

**DOCKETED**

<b>Docket Number:</b>	21-DR-01
<b>Project Title:</b>	Supply Side Demand Response
<b>TN #:</b>	245917
<b>Document Title:</b>	Presentation - CEC 24 Slice QC Methodology Proposal
<b>Description:</b>	N/A
<b>Filer:</b>	Courtney Wagner
<b>Organization:</b>	California Energy Commission
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	9/8/2022 3:17:43 PM
<b>Docketed Date:</b>	9/8/2022



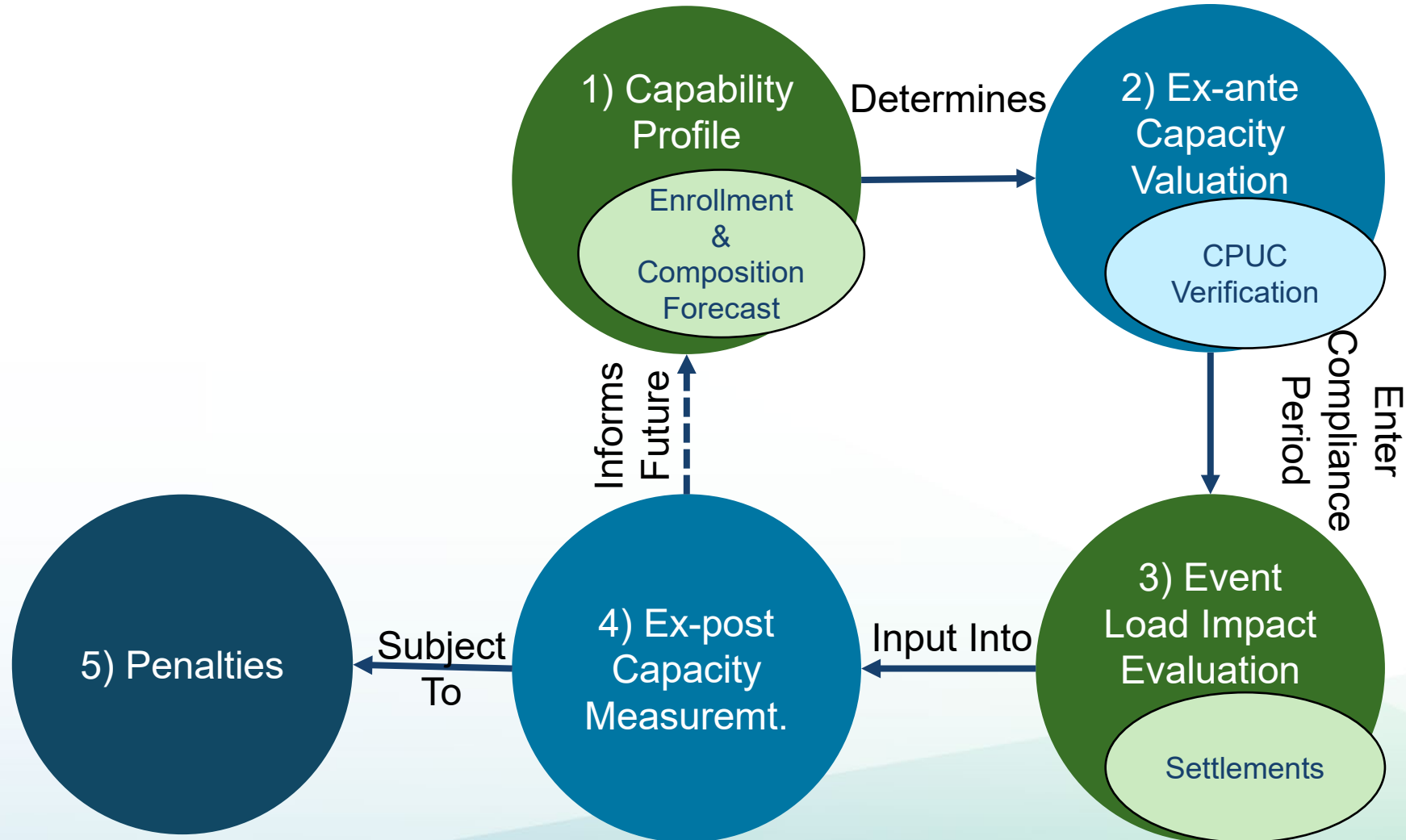
# **24-Slice QC Methodology Proposal**

Erik Lyon

September 8, 2022



