

Exh. TLK-2

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EXHIBIT: TLK-2

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BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-19_____

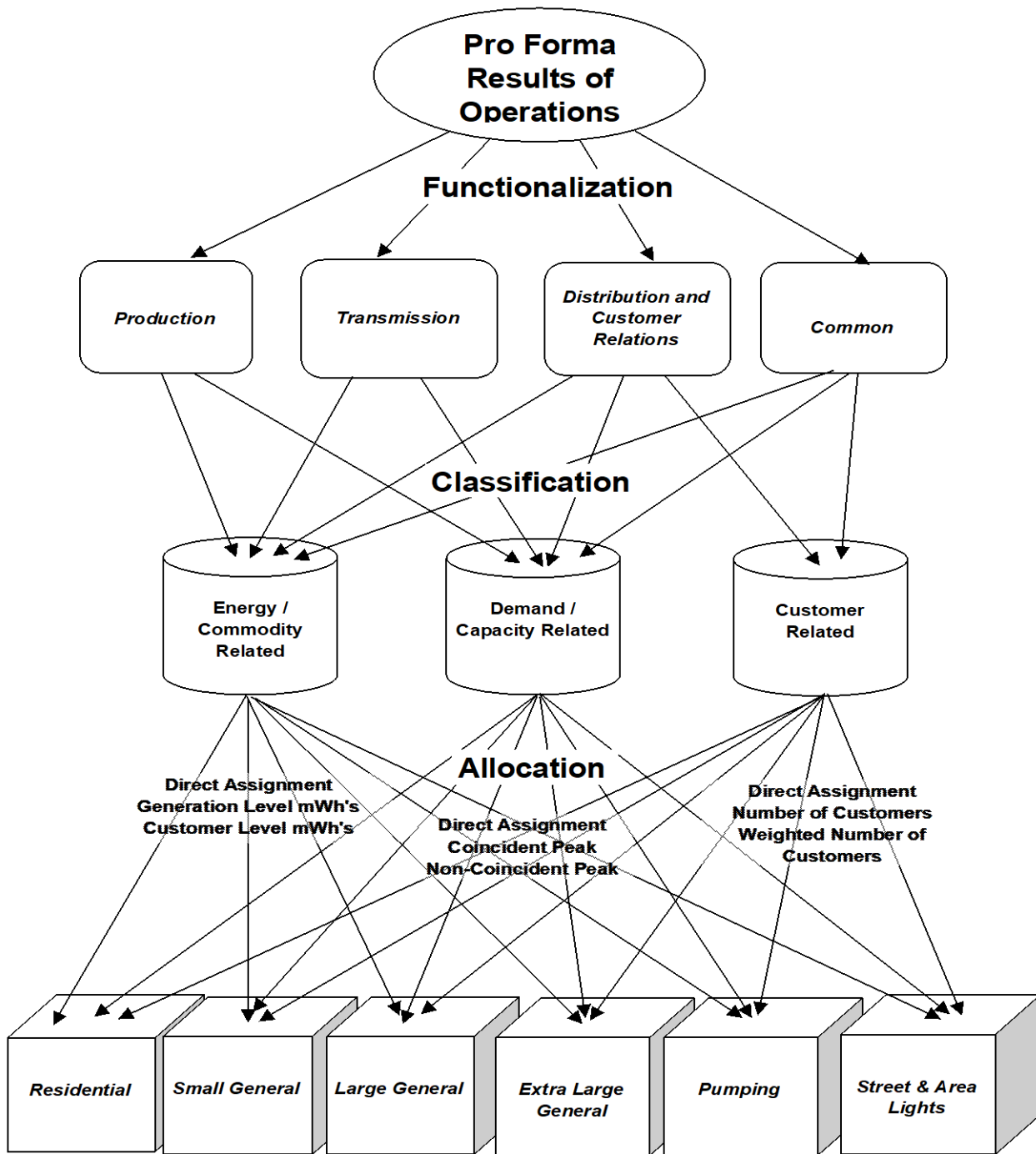
EXH. TLK-2

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1 metering equipment. In addition to these three cost components, any revenue related
 2 expense is allocated based on the proportion of revenues by rate schedule.

