Seasonal DR Aggregation Registration Rules

MIC | November 8, 2017
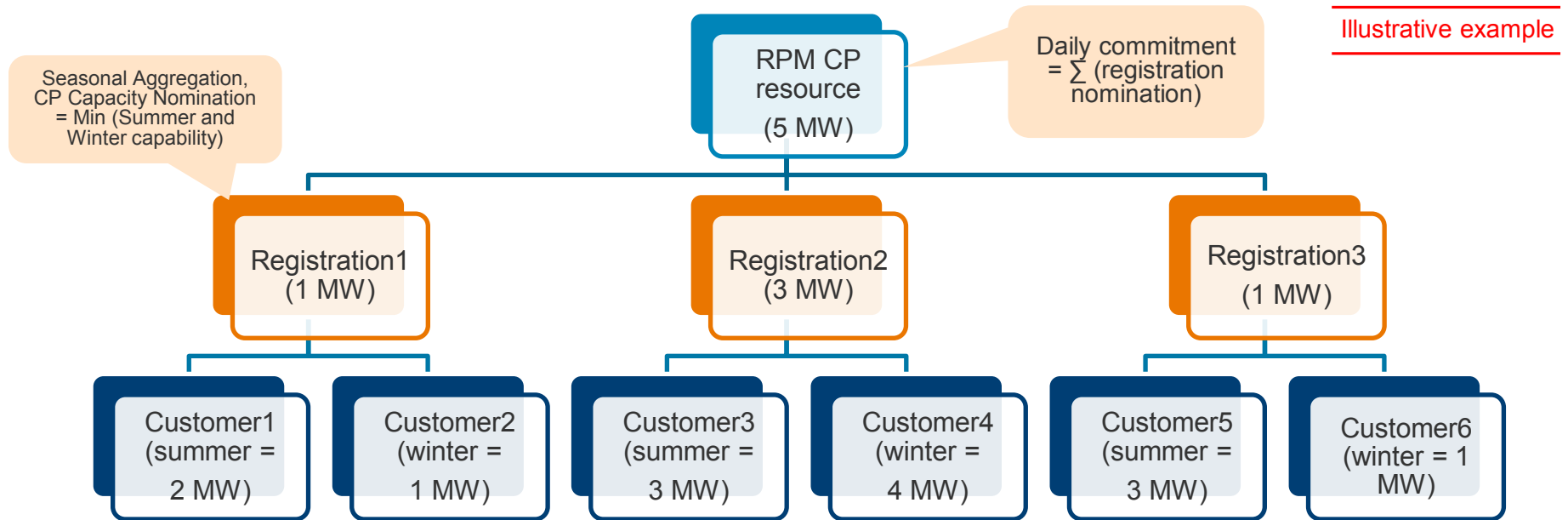
The default approach is for each location to have its own registration
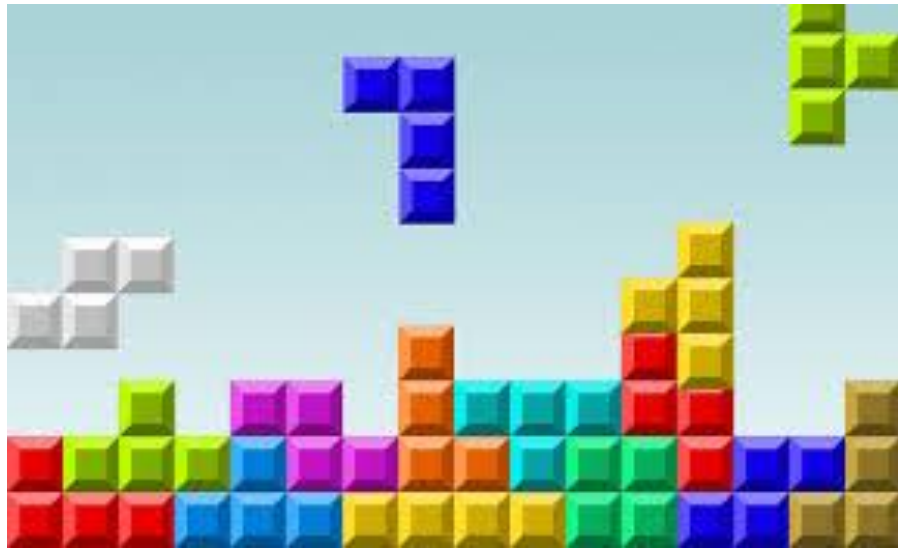
Example resource of 20 locations:

Registration	Location	Summer capability	Winter capability	CP capability
A	1	0.5	0.8	0.5
B	2	1	1.5	1
C	3	1	1.2	1
D	4	1	0.2	0.2
E	5	2	1.5	1.5
F	6	2	1	1
G	7	2.5	3.5	2.5
H	8	3	3	3
I	9	3.2	4	3.2
J	10	3.5	2.5	2.5
K	11	4	7	4
L	12	4	4.5	4
M	13	4	1.5	1.5
N	14	1.5	6	1.5
O	15	10	5	5
P	16	1	2	1
Q	17	1.1	2	1.1
R	18	4.5	3	3
S	19	5	10	5
T	20	8	3	3
	Total	62.8	63.2	45.5

- Each registration's CP value is the lesser of its summer and winter capabilities

- Resource's total CP value is 45.5 MWs

  - **17.3 MW** not **dispatchable by PJM**

Under current rules, CSPs can aggregate a number of locations within a registration

Applying customer-level aggregation still leaves a substantial number of MWs not dispatchable to PJM

Example resource of 20 locations:

Registration	Location	Summer capability	Winter capability
A	1	0.5	0.8
A	2	1	1.5
A	3	1	1.2
A	4	1	0.2
B	5	2	1.5
B	6	2	1
B	7	2.5	3.5
C	8	3	3
C	9	3.2	4
C	10	3.5	2.5
D	11	4	7
D	12	4	4.5
D	13	4	1.5
E	14	1.5	6
E	15	10	5
F	16	1	2
F	17	1.1	2
F	18	4.5	3
G	19	5	10
H	20	8	3
	Total	**62.8**	**63.2**

Registration	Summer capability	Winter capability	CP capability
A	3.5	3.7	3.5
B	6.5	6	6
C	9.7	9.5	9.5
D	12	13	12
E	11.5	11	11
F	6.6	7	6.6
G	5	10	5
H	8	3	3
Total	**62.8**	**63.2**	**56.6**

- Locations can be aggregated within a registration if they have the same:
  - EDC
  - Lead time
  - Emergency designation

- Difficult to align customer capabilities and leads to large registration aggregations with less dispatch flexibility

- Resource's total CP value by aggregating is 56.6 MWs
  - **6.2 MW** not dispatchable by PJM

To help fix the administrative problems of location aggregation, we can instead use resource aggregation

Example resource of 20 locations:

Registration	Location	Summer capability	Winter capability	CP capability
A	1	0.5	0.8	
B	2	1	1.5	
C	3	1	1.2	
D	4	1	0.2	
E	5	2	1.5	
F	6	2	1	
G	7	2.5	3.5	
H	8	3	3	
I	9	3.2	4	
J	10	3.5	2.5	
K	11	4	7	
L	12	4	4.5	
M	13	4	1.5	
N	14	1.5	6	
O	15	10	5	
P	16	1	2	
Q	17	1.1	2	
R	18	4.5	3	
S	19	5	10	
T	20	8	3	
	Total	62.8	63.2	62.8

- Summer and winter capability for each location summed together

- Resource's CP value is the lesser of the two

- Resource's total CP value is 62.8 MWs = min(62.8, 63.2)
  - **<u>All</u> physical capability dispatchable by PJM**