

Appendix B. Strategist Modeling Assumptions

The assumptions used in Strategist are the most up to date available in July 2010 and are intended to provide accurate measure of Xcel Energy's generation fleet and associated costs.

Existing and Generic Thermal Units

Xcel Energy has approximately 55 existing thermal units in South Dakota, Minnesota, and Wisconsin. In Strategist the maximum capacity input is the maximum energy which a unit can produce in one hour. The value used was selected to reflect the company's best estimate of each unit's maximum dependable capability. The retirement dates in the table are based on our Preferred Plan, which assumes life extensions of our peaking facilities. For the generic units added to the Preferred Plan the maximum capacity and accredited capacity data is based on a proprietary study done for the company. The July accredited capacity is based on Uniform Rating of Generating Equipment (URGE) testing done by the Company.

Thermal Units

Unit	Maximum Capacity (MW)	July Accredited Capacity (MW)	Retirement Date	First Year Available
*COAL 0				
AS King 1	510.0	510.0	2049	
BlackDog 3	89.0	89.0	2016	
BlackDog 4	164.0	164.0	2018	
Sherco 1	697.0	697.0	2049	
Sherco 2	682.0	682.0	2049	
Sherco 3	521.0	521.0	2049	
*NUCLEAR 0				
Monti 1	587.0	564.0	2029	
P Island 1	546.0	521.0	2033	
P Island 2	546.0	518.7	2034	
*BIOMASS 0				
Bayfront 4	22.0	22.0	2023	
Bayfront 5	22.0	22.0	2023	
Bayfront 6	28.0	28.0	2012	
Fch Isld 12	29.0	29.0	2023	
Redwing 12	21.0	21.0	2017	
Wilmarth 12	20.0	20.0	2017	

St. Paul 1	25.0	25.0	2023	
VirgHibb 1	35.0	35.0	2026	
Fibromin 1	50.0	50.0	2028	
BFGSFR 6	20.0	20.0	2032	2012
*GAS CTs 0				
Anson 2	120.0	94.0	2021	
Anson 3	120.0	94.0	2021	
Anson 4	181.0	158.0	2035	
Bluelake 7	180.0	155.0	2035	
Bluelake 8	180.0	155.0	2035	
Flambeau 1	18.0	14.0	2012	
Granite 1	16.0	13.0	2013	
Granite 2	16.0	13.0	2013	
Granite 3	16.0	13.0	2013	
Granite 4	16.0	13.0	2013	
Inverhil 1	62.0	47.0	2027	
Inverhil 2	62.0	47.0	2027	
Inverhil 3	62.0	47.0	2027	
Inverhil 4	62.0	47.0	2027	
Inverhil 5	62.0	47.0	2027	
Inverhil 6	62.0	47.0	2027	
Key City 1	16.0	13.0	2013	
Key City 2	0.0	0.0	2013	
Key City 3	16.0	13.0	2013	
Key City 4	16.0	13.0	2013	
Wheaton 1	62.0	47.0	2035	
Wheaton 2	70.0	55.0	2035	
Wheaton 3	62.0	47.0	2035	
Wheaton 4	62.0	47.0	2035	
Invernerg 1	301.0	300.9	2025	
*GAS CCs 0				
BlkDg CC 52	315.0	283.0	2032	
HB_CC 1	575.0	495.0	2049	
RS_CC 1	511.0	484.0	2049	
LSCotGrv 1	245.0	244.2	2027	
CalpMnkt 1	315.9	315.9	2025	
BLKDG CC 67	643.4	643.4	2049	2016
*OIL 0				
Bluelake 1	52.0	40.0	2030	
Bluelake 2	52.0	40.0	2030	
Bluelake 3	52.0	40.0	2030	
Bluelake 4	59.0	47.0	2030	
Fch Isld 3	81.0	61.0	2023	
Fch Isld 4	81.0	61.0	2023	
Wheaton 5	70.0	52.0	2035	
Wheaton 6	70.0	52.0	2035	
InvrD78 78	4.0	4.0	2049	

