KCPL GMO
Case Name: 2017 FAC (8th)
Case Number: EO-2019-0067

Response to Mantle Lena Interrogatories - OPC_20190314
Date of Response: 4/3/2019

Question:8012

Please provide work papers detailing how the steam generation portion of the Demand/O&M allocation factor was calculated in the following rate cases: ER-2007-0004, ER-2009-0090, ER-2010-0156, ER-2012-0175, and ER-2016-0156.

Response:
ER-2007-0004 – Information is no longer available/accessible.

See attached files for the supporting workpapers for the calculation of the Demand/O&M allocation factors for Electric/Steam for the 2009, 2010, 2012 and 2016 rate cases.

Information provided by: Aron Branson, Regulatory Affairs

Attachments:
Q8012_2009 RC - Electric-Steam Allocation Factors.pdf
Q8012_2010 RC - Electric-Steam Allocation Factors.xls
Q8012_2012 RC - Electric-Steam Allocation Factors.xls
Q8012_2016 RC - STAFF's Elec-Steam Allocation Factors.xls
Q8012_Verification.pdf

OPC Exhibit No. 104
Date 8-27-19 Reporter BJ
File No. EO-2019-0067
EO-2019-0068
ER-2019-0199

Monthly Utility Allocation Factors
Aquila Networks - GMO- Combined

Electric/Steam Allocation Factors		Electric	Steam	
1,1	Jurisdictional-100% Electric	100.000 %	0.000 %	100.000 %
1,3	100% Jurisdictional/Allocated Plant Base	98.887 %	1.113 %	100.000 %
1,13	100% Jurisdictional/O&M	92.846 %	7.154 %	100.000 %
2,2	Non-Juris/Steam	0.000 %	100.000 %	100.000 %
3,1	Demand/Electric	99.540 %	0.460 %	100.000 %
3,4	Demand/Land	75.730 %	24.270 %	100.000 %
3,5	Demand/Structures	75.730 %	24.270 %	100.000 %
3,6	Demand/Boiler Plant	65.515 %	34.485 %	100.000 %
3,7	Demand/Turbogenerators	99.255 %	0.745 %	100.000 %
3,8	Demand/Access Elec Eqpt	75.730 %	24.270 %	100.000 %
3,9	Demand/Misc Steam Gen Eqpt	47.381 %	52.619 %	100.000 %
3,10	Demand/Electric/Steam Plant	75.730 %	24.270 %	100.000 %
3,13	Demand/O&M	92.419 %	7.581 %	100.000 %
4,1	Energy/Electric	99.500 %	0.500 %	100.000 %
5,1	Distribution/Electric	99.667 %	0.333 %	100.000 %
6,1	Payroll/Electric	99.591 %	0.409 %	100.000 %
6,14	Payroll/A&G	98.911 %	1.089 %	100.000 %
7,1	Plant/Electric	99.591 %	0.409 %	100.000 %
7,3	Plant/Alloc Plant	98.483 %	1.517 %	100.000 %
7,14	Plant/A&G	98.911 %	1.089 %	100.000 %
8,1	Transmission/Electric	99.540 %	0.460 %	100.000 %

Monthly Utility Allocation Factors
Aquila Networks - MPS - Combined

Electric/Steam Allocation Factors		Electric	Steam	
1	Jurisdictional-100%	100.000 %	0.000 %	100.000 %
2	Non-jurisdictional-100%	0.000 %	100.000 %	100.000 %
3	Demand (Capacity) Factor	99.540 %	0.460 %	100.000 %
4	Energy Factor	99.500 %	0.500 %	100.000 %
5	Distribution Factor	99.667 %	0.333 %	100.000 %
6	Payroll Factor	99.591 %	0.409 %	100.000 %
7	Plant Factor	99.591 %	0.409 %	100.000 %
8	Transmission Factor	99.540 %	0.460 %	100.000 %

