TC-22, BP-22 and EIM Phase III Customer Workshop

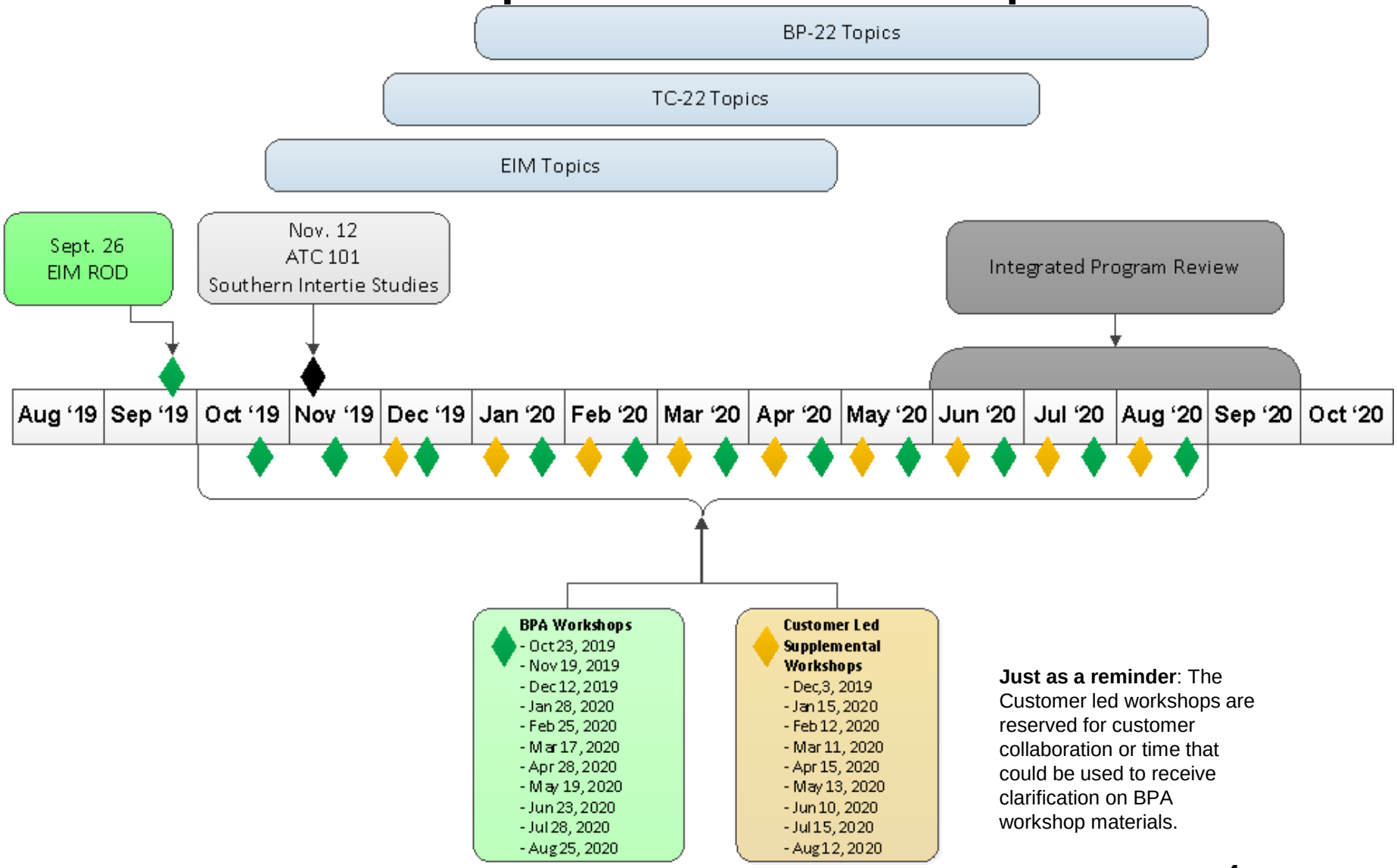
November 19, 2019

Agenda

- Summary of last workshop and feedback
- Regional Planning Organization
  - Step 1: Introduction and education
  - Step 2: Description of the issue
- EIM Resource Sufficiency
  - Step 1: Introduction and education
  - Step 2: Description of the issue

Summary of prior workshop and feedback

BP/TC-22 Proposed Workshop Timeline



Just as a reminder: The Customer led workshops are reserved for customer collaboration or time that could be used to receive clarification on BPA workshop materials.

Engaging the Region on Issues

- After every workshop, BPA will provide a two-week feedback period for customers.
  - Input can be submitted via email to techforum@bpa.gov. Please copy your Power or Transmission Account Executive on your email.
- Issues will be presented according to the following process at workshops (multiple steps might be addressed in a single workshop):

  Step 1: Introduction and education

  Step 2: Description of the issue

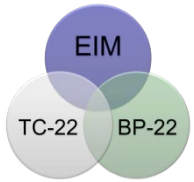
  Step 3: Data and/or analysis that supports the issue

  Step 4: Discussions on possible alternatives to solve issue

  Step 5: Discussion of customer feedback to alternatives and BPA's response

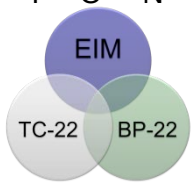
  Step 6: Staff proposal for solution

EIM Priority Issues



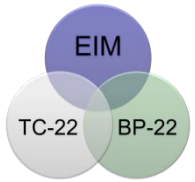
#	Issue	BP-22	TC-22	Future BP/TC
1	EIM Charge Code Allocation	X	?	X
2	EIM Losses	X	X	?
3	Resource Sufficiency	X	X	?
3a	- Balancing Area Obligations	X	X	?
3b	- LSE Performance & Obligations	X	X	?
3c	- Gen Input Impacts	X	X	?
4	Development of EIM Tariff Changes		X	?
5	Transmission Usage for Network	X	X	?
6	Non-federal Resource Participation	X	X	?
7	Metering & Data Requirements		X	?
8	Evaluation of Operational Controls	X	X	?

Rates & Tariff Topics



#	Topics	BP-22	TC-22	Future BP/TC
9	Transmission Losses	X	X	
10	Ancillary Services	X		?
11	Revenue Financing	X		
12	Generator Interconnection		X	
13	Regional Planning		X	
14	Creditworthiness		X	
15	Incremental/Minor Changes to Agreement Templates		X	
16	Seller's Choice		X	
17	Loads	X		
18	Sales	X		
19	Generator Interconnection (assumed for BP-22)	X		
20	Risk	X		
21	Revenue Requirements	X		
22	Review of Segments	X		
23	Review of Sale of Facilities	X		
24	Financial Leverage Policy Implementation	X		
25	Power-Only issues	X		

Potential Future Rates & Tariff Issues



#	Issue	BP-22	TC-22	Future BP/TC
26	Simultaneous Submission Window			?
27	Study Process			?
28	Attachment C (Short-term & Long-term ATC)			?
29	Hourly Firm (TC-20 Settlement – Attachment 1: section 2.c.ii)			?
30	Required Undesignation			?
31	Reservation window for Hourly non-firm			?
32	Non-federal NT Redispatch			?
33	PTP/NT Agreement Templates			?

Feedback Summary

Themes	BPA's Response
Provide a detailed summary Timeline with topics for each workshop	We will keep an agile schedule that will be shared at each workshop updated as we consider the feedback received from customers
Customers concurred with BPA's proposal for engagement for certain topics	No change
Customers would like early discussions on the following topics: • Transmission Usage • Creditworthiness • EIM Metering and Data Requirements • EIM Non Federal Resources	BPA is still reviewing the specific requests under these categories in preparation for the upcoming workshop discussion.
Rate Case topics (better understanding) if there will be changes	BPA is still reviewing the specific requests under these categories in preparation for the upcoming workshop discussion
Explanation of why the proposed future tariff topics are proposed for future proceedings	These topics have dependencies with other issues that are not ripe for TC22/BP22 discussion
Identify early in steps 1 & 2 where there are dependencies for other topics	We will consider these comments and give our response at the next workshop on December 12
Provide a crosswalk of the Tariff issues from TC-20 to TC-22	Please see appendix

