owned subsidiary of Otter Tail Corporation. In 2008, Otter Tail Corporation filed a petition with the Commission seeking approval to form a new holding company through restructuring, with the purpose of establishing OTP as a separate, subsidiary corporation. The Commission approved the request on October 30, 2008, and as of July 1, 2009, OTP became a separate legal entity, instead of an operating division, which OTP had been prior to the formation of Otter Tail Corporation.

Q. WHAT SERVICES DOES OTTER TAIL CORPORATION PROVIDE TO OTP?

A. Otter Tail Corporation provides the following services to OTP: financial reporting, tax planning and reporting, treasury, financial planning, corporate communications, internal audit, benefits plans, safety and risk management, shareholder services and investor relations, aviation and executive management services.

Q. ARE THESE SERVICES GOVERNED BY ANY AGREEMENTS?

A. Yes. At the time of the restructuring, OTP entered into three agreements with Otter Tail Corporation: (i) an Administrative Services Agreement that describes how services are provided from Otter Tail Corporation to OTP and how costs for such services are assigned and allocated to OTP; (ii) a Tax Sharing Agreement that describes how tax obligations and benefits are to be allocated; and (iii) a Cash Management Agreement that describes how cash management services can be provided by Otter Tail Corporation to OTP. Currently, no cash management services are being provided by Otter Tail Corporation to OTP.

Q. HOW ARE OTP TAXES COMPUTED UNDER THE TAX SHARING AGREEMENT?

A. OTP computes its taxes on a standalone basis, exclusive of Otter Tail Corporation. The determination of taxes on a standalone basis means that OTP incurs the same taxes as if it was a separate corporation and does not incur any taxes for Otter Tail Corporation or for the business of other subsidiaries of Otter Tail Corporation. All tax decisions for OTP are based on strategies beneficial to its ratepayers. All tax calculations included in the 2017 Test Year are based only on OTP financial performance. The tax calculations included in this Test Year are detailed in Volume 4A, Supporting Information, Schedule C-7.

Q. HOW DO THE SERVICES PERFORMED BY OTTER TAIL CORPORATION COMPARE WITH THE SERVICES PERFORMED BY SUBSIDIARY SERVICE COMPANIES OF SOME OTHER UTILITY HOLDING COMPANIES?

A. The services performed for OTP by Otter Tail Corporation are less extensive than service performed by other holding company service company subsidiaries, such as Xcel Energy's corporate services unit. Otter Tail Corporation does not process OTP's invoices

or customers' bills; it does not perform billing for OTP; it does not manage OTP's human resources (HR), information technologies (IT), or procurement. Rather, OTP directly provides its own accounting, bill and invoice processing, IT, HR, supply chain, engineering, rates and regulation, payroll, marketing and sales, fuel and energy procurement, and customer service.

Q. HOW DID YOU ARRIVE AT THE APPROPRIATE LEVEL OF OTTER TAIL CORPORATION EXPENSES TO INCLUDE IN THE TEST YEAR?

A. Under the Administrative Services Agreement, the costs of corporate functions are allocated using the allocation methodology and specific allocation factors described in the Corporate Cost Allocation Manual (CAM), included as Exhibit__(SDT-1), Schedule 4. Allocation factors were applied to actual 2017 corporate expenses, adjusted for certain corporate expenses which have either been capped or disallowed in prior Commission Orders. Both redline, and clean copies of the 2017 CAM are provided in Schedule 4.

Q. HOW WERE THE COST ALLOCATION METHODOLOGIES DEVELOPED?

A. The following goals were considered when the corporate cost allocation methodology was developed:

1) The result should fully allocate costs;

2) Costs are directly assigned where possible;

3) If direct assignment is not possible, an indirect allocation will be made if there is a cost causative link to another cost category for which direct assignment is used;

4) When neither direct nor indirect cost causation can be found, a representative general allocator is used;

5) The result is equitable for customers and shareholders;

6) The methodology is easy to administer – no additional studies or data gathering is needed; and

7) The allocators have components that are based on verifiable public information, to the extent possible.

