

Grid Analysis Documentation

1 Grid

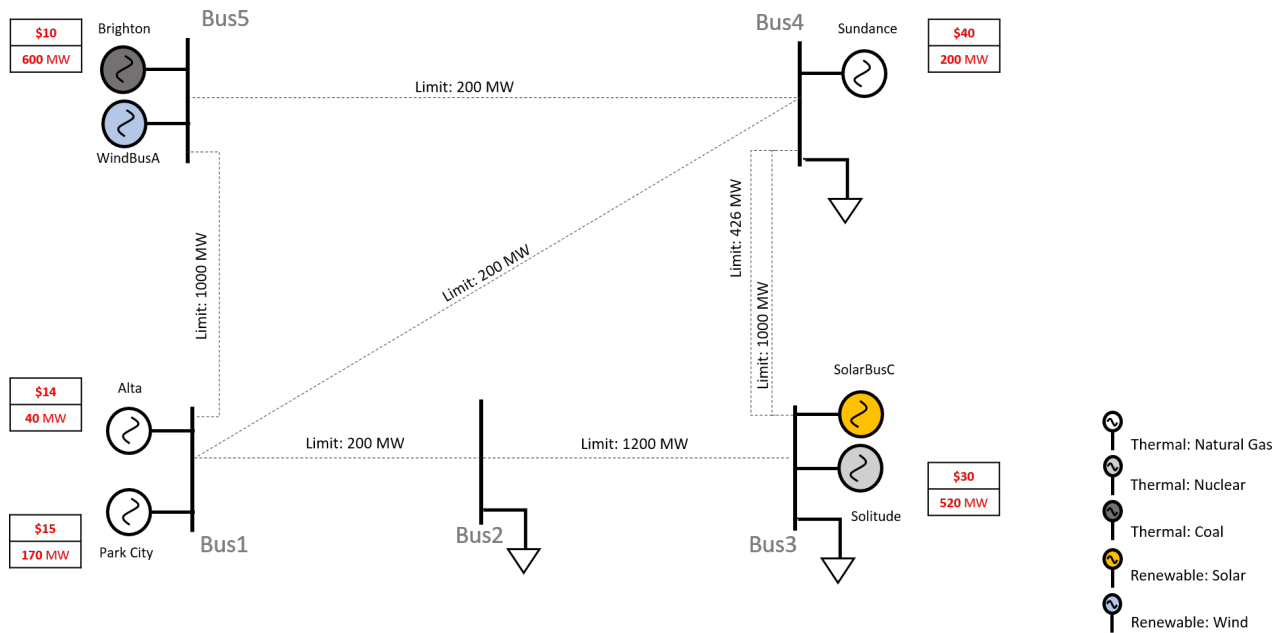


Figure 1: 5_bus Grid

2 Forecasts

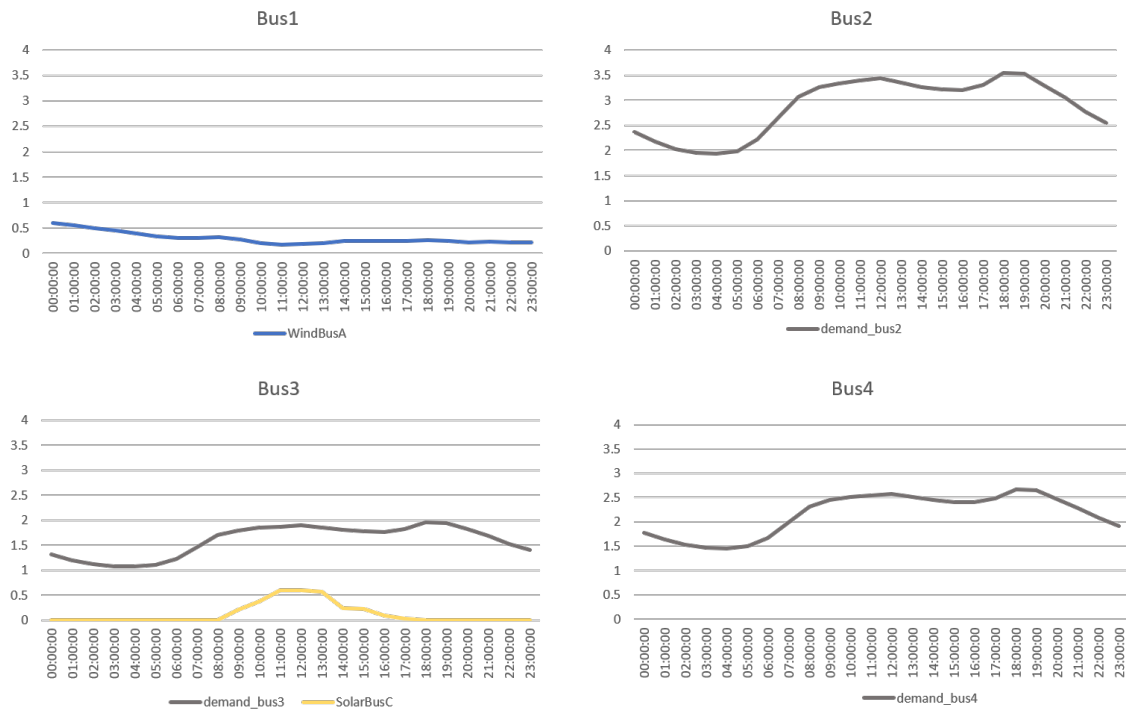


Figure 2: Demanda and Renewable Generation Forecasts

3 Thermal generators and lines data

name	Park City	Alta	Solitude	Sundance	Brighton
available	true	true	true	true	true
status	true	true	true	true	true
bus	Bus1	Bus1	Bus3	Bus4	Bus5
active_power	1.7	0.4	3.24498	0	4.70694
reactive_power	1.275	0.3	3.9	-0.10802	-1.65039
active_power_limits	min = 0.5, max = 1.7	min = 0.05, max = 0.4	min = 2.6, max = 5.2	min = 1.0, max = 2.0	min = 3.0, max = 6.0
reactive_power_limits	min = -1.275, max = 1.275	min = -0.3, max = 0.3	min = -3.9, max = 3.9	min = -1.5, max = 1.5	min = -4.5, max = 4.5
ramp_limits	up = 0.0, down = 0.0	up = 0.0, down = 0.0	up = 0.0, down = 0.0	up = 0.0, down = 0.0	up = 0.0, down = 0.0