3 **ELECTRIC COST OF SERVICE STUDY FLOWCHART**



22 **Pro Forma Results of Operations by Customer Group**

23

1 The final step is allocation of the costs to the various rate schedules utilizing the
2 allocation factors selected for each specific cost item. These factors are derived from usage
3 and customer information associated with the test period results of operations.

4 **BASE CASE COST OF SERVICE STUDY**

5 **Production and Transmission Classification (Peak Credit)**

6 This study utilizes a Peak Credit methodology to classify production and
7 transmission costs into demand and energy classifications. The Peak Credit method
8 acknowledges that all energy production costs contain both capacity and energy components
9 as they provide energy throughout the year as well as capacity during system peaks.
10 Likewise, the transmission system is built not only for peak use, but also for everyday
11 delivery of energy. The peak credit ratio (the proportion of total production cost that is
12 capacity related) is determined using the electric system load factor inherent in the test year.
13 The share of production costs attributable to demand is one minus the load factor (average
14 MW divided by peak MW) which is 39.52% for the 12-months ended December 2018 test
15 year. The same classification ratio is applied to all production and transmission costs.

16 **Production and Transmission Allocation**

17 Production and transmission demand-related costs are allocated to the customer
18 classes by class contribution to the average of the twelve monthly system coincident peak
19 loads. Although the Company is usually a winter peaking utility, it experiences high
20 summer peaks and careful management of capacity requirements is required throughout the
21 year. The use of the average of twelve monthly peaks recognizes that customer capacity
22 needs are not limited to the heating season.

1 Energy-related costs are allocated to class by pro forma annual kilowatt-hour sales
2 adjusted for losses to reflect generation level consumption.

3 **Distribution Facilities Classification (Basic Customer)**

4 The Basic Customer method considers only services and meters and directly assigned
5 Street Lighting apparatus (FERC Accounts 369, 370, and 373 respectively) to be customer-
6 related distribution plant. All other distribution plant is then considered demand related.
7 The basic customer method has been adopted historically for both electric and natural gas
8 cost of service in the State of Washington.

9 **Customer Relations Distribution Cost Classification**

10 Customer service, customer information and sales expenses are the core of the
11 customer relations functional unit which is included with the distribution cost category. For
12 the most part they are classified as customer related. Exceptions are sales expenses which
13 are classified as energy related and uncollectible accounts expense which is considered
14 separately as a revenue conversion item.

15 **Distribution Cost Allocation**

16 Distribution demand-related costs which cannot be directly assigned are allocated to
17 customer class by the average of the twelve monthly non-coincident peaks for each class.
18 Distribution facilities that serve only secondary voltage customers are allocated by non-
19 coincident peak excluding all primary and transmission voltage customers. This includes
20 line transformers, services, and secondary voltage overhead or underground conductors and
21 devices. The costs of specific substations and related primary voltage distribution facilities
22 are directly assigned to Extra Large General Service customers based on their load ratio
23 share of the substation capacity from which they receive service. The remaining primary

1 voltage overhead or underground conductors and devices are allocated by non-coincident
2 peak for all customers except those that received direct assignment (Schedule 25).

3 Most customer costs are allocated by average number of customers. Weighted
4 customer allocators have been developed using typical current cost of meters, estimated
5 meter reading time, and direct assignment of billing costs for hand-billed customers. Street
6 and Area Light customers (Schedules 41 – 48) are excluded from metering and meter
7 reading expenses as their service is not metered.

8 **Administrative and General Costs**

9 Administrative and general costs which are directly associated with production,
10 transmission, distribution, or customer relations functions are directly assigned to those
11 functions and allocated to customer class by the relevant plant or number of customers. The
12 remaining administrative and general costs are considered common costs, and have been left
13 in their own functional category. These common costs are allocated to rate classes using the
14 same methodology approved for Puget Sound Power and Light (now Puget Sound Energy)
15 in Docket No. UE-920499.