Q. PLEASE EXPLAIN THE ALLOCATION PROCESS IN MORE DETAIL.

A. Otter Tail Corporation costs can be charged to OTP or to Otter Tail Corporation's non-utility operations. The allocation process uses three steps. First, all labor and other costs that are appropriate for direct assignment to OTP or non-utility operations are identified and directly assigned. Members of the Corporate Group use timesheets to directly assign labor. Invoices and other costs are directly assigned as appropriate. In the 2017 Test Year, approximately 42 percent of all Otter Tail Corporation costs were allocated to OTP or non-utility operations using direct assignment.

Second, indirect allocators are used for certain functions. Indirect allocators are used where an indirect-cost causative linkage to another cost category or group of cost categories exists. About 17 percent of corporate costs were allocated to OTP or non-utility operations using indirect allocators.

The remaining 41 percent of corporate costs are not appropriate for either direct assignment or indirect allocation. These costs are allocated to OTP or non-utility operations using the general allocator that is composed of revenues, assets and labor dollars, equally weighted.

Q. HOW MUCH OF THE TOTAL OTTER TAIL CORPORATION COST IS ALLOCATED TO OTP IN THE 2017 TEST YEAR?

A. Table 4, below, shows the allocation of Otter Tail Corporation costs for the 2017 Test Year.

Table 4

Otter Tail Corporation Cost Allocation

	Otter Tail Corporation 2017 Costs		SD Share
Allocated to OTP	$10,294,461[4]	51.5%	$859,751[5]
Allocated to Non-Utility	$9,694,759	47.9%	
Total Corporate Costs	$19,989,220	100.0%	

[4] OTP Allocation before any adjustments $10,294,461
Net billings and accruals to Otter Tail Corporation ($17,769)
Total Net Corporate Costs to OTP (Before Incentive Cap) $10,276,692 (Volume 1 Statement H-4 Line 37)

[5] Volume 1 Statement H-4, Line 47 SD Share.

Q. DOES THE ALLOCATION IN TABLE 4 REFLECT THE COMMISSION'S DECISIONS ON INCENTIVE COMPENSATION?

A. Yes. The Otter Tail Corporation costs allocated to OTP in the 2017 Test Year reflect the Commission's decisions regarding bonuses and incentive compensation in determining the South Dakota share. Specifically, Otter Tail Corporation executives' bonuses and incentive compensation are capped at 25 percent of base salary, as reflected in Volume 4A, Section B, workpaper B-16. Statement H-4 shows the adjustment made to calculate the South Dakota amount.

Q. ARE THE COSTS REFLECTED IN TABLE 4 REASONABLE AND APPROPRIATE FOR INCLUSION IN THE 2017 TEST YEAR?

A. Yes. All costs have been allocated in a manner consistent with prior cases. The Otter Tail Corporation costs reflected in Table 4 are reasonable and appropriate for inclusion in the 2017 Test Year. Approximately 70 percent of operating and net income for Otter Tail Corporation is derived from OTP,[6] yet as Table 4 above reflects, only 51.5 percent of Corporate costs are allocated to OTP.

VIII. ECONOMIC DEVELOPMENT RATES

Q. WHAT TOPICS WILL YOU DISCUSS IN THIS SECTION OF YOUR DIRECT TESTIMONY?

A. In this section of my Direct Testimony, I will discuss two new economic development rates being proposed by OTP.

Q. DOES OTP'S CURRENT RATE STRUCTURE SUPPORT ECONOMIC DEVELOPMENT?

A. Yes. As Mr. Gerhardson points out in his Direct Testimony, OTP has the 4th lowest blended rate for all customers in the United States, and the second lowest of any investor-

[6] Derived from page 5 of Otter Tail Corporation's 2017 Annual Report to Shareholders. Operating Income for OTP was $90 million; Otter Tail Corporation operating income was $126 million. Similarly, OTP accounted for $49 million of Otter Tail Corporation's total net income of $72 million.

owned utility in South Dakota. High energy use entities that may be considering locating or expanding in South Dakota will give careful consideration to low rates in evaluating their options, including locating in areas in South Dakota that OTP serves. OTP's high customer satisfaction and reliable service are additional supporting factors that helps OTP attract new load.