Regional Planning Organization #13

Step 1: Introduction and Education
Step 2: Description of the Issue

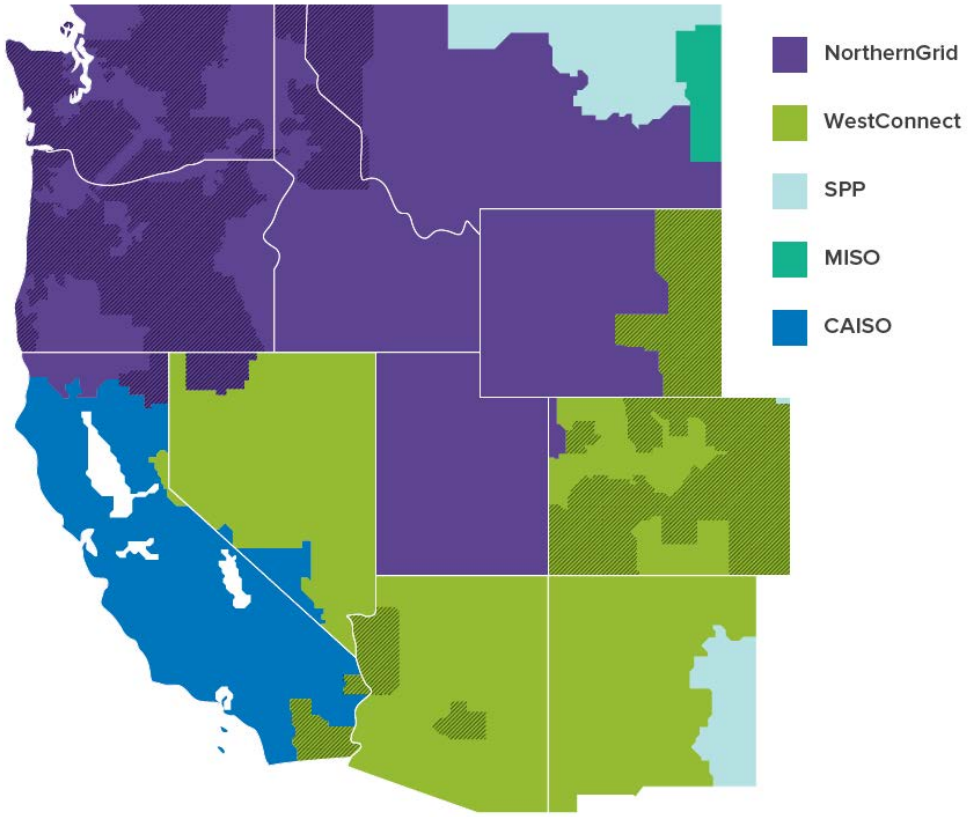
Participants

ColumbiaGrid

- Avista
- Bonneville Power Administration
- Chelan PUD
- Puget Sound Energy
- Seattle City Light
- Snohomish PUD
- Grant PUD
- Tacoma Power

Northern Tier Transmission Group

- Idaho Power
- Enbridge/MATL
- NorthWestern Energy
- PacifiCorp
- Portland General Electric



Key: Blue – Jurisdictional;
Red – Non-Jurisdictional

Value of NorthernGrid

- Efficient Regional Planning Organization processes
  - One common set of data and assumptions
  - Eliminates duplicative processes
  - Single stakeholder forum
- More opportunities to identify “regional” transmission projects

Update on NorthernGrid Formation

- Key NorthernGrid Governing Documents
  - **Funding Agreement**: Participants executed the funding agreement in Aug. 2019. FERC accepted in Oct. 2019.
  - **Planning Agreement**: Expected execution in Nov. 2019
  - **Jurisdictional Attachment Ks**: Jurisdictional participants filed revised Attachment Ks with FERC in Sept. 2019

- Project Coordinator Selection
  - RFP issued Oct. 2019
  - Selection of finalists in Nov. 2019
  - Anticipated project coordinator agreement in Dec. 2019

Timing and Alignment of Tariff Issues

- NorthernGrid Go-Live Date
  - NorthernGrid participants are working toward an expected implementation date of Jan. 1, 2020.
- Jurisdictional Attachment Ks – FERC Dockets
  - In the event that FERC requires the jurisdictional participants to make additional filings, non-jurisdictional participants will coordinate as appropriate.
- BPA Tariff
  - BPA will propose amendments to its Attachment K as part of the TC-22 proceeding.

RPO Issue in the TC-22 Process

- In developing its proposal for updating its Tariff, how should BPA reflect the NorthernGrid regional planning process in Attachment K?
  - Should the details of NorthernGrid's planning process be incorporated into BPA's Attachment K?
  - Should Attachment K reference the NorthernGrid planning process, which will be maintained on the NorthernGrid website?

RPO Timeline

Task	Date
NorthernGrid Project Coordinator Selection and Engagement	December 2019
NorthernGrid Go Live Date (expected)	January 2020
TC-22 Steps 3 to 6 • Develop proposals for amending Attachment K and weigh the pros and cons of the alternatives. • Solicit feedback from customers for consideration in BPA's development of these alternatives. • Present alternatives in a future workshop. • With customer feedback, BPA will decide how to update its Tariff.	April – May 2020

EIM Resource Sufficiency #3

Step 1: Introduction and Education
Step 2: Description of the Issue

Agenda

- Introduction and Education (Step 1)
  - Background Information
  - Balancing Test
    - Test description
    - Scenario discussion
  - Flex Ramp Sufficiency (FRS) Test
    - Test description
    - Scenario discussion
  - Relationship between Balancing Reserves (BR) and Resource Sufficiency (RS)

- What's the Issue? (Step 2)
  - ROD: BPA will consider addressing RS on the sub-balancing authority area level
  - ROD: BPA will consider developing policies to ensure it passes the RS evaluations as often as possible

Objectives

- BPA intends to explore all RS tests in future stakeholder meetings, but today is focusing on the most critical RS test questions
- Transmission feasibility is advisory and will be discussed in later stakeholder meetings
- We are focusing on the FRS Test over the Capacity Test because, based on our understanding, passing the former almost always means passing the latter

EIM Resource Sufficiency #3:

Step 1: Introduction and Education

ROD and RS

As part of Phase III, the ROD states that BPA will evaluate the following regarding RS:

- BPA will consider addressing RS on the sub-balancing authority area level
- BPA will consider developing policies to ensure it passes the RS evaluations as often as possible

Resource Sufficiency

- The RS evaluation determines whether each BA has procured, prior to each operating hour, sufficient resources and flexible capacity (both internal and external) to serve their load and load/VERs uncertainty

Resource Sufficiency Tests

The RS evaluation consists of four tests performed every hour:

- **Transmission Feasibility Test** → provides an opportunity to manage potential Transmission constraint violations prior to the operating hour
- **Balancing Test** → checks that resource base schedules balance to the BA's load forecast provided by CAISO, otherwise an over/under scheduling penalty may apply
- **Bid Range Capacity Test (Capacity Test)** → checks that there's sufficient bid range capacity to manage any imbalance from the Balancing Test and historical interchange deviations
- **Flexible Ramp Sufficiency Test (FRS Test)** → checks that there's sufficient within hour ramping capability and bid range capacity to meet intra-hour load ramping needs and historical net load uncertainty

Why RS Matters

- Balancing Test → over/under scheduling penalty
  - Failure results in over/under scheduling penalties
  - Failure does not result in limitations on EIM participation, i.e., CAISO does not limit incremental EIM imports/exports to the BA

- FRS Test → limitations on EIM participation
  - Failure does not result in over/under scheduling penalties
  - Failure does result in limitations on EIM participation, i.e., CAISO limits incremental EIM imports/exports to the BA

EIM BA's Resource Plan

- The EIM Entity (BA) submits a resource plan every hour, which is evaluated for Resource Sufficiency (RS)

- The resource plan contains the resources (Internal generation and Interchanges) that the EIM BA plans to utilize to serve the BA's load and load/VERs uncertainty:
  - Base schedules for participating resources (PRs), non-participating resources (NPRs) and interchanges
  - Energy bids (bid curves and bid range capacity, which are submitted only by PRs)
  - Ancillary service schedules (submitted by PRs and NPRs)
    - Reserves to provide contingency reserves and regulation service (sub 5-min), which are not bid into the market but are indicated to CAISO

