

OPC DR-5

Determine the percentage changes to Empire's revenue requirement attributable to

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
1 closure of the ash impoundment	0.0%	0.0%	0.0%	0.0%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
2 new ash landfill	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
3 new ash conveyance system	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%
4 up to 600 MW of wind farms (includes 5)	0.0%	0.0%	1.1%	1.7%	-1.3%	-0.9%	-1.7%	-1.7%	-1.2%	-2.0%
5 transmission associated with the new wind farms (included in 4)										
6 tax reform	-0.8%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%

Current Revenue Requirement	570
Tax Reform	18
Net	552

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OPC DR-5

Determine the percentage changes to Empire's revenue requirement attributable to

	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
1 closure of the ash impoundment	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%
2 new ash landfill	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.0%	0.0%
3 new ash conveyance system	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.0%	0.0%
4 up to 600 MW of wind farms (includes 5)	-2.8%	-3.6%	-4.5%	-2.9%	-3.7%	-4.8%	-4.4%	-4.5%	-5.9%	-7.1%
5 transmission associated with the new wind farms (included in 4)										
6 tax reform	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%

Current Revenue Requirement	570
Tax Reform	18
Net	552

OPC DR-5

Determine the percentage changes to Empire's revenue requirement attributable to

	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047
1 closure of the ash impoundment	0.2%	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2 new ash landfill	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
3 new ash conveyance system	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
4 up to 600 MW of wind farms (includes 5)	-7.7%	-7.1%	-8.9%	-9.6%	-10.3%	-11.0%	-11.8%	-12.5%	-13.0%	-14.0%
5 transmission associated with the new wind farms (included in 4)										
6 tax reform	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%

Current Revenue Requirement	570
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General Assumptions

Return on Equity	%equity	rate
	51%	10%
Cost of Debt	%debt	rate
	49%	4%
Income Tax Payable	tax rate	23.90%
Property Tax Estimate	rate	0.86%

Item 1 - Ash Impoundment Closure												
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Capital Costs (from Sierra Club DR in last gene					17.912							
Deprecation					0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Accumulated Deprecation					0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2
Rate Base					17.0	16.1	15.2	14.3	13.4	12.5	11.6	10.7
Return on Equity					0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.5
Cost of Debt					0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Income Tax Payable					0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Property Tax Estimate					0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Impact on Rates					2.5	2.4	2.3	2.3	2.2	2.1	2.0	1.9

Item 2 - New Ash Landfill												
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Capital Costs (from GFSA - Plant in Service tab row 14												
Cell 1 A	5.783											
Cell 1 B												3.38
Deprecation												
Cell 1 A	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Cell 1 B												0.5
Accumulated Deprecation	0.3	0.6	1.0	1.3	1.6	1.9	2.2	2.6	2.9	3.2	3.5	4.3
Rate Base	5.5	5.1	4.8	4.5	4.2	3.9	3.5	3.2	2.9	2.6	2.2	4.8
Return on Equity	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2
Cost of Debt	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
Income Tax Payable	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
Property Tax Estimate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Impact on Rates	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5	1.3

Item 3 - New Ash Conveyence												
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Capital Costs (from GFSA - Plant in Service tab row 14	13.017											
Deprecation	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Accumulated Deprecation	0.7	1.4	2.2	2.9	3.6	4.3	5.1	5.8	6.5	7.2	8.0	8.7
Rate Base	12.3	11.6	10.8	10.1	9.4	8.7	8.0	7.2	6.5	5.8	5.1	4.3
Return on Equity	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.2
Cost of Debt	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Income Tax Payable	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Property Tax Estimate	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Total Impact on Rates	1.9	1.8	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.1

Item 1 - Ash Impoundment Closure												
	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Capital Costs (from Sierra Club DR in last gene												
Deprecation	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Accumulated Deprecation	8.1	9.0	9.9	10.7	11.6	12.5	13.4	14.3	15.2	16.1	17.0	17.9
Rate Base	9.9	9.0	8.1	7.2	6.3	5.4	4.5	3.6	2.7	1.8	0.9	0.0
Return on Equity	0.5	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.0	0.0
Cost of Debt	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Income Tax Payable	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Property Tax Estimate	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Impact on Rates	1.8	1.7	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.9

