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State Regulation and Compliance

Mail Station 9712
PO Box 53999
Phoenix, Arizona 85072-3999
Tel 602-250-3341
Kerri.Carnes@aps.com

November 21, 2016

Docket Control
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, AZ 85007

RE: 2016 Rate Case Cost of Service Model Technical Session
Arizona Public Service Company 2016 Rate Case
Docket No. E-01345A-16-0036 and E-01345A-16-0123

On November 18, 2016, Arizona Public Service Company (APS) conducted its rate case Cost of Service Model Technical Session, in the above-referenced matter. APS is providing a copy of the presentation, attached hereto.

If you have any questions regarding this information, please contact me at 602-250-3341.

Sincerely,

Kerri A. Carnes

KC/am

cc: Jeff Hatch-Miller
Terri Ford
Eric Van Epps

Arizona Corporation Commission
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Cost Of Service Model Tutorial

November 18, 2016

aps

Agenda

Purpose: provide an in-depth look at APS's COSS working model

- General overview of COSS model
- Live demo of how to make changes, specifically to:
  - Allocation factors
  - Global variables (i.e. weighted average cost of capital)
  - Pro forma adjustments
- Wrap up/questions

COSS Model Update from COS/VOS

The COS/VOS Recommended Order and Opinion stated:

IT IS FURTHER ORDERED that electric utilities shall submit cost of service studies in rate cases, both pending cases and in future rate cases, which are based on models with spreadsheets containing links between inputs and outputs which are available to all parties. The cost of service study models used by the utilities shall be:

1. *Transparent: all inputs , assumptions and calculations shall be clearly described and explained;*
2. *Accessible: have electronic spreadsheets with links between inputs and outputs made available to all parties, and*
3. *Flexible: to allow for the ability to change inputs and assumptions used in the calculation.*

How APS's Model Meets These Criteria

Transparent

- All inputs are defined and linked
- Can trace formulas throughout spreadsheets
- User guide provided

Accessible

- Filed in electronic spreadsheet format
- Linked inputs (workbooks A + B) and outputs (workbook C)
- Links to SFR G schedules, revenue requirements and COSS summary reports

Flexible

- Ability to make changes in model that will flow all calculations through the model and into the summary output reports

Cost of Service Model Comparisons

	Old Excel Model	COS/VOS Model	Rate Case Model
Linked Inputs and Outputs			
- Allocation Factors	No (separate unlinked spreadsheet)	No (separate unlinked spreadsheet)	Yes (allocation factors linked to outputs)
- Pro forma adjustments	Total adjustments entered (little transparency into each adjustment)	N/A (unadjusted COSS filed)	Each individual pro forma input and linked to output
- Functionalization	No (occurred outside the model in an unlinked spreadsheet)	Yes (occurs within the model for added transparency)	Yes (occurs within the model for added transparency)
Additional Features			
- Color coding for inputs	No	No	Yes
- User guide	No	No	Yes
- User key for each workbook	No	No	Yes

Four Main Input Components to Working Model

Workbook A (LRS_WP03DR)	Workbook B (LRS_WP03DR)		
Allocation Factors	Unadjusted TY Information	Global Changes	Pro Forma Adjustments
• Uses historical Test Year information, like usage, customer counts, etc.	• Based on APS's 10K, FERC Form 1, and other actual information that occurred in the Test Year	• Global entries that affect the full cost of service, like the tax rate, the Weighted Average Cost of Capital (WACC), Fair Value (FV) Increment	• Where the rate base and income statement pro forma adjustments can be made
DEMO Customer Count Input	DEMO N/A (unadjusted information is based on actual 10K & FERC Form 1 data)	DEMO WACC and FV Changes	DEMO Rate base and income statement pro formas

Output Reports from the COSS

Workbook C
(LRS_WP03DR)

Cost of Service Summary Report

- Shows the overall COSS by Total Company, ACC, All Other and each specific rate class

Revenue Requirements Reports

- Shows the overall revenue requirement by each function for Total Company, ACC, All Other and each specific rate class

Tips for Using the Working Model

- The files are linked as follows:
  - Workbook A is linked to Workbook B
  - Workbook B is linked to Workbook C
- Look at the key (the first tab) in each file of the working model for helpful information
- If there is an equation in a cell, use "Ctrl+[" and it will take you to the source
- If you want to see where a value is used, use "Alt TUD"
- How to guide provided as LRS_WP03

Examples to be Demonstrated

	Description	Work-book	Tab Name	Cell	What Changed	Original Value	Updated Value
1	Update Allocation Factor Bases – Customer Count Allocators	A	INPUT	Column C	Residential E-12	473,340	1,000,000
2	Update Cost of Capital Input	B	1_INPUT_ GLOBALS	N7	D:[Allowed Return]	8.13%	16.00%
3	Updated Fair Value Increment	B	1_INPUT_ GLOBALS	N9	F:[Total Company Revenue Change to Allocate to class x function]	51,865,628	100,000,000
4	Update pro forma for cust service Rate Base - functionalized	B	Functionalized RB	N119	H: W&S Total Company _ Customer Service PTY Section	108,009,000	200,000,000
5	Update pro forma for cust service Income - functionalized	B	Functionalized Income	N119	H: W&S Total Company _ Customer Service PTY Section	14,401,000	30,000,000
6	Update pro forma for fossil ptyp Rate Base - specific assigned	B	Specific Assigned Rate Base	N18	O: Demand Production	(37,779,000)	(80,000,000)
7	Update pro forma for fossil ptyp Income - specific assigned	B	Specific Assigned Income	N18	O: Demand Production	7,994,000	20,000,000

Numbers are approximately doubled and rounded for illustrative purposes only

Live Demo of Cost of Service Model

Wrap Up

- Integrated, Excel based model that brings inputs and outputs into one working model
- User guide for COSS model provided in LRS_WP03DR titled "Cost of Service Working Model How To Guide"
- Questions?