Monthly Utility Allocation Factors
Aquila Networks - L&P - Combined

Electric/Steam Allocation Factors		Electric	Steam		Notes
1	Electric - 100%	100.000 %	0.000 %	100.000 %	
2	Steam - 100%	0.000 %	100.000 %	100.000 %	
4	Land Factor	76.080 %	23.920 %	100.000 %	Tab A, Factor D
5	Structures Factor	76.080 %	23.920 %	100.000 %	Tab A, Factor D
6	Boiler Plant Factor	65.818 %	34.182 %	100.000 %	Tab A, Factor A
7	Turbogenerators Factor	99.714 %	0.286 %	100.000 %	Tab A, Factor B
8	Access Elec Eqpt Factor	76.080 %	23.920 %	100.000 %	Tab A, Factor D
9	Misc Steam Gen Eqpt Factor	47.600 %	52.400 %	100.000 %	Tab B, Factor A
10	Electric/Steam Plant Factor	76.080 %	23.920 %	100.000 %	Tab A, Factor D
Income Statement Allocation Factors (Elec/Steam)					
13	Electric After Steam Alloc (O&M)	92.846%	7.154%	100.0%	Tab D, Factor A
14	Electric After Steam Alloc (A&G)	99.317%	0.683%	100.0%	Tab C, Factor A
Factors Used to Calculate Other Factors					
3	Allocated Plant Base Factor	98.887 %	1.113 %	100.000 %	Tab C, Factor B
11	900 lb Steam Demand Factor	47.600 %	52.400 %	100.000 %	Tab B, Factor A
12	Total Coal Burned Factor	75.400 %	24.600 %	100.000 %	Tab B, Factor B

L&P combined allocations above are based on Demand and Utilization Factors from Case No. ER-2012-0175. See "Tab B-Steam 900lb Demand Alloc."
MPS allocations are based on Staff's allocations included in Staff's Accounting Schedules in Case No. ER-2016-0156

Industrial Steam Proposed Allocation

Source: Amy Murray - Regulatory Affairs
See SJLP Steam Payroll allocator - Input file

1. Payroll Allocation Factors - Steam v Electric

Annual Iatan Payroll for O&M - 2014 Actual	$	2,760,927	(B)
Annual Lake Road Payroll for O&M - 2014 Actual	$	6,178,337	(A)
Annual Sibley and MPS Iatan for O&M - 2014 Actua	$	12,306,513	(C)
Total SJLP 2010 Payroll charged to O&M	$	21,245,777	
LR Payroll for Steam Business	$	1,519,871	
Payroll Percentage for O&M Allocation		7.154%	A #13

2. Payroll Applicable to Steam Business:

Lake Road Departmen/Project ID:		2014 Payroll Charged to O&M
Lake Road Common Turbine (30170)	$	586,952
Lake Road Turbine Unit #1 (30171)	$	52,535
Lake Road Turbine Unit #2 (30172)	$	17,556
Lake Road Turbine Unit #3 (30173)	$	30,043
Lake Road Turbine Unit #4 (30174)	$	1,024,149
Lake Road Common Boilers (30130)	$	2,042,009
Lake Road Boiler Unit #1 (30131)	$	544,586
Lake Road Boiler Unit #2 (30132)	$	12,547
Lake Road Boiler Unit #3 (30133)	$	6,263
Lake Road Boiler Unit #4 (30134)	$	84,000
Lake Road Boiler Unit #5 (30135)	$	338,493
Lake Road Boiler Unit #6 (30136)	$	1,231,499
Lake Road Boiler Unit #8 (30138)	$	30,392
Lake Road Industrial Steam Plt (30125)	$	177,313

			Steam Percentage	Total Steam Payroll
(A)	$	6,178,337	24.60%	$ 1,519,871
			Tab B, Factor B	

Note: Used the 'Total Plant Coal Burn Allocation Factor' to determine the Steam Percentage above.
(A) LR payroll to accounts 500, 502-507, 510-514, 588730 and 598730
(B) SJLP Iatan payroll to the above accounts
(C) MPS Iatan and Sibley payroll to the above accounts

ST. JOSEPH LIGHT & POWER COMPANY
INDUSTRIAL STEAM SALES EXPENSE ALLOCATION FOR 2014

Demand and Utilization Factors

900 lb STEAM DEMAND ALLOCATION FACTOR

Calculated fuel for max sales		415.7		
Fuel Energy for Generation	=	1,388.4	**52.4%** [A]	Percentages used from Case No. ER-2012-0175