# Ex-ante & Ex-post Cycle





# 1) Hourly Capability Profile

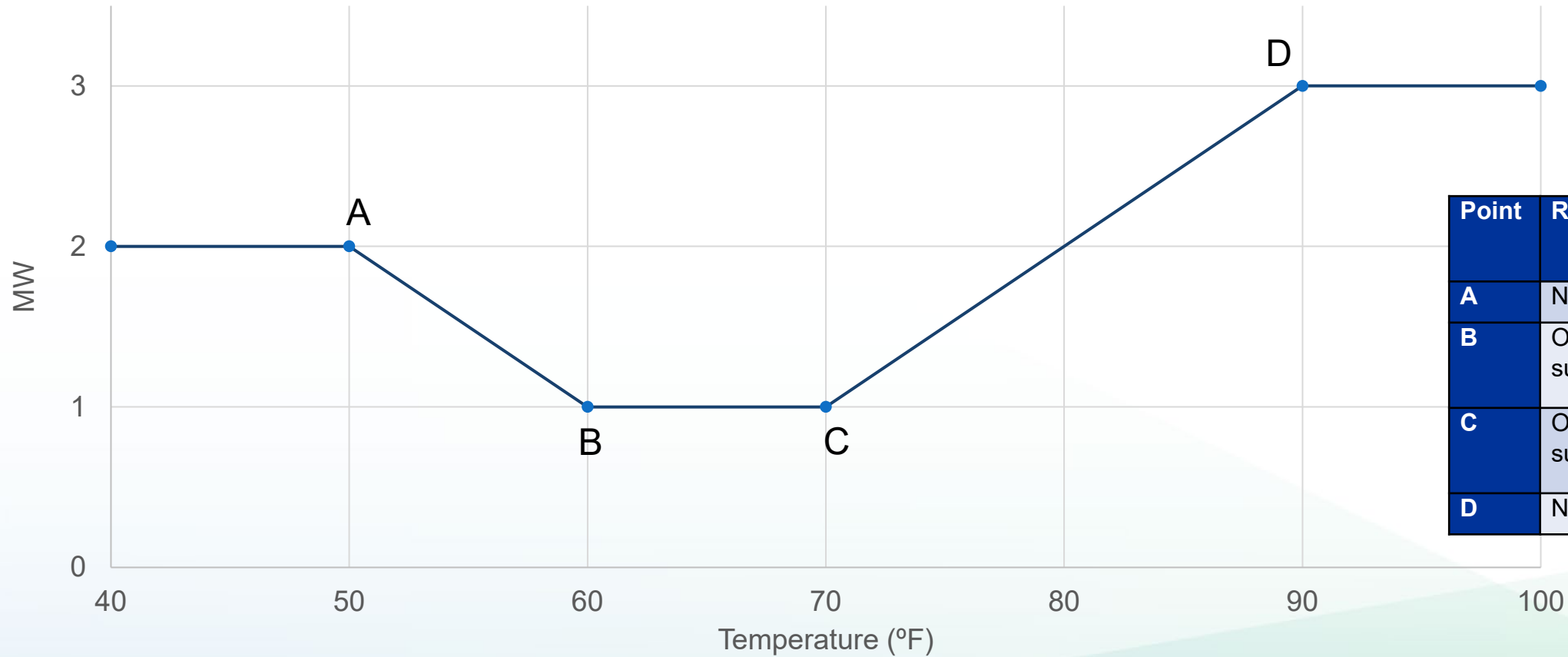
---

- Determined by DR provider in standardized format
  - Optional series of change points
- Determined based on knowledge of how ex-post results will be determined and penalties assessed in upcoming year
  - May also consider ex-post performance of previous year
- Requires profile for each hour and month seeking RA value
  - Plus adjacent hours with takeback
  - Profiles can be reused across months or hours
  - Example: Winter and Summer profiles for 5–9:  $2 \times 4 = 8$  profiles