Base Schedules

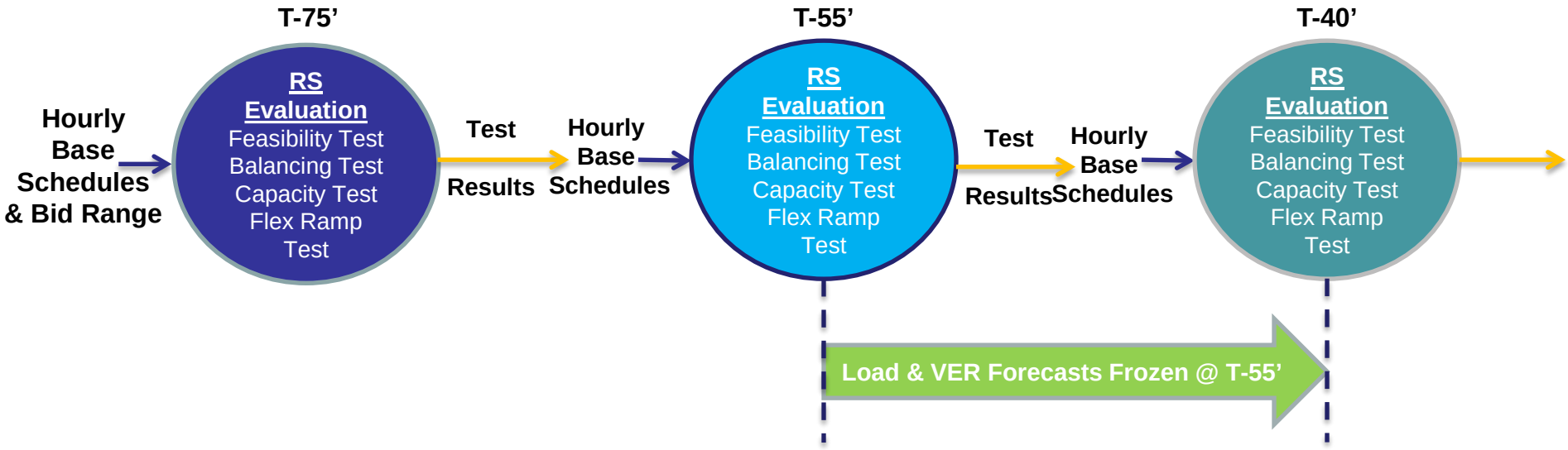
- A base schedule is an hourly schedule:
  - Includes generation and interchange schedules
  - Both participating and non-participating resources submit base schedules
  - Used as the financial reference for measuring instructed/uninstructed imbalance energy for EIM settlement
- Interim base schedules can be submitted as early as a week in advance and are finalized for each operating hour
  - Participating Resource Scheduling Coordinator can adjust up to T-55’
  - EIM Entity Scheduling Coordinator can make changes up to T-40’
- Base schedules are used by all of the RS tests

Energy Bids

- Participating resources submit energy bids
  - These include the bid price curve and the bid range capacity that's made available to the EIM
  - Finalized by T-75'
- The bid range capacity is used in the Capacity Test and Flex Ramp Sufficiency Test

RS Evaluation Timeline

- The resource plan is evaluated for resource sufficiency at T-75', T-55', and T-40', at which point it becomes final. Adjustments to the resource plan are allowed up to T-40'.



The Balancing Test

Balancing Test

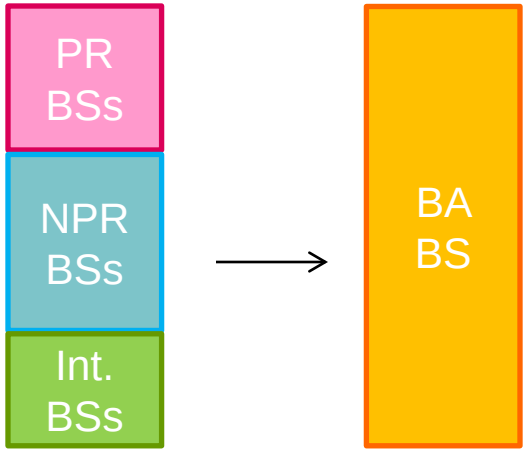
To perform the Balancing Test, the CAISO conducts 2 checks against the BA's base schedule:

BA's base schedule (BS) =

base schedules for PRs +

base schedules for NPRs +

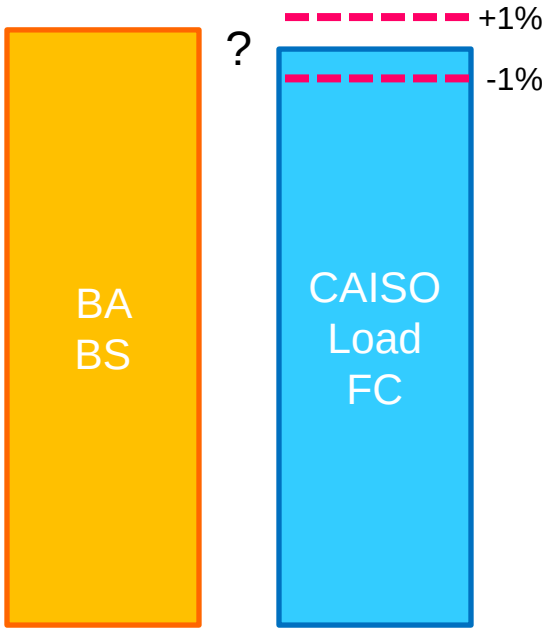
base schedules for interchange (exports/imports)



Balancing Test

First Check:

1. Is the BA's base schedule within +/-1% of the CAISO's BA load forecast?

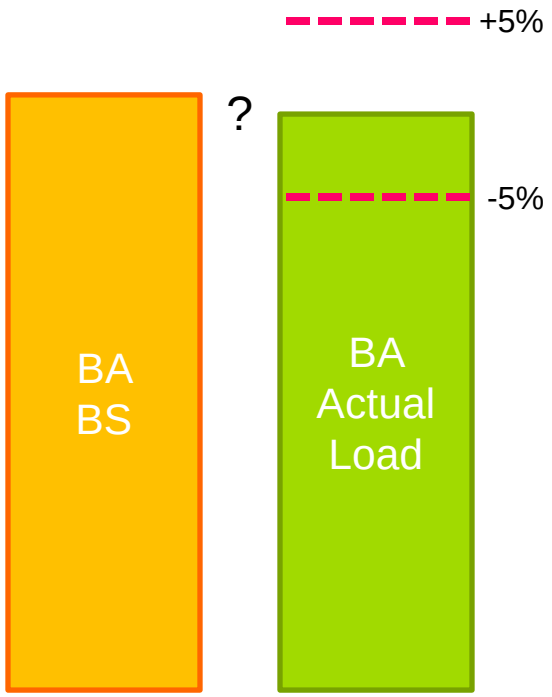


- **Yes:** the BA passes the Balancing Test
  - No over/under scheduling penalty
- **No:** CAISO conducts a second check
  - Possible over/under scheduling penalty

Balancing Test

Second Check (after-the-fact):

2. Was the BA's base schedule within +/- 5% of the BA's actual load?



- **Yes:** the BA is not charged an over/under scheduling penalty
- **No:** the BA is charged an over/under scheduling penalty
  - The penalties have a 2 tier structure

Balancing Test

Over-Scheduling Penalty:

- Tier 1 Threshold: over-scheduled by more than 5% of actual load
  - Penalty = 25% * Hourly LAP LMP * over-scheduled volume

- Tier 2 Threshold: over-scheduled by more than 10% of actual load
  - Penalty = 50% * Hourly LAP LMP * over-scheduled volume

Under-Scheduling Penalty:

- Tier 1 Threshold: under-scheduled by more than 5% of actual load
  - Penalty = 25% * Hourly LAP LMP * under-scheduled volume

- Tier 2 Threshold: under-scheduled by more than 10% of actual load
  - Penalty = 100% * Hourly LAP LMP * under-scheduled volume

Balancing Test Scenarios

Scenario	First Check	Second Check
Scenario 1	✓	N/A
Scenario 2	✗	✓
Scenario 3	✗	✗
Scenario 4	✗	✗
Scenario 5	✓	N/A

Balancing Test Scenarios

- Assume there are three LSEs within a BA, and there's no interchange
- CAISO provides a load forecast for the BA
- Each LSE develops its own independent load forecast
- Each LSE submits base schedules to serve its load forecast

Balancing Test: Scenario 1

LSEs	LSE1	LSE2	LSE3	BA Total
LSE's load forecast	3,075	2,950	1,950	7,975
Base schedules (PR + NPR)	3,075	2,950	1,950	7,975

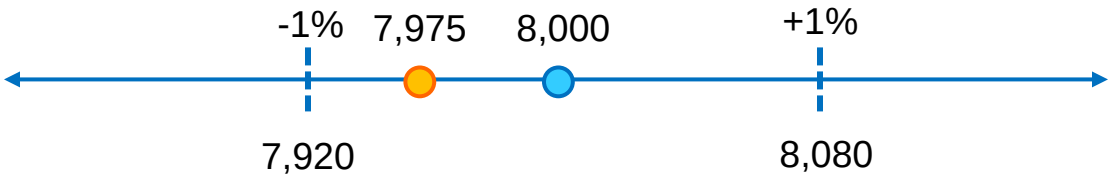
Balancing Authority	
CAISO's BA load forecast	8,000
Actual BA load	8,100
Hourly LAP LMP	$30

Balancing Test: Scenario 1

First Check:

- Is the BA's base schedule (●) within +/- 1% of the CAISO's BA load forecast (●) by T-40?