Item 2 - New Ash Landfill												
	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Capital Costs (from GFSA - Plant in Service tab row 14												
Cell 1 A												
Cell 1 B												
Deprecation												
Cell 1 A	0.3	0.3	0.3	0.3	0.3	0.3						
Cell 1 B	0.5	0.5	0.5	0.5	0.5	0.5						
Accumulated Deprecation	5.1	5.9	6.8	7.6	8.4	9.2						
Rate Base	4.0	3.2	2.4	1.6	0.8	0.0						
Return on Equity	0.2	0.2	0.1	0.1	0.0	0.0						
Cost of Debt	0.1	0.1	0.0	0.0	0.0	0.0						
Income Tax Payable	0.1	0.1	0.0	0.0	0.0	0.0						
Property Tax Estimate	0.0	0.0	0.0	0.0	0.0	0.0						
Total Impact on Rates	1.2	1.1	1.0	1.0	0.9	0.8						

Item 3 - New Ash Conveyance												
	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Capital Costs (from GFSA - Plant in Service tab row 14												
Deprecation	0.7	0.7	0.7	0.7	0.7	0.7						
Accumulated Deprecation	9.4	10.1	10.8	11.6	12.3	13.0						
Rate Base	3.6	2.9	2.2	1.4	0.7	0.0						
Return on Equity	0.2	0.1	0.1	0.1	0.0	0.0						
Cost of Debt	0.1	0.1	0.0	0.0	0.0	0.0						
Income Tax Payable	0.1	0.0	0.0	0.0	0.0	0.0						
Property Tax Estimate	0.0	0.0	0.0	0.0	0.0	0.0						
Total Impact on Rates	1.1	1.0	0.9	0.9	0.8	0.7						

Item 1 - Ash Impoundment Closure	2042	2043	2044	2045	2046	2047
Capital Costs (from Sierra Club DR in last gene						
Deprecation						
Accumulated Deprecation						
Rate Base						
Return on Equity						
Cost of Debt						
Income Tax Payable						
Property Tax Estimate						
Total Impact on Rates						

Item 2 - New Ash Landfill	2042	2043	2044	2045	2046	2047
Capital Costs (from GFSA - Plant in Service tab row 14						
Cell 1 A						
Cell 1 B						
Deprecation						
Cell 1 A						
Cell 1 B						
Accumulated Deprecation						
Rate Base						
Return on Equity						
Cost of Debt						
Income Tax Payable						
Property Tax Estimate						
Total Impact on Rates						

Item 3 - New Ash Conveyence	2042	2043	2044	2045	2046	2047
Capital Costs (from GFSA - Plant in Service tab row 14						
Deprecation						
Accumulated Deprecation						
Rate Base						
Return on Equity						
Cost of Debt						
Income Tax Payable						
Property Tax Estimate						
Total Impact on Rates						

Items 4 and 5 - Up to 600 MW of wind and associated transmission

	Q4 only											
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Capital Costs												
Transmission			81									
Wind Projects			429									
Tax Equity Buy Out												
Maintenance Capital												
Maintenance Capital												
Depreciation												
Transmission			1	2	2	2	2	2	2	2	2	2
Wind Projects			4	14	14	14	14	14	14	14	14	14
Maintenance Capital												
Maintenance Capital												
Maintenance Capital												
Accumulated Depreciation			4	20	37	53	69	86	102	118	135	151
Rate Base			506	489	473	457	440	424	408	391	375	359
Return on Equity			6	25	24	23	22	22	21	20	19	18
Cost of Debt			2	10	9	9	9	8	8	8	7	7
Income Tax Payable			2	8	8	7	7	7	7	6	6	6
Property Tax Estimate			1	4	4	4	4	4	4	3	3	3
Carrying Charge			16	63	61	60	58	57	55	54	52	50
Fixed O&M			2	14	14	21	22	25	27	28	29	30
Tax Equity expense (credit)			0	(2)	(13)	(13)	(13)	(12)	(7)	(8)	(8)	(8)
TOTAL WIND REVENUE REQUIREMENT			18	75	63	68	67	70	75	74	74	73
Guarantee Years				1	2	3	4	5	6	7	8	9
Modeled SPP Revenue			12	65	70	73	77	80	82	86	90	93
Total Impact on Rates			6	10	(7)	(5)	(10)	(10)	(7)	(12)	(16)	(20)