# 1) Hourly Capability

For hour x and month y



Point	Required?	Load Impact Constraint
A	No	$A > B$
B	Only if A submitted	$B = C$
C	Only if D submitted	$C = B$
D	No	$D > C$

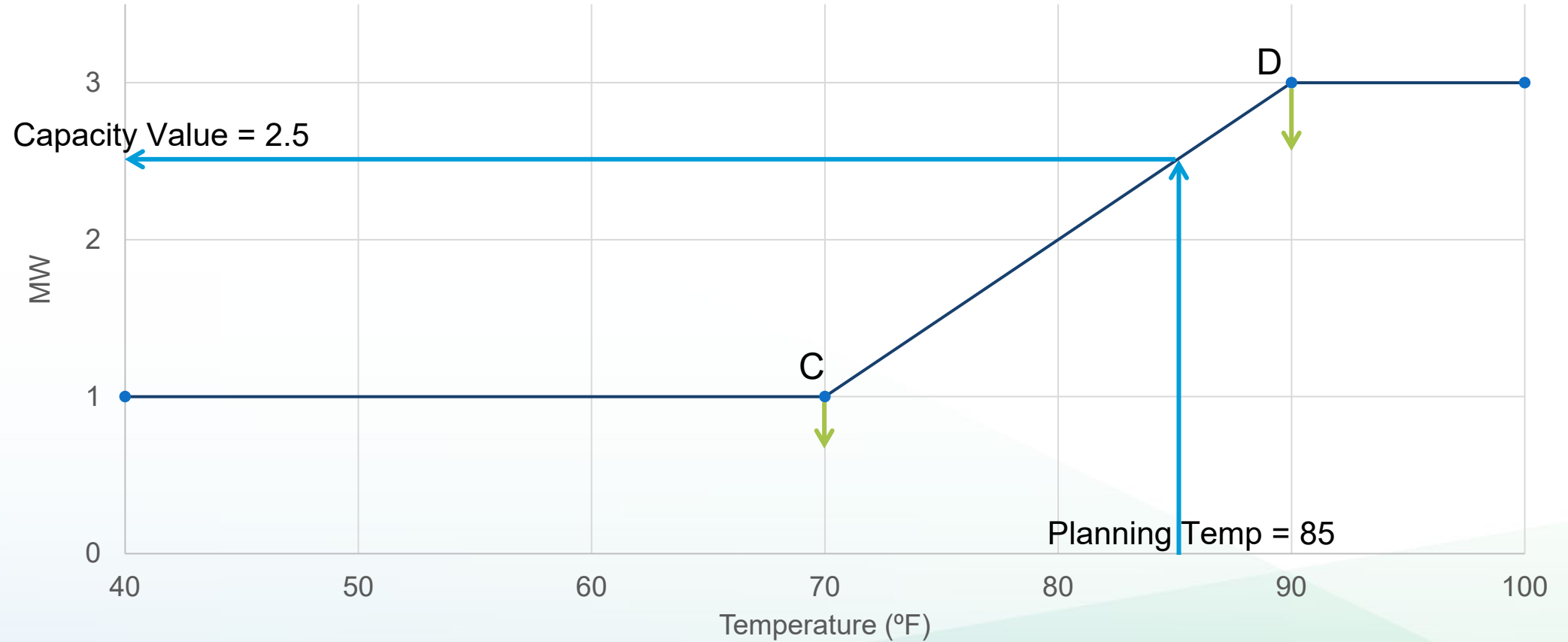
$$A < B \leq C < D$$





## 2) Ex-ante Capacity Valuation

Hourly capacity determination from capability profile is unambiguous  
CPUC staff adjustments made through capability profile