Appendix

The following slides show screenshots corresponding to the examples demonstrated

Example 1 – Input Tab – E12 Customer Count

Workbook A_ Allocation Factors 2015TY.xlsx - Excel

File | Home | Insert | Page Layout | Formulas | Data | Review | View | UI Planner Dataset Editor | UI Planner | Tell me what you want to do

Normal | Page Break Preview | Page Layout | Custom Views | Workbook Views
Ruler | Formula Bar | Gridlines | Headings | Show
Zoom | 100% | Zoom to Selection | Zoom
New Window | Arrange All | Freeze Panes | Split | Hide | Unhide | View Side by Side | Synchronous Scrolling | Reset Window Position | Switch Windows | Window
Macros

B34 | RESIDENTIAL E-12

	A	B	C	L	M	N	O	P	Q	R
1		Input Data Source	Lookup Name							
2		1- Load Data	_1_Load Data							
3		2- Delivery Service Levels	_2_DeliveryServiceLevels							
4		3- Line Losses	_3_LineLosses							
5		4- Sales for Resale	_4_SalesforResale							
6		5- UG & OH Service Footage	_5_UGOHServiceFootage							
7		6- Totalized Meter Data	_6_TotalizedMeterCounts							
8		7- Meter Costs	_7_MeterCosts				CALC			
9		8- Hourly Fuel Costs	_8_HourlyFuelCosts							
10										
11										
12	RETURN	1- Load Data	Load Data			Solar Delivered & Produced				For Sola
13		UI Name	December Customer Count			Annual MWH	Ind. Max MW	NCP MW	4 CP MW	Ind. Max On-Peak, Summer Average
29	11.	E-32 (401+ kW)	911		Demand Rates- Factors					
30	12.	E-34	28		Delivered	74.0%	91.9%	92.2%	60.1%	77.9%
31	13.	E-35	42		Produced	47.9%	55.3%	77.0%	41.1%	91.9%
32	15.	RESIDENTIAL SOLAR (ENERGY RATES)	35,988		Site	100.0%	100.0%	100.0%	100.0%	83.2%
33	16.	RESIDENTIAL SOLAR (DEMAND RATES)	1,311							
34	17.	RESIDENTIAL E-12	1,000,000							
35	18.	RESIDENTIAL ET-1 & ET-2	429,763		Original Value	Variance				
36	19.	RESIDENTIAL ECT-1 & ECT-2	118,890		473,340	526,660				
37	22.	*AG-1 E-32 (101-400 kW)*	28							
38	23.	*AG-1 E-32 (401+ kW)*	117							
39	24.	*AG-1 E-34*	4							

INPUT | Energy (ACC) | Energy (ACC) wo AG1 | NCP (ACC) | Ind Max (ACC) | 1 CP (ACC) | 4 CP (ACC) | Energy (FERC) | 4CP (FERC)

Example 1 – Results

Workbook C - 2015TY COSS Working Model.xlsx - Excel

AH1 | Variance from Original Values

Line #	2015 TY Cost of Service (Adjusted)	ALLOCATION FACTOR	ELECTRIC TOTAL	ACC JURISDICTION	Original Values: ELECTRIC TOTAL	Original Values: ACC JURISDICTION	Variance from Original Values: ELECTRIC TOTAL	Variance from Original Values: ACC JURISDICTION
1								
2	**SUMMARY OF RESULTS**							
3								
4	**DEVELOPMENT OF RATE BASE**							
5	ELECTRIC PLANT IN SERVICE		15,326,435,253	12,962,870,512	15,326,435,253	12,962,340,167		530,345
6	GENERAL & INTANGIBLE PLANT		1,509,541,568	1,400,783,268	1,509,541,568	1,400,428,100		355,169
7	LESS: RESERVE FOR DEPRECIATION		(6,402,411,202)	(5,632,682,102)	(6,402,411,202)	(5,632,319,059)		(363,043)
8	OTHER DEFERRED CREDITS		(1,337,180,000)	(1,292,943,712)	(1,337,180,000)	(1,292,838,371)		(105,341)
9	WORKING CASH		(113,623,376)	(93,559,234)	(113,623,376)	(93,558,549)		(685)
10	MATERIALS, SUPPLIES & PREPAYMENTS		438,426,790	398,782,399	438,426,790	398,768,143		14,256
11	ACCUM. DEFERRED TAXES		(2,873,411,027)	(2,359,847,612)	(2,873,411,027)	(2,359,729,334)		(118,279)
12	REGULATORY ASSETS		310,940,000	250,301,300	310,940,000	250,199,222		102,078
13	DECOMMISSIONING FUND		735,196,000	731,225,942	735,196,000	731,225,942		
15	MISCELLANEOUS DEFERRED DEBITS		121,338,000	113,290,319	121,338,000	113,265,656		24,663
16	OPEB		182,625,115	168,796,195	182,625,115	168,753,227		42,968
17	CUSTOMER ADVANCES		(115,609,383)	(94,903,242)	(115,609,383)	(94,903,242)		
18	CUSTOMER DEPOSITS		(72,621,690)	(72,621,690)	(72,621,690)	(72,621,690)		
19	PROFORMA ADJUSTMENTS		302,154,000	292,180,958	302,154,000	292,140,717		40,241
20	**TOTAL RATE BASE**		**8,011,800,048**	**6,771,673,302**	**8,011,800,048**	**6,771,150,929**		**522,373**
21								
22	**DEVELOPMENT OF RETURN**							
23	BASE REVENUES FROM RATES		2,909,647,523	2,865,563,427	2,909,647,523	2,865,563,427		
24	PROFORMA TO BASE REVENUES FROM RATES		23,340,145	23,340,145	23,340,145	23,340,145		
25	SURCHARGE & OTHER ELECTRIC REVENUES		582,709,014	570,736,883	582,709,014	570,735,507		1,376
26	PROFORMA SURCHARGE & OTHER ELECTRIC REVENUES		(412,607,651)	(412,186,785)	(412,607,651)	(412,186,408)		(377)
27	**TOTAL OPERATING REVENUES**		**3,103,089,031**	**3,047,453,670**	**3,103,089,031**	**3,047,452,671**		**999**
28								
29	**OPERATING EXPENSES**							

