Capacity Cost Allocation Analysis (CCAA) Working Group Update

John Martin, Working Group Chair

January 17, 2019 — Tariff Design Advisory Group

Proposed time block bookends have been informed by *Capacity Market Regulation*

- Analysis has been informed by cost allocation requirements of *Capacity Market Regulation* released December 2018

  - The same set of time blocks must apply to all system access services, although "reasonably similar" language allows some judgement in number and size of time blocks

  - Weights are to reflect contribution of demand and supply to meeting resource adequacy standard (not solely demand)

  - Energy is the billing determinant for the rate and a single $/MWh rate must apply to all MWh in a single time block

- Have used hourly expected unserved energy (EUE) to develop time block bookends for further analysis

  - Hourly expected unserved energy and time block bookend analysis in process of being published

Wide peak bookend based on about 1,200 high-EUE weekday hours

Hr	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Nov	-	-	-	-	-	-	-	2	-	3	3	2	2	2	3	1	8	15	10	9	6	3	-	-
Dec	-	-	-	-	-	-	-	3	4	7	9	10	6	6	3	7	18	20	16	15	15	7	1	-
Jan	-	-	-	-	-	-	-	1	2	6	7	4	5	3	2	4	11	20	15	12	7	3	1	-
Feb	-	-	-	-	-	-	1	1	8	2	6	5	4	4	4	5	7	15	16	14	9	3	-	-
Mar	-	-	-	-	-	-	-	1	2	3	5	5	3	-	-	1	2	2	5	6	3	1	-	-
Apr	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	1	-	7	10	10	13	8	11	10	11	7	7	1	1	1	1	-
Jun	-	-	-	-	-	-	-	-	-	-	2	3	5	7	9	13	11	9	6	4	1	-	-	-
Jul	-	-	-	-	-	-	-	-	-	2	4	15	18	19	19	19	20	20	17	8	1	-	-	-
Aug	-	-	-	-	-	-	-	-	-	1	3	6	10	12	17	17	19	15	8	7	3	1	-	-
Sep	-	-	-	-	-	-	-	1	-	1	5	10	9	9	13	14	17	14	8	9	6	1	-	-
Oct	-	-	-	-	-	-	3	6	13	10	11	10	11	12	10	12	11	10	11	11	11	8	1	-

Narrow peak bookend based on about 200 high-EUE weekday hours (cold months)

Hr	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	1	1	-	-	-
47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-
52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	1	1	-	-	-
01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	1	-	-	-	-
02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Narrow peak bookend based on about 200 high-EUE weekday hours (warm months)

Hr	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	3	3	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	2	2	1	3	3	2	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	4	4	2	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	2	5	4	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	2	2	1	-	-	-	-	-
33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-
34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	2	1	-	-	-	-	-	-
37	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	4	3	-	-	-	-	-	-
38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	-	-	-	-	-	-	-	-	-	1	-	3	3	1	2	4	4	2	1	5	2	-	-	-
42	-	-	-	-	-	-	-	-	1	3	4	4	3	3	3	3	3	3	4	4	3	1	-	-
43	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Load shifting between periods is assumed to hold amount of energy constant

Time Block	Hours	MW	MWh
Wide Peak Bookend			
Off-Peak	4,776	15.4	73,500
Mid-Peak	2,742	0.0	0
On-Peak	1,242	(59.2)	(73,500)
Total	8,760		0
Narrow Peak Bookend			
Off-Peak	4,776	15.4	73,500
Mid-Peak	3,739	0.0	0
On-Peak	245	(300.0)	(73,500)
Total	8,760		0

Bookend analysis will inform time blocks and weights to be recommended in March

- Resource adequacy model (RAM) analysis will be re-run with load adjusted in each bookend scenario

  – Expected to be complete in mid-February

- Results from re-running bookend scenarios will be used to inform time block definitions and weights between time blocks

  – Final time block and weight recommendations expected in early March

- Questions have also been raised about anomalies in EUE distribution in base RAM analysis

  – Questions are being investigated

Questions