Case Study Data

1. Case A

1.1 Generator data

Generator data are modified from case9.m in Matpower 7.1 [1].

No.	Node	P^{max}(MW)	P^{min}(MW)	P^{up}(MW/h)	P^{dn}(MW/h)	c_g($/MWh)	c_g^{on} /c_g^{off}($)
1	1	160	50	64	64	50	55
2	2	300	40	120	120	60	65
3	3	270	40	108	108	45	45

1.2 Wind generation data

No.	Node	Capacity(MW)
1	3	30
2	6	6

1.3 Load data

Load data are from case9.m in Matpower 7.1 [1].

1.4 Topology data

Capacity of transmission lines are modified to 100 MW. Other topology parameters are the same with that in case9.m in Matpower 7.1 [1].

2. Case B

1.1 Generator data

Generator data are modified from case30.m in Matpower 7.1 [1].

No.	Node	P^{max}(MW)	P^{min}(MW)	P^{up}(MW/h)	P^{dn}(MW/h)	c_g($/MWh)	c_g^{on} /c_g^{off}($)
1	1	80	8	32	32	60	65
2	2	80	8	32	32	45	50
3	3	50	5	20	20	40	45
4		55	5.5	22	22	55	60
5		30	3	12	12	50	55
6		40	4	16	16	50	55

1.2 Wind generation data

No.	Node	Capacity(MW)
1	3	30
2	6	6

1.3 Load data

Load data are from case30.m in Matpower 7.1 [1].

1.4 Topology data

Capacity of transmission lines are modified to 100 MW. Other topology parameters are the same with that in case30.m in Matpower 7.1 [1].

Reference:

[1]. R. D. Zimmerman, C. E. Murillo-Sanchez, and R. J. Thomas, "MATPOWER: Steady-State Operations, Planning and Analysis Tools for Power Systems Research and Education," *IEEE Trans. Power Syst.*, vol. 26, no. 1, pp. 12-19, Feb. 2011.