COS - Other Revenues (Acct 456 | Summary of Allocation Factors | COS - Summary of Results | Revenue Requirement - Final

Workbook B – Tab Key

Workbook B - 2015TY COSS Working Model.xlsx - Excel

Tab Color	Contains Manual Input Cells	Description				
	YES	**Allocation Factors: Energy, Demand, Customer Counts, Misc Costs by Class *Some Values Linked to Workbook A***				
		Allocation Factors	Solar Credit Factors			
	YES	Rate for: Allowed Return, Long-Term Debt, Tax, and Plant; Fair Value Increment				
		Global Inputs				
	YES	**Dollars from Unadjusted Test Year**				
		Plant In Service	Revenues by Company	O&M	Wages & Salaries	Function Specific Inputs
		Plant Balance	Revenues by Class	O&M By Class	Fuel & Purchased Power	Functionalized Allocated Entities
		Plant Reserve	Surcharges by Class	Other O&M	Plant Depreciation Expense	Specific Assigned
	YES	**Dollars for Pro Formas**				
		Functionalized Expenses	Funtionalized Rate Base			
		Specific Assigned Expenses	Specific Assigned Rate Base			
		Pro Forma Expense by Class	Revenues by Class			
	NO	**Cost of Service Calculations, BEFORE Solar Demand Credits**				
	NO	Solar Credit Calculations				
		Step 1: Target ROR				
		Step 2: Transmission Respread				
		Step 3: Solar Demand Credits				

TAB KEY | 1_INPUT_ALLOCATION_FACTORS | SOLAR_CREDIT_FACTORS | 1_INPUT_GLOBALS | 1_INPUT_PLANT_IN_SERVICE__DI | 1_INPUT_PLANT_B ...

Workbook C – Tab Key

Workbook C - 2015TY COSS Working Model.xlsx - Excel

File | Home | Insert | Page Layout | Formulas | Data | Review | View | UI Planner Dataset Editor | UI Planner | Tell me what you want to do

Normal | Page Break Preview | Page Layout | Custom Views | Ruler | Formula Bar | Gridlines | Headings | Zoom | 100% | Zoom to Selection | New Window | Arrange All | Freeze Panes | Split | Hide | Unhide | View Side by Side | Synchronous Scrolling | Reset Window Position | Switch Windows | Macros

B2 | NO

	A	B	C	D	E	F	G	H	I	J
1	Tab Color	Contains Manual Input Cells	Description							
2		NO	Allocation Factors: Energy, Demand, Customer Counts, Misc Costs by Class							
3			Allocation Factors	Solar Credit Factors						
4										
5		NO	Rate for: Allowed Return, Long-Term Debt, Tax, and Plant; Fair Value Increment							
6			Global Inputs							
7										
8		NO	Dollars from Unadjusted Test Year							
9			Plant in Service	Revenues by Company	O&M	Wages & Salaries	Function Specific Inputs			
10			Plant Balance	Revenues by Class	O&M By Class	Fuel & Purchased Power	Functionalized Allocated Entities			
11			Plant Reserve	Surcharges by Class	Other O&M	Plant Depreciation Expense	Specific Assigned			
12										
13		NO	Dollars for Pro Formas							
14			Functionalized Expenses	Funtionalized Rate Base						
15			Specific Assigned Expenses	Specific Assigned Rate Base						
16			Pro Forma Expense by Class	Revenues by Class						
17										
18		NO	Cost of Service Calculations, AFTER Solar Demand Credits							
19										
20		NO	Solar Credit Calculations							
21			Apply Solar Credit	Step 4: Adjusted Target ROR						
22			Apply Solar Credit Offset	Step 5: Solar Cost Shift						
23										
24		NO	Cost of Service and Revenue Requirement Reports							
25			Rate Base		Expenses	Revenues	Summary Reports			
26			Plant in Service	ADIT	O&M	Revenues	Allocation Factors			
27			General & Intangible	Misc Deferred Debits	Administrative & General	Other Revenues (Acct 450)	Summary of Results			
28			Plant Reserve	OPEB	Plant Depreciation Expense	Other Reveuues (Acct 454)	Revenue Requirement			
29			Other Deferred Credits	Other Rate Base Items	Other Taxes	Other Revenues (Acct 456)				
30			Working Cash	Reg Assets & Liabilities	Income Taxes					
31			Materials, Supplies & Prepayments		Other Expense Items					

TAB KEY | 0_APPLY_SOLAR_CREDIT | 0_APPLY_SOLAR_CREDIT_OFFSET_T | 1_INPUT_ALLOCATION_FACTORS | 1_INPUT_GLOB...

