

Economic Evaluation – Portfolio Optimization Results

Independence Power & Light - 2018 Energy Master Plan
Low Natural Gas and Market Prices

	Path 1	Path 2	Path 3	Path 4	Path 5	Path 6	Path 7	Path 8	Path 9	Path 10	Path 11	Path 12	Path 13
Path	Business As Usual	Business As Usual	Retire BV	Retire BV	Retire BV	Retire BV	Retire BV	Retire BV & CTs	Retire BV & Staggered CT Retirement	Retire BV & Staggered CT Retirement			
Labor	Existing Staff	Benchmark Staff	CT Only Staff	CT Only Staff	CT Only Staff	CT Only Staff	CT Only Staff	CT Only Staff	CT Only Staff	CT Only Staff	CT Only Staff	CT Only Staff	CT Only Staff
2019			Retire 98 MW BV	Retire 98 MW BV	Retire 98 MW BV	Retire 98 MW BV	Retire 98 MW BV	Retire 98 MW BV	Retire 98 MW BV	Retire 98 MW BV	Retire 98 MW BV	Retire 98 MW BV	Retire 98 MW BV
2020			60 MW Capacity	25 MW Dogwood 35 MW Capacity	50 MW Dogwood 10 MW Capacity	60 MW Capacity	50 MW Dogwood 10 MW Capacity	60 MW Capacity	60 MW Capacity	25 MW Dogwood 35 MW Capacity	50 MW Dogwood 10 MW Capacity	60 MW Capacity	60 MW Capacity
2021			60 MW Capacity	35 MW Capacity	10 MW Capacity	60 MW Capacity	10 MW Capacity	10 MW Capacity	60 MW Capacity	35 MW Capacity	10 MW Capacity	60 MW Capacity	60 MW Capacity
2022			65 MW Capacity	40 MW Capacity	15 MW Capacity	65 MW Capacity	15 MW Capacity	15 MW Capacity	65 MW Capacity	40 MW Capacity	15 MW Capacity	65 MW Capacity	65 MW Capacity
2023			65 MW Capacity	40 MW Capacity	15 MW Capacity	65 MW Capacity	15 MW Capacity Retire 33 MW SUB I	15 MW Capacity Retire 94 MW CTs	65 MW Capacity Retire 94 MW CTs	40 MW Capacity Retire 94 MW CTs	15 MW Capacity Retire 94 MW CTs	65 MW Capacity Retire One CT Plant	65 MW Capacity Retire One CT Plant
2024			65 MW Capacity	40 MW Capacity	15 MW Capacity	110 MW 6xRecips	37 MW 2xRecips	110 MW Capacity	110 MW Capacity	110 MW 6xRecips	110 MW 6xRecips	37 MW 2xRecips	37 MW 2xRecips
2025			65 MW Capacity	40 MW Capacity	15 MW Capacity		15 MW Capacity	110 MW Capacity	50 MW Capacity	25 MW Capacity	70 MW Capacity	65 MW Capacity	100 MW Capacity
2026			70 MW Capacity	45 MW Capacity	20 MW Capacity		15 MW Capacity	110 MW Capacity	50 MW Capacity	25 MW Capacity	75 MW Capacity	65 MW Capacity	100 MW Capacity
2027			70 MW Capacity	45 MW Capacity	20 MW Capacity		15 MW Capacity	115 MW Capacity	55 MW Capacity	30 MW Capacity	75 MW Capacity	65 MW Capacity	105 MW Capacity
2028			70 MW Capacity	45 MW Capacity	20 MW Capacity		15 MW Capacity	115 MW Capacity	55 MW Capacity	30 MW Capacity	75 MW Capacity	70 MW Capacity	105 MW Capacity
2029			70 MW Capacity	45 MW Capacity	20 MW Capacity		20 MW Capacity	115 MW Capacity	55 MW Capacity	30 MW Capacity	80 MW Capacity	37 MW 2xRecips	140 MW Capacity
2030			75 MW Capacity	50 MW Capacity	25 MW Capacity		20 MW Capacity	115 MW Capacity	55 MW Capacity	30 MW Capacity	80 MW Capacity	65 MW Capacity	140 MW Capacity
2031			75 MW Capacity	50 MW Capacity	25 MW Capacity		20 MW Capacity	120 MW Capacity	60 MW Capacity	35 MW Capacity	80 MW Capacity	70 MW Capacity	140 MW Capacity
2032			75 MW Capacity	50 MW Capacity	25 MW Capacity		20 MW Capacity	120 MW Capacity	60 MW Capacity	35 MW Capacity	80 MW Capacity	70 MW Capacity	145 MW Capacity
2033			75 MW Capacity	50 MW Capacity	25 MW Capacity		25 MW Capacity	120 MW Capacity	60 MW Capacity	35 MW Capacity	85 MW Capacity	70 MW Capacity	145 MW Capacity
2034			80 MW Capacity	55 MW Capacity	30 MW Capacity		25 MW Capacity	120 MW Capacity	60 MW Capacity	35 MW Capacity	85 MW Capacity	37 MW 2xRecips	170 MW Capacity
2035			80 MW Capacity	55 MW Capacity	30 MW Capacity		25 MW Capacity	125 MW Capacity	65 MW Capacity	40 MW Capacity	85 MW Capacity	65 MW Capacity	175 MW Capacity
2036			80 MW Capacity	55 MW Capacity	30 MW Capacity		25 MW Capacity	125 MW Capacity	65 MW Capacity	40 MW Capacity	85 MW Capacity	65 MW Capacity	175 MW Capacity
2037			80 MW Capacity	55 MW Capacity	30 MW Capacity		30 MW Capacity	125 MW Capacity	65 MW Capacity	40 MW Capacity	90 MW Capacity	65 MW Capacity	175 MW Capacity
2038			85 MW Capacity	60 MW Capacity	35 MW Capacity		30 MW Capacity	125 MW Capacity	65 MW Capacity	40 MW Capacity	90 MW Capacity	65 MW Capacity	175 MW Capacity
NPV	\$769,113,800	\$734,755,200	\$691,153,300	\$674,704,900	\$658,254,000	\$741,773,500	\$696,000,500	\$702,592,000	\$747,846,100	\$731,397,800	\$720,516,900	\$768,220,600	\$720,326,800
Delta \$	\$110,859,800	\$76,501,200	\$32,899,300	\$16,450,900	\$0	\$83,519,500	\$37,746,500	\$44,338,000	\$89,592,100	\$73,143,800	\$62,262,900	\$109,966,600	\$62,072,800
Delta %	16.84%	11.62%	5.00%	2.50%	0.00%	12.69%	5.73%	6.74%	13.61%	11.11%	9.46%	16.71%	9.43%
Transmission (\$)	\$0	\$0	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000	\$36,500,000	\$19,500,000	\$19,500,000	\$800,000	\$800,000	\$36,500,000
NPV w/ Transmission	\$769,113,800	\$734,755,200	\$691,953,300	\$675,504,900	\$659,054,000	\$742,573,500	\$696,800,500	\$739,092,000	\$767,346,100	\$750,897,800	\$721,316,900	\$769,020,600	\$756,826,800
Delta \$	\$110,059,800	\$75,701,200	\$32,899,300	\$16,450,900	\$0	\$83,519,500	\$37,746,500	\$80,038,000	\$108,292,100	\$91,843,800	\$62,262,900	\$109,966,600	\$97,772,800
Delta %	16.70%	11.49%	4.99%	2.50%	0.00%	12.67%	5.73%	12.14%	16.43%	13.94%	9.45%	16.69%	14.84%