

Supplementary Material for “Distributionally Robust Unit Commitment with Flexible Generation Resources Considering Renewable Energy Uncertainty”

DATA FOR 6-BUS SYSTEM

Fig. S-1 shows the diagram for 6-bus system. The data for generators, fuel costs, and transmission lines are provided in Table S-I, Table S-II, and Table S-III, respectively. In Table S-II, a_i , b_i , and c_i are constant, linear and quadratic heat rate coefficients for unit i , respectively; ρ_i is fuel price for unit i .

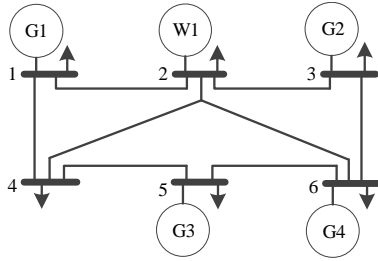


Fig. S-1. Topology of 6-bus system

TABLE S-I
DATA FOR GENERATORS IN 6-BUS SYSTEM

unit	type	\bar{P} (MW)	\underline{P} (MW)	RU/RD (MW/h)	UT (h)	DT (h)
G1	regular	20	8	12	4	4
G2	regular	120	40	80	6	6
G3	quick-start	20	4	20	1	1
G4	regular	100	40	60	6	6

TABLE S-II
COST DATA FOR GENERATORS IN 6-BUS SYSTEM

unit	start-up cost (Mbtu)	a (Mbtu)	b (Mbtu/MW)	c (Mbtu/MW ²)	fuel price (\$/Mbtu)
G1	288	10	6.0	0.0004	1.25
G2	3300	40	5.5	0.0001	1.25
G3	144	12	6.5	0.0008	2.50
G4	2750	40	5.5	0.0001	1.25

TABLE S-III
DATA FOR TRANSMISSION LINES IN 6-BUS SYSTEM

line	from	to	reactance (p.u.)	power rating (MW)
L1	1	2	0.189	100
L2	1	4	0.163	100
L3	2	3	0.247	200
L4	2	4	0.190	100
L5	2	6	0.185	100
L6	3	6	0.137	150
L7	4	5	0.152	200
L8	5	6	0.155	100