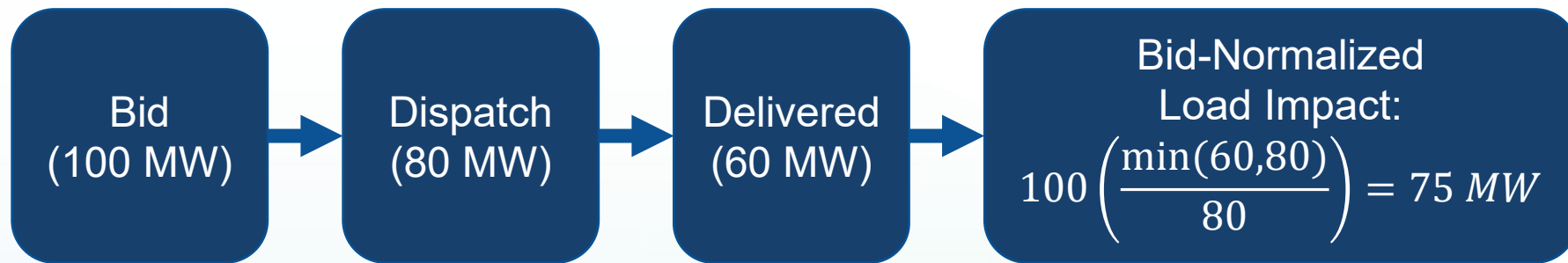
## 2) Ex-ante Capacity Valuation

- CPUC retains review and oversight of QC values
- CPUC staff may waive prerogative for detailed review and adjustment based on two conditions:
  - DR provider delivered  $\geq 90\%$  of committed capacity over hours with RA obligations
  - QC value sought in each hour is  $\leq 25\%$  greater than demonstrated capacity in the previous year



### 3) Hourly Capability

- Customer energy baseline same as CAISO settlement baseline, **unless**:
  1. Alternate baseline is more accurate, **and**
  2. Alternate baseline is infeasible for use in CAISO settlement
- Partial dispatches normalized to bid amounts:

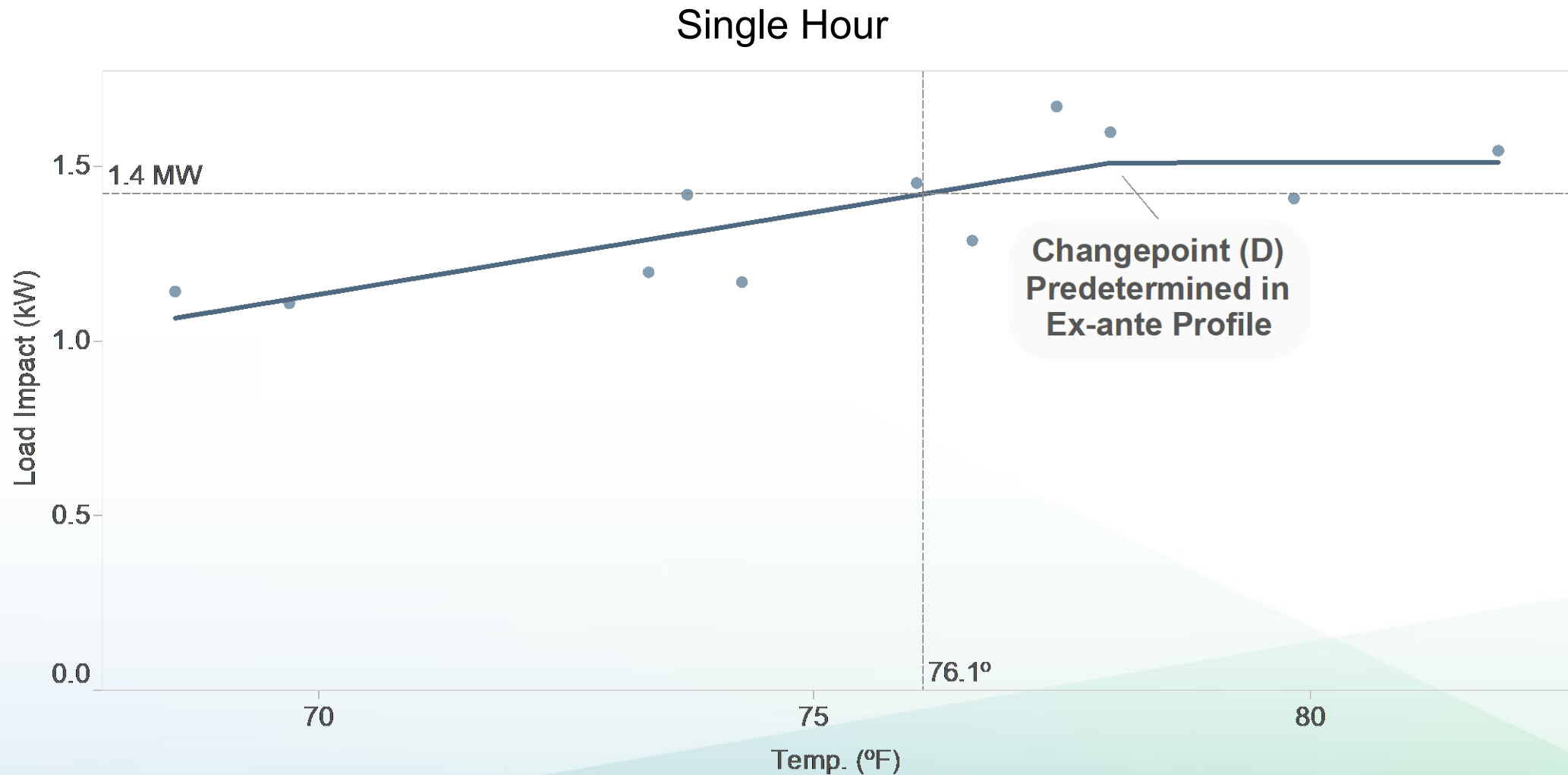


- 0 if no bid



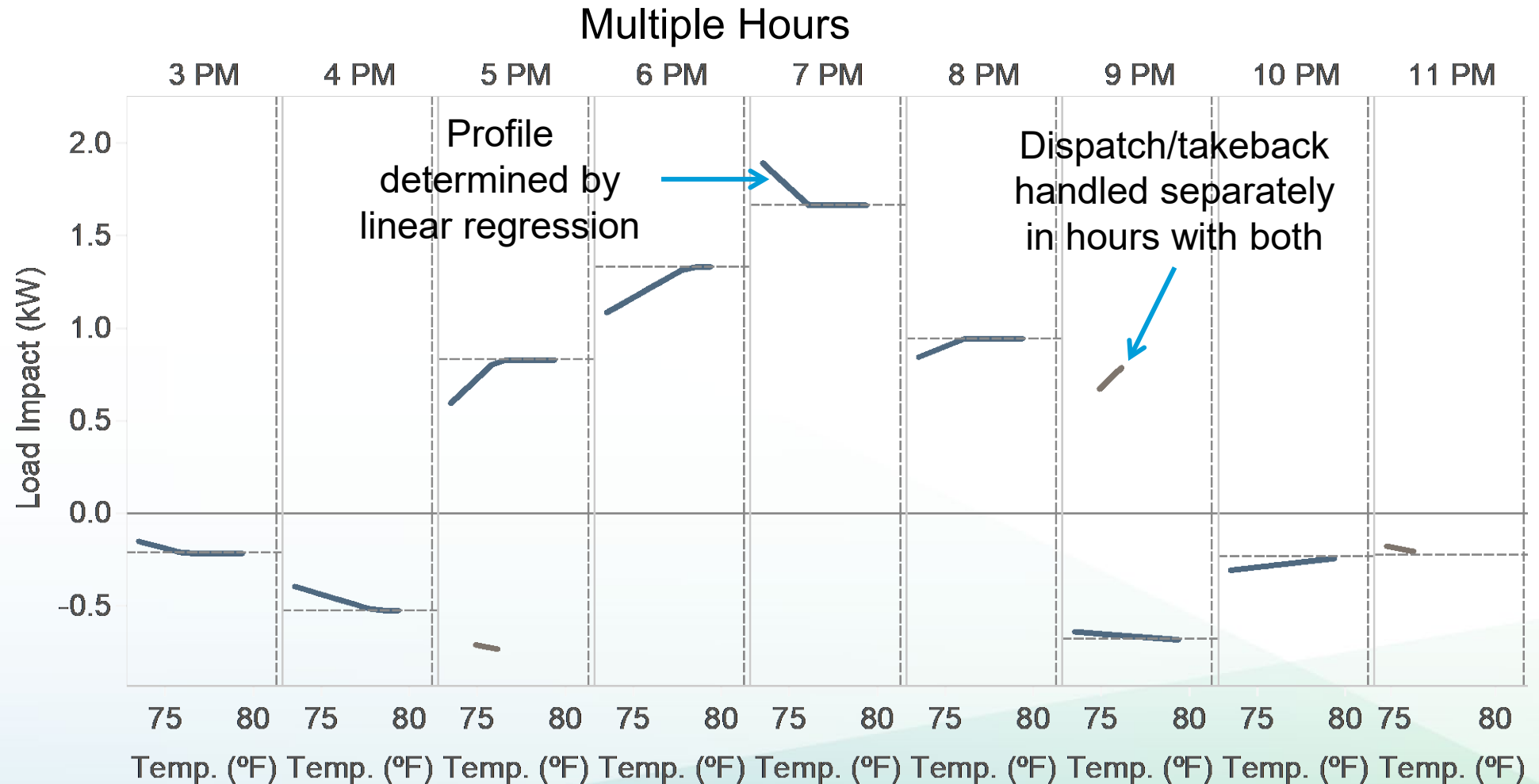


# 4) Ex-Post Capacity Calculation



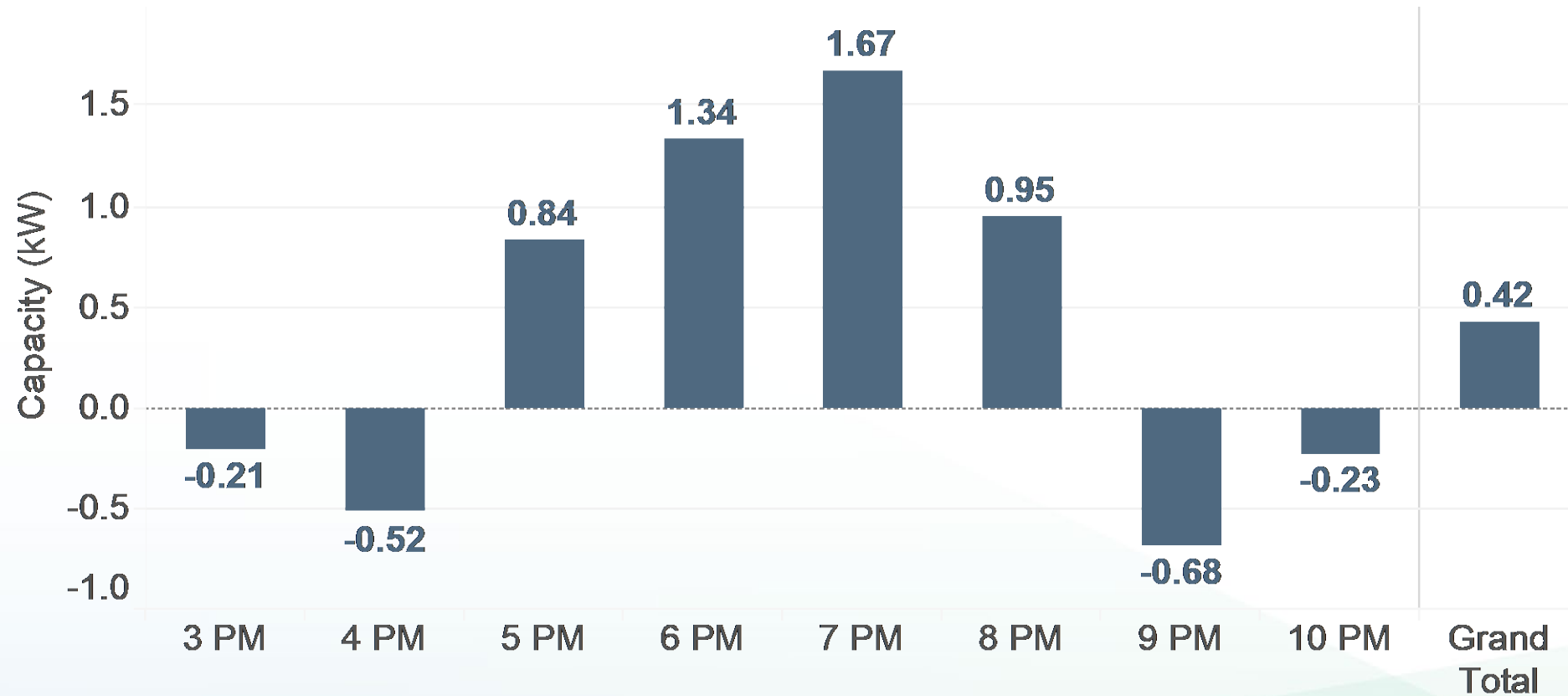


# 4) Ex-Post Capacity Calculation





## 4) Ex-Post Capacity Calculation





# 4) Ex-Post Capacity Calculation

---

- Exceptions for infrequent dispatch
  - 0: Zero capacity value
  - 1: Single value across all temperatures