Diesels 1	6.0	6.0	2049	
*PURCHAS 1				
GRE Div 1	50.0	50.0	2010	
Cyprus 1	40.0	40.0	2011	
Coyote 1	100.0	100.0	2015	
*GENERIC 0				
100_LMS 1	100.0	100.0	2049	2049
225_CT 1	223.0	223.0	2049	2012
812_CC 1	812.7	812.7	2049	2013
1000_Nuc 1	1000.0	1000.0	2049	2025
IGCCwSEQ 1	515.0	515.0	2049	2016
SCPCwSEQ 1	511.0	511.0	2049	2016

Transactions/PPA's

Unit	Maximum Capacity (MW)	July Accredited Capacity (MW)	Annual Energy (GWh)	Retirement Date	First Year Available
ShortTrm	0.00	0.00	0.00	2049	2049
Barron	0.27	0.00	0.13	2049	
FlyngCld	4.60	4.60	0.40	2019	
HERC	33.70	33.70	215.40	2017	
MNMethan	3.10	3.10	14.45	2014	
PineBend	12.00	12.00	49.24	2026	
RARH	12.00	12.00	89.35	2028	
*HYDRO					
Byllesby	2.36	2.60	10.59	2028	
EauGalle	0.30	0.30	1.19	2026	
Hastings	3.30	3.30	23.15	2033	
LacCourt	3.10	3.10	3.95	2021	
Neshonoc	0.40	0.40	2.15	2019	
Rapidan	2.80	2.80	19.79	2017	
St.Cloud	7.90	6.70	43.30	2021	
*MANTOBA					
MH500	500.00	500.00	2085.71	2049	
Div150In	150.00	169.04	132.48	2015	
Div200In	200.00	225.38	176.64	2016	
MH375500	0.00	0.00	0.00	2049	2049
DIV385IN	0.00	0.00	0.00	2049	2049

*WIND					
WoodStck	10.20	0.82	25.08	2034	
Lakota	11.25	0.90	27.67	2034	
NAEShaok	11.88	0.95	37.07	2034	
Velva	11.88	0.95	31.21	2026	
CommWind	60.00	4.80	205.14	2030	2011
Ewington	19.95	1.60	60.02	2028	
GrantCo	20.00	1.60	56.51	2028	
WindPowr	25.00	2.00	61.48	2019	
Jeffers	50.00	4.00	150.43	2027	
Moraine	51.00	4.08	159.12	2018	
Chanaram	85.50	6.84	268.30	2023	
FPL Mowr	98.90	7.91	323.47	2026	
LkBnton1	107.25	8.58	263.74	2023	
LkBnton2	103.50	8.28	311.39	2030	
MNDakota	150.00	12.00	512.85	2022	
Fenton	205.50	16.44	702.61	2032	
GrandMed	100.50	8.04	335.47	2033	
09_RFP	198.25	15.86	596.75	2030	2011
ND_50	50.00	4.00	181.40	2031	2012
Nobles	201.00	16.08	720.68	2035	2011
Merricou	150.00	12.00	544.19	2036	2012
NthShaok	13.53	1.08	35.54	2033	
Ruthton	15.84	1.27	47.66	2031	
WVarios	16.34	1.31	55.87	2031	
WSJJN	1.50	0.12	5.13	2031	
Garmcn	27.50	2.20	67.58	2028	
WSGarmcn	9.25	0.74	22.73	2021	
Viking	12.00	0.96	39.25	2018	
Westridg	7.60	0.61	23.85	2028	
Stahl	8.25	0.66	25.74	2025	
WSWstrdg	9.50	0.76	29.81	2028	
Eastridg	10.00	0.80	24.59	2026	
MNWind	11.55	0.92	36.04	2025	
Tholen	13.20	1.06	45.13	2025	
Norgaard	8.75	0.70	22.98	2026	
WSMorrn	49.50	3.96	154.44	2019	
Cisco	8.00	0.64	21.01	2028	

Hydro Units

Unit	Annual Energy (GWh)	July Accredited Capacity (MW)
AppleRiv 1	14.611	1.29
BigFalls 1	36.146	3.44
CedarFls 1	33.596	3.01
Chippewa 1	65.600	10.32
Cornell 1	83.029	14.19
EauClare 1	41.693	3.44
Hayward 1	1.462	0.43
HennIsld 1	69.175	4.73
Holcombe 1	94.324	15.48
JimFalls 1	109.941	24.51
Ladysmth 1	10.341	1.29
Menomoni 1	22.918	2.58
Riverdal 1	3.095	0.86
SaxonFls 1	10.323	0.86
St.Croix 1	114.365	10.32
Superior 1	11.721	0.86
Thornapl 1	8.245	0.86
Trego 1	7.326	0.86
WhiteRiv 1	4.688	0.86
Wissota 1	134.120	15.48