- Yes:



- The BA passes the first check:
  - No second check
  - No over/under scheduling penalty

Balancing Test: Scenario 2

- LSE2's load forecast is lower than in Scenario 1

LSEs	LSE1	LSE2	LSE3	BA Total
LSE's load forecast	3,075	2,750	1,950	7,775
Base schedules (PR + NPR)	3,075	2,750	1,950	7,775

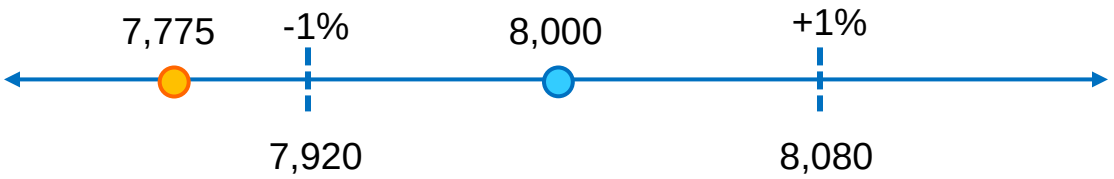
Balancing Authority	
CAISO's BA load forecast	8,000
Actual BA load	8,100
Hourly LAP LMP	$30

Balancing Test: Scenario 2

First Check:

- Is the BA's base schedule (●) within +/- 1% of the CAISO's BA load forecast (●) by T-40?

- No:

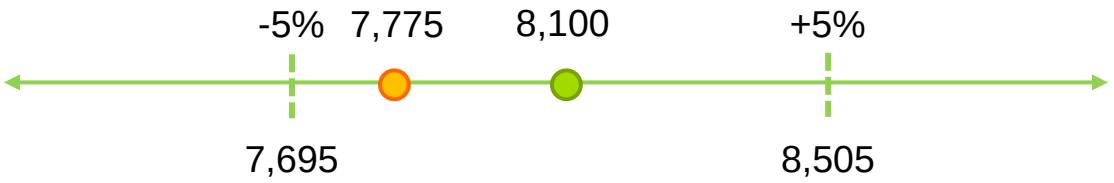


- The BA fails the first check:
  - The CAISO conducts a second check to determine whether an over/under scheduling penalty applies

Balancing Test: Scenario 2

Second Check (after-the-fact):

- Was the BA's base schedule (●) within +/- 5% of the BA's actual load (●)?
- Yes:



- The BA passes the second check:
  - No over/under scheduling penalty

Balancing Test: Scenario 3

- Actual BA load for this hour is higher than in previous scenario

LSEs	LSE1	LSE2	LSE3	BA Total
LSE's load forecast	3,075	2,750	1,950	7,775
Base schedules (PR + NPR)	3,075	2,750	1,950	7,775

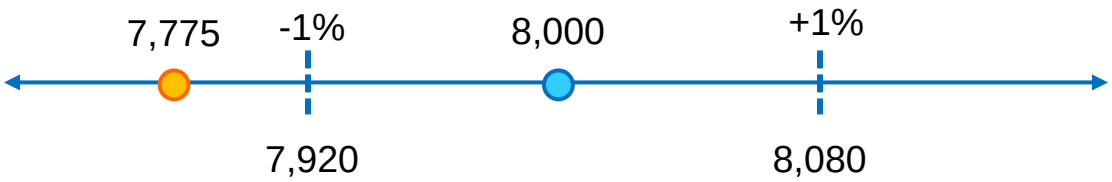
Balancing Authority	
CAISO's BA load forecast	8,000
Actual BA load	8,300
Hourly LAP LMP	$30

Balancing Test: Scenario 3

First Check:

- Is the BA's base schedule (●) within +/- 1% of the CAISO's BA load forecast (●) by T-40?

- No:

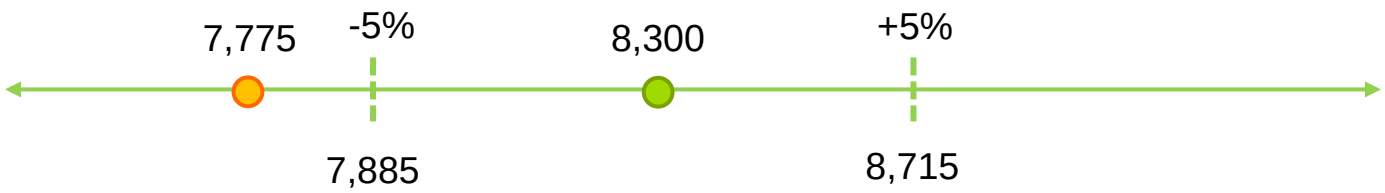


- The BA fails the first check:
  - The CAISO conducts a second check to determine whether an over/under scheduling penalty applies

Balancing Test: Scenario 3

Second Check (after-the-fact):

- Was the BA's base schedule (●) within +/- 5% of the BA's actual load (●)?
- No:

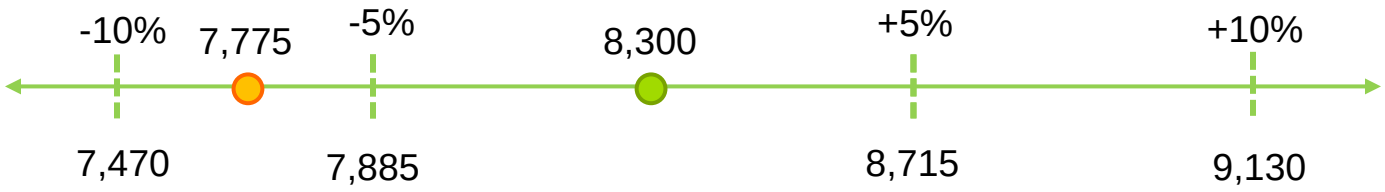


- The BA was not within +/- 5% of actual load

Balancing Test: Scenario 3

Second Check (after-the-fact):

- Was the BA's base schedule (●) within +/- 10% of the BA's actual load (●)?
- Yes:



- The BA was within +/- 10% of actual load

Balancing Test: Scenario 3

- The BA under-scheduled by more than 5%, but less than 10%
- The BA is charged an under-scheduling penalty at the 5% tier threshold
- Penalty charged at the 5% tier threshold:
  - Penalty = 25% * Hourly LAP LMP * Under-Scheduled Volume
  - Penalty = 0.25 * $30/MWh * (8,300 – 7,775) = $3,937.5

Balancing Test: Scenario 4

- LSE2 was unable to base schedule sufficient gen by T-55 to meet its load forecast from the previous scenario

LSEs	LSE1	LSE2	LSE3	BA Total
LSE's load forecast	3,075	2,750	1,950	7,775
Base schedules (PR + NPR)	3,075	2,350	1,950	7,375

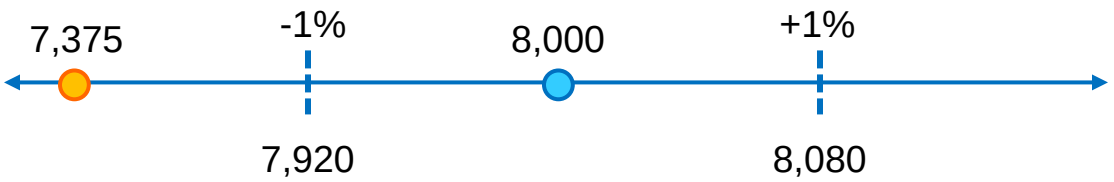
Balancing Authority	
CAISO's BA load forecast	8,000
Actual BA load	8,300
Hourly LAP LMP	$30

Balancing Test: Scenario 4

First Check:

- Is the BA's base schedule (●) within +/- 1% of the CAISO's BA load forecast (●) by T-40?

