

# Transmission Cost Study

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# Transmission Cost Analysis

- **Our Goal:** Ensure the rates, terms and conditions of service for wholesale transmission of electric energy are just, reasonable, and not unduly discriminatory or preferential
- **Not finalized:** The draft transmission cost analysis and subsequent formula rate design do not include any policy decisions (Grant PUD commissioners), customer specific, historic, or situational adjustments. It is the result of an empirical analysis.



# FERC Standardized Principals

## Federal Energy Regulatory Commission (FERC):

- The **integrity and transparency** of formula rates and their implementation are critically important in ensuring just and reasonable rates.
- Utilities include safeguards in their transmission formula **rate protocols to provide transparency** in the utilities' implementation of their transmission formula rates.
- Among these safeguards is a requirement for utilities to **share the annual updates**.
- Dependent on needs, it is anticipated Grant PUD's Transmission COSS would be reviewed annually and updated every 3 to 5 years.

# Stakeholder Engagement Process

<b>May 1, 2019</b>	Stakeholder meeting: public input
<b>May 15, 2019</b>	Collected stakeholders' written comments
<b>June 5, 2019</b>	Published responses to comments
<b>June 19, 2019</b>	Published initial draft of COSS
<b>June 20, 2019</b>	Stakeholder meeting: initial feedback

<b>June 24, 2019</b>	Stakeholder meeting: detailed review of draft
<b>June 24-26, 2019</b>	Individual stakeholder meetings
<b>July 10, 2019</b>	Collected stakeholders' written comments
<b>August 7, 2019</b>	Stakeholder meeting: detailed review of updated draft



# Stakeholder Engagement Process - Questions and Responses

<b>July 10, 2019</b>	Received Comments and Questions from USBR and Irrigation Districts
<b>July 25, 2019 &amp; August 5, 2019</b>	Grant PUD provided responses to the July 10, 2019 Questions
<b>August 5, 2019</b>	Received Comments and Questions from BPA
<b>August 12, 2019</b>	Grant PUD provided its responses to BPA's August 5, 2019 Comments and Questions
<b>August 27, 2019</b>	USBR submitted additional Comments and Questions

<b>September 26, 2019</b>	Grant PUD provided the responses to USBR's August 27, 2019 Comment and Questions
<b>December 4, 2019</b>	USBR submitted additional Questions
<b>January 10, 2020</b>	Grant PUD provided its responses to USBR's December 4, 2019 Questions





# What's Different?

Comparison with Previous COSA

2017 COSA

VS

2019 COSS

**COSA:** Cost of Service Analysis

**Load:** Used a 5 Year average based on projected load growth. The forecast had a **much larger load and denominator.**

**O&M Expense Differences:**

(includes transmission and A&G O&M expenses)

**\$6,359,279**

Used forecasted O&M expenses that showed **O&M declining by 34 percent** from approximately \$4.5M in 2015 to \$2.9M in 2019

**COSS:** Cost of Service Study

**Load:** Used historic 2018 load

**O&M Expense Differences:**

(includes transmission and A&G O&M expenses)

**\$10,775,094**

**\$4,415,815 Difference**

2017 COSA

VS

2019 COSS

## Depreciation Expenses:

Not calculated when using the cash approach

\$0

## Depreciation Expenses:

Included in calculation when using accrual accounting

\$6,826,640

← \$6,826,640 Difference

## 2017 COSA Items Not Used in 2019 COSS

Fiber Optic Network	\$542,905
Other Expenses	\$5,526,618
Other Revenue From Others	\$(7,257,331)
Tax (other than income tax) Removal	\$(5,526,618)
<b>Total</b>	<b>\$(6,714,426)</b>



2017 COSA

VS

2019 COSS

## Return on Investment:

Calculated using “debt and cash” approach

**\$19,002,613**

By using the same net transmission investment, the 2017 COSA model produces a rate return of **9.27%**, a higher return on investment, a 53.99% increase.

## Return on Investment:

Calculated on a “net plant position”

**\$9,105,672**

**\$(9,896,941) Difference**

By using the net transmission investment, the 2019 COSS model produces a rate of return of **6.02%**.

If an ROE is not used, then the retail customers will not be compensated for the use of cash to fund GCPUD’s transmission system.