Generic Wind

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
WIND_PPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100
WIND_PPA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100
WIND_PPA	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	100
WIND_PPA	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	100
WIND_PPA	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100
WIND_PPA	0	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100
WIND_PPA	0	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100
WIND_PPA	0	0	0	0	0	0	0	0	100	100	100	100	100	100	100	100
WIND_PPA	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100
WIND_PPA	0	0	0	0	0	0	100	100	100	100	100	100	100	100	100	100
WIND_PTC	0	0	0	0	100	100	100	100	100	100	100	100	100	100	100	100
WIND_PTC	0	0	0	100	100	100	100	100	100	100	100	100	100	100	100	100
WIND_PTC	0	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100
<u>WIND_PTC</u>	<u>0</u>	<u>0</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
Total	0	0	200	300	400	500	600	700	800	900	1100	1100	1100	1300	1500	1500

* Accredited Capacity for wind is 8%

Fuel

	2010	2011	2012	2013	2014	2015	2016	2017
Coal	\$ 1.89	\$ 1.99	\$ 2.06	\$ 2.14	\$ 2.24	\$ 2.34	\$ 2.39	\$ 2.44
Nuclear	\$ 0.81	\$ 0.83	\$ 0.87	\$ 0.89	\$ 0.94	\$ 1.00	\$ 1.02	\$ 1.04
Biomass	\$ 2.36	\$ 2.45	\$ 2.47	\$ 2.53	\$ 2.59	\$ 2.65	\$ 2.71	\$ 2.78
RDF	\$ 0.20	\$ 0.20	\$ 0.20	\$ 0.20	\$ 0.21	\$ 0.21	\$ 0.22	\$ 0.23
NatGas	\$ 4.89	\$ 5.52	\$ 5.79	\$ 5.96	\$ 6.26	\$ 6.85	\$ 7.11	\$ 7.26
Oil	\$15.37	\$16.47	\$17.53	\$19.48	\$20.54	\$21.42	\$22.07	\$22.79

	2018	2019	2020	2021	2022	2023	2024	2025
Coal	\$ 2.48	\$ 2.53	\$ 2.59	\$ 2.64	\$ 2.69	\$ 2.75	\$ 2.78	\$ 2.84
Nuclear	\$ 1.06	\$ 1.08	\$ 1.10	\$ 1.12	\$ 1.14	\$ 1.17	\$ 1.19	\$ 1.21
Biomass	\$ 2.84	\$ 2.92	\$ 2.98	\$ 3.06	\$ 3.13	\$ 3.21	\$ 3.28	\$ 3.37
RDF	\$ 0.23	\$ 0.24	\$ 0.25	\$ 0.26	\$ 0.26	\$ 0.27	\$ 0.28	\$ 0.29
NatGas	\$ 7.46	\$ 7.82	\$ 8.17	\$ 8.59	\$ 9.04	\$ 9.30	\$ 9.29	\$ 9.69
Oil	\$23.52	\$24.08	\$24.39	\$25.20	\$25.81	\$26.09	\$26.76	\$27.02

Financial

<u>System Rates</u>	
Composite Tax Rate	40.74%
Federal Income Tax Rate	35%
Inflation Rate	1.90%
Real Discount Rate	5.47%
Utility Discount Rate	7.47%
Weighted Cost of Capital	7.47%
<u>Capital Project Rates</u>	
AFUDC Rate	7.70%
Debt Structure Rate	46.17%
Desired Return on Rate Base	8.75%
Insurance Rate	0.04%
Long Term Debt Interest Rate	6.56%
Property Tax Rate	1.67%
<u>Escalation Rates</u>	
Labor	2.56%
NonLabor	1.60%
Weighted	1.90%
L25C75	1.84%
L50C50	2.08%
L75C25	2.32%
4 Prct	4.00%
3 Prct	3.00%
2 Prct	2.00%
5 Prct	5.00%
6 Prct	6.00%
7 Prct	7.00%
1Prct	1.00%