Example 2 – Global Inputs – Allowed Return

Workbook B - 2015TY COSS Working Model.xlsx - Excel

	A	H	I	J	K	L	M	N	O
1	1 Input Globals	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
2	Return	2015	2015	2015	2015	2015	2015	2015	
3									
4	APS								
5	B:[Tax Rate]							38.10%	
6	C:[100% APS Allocator]	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
7	D:[Allowed Return (e.g. 8.87)]							16.00%	
8	E:[Weighted cost of long-term debt]							2.27%	
9	F:[Total Company Revenue Change to Al							51,865,628	
10	G:[Plant Factor]							17.11%	
11									
12									
13								Original Value	Variance
14							D:[Allowed Return (e.g. 8.87)]	8.13%	7.87%
15							F:[Total Company Revenue Change to Allocate to class x function]	51,865,628	-
16									
17									
18									
19									
20									
21									
22									
23									

Manually Entered
Automatically Calculate

TAB KEY | 1_INPUT_ALLOCATION_FACTORS | SOLAR_CREDIT_FACTORS | 1_INPUT_GLOBALS | 1_INPUT_PLANT_IN_SERVICE__DI | 1_INP

Example 2 – Results

Workbook C - 2015TY COSS Working Model.xlsx - Excel

AH1 | Variance from Original Values

	A	B	C	D	E	AE	AF	AG	AH	AI
1	Return					Original Values			Variance from Original Values	
2		2015 TY Cost of Service (Adjusted)	ALLOCATION FACTOR	ELECTRIC TOTAL	ACC JURISDICTION	ELECTRIC TOTAL	ACC JURISDICTION		ELECTRIC TOTAL	ACC JURISDICTION
3	Line #									
4	1									
5	2	SUMMARY OF RESULTS								
6	3									
7	4	DEVELOPMENT OF RATE BASE								
53	51									
54	52	PROPOSED								
56	54	Base Revenue Increase @ Class Specific % (PROPOSED), incl		3,366,388,238	3,322,304,142	3,366,388,238	3,322,304,142			
57	55									
58	56	REVENUE REQUIREMENT @ 8.13%		4,370,373,254	4,131,357,654	3,351,750,729	3,270,471,609		1,018,622,524	860,886,044
59	57	FAIR VALUE INCREMENT		51,865,628	51,865,628	51,865,628	51,865,628			
60	58	TOTAL REVENUE REQUIREMENT (INCLD FAIR VALUE INCRE		4,422,238,882	4,183,223,282	3,403,616,357	3,322,337,237		1,018,622,524	860,886,044
61	59									
62	60	% OF TOTAL COST OF SERVICE								
63	61	% OF TOTAL COST OF SERVICE (PRESENT)		72.37%	75.46%	94.03%	95.01%		(21.66%)	(19.55%)
64	62									
65	63	% OF TOTAL COST OF SERVICE (PROPOSED @ CLASS SPE(		76.12%	79.42%	98.91%	100.00%		(22.78%)	(20.58%)
66	64									
67	65									

COS - Other Revenues (Acct 456 | Summary of Allocation Factors | COS - Summary of Results | Revenue Requirement - Final

Example 3 – Global Inputs – Fair Value Increment

Workbook B - 2015TY COSS Working Model.xlsx - Excel

N10 | 17.11%

	A	E	F	G	H	I	J	K	L	M	N	O
1	1 Input Globals	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
2	Return	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	
3												
4	APS											
5	B:[Tax Rate]										38.10%	
6	C:[100% APS Allocator]	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
7	D:[Allowed Return (e.g. 8.87)]										8.13%	
8	E:[Weighted cost of long-term debt]										2.27%	
9	F:[Total Company Revenue Change to Al										100,000,000	
10	G:[Plant Factor]										17.11%	
11												
12												
13											Original Value	Variance
14										D:[Allowed Return (e.g. 8.87)]	8.13%	0.00%
15										F:[Total Company Revenue Change to Allocate to class x function]	51,865,628	48,134,372

TAB KEY | 1_INPUT_ALLOCATION_FACTORS | SOLAR_CREDIT_FACTORS | 1_INPUT_GLOBALS | 1_INPUT_PLANT_IN_SERVICE__DI | 1_INPUT_PLANT_B ...