# Cost Study



Standard Federal Energy Regulatory Commission  
Cost of Service Study Methods



Based On FERC Accounting

# Cost of Service Components

Cost of Service Study (COSS) components	Amounts (in millions)
Transmission Operation and Maintenance Expense	\$6.1
Administrative and General O&M Expenses	\$4.7
Total O&M expenses	\$10.8
Depreciation Expenses	\$6.8
Revenue Credits	(\$0.4)
Transmission Plant Cost of Capital	\$9.1
<b>Total COSS</b>	<b>\$26.3</b>

# Cost of Customer Provided Capital

Source	Cost	WACC	Resulting /\$kW-month
Proxy	9.80%	6.02%	\$3.07
Grant Historic Growth (Less negative growth)	8.02%	5.31%	\$2.94
Grant Historic Growth	6.89%	4.86%	\$2.86
Debt Equivalent	3.50%	3.50%	\$2.62
Free	0	2.10%	\$2.38





# Development of the Transmission **Cost per Unit**

# 115kV - 230kV Transmission Cost of Service

Description	Amounts	Amounts after Tax Gross-up
Annual Cost of Service:		
Net Transmission Cost of Service	\$26,292,410	
Transmission Plant Inclusion Ratio	<u>100.00%</u>	
Net 115kV-230kV Wholesale Cost of Service	\$26,292,410	
Load Divisor:		
Total System Load Plus Firm Point to Point	742 MW	
115kV - 230kV Transmission Cost of Service:		
Yearly	\$35.41 \$/kW-yr.	\$36.82 \$/kW-yr.
Monthly	\$2.95 \$/kW-mo.	\$3.07 \$/kW-mo.
Weekly	\$0.68 \$/kW-wk.	\$0.71 \$/kW-wk.
Daily	\$0.10 \$/kW-day	\$0.10 \$/kW-day
Hourly	\$0.00404 \$/kWh	\$0.00420 \$/kWh

# SUB-115kV Transmission Cost of Service

Description	Amounts	
Annual Cost of Service:		
Total Distribution Cost of Service	\$64,597,284	
Distribution Plant Inclusion Ratio	<u>68.02%</u>	
Net Sub-115kV Wholesale Cost of Service	\$43,936,517	
Load Divisor:		
Sub 115kV System Load	731 MW	
Sub-115kV Transmission Cost of Service		
Yearly	\$60.14 \$/kW-yr.	
Monthly	\$5.01 \$/kW-mo.	
Weekly	\$1.16 \$/kW-wk.	
Daily	\$0.17 \$/kW-day	
Hourly	\$0.00687 \$/kWh	



# Development of the Transmission **Cost of Service**



Description	Total Cost of Service	Transmission Cost of Service	Distribution Cost of Service
<b>Operation &amp; Maintenance Expense:</b>			
Transmission (net of Acct. 565)	\$6,097,746	\$6,097,746	
Distribution	\$13,561,222	0	\$13,561,222
Administrative and General (net of Acct. 924)	\$31,020,442	\$4,592,193	\$7,030,426
Administrative and General (Acct. 924)	<u>\$1,076,544</u>	<u>\$85,155</u>	<u>\$223,921</u>
<b>Total Operational and Maintenance Expense</b>	<b>\$51,755,954</b>	<b>\$10,775,094</b>	<b>\$20,815,569</b>
<b>Depreciation Expense</b>			
Transmission	\$4,379,064	\$4,379,064	
General 1/	\$11,033,937	\$1,633,438	\$2,500,715
Intangible	\$8,849,329	\$814,138	\$2,005,598
Distribution	<u>\$19,942,592</u>	<u>0</u>	<u>\$19,942,592</u>
<b>Total Depreciation</b>	<b>\$44,204,922</b>	<b>\$6,826,640</b>	<b>\$24,448,905</b>

Description	Total Cost of Service	Transmission Cost of Service	Distribution Cost of Service
<b>Taxes - Other Than Income</b>			
Plant Related	0	0	0
Labor Related	0	0	0
Other Related	0	0	0
Total Taxes-Other Than Income	0	0	0
Return	\$113,665,194	\$9,105,672	\$23,716,307
<b>Revenue Credits</b>			
Production	0	0	0
Transmission	(\$414,996)	(\$414,996)	0
Distribution	<u>(\$4,383,497)</u>	<u>0</u>	<u>(\$4,383,497)</u>
Total Revenue Credits	<u>(\$4,798,493)</u>	<u>(\$414,996)</u>	<u>(\$4,383,497)</u>
<b>Total Cost of Service</b>	<b>\$204,827,577</b>	<b>\$26,292,410</b>	<b>\$64,597,284</b>
August 12, 2019 Transmission COSS		<u>\$33,939,464</u>	
Difference		<u>-\$ 7,647,054</u>	<u>1/</u>
1/ For Grant PUD's adjustments from the August 12, 2019 T Transmission COSS see Appendix A.			