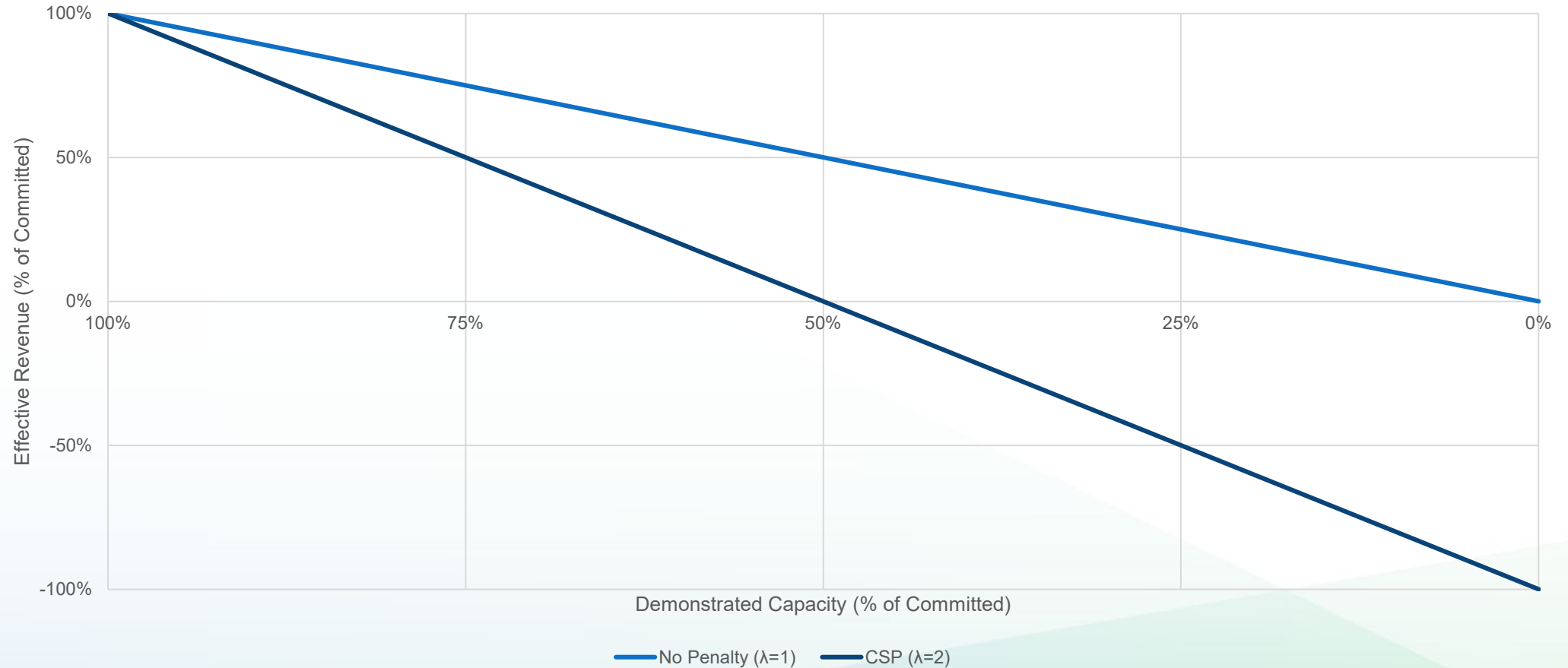
## 5) Capacity Shortfall Penalty (CSP)

---

- Compares committed capacity to delivered capacity
  - Committed capacity = lesser of awarded QC and contracted capacity



# 5) Capacity Shortfall Penalty (CSP)







# Questions?