operation_cost (VariableCost: fixed: start_up: shut_down:)	(0.0, 15.0), 0.0, 0.0, 0.0	(0.0, 14.0), 0.0, 0.0, 0.0	(0.0, 30.0), 0.0, 0.0, 0.0	(0.0, 40.0), 0.0, 0.0, 0.0)	(0.0, 10.0), 0.0, 0.0, 0.0)
base_power	100	100	100	100	100
fuel (ThermalFuels.)	NATURAL _GAS: 7	NATURAL _GAS: 7	NUCLEAR: 9	NATURAL _GAS: 7	COAL: 1

Table 1: Thermal generators data.

name	bus1-bus2 -i_1	bus1-bus4 -i_2	bus1-bus5 -i_3	bus2-bus3 -i_4	bus3-bus4 -i_5	bus3-bus4 -i_6	bus4-bus5 -i_7
available	true	true	true	true	true	true	true
active_power_flow	0	0	0	0	0	0	0
reactive_power_flow	0	0	0	0	0	0	0
arc	Arco	Arco	Arco	Arco	Arco	Arco	Arco
r	0.00281	0.00304	0.00064	0.00108	0.00297	0.00297	0.00297
x	0.0281	0.0304	0.0064	0.0108	0.0297	0.0297	0.0297
b (from, to):	0.00356, 0.00356	0.00329, 0.00329	0.01563, 0.01563	0.00926, 0.00926	0.00337, 0.00337	0.00337, 0.00337	0.00337, 0.00337
rate	2	2	10	12	10	4.26	2
angle_limits	min = -0.5235987755982988, max = 0.5235987755982988						

Table 2: Lines data.