16 Common plant items are allocated to rate classes by either PTD¹ plant; PTD labor
17 expense; or total labor expense. Most common administrative and general expenses are
18 allocated to rate class by non-resource operating and maintenance expenses². Property
19 insurance expense is allocated by plant totals. Injuries & damages and pensions & benefits
20 expenses are allocated by operating and maintenance labor expense totals. Working capital

¹ The sum of production transmission and distribution assignments determined within the calculation model.

² The sum of operating and maintenance expenses before administrative and general expenses excluding resource items (purchased power, fuel, and wheeling expense) assignments as determined within the calculation model. Revenue-related items (uncollectible accounts expense and commission fees) are also excluded to avoid circular reference issues.

1 is allocated by tangible plant in service (production, transmission, distribution, general
2 plant).

3 **Revenue Conversion Items**

4 In this study, state excise tax, uncollectible accounts and commission fees have been
5 classified as revenue-related and are allocated by pro forma revenue. These items vary with
6 revenue and are included in the calculation of the revenue conversion factor. Income tax
7 expense items are allocated to schedules by net income before income tax adjusted by
8 interest expense.

9 For the functional summaries on pages 2 and 3 of the cost of service study, these
10 items are then assigned to component cost categories. The revenue-related expense items
11 have been reduced to a percent of all other costs and loaded onto each cost category by that
12 ratio. Similarly, income tax items have been reduced to a percent of net income before tax
13 then assigned to cost categories by relative rate base (as is net income).

14 The following matrix outlines the methodology applied in the Company Base Case
15 cost of service study.

Line Account	Functional Category	Classification	Allocation
Production Plant			
1 Thermal Production	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
2 Nuclear Production (Settlement Exchange)	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
3 Hydro Production	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
4 Other Production (Coyote Springs)	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
5 Other Production	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
Transmission Plant			
6 All Transmission	T = Transmission	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
Distribution Plant			
7 360 Land	D = Distribution	Demand	D08 Non-coincident Peak Demand Primary
8 361 Structures	D = Distribution	Demand	D03/D04/D05 Direct Assign Large / Non-coincident Peak Demand Excl DA
9 362 Station Equipment	D = Distribution	Demand	D03/D04/D05 Direct Assign Large / Non-coincident Peak Demand Excl DA
10 364 Poles Towers & Fixtures	D = Distribution	Demand	D03/D04/D06/D07 Primary NCP Excl DA / Secondary NCP / Direct Assign Lights / Direct Assign Large
11 365 Overhead Conductors & Devices	D = Distribution	Demand	D03/D04/D06 Primary NCP Excl DA / Secondary NCP / Direct Assign Large
12 366 Underground Conduit	D = Distribution	Demand	D03/D04/D06 Primary NCP Excl DA / Secondary NCP / Direct Assign Large