Q. IS OTP PROPOSING ANY NEW RATES IN THIS CASE THAT WOULD SUPPORT FURTHER ECONOMIC DEVELOPMENT IN SOUTH DAKOTA?

A. Yes. In this case, OTP is proposing two new rate offerings: a new Economic Development Rider-Large General Service (EDR) rate; and a new Super Large General Service (Super LGS) rate offering. In order to expand OTP's "tool-box" of rate offerings to help attract new business, OTP has designed these two rate offerings to enhance OTP's potential to attract business to South Dakota. Both rate mechanisms would allow OTP to compute customer-specific rate quotes in the form of a discount, using a formulaic approach that insures that a proposed discount will still yield benefits to all other customers should the customer take service from OTP. OTP witness Mr. David Prazak provides the details associated with these new rate offerings in his Direct Testimony, along with proposed rate schedules for each.

Q. PLEASE BRIEFLY DESCRIBE THE ECONOMIC DEVELOPMENT-LARGE GENERAL SERVICE RIDER RATE.

A. The mechanism calculates a proposed rate discount off OTP's Large General Service Rider rate. OTP could potentially offer a discount for up to a five-year period with this rider. OTP has developed a model to price the potential discount while ensuring that the potential customer will at least pay the annual incremental (marginal) costs to serve them. This helps ensure net benefits are realized by all other customers through the addition of the load.

Q. PLEASE BRIEFLY DESCRIBE THE SUPER LGS RATE.

A. The Super LGS rate is intended for very large, high load factor customers such as a data processing facility or a large agricultural processing facility that might have a connected

load of 25 MWs or more and run at a very high capacity level (at least 80 percent load factor). Following a similar approach as the EDR rate, a rate would be computed based on a customer's specific operating profile and would be set at a level which still provides benefits to other customers. Unlike the EDR rate, the Super LGS rate could continue beyond a five-year period.

Q. PLEASE EXPLAIN FURTHER HOW THESE RATES BENEFIT OTHER CUSTOMERS.

A. The computation of these rates takes into account the marginal costs OTP would incur to serve these customers. Because these marginal costs are covered under both rate offerings, the incremental margins over and above the marginal costs helps cover OTP's fixed costs of service. Other customers realize the benefit of these new customers in at least two ways. First, in the near term (for example when a rider filing such as the TCRR is made), the costs being recovered within the rider would be spread over a greater number of KWs or kWhs, reducing the effective rate that all customers would pay. Second, adding new load that contributes incremental margin to OTP could help delay the need for future rate cases. When rates are reset in the next rate case, again, the costs would be spread over a greater number of KWs and kWhs keeping rates lower than without these customers.

Q. ARE THERE OTHER BENEFITS IF THESE RATES ARE SUCCESSFUL IN ATTRACTING NEW BUSINESS TO OTP AREAS IN SOUTH DAKOTA?

A. Yes. For example, attracting a large agricultural processing facility or data processing facility would certainly bring with it new employment opportunities; potentially attract more people to the communities OTP serves; provide further economic activity to existing or potentially new additional businesses providing products and services to the area; increase the state's tax base that would drive increased property, sales, and income taxes for the state.

Q. HOW WOULD YOU SUMMARIZE OTP'S NEED FOR ECONOMIC DEVELOPMENT RATES?

A. The sustainability of the small towns OTP serves across rural South Dakota is critical for OTP's long-term success and its commitment to provide low cost, safe, reliable energy to all customers. A declining customer base results in OTP costs being spread over fewer customers, resulting in an increasing effect on future rates. OTP, its customers, and the state of South Dakota all benefit when economic development efforts facilitate the attraction and development of new business and the expansion or retention of existing business. OTP's design of the economic development rates discussed above assure benefits are realized to all parties involved.

IX. LEAD LAG STUDY

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

A. In this section of my Direct Testimony, I will explain OTP's Lead Lag Study.

Q. WHAT IS THE PURPOSE OF THE LEAD LAG STUDY?

A. The Lead Lag Study is a widely used and accepted method for developing the Cash Working Capital (CWC) component of rate base in connection with the determination of revenue requirements. This study analyzes the lapse of time between the average day on which a utility incurs expenses to serve its customers and the average day on which cash is received from customers in payment of that service. Lead days refer to the days between incurring an expense and paying for it. Lag days refer to the days between rendering a service and receiving payment for that service.