- No:

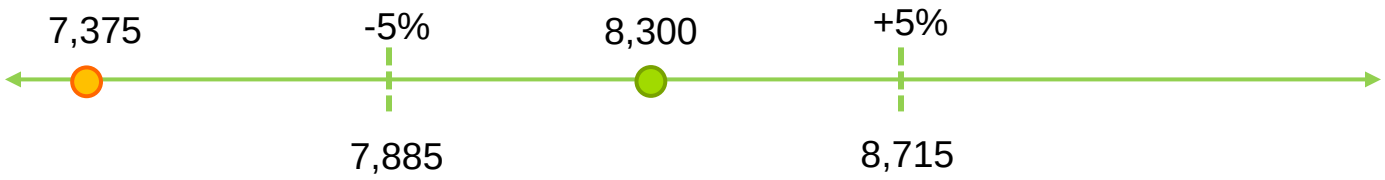


- The BA fails the first check:
  - The CAISO conducts a second check to determine whether an over/under scheduling penalty applies

Balancing Test: Scenario 4

Second Check (after-the-fact):

- Was the BA's base schedule (●) within +/- 5% of the BA's actual load (●)?
- No:

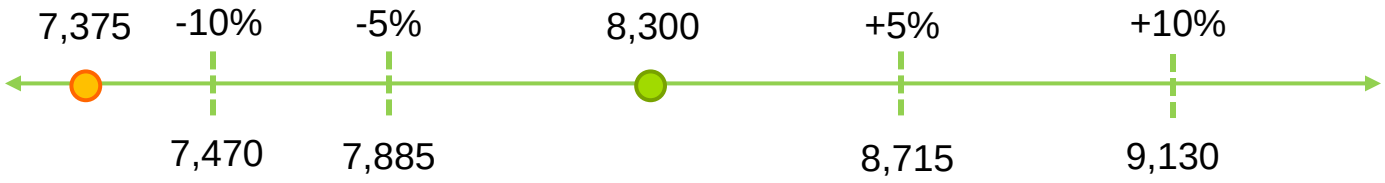


- The BA was not within +/- 5% of actual load

Balancing Test: Scenario 4

Second Check (after-the-fact):

- Was the BA's base schedule (●) within +/- 10% of the BA's actual load (●)?
- No:



- The BA was not within +/- 10% of actual load

Balancing Test: Scenario 4

- The BA under-scheduled by more than than 10%
- The BA is charged an under-scheduling penalty at the 10% tier threshold
- Penalty charged at the 10% tier threshold:
  - Penalty = 100% * Hourly LAP LMP * Under-Scheduled Volume
  - Penalty = 1.00 * $30/MWh * (8,300 – 7,375) = $27,750

Balancing Test: Scenario 5

- Conditions are the same as Scenario 4:
  - LSE2 was unable to base schedule sufficient gen by T-55 to meet its load forecast

LSEs	LSE1	LSE2	LSE3	BA Total
LSE's load forecast	3,075	2,750	1,950	7,775
Base schedules (PR + NPR)	3,075	2,350	1,950	7,375

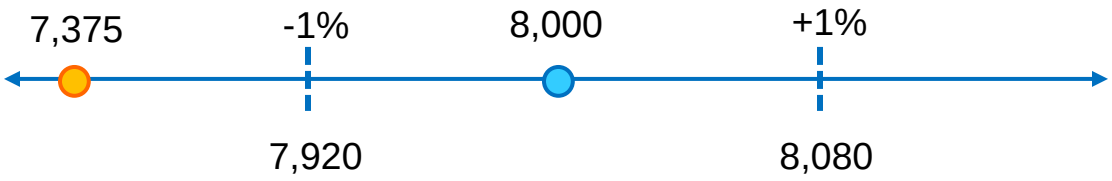
Balancing Authority	
CAISO's BA load forecast	8,000
Actual BA load	8,300
Hourly LAP LMP	$30

Balancing Test: Scenario 5

First Check:

- Is the BA's base schedule (●) within +/- 1% of the CAISO's BA load forecast (●) by T-55?

- No:



Balancing Test: Scenario 5

- LSE1 has an agreement with the BA to adjust LSE1's base schedules after T-55 to meet the Balancing Test

- The BA adjusts LSE1's base schedules to balance within +/- 1% of CAISO's BA load forecast:
  - Base schedule adjustment = 7925 MW – 7375 MW = 550 MW
  - Adjusted LSE1 base schedule = 3,075 MW + 550 MW = 3,625 MW

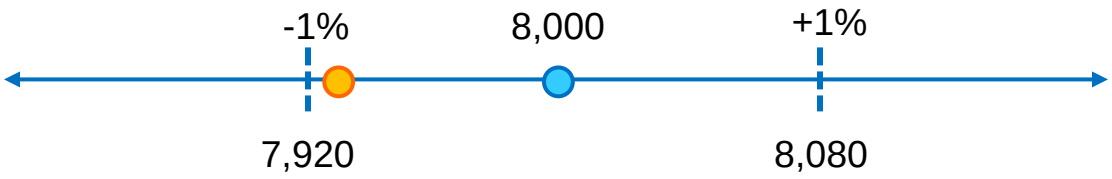
	LSE1	LSE2	LSE3	BA Total
LSE's load forecast	3,075	2,750	1,950	7,775
Base schedules (PR + NPR)	3,625	2,350	1,950	7,925

Balancing Test: Scenario 5

First Check:

- Is the BA's base schedule (●) within +/- 1% of the CAISO's BA load forecast (●) by T-40?

- Yes:



- The BA passes the first check:
  - No second check
  - No over/under scheduling penalty

The Flex Ramp Sufficiency Test

Flexible Ramp Sufficiency Test

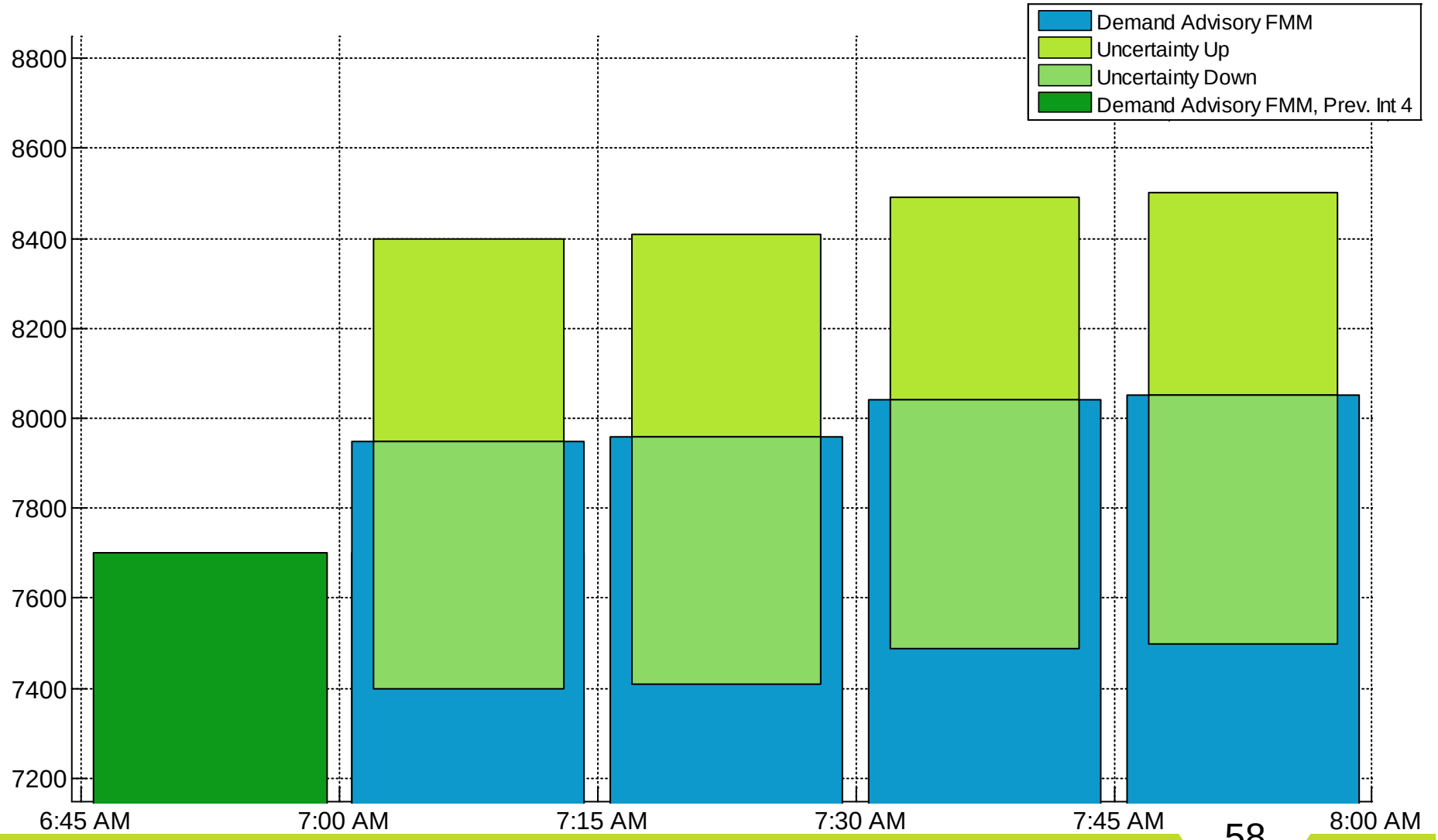
The Flexible Ramp Sufficiency Test (FRST) ensures that the EIM BA has sufficient upward/downward flexible ramp capability and capacity to meet load intra-hour ramping and *net* load uncertainty