13 367 Underground Conductors & Devices	D = Distribution	Demand	D03/D04/D06 Primary NCP Excl DA / Secondary NCP / Direct Assign Large
14 368 Line Transformers	D = Distribution	Demand	D06 Non-coincident Peak Demand Secondary only
15 369 Services	D = Distribution	Customer	C02 Secondary Customers unweighted Excl Lighting
16 370 Meters	D = Distribution	Customer	C04 Customers weighted by Current Typical Meter Cost
17 373 Street and Area Lighting Systems	D = Distribution	Customer	C05 Direct Assignment to Street and Area Lights
General Plant			
389 - 392, 397, 398 Land, Structures, Furniture,			
18 Transportation, Communication, Miscellaneous Equipment	P/T/D	Demand/Energy/Customer as in related Labor	S22 Labor O&M Total
393 Stores Equipment	P/T/D	Demand/Energy/Customer as in related Plant	S05 P/T/D Plant Total
394 - 396 Tools Shop/Garage, Laboratory, Power Op Equip	P/T/D	Demand/Energy/Customer as in related Labor	S21 Labor P/T/D O&M Subtotal
Intangible Plant			
19 301 Organization	P/T/D/G	Demand/Energy/Customer as in related Plant	S06 Sum of Production, Transmission, Distribution, and General Plant
20 302 Franchises & Consents - Hydro Relicensing	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
21 303 Misc Intangible Plant - Transmission Agreements	T = Transmission	Demand/Energy from Transmission Plant	S02 Sum of Transmission Plant
22 303 Misc Intangible Plant - Distribution Agreements	D = Distribution	Demand/Customer from Distribution Plant	S03 Sum of Distribution Plant
23 303 Misc Intangible Plant - Software and Other Common	P/T/D/G	Demand/Energy/Customer as in related Plant	S06 Sum of Production, Transmission, Distribution, and General Plant
24 303 Misc Intangible Plant - MDM/AMI	D = Distribution	Customer	C04 Customers weighted by Current Typical Meter Cost
Reserve for Depreciation/Amortization			
25 Intangible	P/T/D/G	Follows Related Plant	S01/S02/S03/S06 Sum of Production / Transmission / Distribution Plant / P/T/D/G Total
26 Production	P = Production	Follows Related Plant	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
27 Transmission	T = Transmission	Follows Related Plant	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
28 Distribution	D = Distribution	Follows Related Plant	D02/D03/D04/D05/D06/D07/D08/C02/C04/C05 - See Related Plant
29 General	P/T/D	Demand/Energy/Customer as in related Labor or Plant	S22/S05/S21 Labor O&M Total, P/T/D Plant Total, Labor P/T/D O&M Subtotal
Other Rate Base			
30 252 Customer Advances for Construction/Deposits	D = Distribution	Customer	S13 Sum of Account 369 Services Plant
31 282/190 Accumulated Deferred Income Tax	P/T/D/G	Follows Related Plant	S01/S02/S03/S04 Sums of Production / Transmission / Distribution / General Plant
32 Regulatory Asset AFUDC	P/T/D/G	Demand/Energy/Customer from Related Plant	S01/S02/S03/S04 Sums of Production / Transmission / Distribution / General Plant
33 Hydro Relicensing Related Settlements	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
34 Colstrip Deferred Balance	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
35 Deferred Meter Retirements Balance (for future use)	D = Distribution	Customer	C04 Customers weighted by Current Typical Meter Cost
36 Working Capital	P/T/D/G	Demand/Energy/Customer as in related Plant	S06 Sum of Production, Transmission, Distribution, and General Plant

