

Table UP-2: ATC Futures - ATC Energy Collaborative - Michigan
January 2, 2009 (ATC Internal Use Only Discussion) (Rev 4.0)

UP Micro-Drivers	Load Assumptions												Generation Assumptions												New Generation in Northern Michigan		
	Demand Growth Within UP (Demand MWs)			Energy Growth Within UP (Energy MWHrs)			Total Point Loads MW added in the UP (2018/2024)			Total UP Growth (2018)	Total UP Growth (2024)	Demand Growth Outside UP (MWs)	Existing UP Generation Profile (Note: U.P. generation on-line only if dictated by merit order dispatch, or unless noted below)			UP Generation Additions			UP Generation retirements			Wind Generation					
	West	Central	East	West	Central	East	West	Central	East	U.P.	U.P.		West	Central	East	West	Central	East	West	Central	East	West	Central	East			
Lower	-0.10%	0.08%	0.10%	-0.10%	0.08%	0.10%	-6 MW	-111 MW	-2 MW	-1.44%	-0.86%	0.5%	Fossil (-69MW Total) 'WP Mine1-2-3 (40) + SM-ST (11) + Warden (18)	Fossil (-151MW Total) 'PI5-6 Derate (40) + ESC1-2 (26) + Neenah-MUN (5)+NP7 Plus (55) + MBLP (25)	9.4MW Diesel Available	5 MW	116 MW	None	None	5MW Diesel	None	PI3-4 (116)	None	Zero	Zero	Zero	Zero
Mid-Lower	0.36%	0.48%	0.40%	0.36%	0.48%	0.40%	No Change	-40 MW	No Change	-0.24%	-0.05%	1.0%	(-51MW Total) 'WP Mine1-2-3 (40) + SM-ST (11)	Fossil (-134MW Total) PI5-6 Derate (40) + ESC 1-2 (26) + Neenah-MUN (5) + MBLP (25) + NP7 (38)		None		None									
Mid	0.73%	0.84%	0.75%	0.73%	0.84%	0.75%	+5 MW	+29 MW	+33 MW	1.14%	0.84%	1.75%	(-40MW Total) 'WP Mine1-2-3 (40)	Fossil (-65MW Total) PI5-6 Derate (40) + MBLP (25)	11.4MW Diesel Available	10MW	29 MW	None	None	5MW Diesel + 24MW Bio Mass	None	None	25MW	50MW	50MW	100MW	
Mid-Upper	1.23%	1.25%	1.25%	1.23%	1.25%	1.25%	+16 / +3	+79 / +20	+35 / +5	2.00%	1.60%	2.0%	Fossil all available	Fossil (-40MW Total) PI 5-6 (40)	11.4MW diesel Available	35MW	93MW	None	None	24MW Bio Mass + 9MW Hydro + 60 MW Mascoma	None	None	50MW	100MW	100MW		
Upper	1.93%	2.00%	2.00%	1.93%	2.00%	2.00%	+19 / +22	+134 / +50	+46 / +10	3.00%	2.58%	3.0%	Fossil all available	Fossil all available	16MW Diesel Available	50MW	101 MW	None	None	8MW Diesel + 24MW Bio Mass + 9MW Hydro + 60 MW Mascoma	None	PI3-4 (116) +GLAD (22)	100MW	200MW	200MW	600MW	

2018 Futures Descriptions

Robust Economy	Upper	Upper	Upper	Upper	Upper	Upper	Upper	Upper	Upper	Upper	Upper	Upper	-0MW	-0MW	20MW Hydro	(none)	35MW	(+101 MW)	(none)	(-116 MW)	(none)	(+25 MW)	(+50 MW)	(+50 MW)	(+ 600 MW)
High Retirements	Mid	Mid	Mid	Mid	Mid	Mid	Mid	Mid	Mid	Mid	Mid	Mid	-69MW	-151MW	32MW Hydro	(none)	(none)	(+29MW)	(none)	(-138 MW)	(none)	(+25 MW)	(+50 MW)	(+50 MW)	(+ 600 MW)
High Environmental	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	-51MW	-134MW	20MW Hydro	(none)	(none)	(+5 MW)	(none)	(-116 MW)	(none)	(+50 MW)	(+100 MW)	(+100 MW)	(none)
Slow Growth	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	-40MW	-65MW	44MW Hydro	(none)	10MW	(+5 MW)	(none)	(-116 MW)	(none)	(+100 MW)	(+200 MW)	(+200 MW)	(none)
DOE 20% Wind	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	-69MW	-151MW	20MW Hydro	(none)	(none)	(+93 MW)	(none)	(-138 MW)	(none)	(+100 MW)	(+200 MW)	(+200 MW)	(+ 100 MW) (Wind)
Fuel and Investment Limitations	Mid	Mid	Mid	Mid	Mid	Mid	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	-40MW	-65MW	0MW Hydro	(none)	10MW	(+5 MW)	(none)	(-116 MW)	(none)	(none)	(none)	(none)	(none)

2024 Futures Descriptions

Robust Economy	Upper	Upper	Upper	Upper	Upper	Upper	Upper	Upper	Upper	Upper	Upper	Upper	-0MW	-0MW	20MW Hydro	(none)	50MW	(+101 MW)	(none)	(-116 MW)	(none)	(+25 MW)	(+50 MW)	(+50 MW)	(+ 600 MW)
High Retirements	Mid	Mid	Mid	Mid	Mid	Mid	Mid	Mid	Mid	Mid	Mid	Mid	-69MW	-151MW	32MW Hydro	(none)	(none)	(+29MW)	(none)	(-138 MW)	(none)	(+25 MW)	(+50 MW)	(+50 MW)	(+ 600 MW)
High Environmental	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	-51MW	-134MW	20MW Hydro	(none)	(none)	(+5 MW)	(none)	(-116 MW)	(none)	(+50 MW)	(+100 MW)	(+100 MW)	(none)
Slow Growth	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	-40MW	-65MW	44MW Hydro	(none)	10MW	(+5 MW)	(none)	(-116 MW)	(none)	(+100 MW)	(+200 MW)	(+200 MW)	(none)
DOE 20% Wind	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	Mid-Upper	-69MW	-151MW	20MW Hydro	(none)	(none)	(+93 MW)	(none)	(-138 MW)	(none)	(+100 MW)	(+200 MW)	(+200 MW)	(+ 100 MW) (Wind)
Fuel and Investment Limitations	Mid	Mid	Mid	Mid	Mid	Mid	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	Mid-Lower	-40MW	-65MW	0MW Hydro	(none)	10MW	(+5 MW)	(none)	(-116 MW)	(none)	(none)	(none)	(none)	(none)