Example 3 – Results

Workbook C - 2015TY COSS Working Model.xlsx - Excel

A1 | Return

	A	B	C	D	E	AE	AF	AG	AH	AI
1	Return					Original Values			Variance from Original Values	
2		2015 TY Cost of Service (Adjusted)	ALLOCATION FACTOR	ELECTRIC TOTAL	ACC JURISDICTION	ELECTRIC TOTAL	ACC JURISDICTION		ELECTRIC TOTAL	ACC JURISDICTION
3	Line #									
4	1									
5	2	SUMMARY OF RESULTS								
6	3									
7	4	DEVELOPMENT OF RATE BASE								
47	45	INDEX RATE OF RETURN (PRESENT)		1.00	0.95	1.00	0.95			
48	46									
49	47	DEVELOPMENT OF % OF COST OF SERVICE								
50	48	Total Base Revenues		2,932,987,668	2,888,903,572	2,932,987,668	2,888,903,572			
51	49	Surcharge Transfer to Base Rates		267,551,155	267,551,155	267,551,155	267,551,155			
52	50	Base Revenues, Including Surcharges (PRESENT)		3,200,538,823	3,156,454,727	3,200,538,823	3,156,454,727			
53	51									
54	52	PROPOSED								
56	54	Base Revenue Increase @ Class Specific % (PROPOSED), Inclu		3,366,388,238	3,322,304,142	3,366,388,238	3,322,304,142			
57	55									
58	56	REVENUE REQUIREMENT @ 8.13%		3,351,750,729	3,270,471,609	3,351,750,729	3,270,471,609			
59	57	FAIR VALUE INCREMENT		100,000,000	100,000,000	51,865,628	51,865,628		48,134,372	48,134,372
60	58	TOTAL REVENUE REQUIREMENT (INCLD FAIR VALUE INCRE		3,451,750,729	3,370,471,609	3,403,616,357	3,322,337,237		48,134,372	48,134,372
61	59									
62	60	% OF TOTAL COST OF SERVICE								
63	61	% OF TOTAL COST OF SERVICE (PRESENT)		92.72%	93.65%	94.03%	95.01%		(1.31%)	(1.36%)
64	62									
65	63	% OF TOTAL COST OF SERVICE (PROPOSED @ CLASS SPE(		97.53%	98.57%	98.91%	100.00%		(1.38%)	(1.43%)
66	64									
67	65									
68										
69										
70										

COS - Other Revenues (Acct 456 | Summary of Allocation Factors | COS - Summary of Results | Revenue Requirement - Final

Example 4 – Pro Forma Functionalized Rate Base Inputs

Workbook B - 2015TY COSS Working Model.xlsx - Excel

	A	N	O	P	Q	R
1	1 MF Pro Forma Rate Base Input	Dec		Manually Entered Inputs in this Workbook	KEY	
2	Return	2015		Automatically Calculated within this Worksheet		
105	U:[Input Amount to Allocate with PT & D less Land-Total Company]					
106	V:[Input Amount to Allocated to Production-PT & D less Land]					
107	W:[Input Amount to Allocated to Transmission-PT & D less Land]					
108	X:[Input Amount to Allocated to Distribution-PT & D less Land]					
109	Y:[EndMethodCalls]					
110	Z:[]					
111	AA:[]					
112	Customer Service PTY					
113	B:[Start method]					
114	C:[Input]					
115	D:[Copy 1]					
116	E:[Copy 2]					
117	F:[MethodReturns]					
118	G:[Switch: 0=Tot Co. (w/Trans), 1=Input Amt to Alloc - W&S, -1=Tot Co. (w/o Trans)]				Original Value	Variance
119	H:[Input Amount to Allocate - W&S Total Company]	200,000,000			108,009,000	91,991,000
120	I:[Input Amount to Allocate - W&S Production]					
121	J:[Input Amount to Allocate - W&S Transmission]					
122	K:[Input Amount to Allocate - W&S Distribution]					
123	L:[Input Amount to Allocate - W&S Customer Accounts]					
124	M:[Input Amount to Allocate - W&S Customer Service]					