- The EIM BA is tested against the 15-min, 30-min, 45-min, and 60-min ramps within the hour from the T-7.5 FMM reference point of the prior hour
- Each 15-minute interval is evaluated separately and failures are enforced for only that failed 15-minute interval
- The FRST ramping requirements can be reduced by the EIM diversity benefit, but only if sufficient Transmission (import/export) capability is made available to the EIM

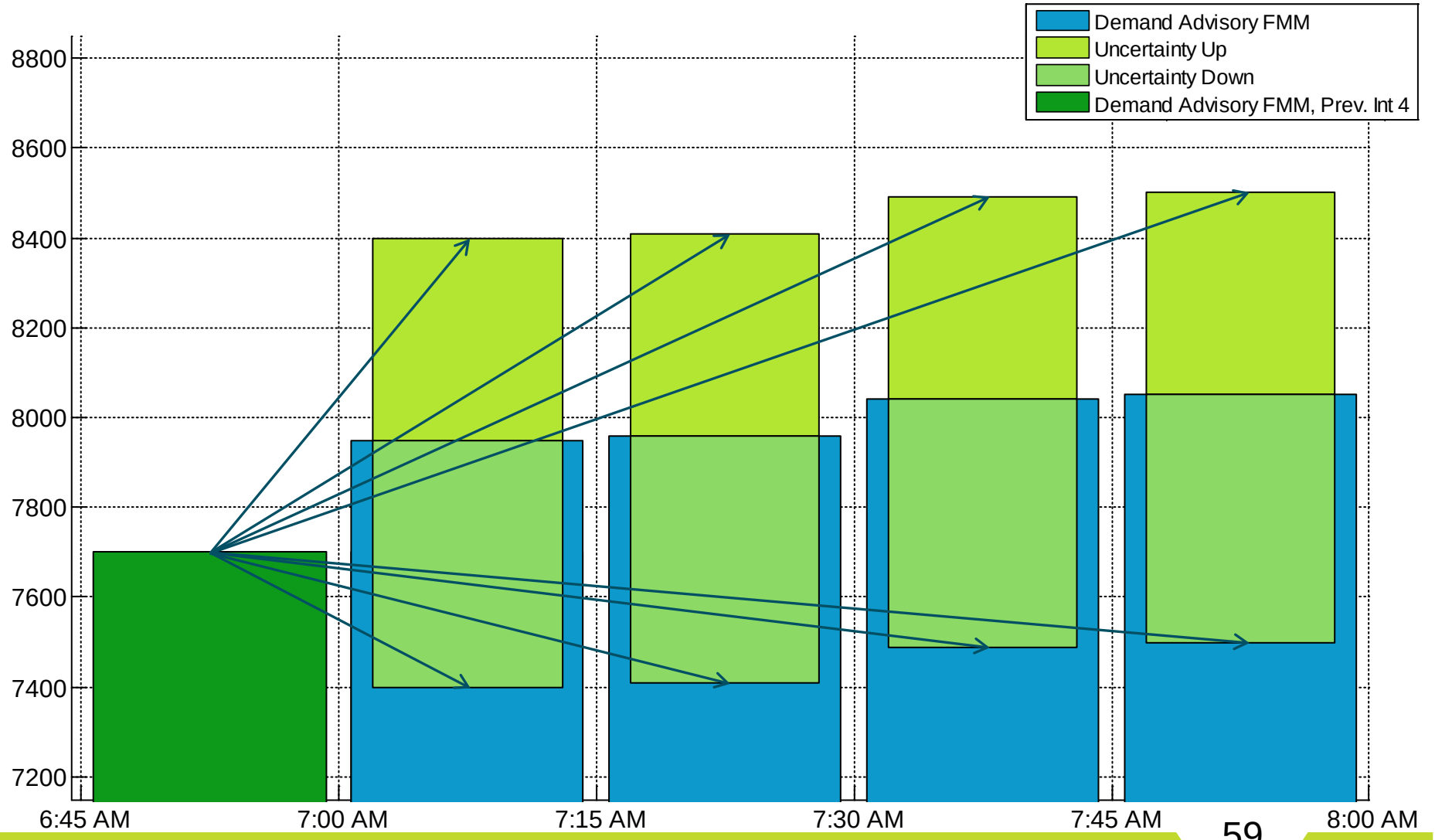
FRST

- Pass:
  - There's sufficient ramp capability and flexible ramping up/down capacity to meet the flex ramp up/down requirements
  - No restrictions are placed on EIM Transfers
- Fail:
  - There was insufficient ramp capability and/or flexible ramping up/down capacity
    - Can fail in one direction or both
  - The CAISO places limits on EIM Transfers in the corresponding direction(s) for that 15-minute interval

FRST Scenarios: Requirement



FRST Scenarios: Requirement

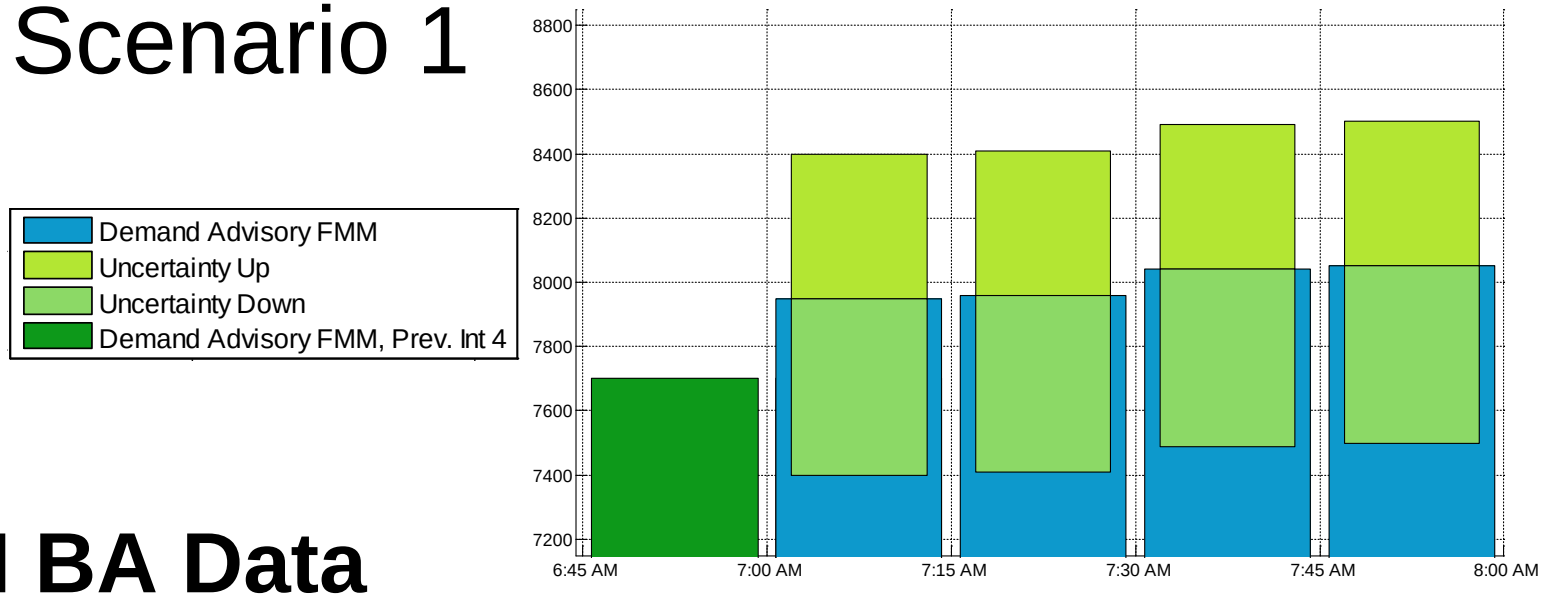


FRST Scenarios

- Scenario 1: The BA does not bring sufficient upward capacity to meet the FRST requirement in 2 intervals

- Scenario 2: The BA does not have enough ramp capability associated with its upward capacity to meet the FRST requirement in 1 interval.