PLANT UTILIZATION FACTOR - Total Plant After Allocations

24.6% [B] Percentages used from Case No. ER-2012-0175

Monthly Utility Allocation Factors								
Aquila Networks - L&P								
12 Months Ended December 2010								
Electric/Steam Allocation Factors			**Electric**	**Steam**		**Notes**		
1	Electric - 100%		100.000 %	0.000 %	100.000 %			
2	Steam - 100%		0.000 %	100.000 %	100.000 %		**2009**	Change
4	Land Factor		74.961 %	25.039 %	100.000 %	**Tab A, Factor D**	19.652%	5.39%
5	Structures Factor		74.961 %	25.039 %	100.000 %	**Tab A, Factor D**	19.652%	5.39%
6	Boiler Plant Factor		63.166 %	36.834 %	100.000 %	**Tab A, Factor A**	29.419%	7.41%
7	Turbogenerators Factor		99.940 %	0.060 %	100.000 %	**Tab A, Factor B**	0.043%	0.02%
8	Access Elec Eqpt Factor		74.961 %	25.039 %	100.000 %	**Tab A, Factor D**	19.652%	5.39%
9	Misc Steam Gen Eqpt Factor		47.600 %	52.400 %	100.000 %	**Tab B, Factor A**	41.800%	10.60%
10	Electric/Steam Plant Factor		74.961 %	25.039 %	100.000 %	**Tab A, Factor D**	19.652%	5.39%
Income Statement Allocation Factors (Elec/Steam)								
13	Electric After Steam Alloc Payroll (O&M)		82.870%	17.130%	100.0%	**Tab D, Factor A**	15.058%	2.07%
14	Electric After Steam Alloc (A&G)		91.727%	8.273%	100.0%	**Tab C, Factor A**	8.315%	-0.04%
Factors Used to Calculate Other Factors								
3	Allocated Plant Base Factor		94.158 %	5.842 %	100.000 %	**Tab C, Factor B**	4.837%	1.00%
11	900 lb Steam Demand Factor		47.600 %	52.400 %	100.000 %	**Tab B, Factor A**	41.800%	10.60%
12	Total Coal Burned Factor		75.436 %	24.564 %	100.000 %	**Tab B, Factor B**	22.255%	2.31%

Industrial Steam Proposed Allocation

Source: Amy Murray - Regulatory Affairs

1. Payroll Allocation Factors - Steam v Electric

Annual Iatan Payroll for O&M - 2010 Actual	$	2,305,436
Incremental payroll for O&M Iatan 2	$	798,603
Annual Lake Road Payroll for O&M - 2010 Actual	$	7,152,021
Total SJLP 2010 Payroll charged to O&M	$	10,256,060
LR Payroll for Steam Business	$	1,756,857
Payroll Percentage for O&M Allocation		17.130% A

2. Payroll Applicable to Steam Business:

Lake Road Departmen/Project ID:		2010 Payroll Charged to O&M
Lake Road Common (R0-EXP)	$	879,831
Lake Road Unit #1-STMTurbine (R1-EXP)	$	16,097
Lake Road Unit #2-STMTurbine (R2-EXP)	$	14,627
Lake Road Unit #3-STMTurbine (R3-EXP)	$	30,046
Lake Road Unit #4-STMTurbine (R4-EXP)	$	1,279,563
Lake Road Unit #5-CT (R5-EXP)	$	388,717
Lake Road Unit #6-CT (R6-EXP)	$	23,218
Lake Road Unit #7-CT (R7-EXP)	$	10,154
Lake Road Common Boilers (B0-EXP)	$	3,282,488
Lake Road Boiler #1 (B1-EXP)	$	18,825
Lake Road Boiler #2 (B2-EXP)	$	4,343
Lake Road Boiler #3 (B3-EXP)	$	14,635
Lake Road Boiler #4 (B4-EXP)	$	67,545
Lake Road Boiler #5 (B5-EXP)	$	163,761
Lake Road Boiler #6 (B6-EXP)	$	882,686
Lake Road Boiler #8 (B8-EXP)	$	74,590
Lake Road Industrial Steam Plt (RS-EXP)	$	895
	$	7,152,021

Steam Percentage	Total Steam Payroll
24.56%	$ 1,756,857

ST. JOSEPH LIGHT & POWER COMPANY
INDUSTRIAL STEAM SALES EXPENSE ALLOCATION FOR 2010
based on 2008, 2009 & 2010 actual data

OTHER OPERATING EXPENSE ALLOCATIONS

IV. 900 lb STEAM DEMAND ALLOCATION FACTOR

Determine the maximum coincident peaks for each month in the three year period. This produces 36 individual monthly maximum demands for the 900 psi system. From these 36 values, the three highest amounts are taken for each calendar year. This results in nine values. The percentage of steam and electric use in each of these nine values is then determined. The last step in the process is to add each of the nine perecentages for electric and industrial steam allocation factors and divide by nine.

900 lb Steam Demand Allocation Factor = **52.4%** A

VI. TOTAL PLANT COAL BURN ALLOCATION FACTOR FOR 2010

Previous 3 calendar years of steam coal fuel (million BTU's)	=	5,817,970	=
Previous 3 calendar years of Lake Road coal fuel (million BTU's)	=	23,684,476	**24.6%** B

Appendix I allocation factor worksheet

year	steam coal Mbtu	plant coal Mbtu
2008	1,778,687	9,038,617
2009	2,013,074	7,268,757
2010	2,026,209	7,377,102
total	5,817,970	23,684,476