Line Account	Functional Category	Classification	Allocation
Production O&M			
1 Thermal	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
2 Thermal Fuel (501)	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
3 Hydro	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
4 Water for Power (536)	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
5 Other (Coyote Springs)	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
6 Other Fuel (547)	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
7 Other	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
8 Purchased Power and Other Expenses (555 and 557)	P = Production	Demand/Energy from Production Plant	S01 Sum of Production Plant
9 System Control & Misc (556)	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
Transmission O&M			
10 All Transmission	T = Transmission	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
Distribution O&M			
11 580 OP Super & Engineering	D = Distribution	Demand/Customer from Other Dist Op Exp	S16 Sum of Other Distribution Operating Expenses
12 581 Load Dispatching	D = Distribution	Demand	D02 Non-coincident Peak Demand
13 582 Station Expenses	D = Distribution	Demand	S09 Sum of Account 362 Station Equipment
14 583 Overhead Lines	D = Distribution	Demand	S10 Sum of Accounts 364 and 365 Poles, Towers, Fixtures & Overhead Conductors
15 584 Underground Lines	D = Distribution	Demand	S11 Sum of Accounts 366 and 367 Underground Conduit & Underground Conductors
16 585 Street Lights	D = Distribution	Customer	S15 Sum of Account 373 Street Light and Signal Systems
17 586 Meters	D = Distribution	Customer	S14 Sum of Account 370 Meters
18 587 Customer Installations	D = Distribution	Customer	S13 Sum of Account 369 Services
19 588 Misc Operating Expense	D = Distribution	Demand/Customer from Other Dist Op Exp	S16 Sum of Other Distribution Operating Expenses
20 589 Rents	D = Distribution	Demand	D02 Non-coincident Peak Demand
21 590 MT Super & Engineering	D = Distribution	Demand/Customer from Other Dist Mt Exp	S17 Sum of Other Distribution Maintenance Expenses
22 591 MT of Structures	D = Distribution	Demand	S08 Sum of Account 361 Structures & Improvements
23 592 MT of Station Equipment	D = Distribution	Demand	S09 Sum of Account 362 Station Equipment
24 593 MT of Overhead Lines	D = Distribution	Demand	S10 Sum of Accounts 364 and 365 Poles, Towers, Fixtures & Overhead Conductors
25 594 MT of Underground Lines	D = Distribution	Demand	S11 Sum of Accounts 366 and 367 Underground Conduit & Underground Conductors
26 595 MT of Line Transformers	D = Distribution	Demand	S12 Sum of Account 368 Line Transformers
27 596 MT of Street Lights	D = Distribution	Customer	S15 Sum of Account 373 Street Light and Signal Systems
28 597 MT of Meters	D = Distribution	Customer	S14 Sum of Account 370 Meters
29 598 Misc Maintenance Expense	D = Distribution	Demand/Customer from Other Dist Mt Exp	S17 Sum of Other Distribution Maintenance Expenses
Customer Accounts Expenses			
30 901 Supervision	C = Customer Relations	Customer	S18 Sum of Other Customer Accounts Expenses Excluding Uncollectibles
31 902 Meter Reading	C = Customer Relations	Customer	C03 Customers Weighted by Estimated Meter Reading Time
32 903 Customer Records & Collections	C = Customer Relations	Customer	C01 All Customers unweighted
33 904 Uncollectible Accounts	R = Revenue Conversion	Revenue	R01 Retail Sales Revenue
34 905 Misc Cust Accounts	C = Customer Relations	Customer	C01 All Customers unweighted
Customer Service & Info Expenses			
35 907 Supervision	C = Customer Relations	Customer	C01 All Customers unweighted
36 908 Customer Assistance	C = Customer Relations	Customer	C01 All Customers unweighted
37 909 Advertising	C = Customer Relations	Customer	C01 All Customers unweighted
38 910 Misc Cust Service & Info	C = Customer Relations	Customer	C01 All Customers unweighted
Sales Expenses			
39 911 - 916	C = Customer Relations	Energy	E02 Annual Generation Level Consumption