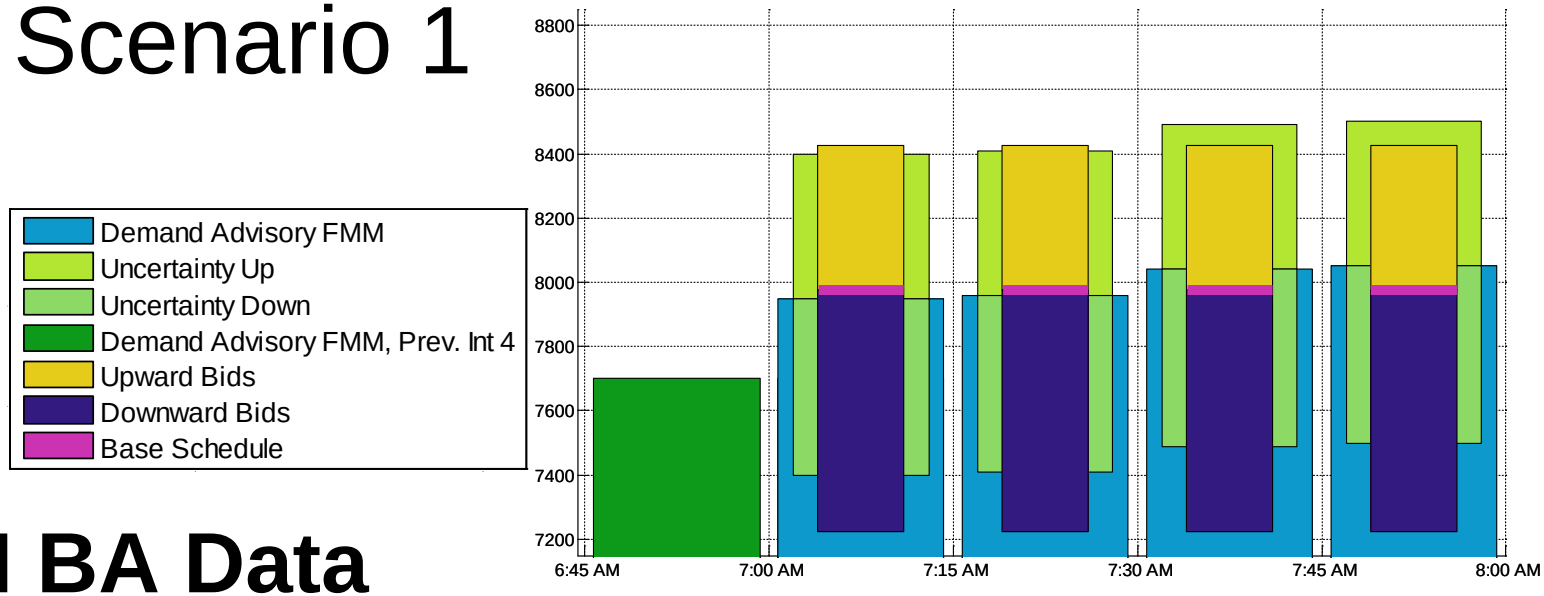
FRST: Scenario 1



- **EIM BA Data**

	LSE1	LSE2	LSE3	BA Total
Previous interval 4 award	2975	2900	1825	7700
CAISO BA Forecast				8000

FRST: Scenario 1



- **EIM BA Data**

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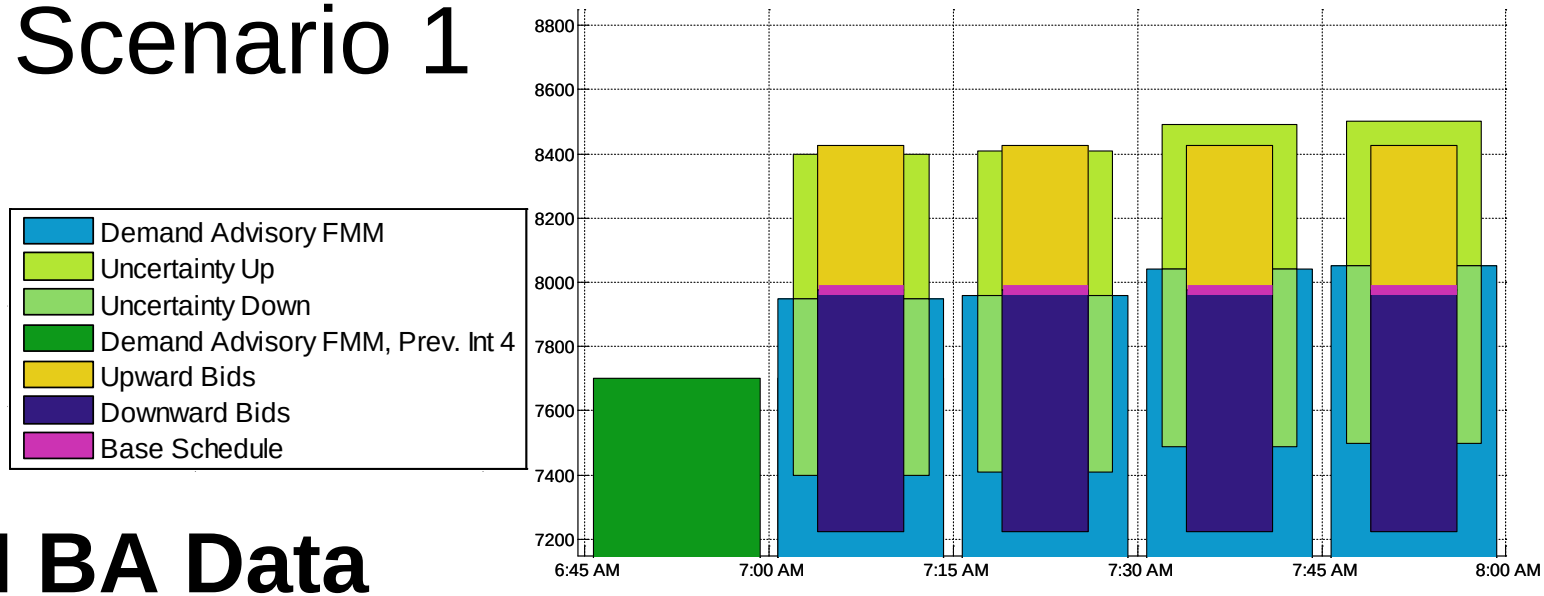
CAISO BA Forecast				8000
Base Schedules	3075	2950	1950	7975
Upward Bids	+250	+150	+50	+450
Downward Bids	-250	-350	-150	-750

FRST: Scenario 1



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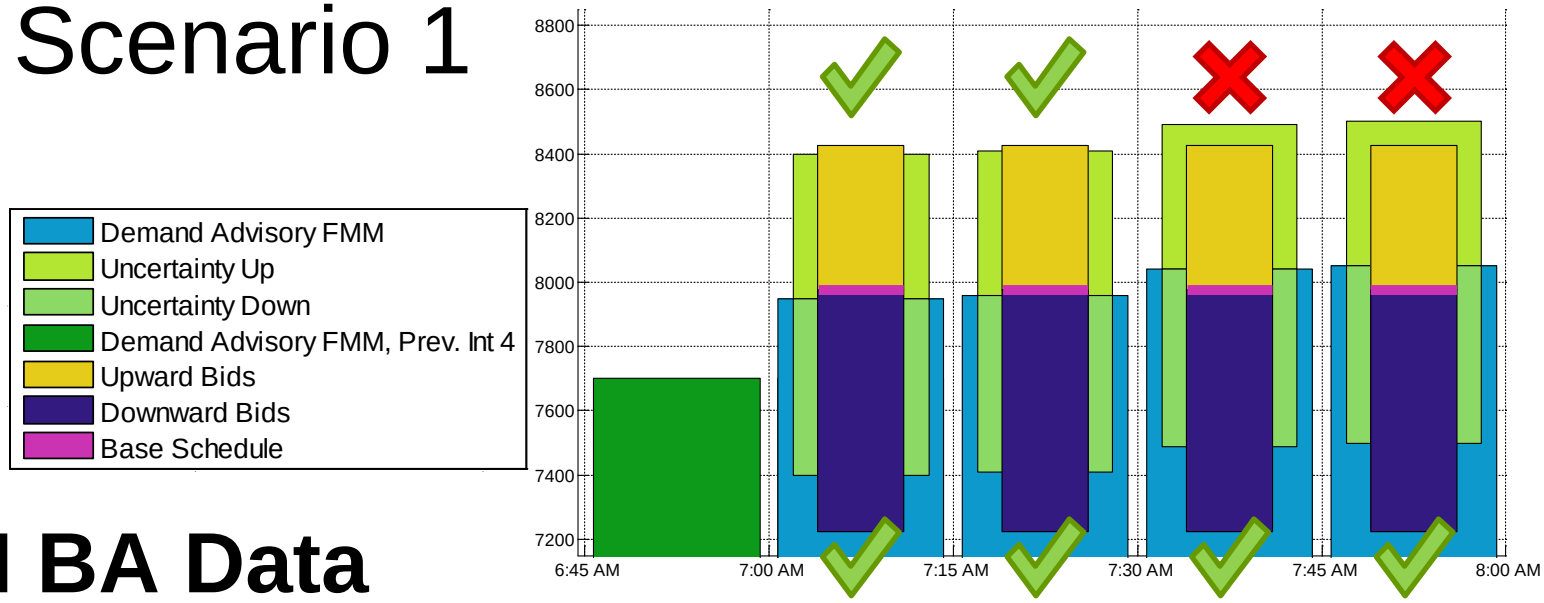
Downward Bids	-250	-350	-150	-750
Ramp Rate (MW/15min)	1000	500	150	N/A