# Next Steps

Line No.	<u>Adjustments Made to the Transmission Cost of Service Study (COSS) from the August 12, 2019 COSS</u>	Amounts
		\$
1	<u>Plant in Service Adjustments</u>	
2	1) Adjustment to General Plant Account No. 397 - Communication Equip	
3	to remove plant balances associated with Wholesale Fiber	
4	Communication Equipment in the amount of:	
5	Rate Base	(180,523,620)
6	Accumulated Depreciation	(109,686,165)
7	Reduction to Net Plant in Service	(70,837,455)
8	Reduction in Net Account No. 397 Allocated to Transmission	(10,486,610)
9	O&M Allocation Factor Change caused by General Plant Adj.	(1,628)
10	Transmission Return Impact	(631,294)
11	Transmission Depreciation Impact	(812,432)
12	Total Cost of Service for this Adjustment	(1,445,354)



Line No.	<u>Adjustments Made to the Transmission Cost of Service Study (COSS) from the August 12, 2019 COSS</u>	Amounts
		\$
13	2) Adjustment to Account No. 353 to remove Transformers at PRP	
14	to be recovered in the Generation Function in the amount of:	
15	Rate Base	(39,412,060)
16	Accumulated Depreciation	(6,028,246)
17	Reduction to Net Plant in Service	(33,383,814)
18	O&M Allocation Factor Change caused by Transmission Plant Adj.	(19,270)
19	Transmission Return Impact	(2,009,706)
20	Transmision Depreciation Impact	(913,807)
21	Total Cost of Service for this Adjustment	(2,942,783)

Line No.	<u>Adjustments Made to the Transmission Cost of Service Study (COSS) from the August 12, 2019 COSS</u>	Amounts
		\$
22	3) Adjustment to remove Radial Lines at PRP	
23	to be recovered in the Generation Function in the amount of:	
24	Rate Base	(24,750,000)
25	Accumulated Depreciation	(12,375,000)
26	Reduction to Net Plant in Service	(12,375,000)
27	O&M Allocation Factor Change caused by Transmission Plant Adj.	(7,105)
28	Transmission Return Impact	(744,975)
29	Transmision Depreciation Impact	(573,853)
30	Total Cost of Service for this Adjustment	(1,325,933)

Line No.	<u>Adjustments Made to the Transmission Cost of Service Study (COSS) from the August 12, 2019 COSS</u>	Amounts
		\$
31	4) Adjustment to remove "QC" and "PEC" Plant Balances	
32	included in Account No. 303 - Intangible Plant from Trans. COSS	
33	Rate Base	(8,000,000)
34	Accumulated Depreciation	0
35	Reduction to Net Plant in Service	(8,000,000)
36	O&M Allocation Factor Change caused by Transmission Plant Adj.	(4,629)
37	Transmission Return Impact	(481,600)
38	Transmission Depreciation Impact	(495,896)
39	Total Cost of Service for this Adjustment	(982,125)

Line No.	<u>Adjustments Made to the Transmission Cost of Service Study (COSS) from the August 12, 2019 COSS</u>	Amounts
		\$
40	<b><u>Taxes - Other Than Income Taxes</u></b>	
41	Removed all Taxes - Other except Elect Revenue - Taxes Privilege	
42	and Elect Revenue - Taxes Fire District. All other taxes have been	
43	removed from the Transmission Cost per Unit Calculation.	
44	Amount of this adjustment is:	(950,859)
45	Total Transmission Cost of Service Reduction from August 12, 2019	<b>(7,647,054)</b>
46	Total Transmission Cost per Unit Reduction           \$/kW-mo.	<b>0.86</b>
47	The remaining two Taxes - Other Than Income were converted to a	
48	rate add-on, similar to the 2017 COSA.	



[illegible]