Q. HAS OTP'S LEAD LAG STUDY BEEN UPDATED SINCE THE LAST RATE CASE?

A. Yes. OTP updated its Lead Lag Study in 2015 using data from 2014.

Q. IS THE CASH WORKING CAPITAL DETERMINATION METHODOLOGY CONSISTENT WITH OTP'S LAST RATE CASE?

A. Yes. The study and procedures used to calculate the working capital requirement are consistent with the approach and methodology filed by OTP and approved by the Commission in OTP's last South Dakota rate case. OTP reviewed the procedures used in the Lead Lag Study filed in that case and concluded no significant changes in policies or procedures had occurred and conducted the current study using those same procedures. The updated study is included in Volume 4B. The results of the updated Lead Lag Study are included in the CWC calculations provided in Volume 4A, Section C, Schedule B-4, pages 1-3. OTP witness Mr. Akerman discusses the overall calculation of CWC and its inclusion in rate base in his Direct Testimony.

Q. HOW DO THE RESULTS OF THE UPDATED LEAD LAG STUDY COMPARE TO THE RESULTS OF THE STUDY USED IN OTP'S LAST RATE CASE?

A. The lag period has increased to 43.4 days from 38.9 days shown in OTP's last rate case in 2010, with the majority of the increase coming from collections increasing from 20.07 days in 2010 to 24.7 days in this latest study. As reflected in Volume 4A, Section C, Schedule B-4, page 1 of 3, OTP does not receive cash from computer-maintained billings until 43.4 days after service has been rendered. As shown on Lines 58 through 60 of Volume 4A, Section C, Schedule B-4, page 1 of 3, the 43.4 days is comprised of a 15.2-day metering period lag, a 3.5-day bill processing lag, and a 24.7-day collection period lag, which was based on the total annual billings to customers divided by the average daily utility receivable balances.

X. MERRICOURT WIND PROJECT STEP INCREASE RATE PROPOSAL

Q. WHAT IS THE PURPOSE OF THIS PORTION OF YOUR TESTIMONY?

A. In this section of my Direct Testimony, I will discuss OTP's proposal to include the 150 MW Merricourt Wind (Merricourt) project into base rates through the use of a step increase rate upon completion of the project. Mr. Akerman addresses the financial adjustments associated with the Merricourt project to determine the increased

jurisdictional revenue requirement. Mr. Haugen addresses the associated class revenue requirement impacts and Mr. Prazak addresses the updates to rates attributable to the Merricourt project.

Q. WHEN IS THE MERRICOURT PROJECT SCHEDULED TO BE PLACED IN SERVICE?

A. The Merricourt project is scheduled to be completed and in-service at the end of 2019.

Q. WHY IS OTP PROPOSING A STEP INCREASE RATE FOR THE MERRICOURT PROJECT?

A. The Merricourt project is the largest single wind energy project in which OTP has invested in to date, with an estimated total cost of approximately $271 million (OTP Total), $25 million (OTP SD). Because of the size of the project and the absence of any other recovery mechanism such as a rider to recover the cost project, OTP believes developing a step increase rate in this case would be the most cost-effective and efficient approach to request recovery.

Q. ARE THERE ANY OTHER RATE IMPACTS BEYOND COST RECOVERY THAT WILL OCCUR DUE TO THE MERRICOURT PROJECT?

A. Yes. When Merricourt is placed in service, the energy output from Merricourt will be generated at zero fuel cost and will displace other costs such as purchased power costs, which flow through the Energy Adjustment Rider. An updated Statement P that reflects the estimated reduction in purchased power costs is included in Volume 4A, Section 5. The estimated average base fuel rate, calculated on a system basis, drops from $0.026153 to $0.022996 per kWh.

Q. IF A STEP INCREASE RATE WAS NOT APPROVED IN THIS CASE, HOW WOULD OTP SEEK FUTURE RECOVERY OF THIS PROJECT?

A. OTP would need to file another rate case to request recovery of the Merricourt project costs. OTP's current assumption that final rates in this case will become effective January 1, 2019, and the Merricourt project is scheduled to be completed and in-service

just one year later. As Mr. Gerhardson discusses, OTP believes it would be in the best interest of all stakeholders to avoid the significant cost of another rate case, not long after the conclusion of this case, to incorporate this project into base rates.