1_PRO_FORMA_EXPENSES_INPUT | 1_INPUT_PRO_FORMA_EXPENSE_BY_ | 1_MF_PRO_FORMA_RATE_BASE_INPU | 1_PRO_FORMA_RATE_BASE_IN

Example 4 – Results

Workbook C - 2015TY COSS Working Model.xlsx - Excel

Return					Original Values			Variance from Original Values	
	2015 TY Cost of Service (Adjusted)	ALLOCATION FACTOR	ELECTRIC TOTAL	ACC JURISDICTION	ELECTRIC TOTAL	ACC JURISDICTION		ELECTRIC TOTAL	ACC JURISDICTION
Line #									
1									
2	**SUMMARY OF RESULTS**								
3									
4	**DEVELOPMENT OF RATE BASE**								
5	ELECTRIC PLANT IN SERVICE		15,326,435,253	12,962,340,167	15,326,435,253	12,962,340,167			
6	GENERAL & INTANGIBLE PLANT		1,509,541,568	1,400,428,100	1,509,541,568	1,400,428,100			
7	LESS: RESERVE FOR DEPRECIATION		(6,402,411,202)	(5,632,319,059)	(6,402,411,202)	(5,632,319,059)			
8	OTHER DEFERRED CREDITS		(1,337,180,000)	(1,292,838,371)	(1,337,180,000)	(1,292,838,371)			
9	WORKING CASH		(113,623,376)	(93,558,549)	(113,623,376)	(93,558,549)			
10	MATERIALS, SUPPLIES & PREPAYMENTS		438,426,790	398,768,143	438,426,790	398,768,143			
11	ACCUM. DEFERRED TAXES		(2,873,411,027)	(2,359,729,334)	(2,873,411,027)	(2,359,729,334)			
12	REGULATORY ASSETS		310,940,000	250,199,222	310,940,000	250,199,222			
13	DECOMMISSIONING FUND		735,196,000	731,225,942	735,196,000	731,225,942			
15	MISCELLANEOUS DEFERRED DEBITS		121,338,000	113,265,656	121,338,000	113,265,656			
16	OPEB		182,625,115	168,753,227	182,625,115	168,753,227			
17	CUSTOMER ADVANCES		(115,609,383)	(94,903,242)	(115,609,383)	(94,903,242)			
18	CUSTOMER DEPOSITS		(72,621,690)	(72,621,690)	(72,621,690)	(72,621,690)			
19	PROFORMA ADJUSTMENTS		394,145,000	377,144,240	302,154,000	292,140,717		91,991,000	85,003,523
20	**TOTAL RATE BASE**		**8,103,791,048**	**6,856,154,451**	**8,011,800,048**	**6,771,150,929**		**91,991,000**	**85,003,523**
21									
22	**DEVELOPMENT OF RETURN**								
23	BASE REVENUES FROM RATES		2,909,647,523	2,865,563,427	2,909,647,523	2,865,563,427			
24	PROFORMA TO BASE REVENUES FROM RATES		23,340,145	23,340,145	23,340,145	23,340,145			
25	SURCHARGE & OTHER ELECTRIC REVENUES		582,709,014	570,735,507	582,709,014	570,735,507			
26	PROFORMA SURCHARGE & OTHER ELECTRIC REVENUES		(412,607,651)	(412,186,408)	(412,607,651)	(412,186,408)			
27	**TOTAL OPERATING REVENUES**		**3,103,089,031**	**3,047,452,671**	**3,103,089,031**	**3,047,452,671**			
28									

COS - Other Revenues (Acct 456 | Summary of Allocation Factors | COS - Summary of Results | Revenue Requirement - Final

Example 5 – Pro Forma Functionalized Expense Inputs

Workbook B - 2015TY COSS Working Model.xlsx - Excel

S118

	A	L	M	N	O	P	Q	R
1	1 MF Proforma Expense Input	Oct	Nov	Dec		Manually Entered Inputs in this Workbook		
2	Return	20	20	20		Automatically Calculated within this Worksheet	KEY	
111	AA:[]							
112	Customer Service PTY							
113	B:[Start method]							
114	C:[Input]							
115	D:[Copy 1]							
116	E:[Copy 2]							
117	F:[MethodReturns]							
118	G:[Switch: 0=Tot Co. (w/Trans), 1=Input Amt to Alloc - W&S, -1=Tot Co. (w/o Trans)]						Original Value	Variance
119	H:[Input Amount to Allocate - W&S Total Company]			30,000,000			14,401,000	15,599,000
120	I:[Input Amount to Allocate - W&S Production]							
121	J:[Input Amount to Allocate - W&S Transmission]							
122	K:[Input Amount to Allocate - W&S Distribution]							
123	L:[Input Amount to Allocate - W&S Customer Accounts]							
124	M:[Input Amount to Allocate - W&S Customer Service]							
125	N:[Input Amount to Allocate - W&S Sales]							
126	O:[Switch: 0=Tot Co. (w/Trans), 1=Input Amt to Alloc - PT&D, -1=Tot Co. (w/o Trans)]							
127	P:[Input Amount to Allocate with PT & D-Total Company]							
128	Q:[Input Amount to Allocated to Production-PT & D]							
129	R:[Input Amount to Allocated to Transmission-PT & D]							
130	S:[Input Amount to Allocated to Distribution-PT & D]							

1_INPUT_FUNCTION_SPECIFIC__C | 1_MF_ALLOCATED_ENTITIES_INPUT | 1_INPUT_SPECIFIC_ASSIGNED | 1_MF_PROFORMA_EXPENSE_INPUT

Example 5 – Results

Workbook C - 2015TY COSS Working Model.xlsx - Excel

A1: Return

Line #	2015 TY Cost of Service (Adjusted)	ALLOCATION FACTOR	ELECTRIC TOTAL	ACC JURISDICTION	Original Values: ELECTRIC TOTAL	Original Values: ACC JURISDICTION	Variance from Original Values: ELECTRIC TOTAL	Variance from Original Values: ACC JURISDICTION
1								
2	**SUMMARY OF RESULTS**							
3								
4	**DEVELOPMENT OF RATE BASE**							
27	**TOTAL OPERATING REVENUES**		**3,103,089,031**	**3,047,452,671**	**3,103,089,031**	**3,047,452,671**		
28								
29	**OPERATING EXPENSES**							
30	OPERATION & MAINTENANCE		1,804,920,730	1,968,657,998	1,804,920,730	1,968,657,998		
31	ADMINISTRATIVE & GENERAL		193,799,761	176,678,975	193,799,761	176,678,975		
32	DEPRECIATION & AMORT EXPENSE		456,219,756	402,496,860	456,219,756	402,496,860		
33	AMORTIZATION ON GAIN	EMPROD1, ENERGY1	(4,626,993)	(4,601,933)	(4,626,993)	(4,601,933)		
34	REGULATORY ASSETS		17,910,882	17,910,882	17,910,882	17,910,882		
35	PROFORMA ADJUSTMENTS		(39,527,400)	(49,123,320)	(55,126,400)	(63,537,447)	15,599,000	14,414,127
36	TAXES OTHER THAN INCOME		171,499,317	139,384,353	171,499,317	139,384,353		
37	INCOME TAX		258,174,789	224,294,040	258,174,789	224,294,040		
38	PROFORMA INCOME TAX ADJUSTMENTS		(137,770,066)	(133,625,973)	(131,826,847)	(128,134,190)	(5,943,219)	(5,491,782)
39	**TOTAL OPERATING EXPENSES**		**2,720,600,776**	**2,742,071,883**	**2,710,944,995**	**2,733,149,538**	**9,655,781**	**8,922,345**
40								
41	**OPERATING INCOME**		**382,488,255**	**305,380,789**	**392,144,036**	**314,303,133**	**(9,655,781)**	**(8,922,345)**
42								
43	**RATE OF RETURN (PRESENT)**		**4.77%**	**4.51%**	**4.89%**	**4.64%**	**(0.12%)**	**(0.13%)**
44								
45	**INDEX RATE OF RETURN (PRESENT)**		**1.00**	**0.94**	**1.00**	**0.95**		**(0.00)**
46								
47	**DEVELOPMENT OF % OF COST OF SERVICE**							
48	Total Base Revenues		2,932,987,668	2,888,903,572	2,932,987,668	2,888,903,572		
49	Surcharge Transfer to Base Rates		267,551,155	267,551,155	267,551,155	267,551,155		