Line Account	Functional Category	Classification	Allocation
Admin & General Expenses			
1 920 - 926 & 930 -935 Assigned to Production	P = Production	Demand/Energy from Production Plant	S01 Sum of Production Plant
2 920 - 926 & 930 -935 Assigned to Transmission	T = Transmission	Demand/Energy from Transmission Plant	S02 Sum of Transmission Plant
3 920 - 926 & 930 - 935 Assigned to Distribution	D = Distribution	Demand/Customer from Distribution Plant	S03 Sum of Distribution Plant
4 920 - 926 & 930 - 935 Assigned to Customer Relations	C = Customer Relations	Customer	C01 All Customers unweighted
5 Other 920-923, 928-931 Salaries, supplies, etc	P/T/D	Demand/Energy/Customer from O&M Expenses	S19 Sum of expenses excluding Purch Power, Fuel, Wheeling, Uncollectibles, Tariff Rider
6 924 Property Insurance	P/T/D/G	Demand/Energy/Customer from Related Plant	S01/S02/S03/S04 Sums of Production / Transmission / Distribution / General Plant
7 Other 925-926 Inj & Dam, Pensions & Benefits	P/T/D	Demand/Energy/Customer from Labor O&M Total	S22 Sum of Labor O&M Expenses
8 928 FERC Commission Fees	P = Production	Demand/Energy from Production Plant	S01 Sum of Production Plant
9 927,928 Franchise Fees, WUTC Commission Fees	R = Revenue Conversion	Revenue	R01 Retail Sales Revenue
10 935 Maintenance of General Plant	P/T/D	Demand/Energy/Customer from Plant	S04 Sum of General Plant
Depreciation & Amortization Expense			
11 Intangible	P/T/D/G	Demand/Energy/Customer as in related Plant	S01/S02/S06/C04 Sum of Production Plant / Sum of Transmission Plant / Sum of P/T/D/G Plant / Meter Cost
12 Production	P = Production	Demand/Energy as in related Plant	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
13 Transmission	T = Transmission	Demand/Energy as in related Plant	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
14 Distribution	D = Distribution	Demand/Customer as in related Plant	D02/D03/D04/D05/D06/D07/D08/C02/C04/C05 - See Related Plant
15 General	P/T/D	Demand/Energy/Customer as in related Labor or Plant	S22/S05/S21 Labor O&M Total, P/T/D Plant Total, Labor P/T/D O&M Subtotal
Taxes			
16 Property Tax	P/T/D/G	Demand/Energy/Customer from Related Plant	S01/S02/S03/S04 Sums of Production / Transmission / Distribution / General Plant
17 State kWh Generation Taxes	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
18 Misc Production Taxes	P = Production	Demand/Energy by Peak Credit (39.52% Demand)	D01/E02 Coincident Peak Demand/Annual Generation Level Consumption
19 Misc Distribution Taxes	D = Distribution	Demand/Customer from Distribution Plant	S03 Sum of Distribution Plant
20 Washington State Excise Tax	R = Revenue Conversion	Revenue	R01 Retail Sales Revenue
21 Federal Income Taxes - Current and/or Deferred	R = Revenue Conversion	Revenue	R03 Revenue less Expenses Before Income Tax less Interest Expense
Other Income Related Items			
22 Production Related Items	P = Production	Demand/Energy from Production Plant	S01 Sum of Production Plant
23 Regulatory Asset AFUDC	P/T/D/G	Demand/Energy/Customer from Related Plant	S01/S02/S03/S04 Sums of Production / Transmission / Distribution / General Plant
24 Amortization of Gain on Sale of Misc Property	D = Distribution	Demand/Customer from Distribution Plant	S03 Sum of Distribution Plant
25 Amortization of AMI-MDM /Deferred Meter Retirements	D = Distribution	Customer	C04 Customers weighted by Current Typical Meter Cost
26 FISERVE (Fee Free) Amortization	C = Customer Relations	Customer	C07 Residential Customers Direct Assignment
Operating Revenues			
27 Sales of Electricity- Retail	R = Revenue from Rates	Revenue	Input Pro Forma Revenue per Revenue Study
28 Sales for Resale (447)	P = Production	Demand/Energy from Production Plant	S01 Sum of Production Plant
29 Misc Service Revenue (451)	D = Distribution	Demand/Customer from Distribution Plant	S03 Sum of Distribution Plant
30 Sales of Water & Water Power (453)	P = Production	Demand/Energy from Production Plant	S01 Sum of Production Plant
31 Rent from Production Property (454)	P = Production	Demand/Energy from Production Plant	S01 Sum of Production Plant
32 Rent from Transmission Property (454)	T = Transmission	Demand/Energy from Transmission Plant	S02 Sum of Transmission Plant
33 Rent from Distribution Property (454)	D = Distribution	Demand/Customer from Distribution Plant	S03 Sum of Distribution Plant
34 Other Electric Revenues - Generation (456)	P = Production	Demand/Energy from Production Plant	S01 Sum of Production Plant
35 Other Electric Revenues - Wheeling (456)	T = Transmission	Demand/Energy from Transmission Plant	S02 Sum of Transmission Plant
36 Other Electric Revenues - Energy Delivery (456)	D = Distribution	Demand/Customer from Distribution Plant	S03 Sum of Distribution Plant
Salaries & Wages (allocators)			
Operation & Maintenance Expenses			
37 Production Total	P = Production	Demand/Energy from Production Plant	S01 Sum of Production Plant
38 Transmission Total	T = Transmission	Demand/Energy from Transmission Plant	S02 Sum of Transmission Plant
39 Distribution Total	D = Distribution	Demand/Customer from Distribution Plant	S03 Sum of Distribution Plant
40 Customer Accounts Total	C = Customer Relations	Customer	S18 Sum of Other Customer Accounts Expenses Excluding Uncollectibles
41 Customer Service Total	C = Customer Relations	Customer	C01 All Customers unweighted
42 Sales Total	C = Customer Relations	Energy	E02 Annual Generation Level Consumption
43 Admin & General Total	P/T/D	Demand/Energy/Customer from Related Plant	S05 Sum of Production, Transmission and Distribution Plant