Items 4 and 5 - Up to 600 MW of wind and associated transmission

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Capital Costs												
Transmission												
Wind Projects												
Tax Equity Buy Out		19										
Maintenance Capital					53							
Maintenance Capital										44		
Deprecation												
Transmission	2	2	2	2	2	2	2	2	2	2	2	2
Wind Projects	14	14	14	14	14	14	14	14	14	14	14	14
Maintenance Capital		1	1	1	1	1	1	1	1	1	1	1
Maintenance Capital					3	3	3	3	3	3	3	3
Maintenance Capital										4	4	4
Accumulated Deprecation	167	185	202	219	240	260	280	301	321	345	370	394
Rate Base	343	345	327	310	343	322	302	282	261	281	257	233
Return on Equity	17	18	17	16	17	16	15	14	13	14	13	12
Cost of Debt	7	7	6	6	7	6	6	6	5	6	5	5
Income Tax Payable	5	6	5	5	5	5	5	5	4	5	4	4
Property Tax Estimate	3	3	3	3	3	3	3	2	2	2	2	2
Carrying Charge	49	50	48	47	53	51	49	47	45	51	49	46
Fixed O&M	33	34	35	36	37	44	45	46	47	48	43	44
Tax Equity expense (credit)	(10)	0	0	0	0	0	0	0	0	0	0	0
TOTAL WIND REVENUE REQUIREMENT	72	84	83	83	90	95	94	93	93	99	92	90
Guarantee Years	10											
Modeled SPP Revenue	98	100	104	110	115	121	128	134	137	140	142	145
Total Impact on Rates	(25)	(16)	(21)	(27)	(25)	(26)	(34)	(40)	(44)	(40)	(51)	(55)

Items 4 and 5 - Up to 600 MW of wind and associated transmission

	2042	2043	2044	2045	2046	2047
Capital Costs						
Transmission						
Wind Projects						
Tax Equity Buy Out						
Maintenance Capital						
Maintenance Capital						
Deprecation						
Transmission	2	2	2	2	2	2
Wind Projects	14	14	14	14	14	14
Maintenance Capital	1	1	1	1	1	1
Maintenance Capital	3	3	3	3	3	3
Maintenance Capital	4	4	4	4	4	4
Accumulated Deprecation	418	442	466	490	514	538
Rate Base	209	185	161	137	112	88
Return on Equity	11	9	8	7	6	5
Cost of Debt	4	4	3	3	2	2
Income Tax Payable	3	3	3	2	2	1
Property Tax Estimate	2	2	1	1	1	1
Carrying Charge	44	42	39	37	35	33
Fixed O&M	45	46	47	49	50	51
Tax Equity expense (credit)	0	0	0	0	0	0
TOTAL WIND REVENUE REQUIREMENT	89	88	87	86	85	84
Guarantee Years						
Modeled SPP Revenue	148	150	154	157	159	163
Total Impact on Rates	(59)	(63)	(67)	(71)	(74)	(80)

Item 6 - Tax Reform

Rate Reduction	(5)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)
Total Rate Impacts (Decreases)	(3)	(15)	(9)	(6)	(20)	(18)	(23)	(23)	(20)	(26)	(30)	(34)

Item 6 - Tax Reform

Rate Reduction	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)	(18)
Total Rate Impacts (Decreases)	(39)	(30)	(35)	(42)	(40)	(41)	(50)	(57)	(61)	(57)	(68)	(72)

Item 6 - Tax Reform

Rate Reduction	(18)	(18)	(18)	(18)	(18)	(18)
Total Rate Impacts (Decreases)	(76)	(80)	(85)	(89)	(92)	(97)