COS - Other Revenues (Acct 456 | Summary of Allocation Factors | COS - Summary of Results | Revenue Requirement - Final

Example 6 – Pro Forma Specific Assigned Rate Base Inputs

Workbook B - 2015TY COSS Working Model.xlsx - Excel

N19 =(0)

	A	N	O	P	Q	R
1	1 Pro Forma Rate Base Input	Dec		Manually Entered Inputs in this Workbook	KEY	
2	Return	2015		Automatically Calculated within this Worksheet		
3						
4	Fossil PTY					
5	B:[]					
6	C:[Process this Pro Forma?]					
7	D:[Map Report ID]					
8	E:[Start Method]					
9	F:[Copy Report ID into Method]					
10	G:[Input or copy1]					
11	H:[if]					
12	I:[Copy 2]					
13	J:[end if]					
14	K:[MethodReturns]					
15	L:[PROFORMA ADJUSTMENTS]					
16	M:[Production Plant]					
17	N:[Demand]				Original Value	Variance
18	O:[Demand Production]	(80,000,000)			(37,779,000)	(42,221,000)
19	P:[Demand Production (ACC SPECIFIC)]					
20	Q:[Anc Serv-Regulation]					
21	R:[Anc Serv-Spinning Reserve]					
22	S:[Anc Serv-Ready Reserve]					

1_INPUT_PRO_FORMA_EXPENSE_BY_ | 1_MF_PRO_FORMA_RATE_BASE_INPU | 1_PRO_FORMA_RATE_BASE_INPUT | COS__ACCUMULATED_DEFE ...

Example 6 – Results

Workbook C - 2015TY COSS Working Model.xlsx - Excel

A1 | Return

	A	B	C	D	E	AE	AF	AG	AH	AI
1	Return					Original Values			Variance from Original Values	
2		2015 TY Cost of Service (Adjusted)	ALLOCATION FACTOR	ELECTRIC TOTAL	ACC JURISDICTION	ELECTRIC TOTAL	ACC JURISDICTION		ELECTRIC TOTAL	ACC JURISDICTION
3	Line #									
4	1									
5	2	SUMMARY OF RESULTS								
6	3									
7	4	DEVELOPMENT OF RATE BASE								
8	5	ELECTRIC PLANT IN SERVICE		15,326,435,253	12,962,340,167	15,326,435,253	12,962,340,167			
9	6	GENERAL & INTANGIBLE PLANT		1,509,541,568	1,400,428,100	1,509,541,568	1,400,428,100			
10	7	LESS: RESERVE FOR DEPRECIATION		(6,402,411,202)	(5,632,319,059)	(6,402,411,202)	(5,632,319,059)			
11	8	OTHER DEFERRED CREDITS		(1,337,180,000)	(1,292,838,371)	(1,337,180,000)	(1,292,838,371)			
12	9	WORKING CASH		(113,623,376)	(93,558,549)	(113,623,376)	(93,558,549)			
13	10	MATERIALS, SUPPLIES & PREPAYMENTS		438,426,790	398,768,143	438,426,790	398,768,143			
14	11	ACCUM. DEFERRED TAXES		(2,873,411,027)	(2,359,729,334)	(2,873,411,027)	(2,359,729,334)			
15	12	REGULATORY ASSETS		310,940,000	250,199,222	310,940,000	250,199,222			
16	13	DECOMMISSIONING FUND		735,196,000	731,225,942	735,196,000	731,225,942			
17	15	MISCELLANEOUS DEFERRED DEBITS		121,338,000	113,265,656	121,338,000	113,265,656			
18	16	OPEB		182,625,115	168,753,227	182,625,115	168,753,227			
19	17	CUSTOMER ADVANCES		(115,609,383)	(94,903,242)	(115,609,383)	(94,903,242)			
20	18	CUSTOMER DEPOSITS		(72,621,690)	(72,621,690)	(72,621,690)	(72,621,690)			
21	19	PROFORMA ADJUSTMENTS		259,933,000	250,147,710	302,154,000	292,140,717		(42,221,000)	(41,993,007)
22	20	TOTAL RATE BASE		7,969,579,048	6,729,157,922	8,011,800,048	6,771,150,929		(42,221,000)	(41,993,007)
23	21									
24	22	DEVELOPMENT OF RETURN								
25	23	BASE REVENUES FROM RATES		2,909,647,523	2,865,563,427	2,909,647,523	2,865,563,427			
26	24	PROFORMA TO BASE REVENUES FROM RATES		23,340,145	23,340,145	23,340,145	23,340,145			
27	25	SURCHARGE & OTHER ELECTRIC REVENUES		582,709,014	570,735,507	582,709,014	570,735,507			
28	26	PROFORMA SURCHARGE & OTHER ELECTRIC REVENUES		(412,607,651)	(412,186,408)	(412,607,651)	(412,186,408)			
29	27	TOTAL OPERATING REVENUES		3,103,089,031	3,047,452,671	3,103,089,031	3,047,452,671			
30	28									

