Case parameters for the manuscript "Incentive based Demand Response for Maximizing Electricity Retailers' Benefits"

TABLE 1

The demand and price of three types of customers

	Q1 (MW)	Q2 (MW)	Q3 (MW)	Q (GW)	P1 ($/MWh)	P2 ($/MWh)	P3 ($/MWh)
1	750	170	290	150	100	200	300
2	680	180	280	150	100	200	300
3	600	200	270	150	100	200	300
4	570	250	350	150	100	200	300
5	550	270	320	150	100	200	300
6	500	280	480	175	100	200	300
7	450	290	520	175	100	200	300
8	540	300	1000	175	140	280	420
9	600	400	1210	200	140	280	500
10	800	500	1170	200	200	400	500
11	1000	520	1150	230	200	400	500
12	970	550	1050	230	200	400	500
13	950	545	950	240	200	400	500
14	870	540	1200	190	200	400	500
15	750	580	1230	200	140	280	500
16	780	600	1280	210	140	280	500
17	800	620	1310	200	200	400	500
18	900	630	1300	230	200	400	500
19	1000	700	1290	240	200	400	500
20	1050	750	680	200	200	400	500
21	1100	730	570	170	200	400	300
22	980	700	420	170	200	400	300
23	900	320	300	150	200	200	300
24	800	300	280	150	100	200	300

Q1: The load of residential customers.
Q2: The load of business customers.
Q3: The load of industrial customers.
Q: The total load in spot market.
P1: The retail price of residential customers.
P2: The retail price of business customers.
P3: The retail price of industrial customers.

TABLE 2

The parameters of spot price and customers' utility used in case study

Parameter	Value	Parameter	Value
$\boldsymbol{a_1}$($/MWh)	-54.941	c_1($/MWh)	-18.324
$\boldsymbol{a_2}$($/MWh)	-254.67	c_2($/MWh)	-212.71
$\boldsymbol{b_1}$($/(GW•MWh))	1.4475	d_1($/(GW•MWh))	0.4274
$\boldsymbol{b_2}$($/(GW•MWh))	3.1763	d_2($/(GW•MWh))	2.1072
$\boldsymbol{\alpha}$(MWh^{-1})	0.5	β($/MWh)	500
$\boldsymbol{\gamma}$($/MWh)	13	μ($/MWh)	500

The parameters of spot price in Table 2 is obtained from the following reference:

Wang R Q and Yu-Zeng L I, "Load Shedding Strategies of Power Supplier Considering Impact of Interruptible Loads on Spot Price," *Power System Technology,* vol. 33, no. 18, pp. 111-116, 2009.