Q. ARE THERE OTHER MAJOR OTP INVESTMENTS THAT ARE GOING TO DRIVE FUTURE RATE CASES?

A. Yes. OTP is also developing its Astoria Station (Astoria) project, an approximately $165 million simple cycle gas generating station to be located near Astoria, South Dakota, which is currently scheduled to be completed in 2021. OTP anticipates that it will need to file a rate case in the 2021 timeframe to request recovery of the Astoria project, as well as incorporate then-completed transmission projects, such as the Big Stone South to Ellendale project, currently under construction, into base rates. The step increase proposal in this case will allow OTP to bridge the gap between this case and the potential 2021 case.

Q. WHEN DOES OTP PROPOSE THE STEP INCREASE RATES TO INCLUDE THE MERRICOURT PROJECT WOULD TAKE EFFECT?

A. OTP proposes that the step increase rates would become effective January 1, 2020.

XI. MISCELLANEOUS ITEMS

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

A. In this section of my Direct Testimony, I will discuss: 1) non-asset-based trading; 2) rate case expenses; and 3) holding company formation expenses.

A. Non-Asset Based Trading

Q. DOES THE 2017 TEST YEAR INCLUDE ANY COSTS RELATED TO NON-ASSET BASED TRADING ACTIVITIES?

A. No. OTP ceased all non-asset-based trading activities as of December 31, 2014. Thus, there are no new non-asset-based trading costs or revenues in the 2017 Test Year.

Q. WHY DID OTP MAKE THE BUSINESS DECISION TO CEASE NON-ASSET BASED TRADING ACTIVITIES?

A. OTP conducted a financial analysis on its non-asset-based trading business in the winter and spring of 2014. The analysis showed historically declining margins and reduced profits in the future. Based on this analysis, OTP ultimately concluded that it should exit the non-asset-based trading business.

Q. DOES OTP HAVE ANY REMAINING NON-ASSET BASED TRADING POSITIONS?

A. No. The last new non-asset-based trades occurred on December 31, 2014. A small number of non-asset-based positions carried into the 2015 calendar year, but they were completely liquidated by June 1, 2015. As of that date, OTP had no non-asset-based trading positions.

B. Rate Case Expenses

Q. WHAT IS THE ESTIMATED RATE CASE EXPENSE FOR THIS CASE?

A. We estimate the rate case expenses associated with this case to be $550,000 (OTP SD). This expense includes administrative costs, the charges to be expected from the Commission and outside consulting and legal fees.

Q. HOW DID YOU DEVELOP THIS ESTIMATE?

A. Administrative costs and Commission charges are estimated based on fees assessed in other South Dakota rate cases. Consulting fees and outside legal fees estimates were based on information from service providers. The details are reflected in work paper TY-09 in Volume 4A, Workpapers.

Q. WHAT IS THE AMOUNT OF RATE CASE EXPENSE INCLUDED IN THE 2017 TEST YEAR?

A. The 2017 Test Year annual rate case expense is $183,333 (OTP SD).

Q. WHAT AMORTIZATION PERIOD DID YOU USE?

A. We used a three-year amortization period. Because the rate case expense is a one-time expense, it would be inappropriate to treat those expenses as recurring expenses. Therefore, it is appropriate to amortize those expenses over the period of time expected before OTP's next rate case. Based on what we know today, we believe OTP will likely file its next rate case in three years.

C. Holding Company Formation Expenses

Q. DOES THE 2017 TEST YEAR INCLUDE ANY ADJUSTMENT FOR AMORTIZATION OF HOLDING COMPANY COSTS?

A. No. In Docket, EL08-025, the Commission approved OTP's request to form a holding company. OTP began amortizing holding company costs following its rate case in Docket EL08-030 and updated the amortization to three years following OTP's last general in Docket EL-10-011. There are no holding company formation expenses included in the 2017 Test Year.

XII. CONCLUSION

Q. WHAT ARE YOUR CONCLUSIONS?

A. My Direct Testimony supports the conclusions that:

- OTP has effectively managed its major capital projects which has resulted in very substantial customer savings;
- The 2017 Test Year South Dakota retail revenues are reasonable and appropriate for ratemaking;
- OTP's jurisdictional and class allocations are reasonable for establishing rates in this case;
- OTP's proposed revisions to its Fuel Clause Rider are reasonable;
- OTP's corporate cost allocations meet Commission requirements and are appropriate;
- OTP's proposal rates for economic development are reasonable and appropriate;

- OTP's proposal for step increase rates for the Merricourt project will help delay the need for another rate case.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.