COS - Other Revenues (Acct 456 | Summary of Allocation Factors | COS - Summary of Results | Revenue Requirement - Final

Example 7 – Pro Forma Specific Assigned Expense Inputs

Workbook B - 2015TY COSS Working Model.xlsx - Excel

	A	M	N	O	P	Q	R
1	1 Pro Forma Expenses Input	Nov	Dec		Manually Entered Inputs in this Workbook	KEY	
2	Return	20	20		Automatically Calculated within this Worksheet		
3							
4	Fossil PTY						
5	B:[]						
6	C:[Process this Pro Forma?]						
7	D:[Map Report ID]						
8	E:[Start Method]						
9	F:[Copy Report ID into Method]						
10	G:[Input or copy1]						
11	H:[If]						
12	I:[Copy 2]						
13	J:[end if]						
14	K:[MethodReturns]						
15	L:[PROFORMA ADJUSTMENTS]						
16	M:[Production Plant]						
17	N:[Demand]					Original Value	Variance
18	O:[Demand Production]		20,000,000			7,994,000	12,006,000
19	P:[Demand Production (ACC SPECIFIC)]						
20	Q:[Anc Serv-Regulation]						
21	R:[Anc Serv-Spinning Reserve]						
22	S:[Anc Serv-Ready Reserve]						

1_MF_ALLOCATED_ENTITIES_INPUT | 1_INPUT_SPECIFIC_ASSIGNED | 1_MF_PROFORMA_EXPENSE_INPUT | 1_PRO_FORMA_EXPENSES_INPUT

Example 7 – Results

Workbook C - 2015TY COSS Working Model.xlsx - Excel

A1: Return

	A	B	C	D	E	AE	AF	AG	AH	AI
1	Return					Original Values			Variance from Original Values	
2		2015 TY Cost of Service (Adjusted)	ALLOCATION FACTOR	ELECTRIC TOTAL	ACC JURISDICTION	ELECTRIC TOTAL	ACC JURISDICTION		ELECTRIC TOTAL	ACC JURISDICTION
3	Line #									
4	1									
5	2	SUMMARY OF RESULTS								
6	3									
7	4	DEVELOPMENT OF RATE BASE								
32	30	OPERATION & MAINTENANCE		1,804,920,730	1,968,657,998	1,804,920,730	1,968,657,998			
33	31	ADMINISTRATIVE & GENERAL		193,799,761	176,678,975	193,799,761	176,678,975			
34	32	DEPRECIATION & AMORT EXPENSE		456,219,756	402,496,860	456,219,756	402,496,860			
35	33	AMORTIZATION ON GAIN	EMPROD1, ENERGY1	(4,626,993)	(4,601,933)	(4,626,993)	(4,601,933)			
36	34	REGULATORY ASSETS		17,910,882	17,910,882	17,910,882	17,910,882			
37	35	PROFORMA ADJUSTMENTS		(43,120,400)	(51,596,279)	(55,126,400)	(63,537,447)		12,006,000	11,941,168
38	36	TAXES OTHER THAN INCOME		171,499,317	139,384,353	171,499,317	139,384,353			
39	37	INCOME TAX		258,174,789	224,294,040	258,174,789	224,294,040			
40	38	PROFORMA INCOME TAX ADJUSTMENTS		(136,401,133)	(132,683,775)	(131,826,847)	(128,134,190)		(4,574,286)	(4,549,585)
41	39	TOTAL OPERATING EXPENSES		2,718,376,709	2,740,541,121	2,710,944,995	2,733,149,538		7,431,714	7,391,583
42	40									
43	41	OPERATING INCOME		384,712,322	306,911,550	392,144,036	314,303,133		(7,431,714)	(7,391,583)
44	42									
45	43	RATE OF RETURN (PRESENT)		4.80%	4.53%	4.89%	4.64%		(0.09%)	(0.11%)
46	44									
47	45	INDEX RATE OF RETURN (PRESENT)		1.00	0.94	1.00	0.95			(0.00)
48	46									
49	47	DEVELOPMENT OF % OF COST OF SERVICE								
50	48	Total Base Revenues		2,932,987,668	2,888,903,572	2,932,987,668	2,888,903,572			
51	49	Surcharge Transfer to Base Rates		267,551,155	267,551,155	267,551,155	267,551,155			
52	50	Base Revenues, Including Surcharges (PRESENT)		3,200,538,823	3,156,454,727	3,200,538,823	3,156,454,727			
53	51									
54	52	PROPOSED								

COS - Other Revenues (Acct 456 | Summary of Allocation Factors | COS - Summary of Results | Revenue Requirement - Final