FRST: Scenario 1



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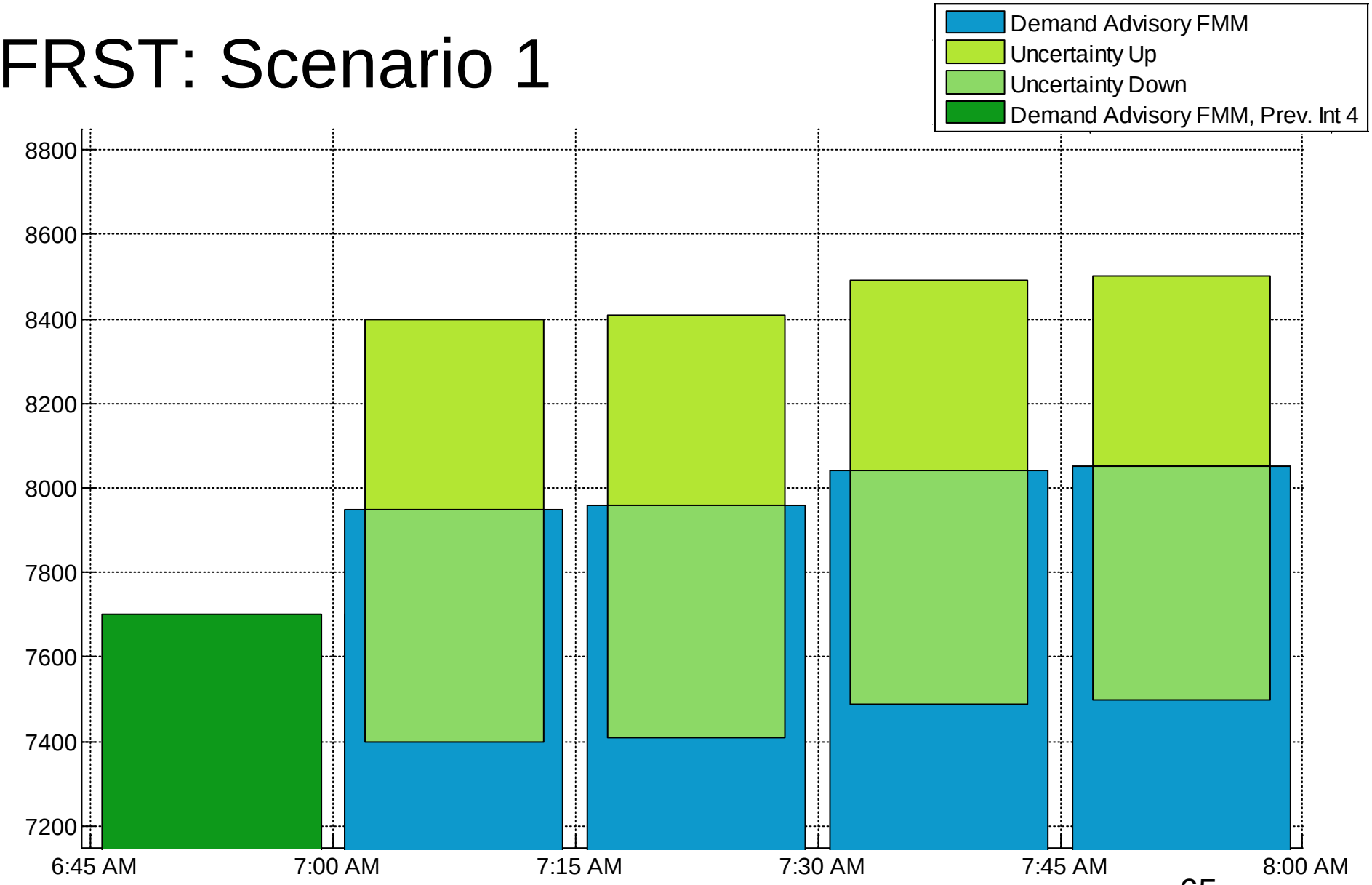
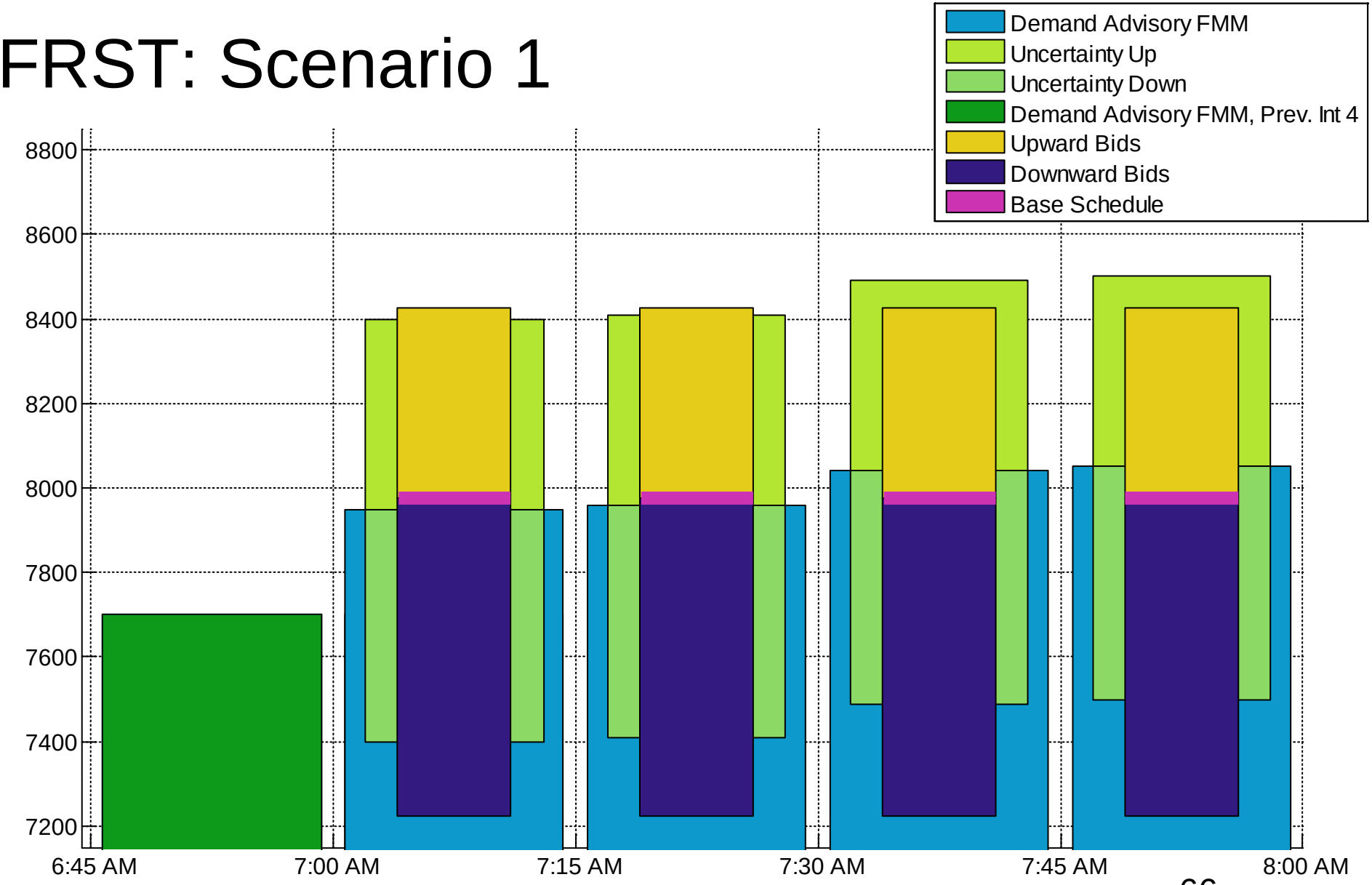
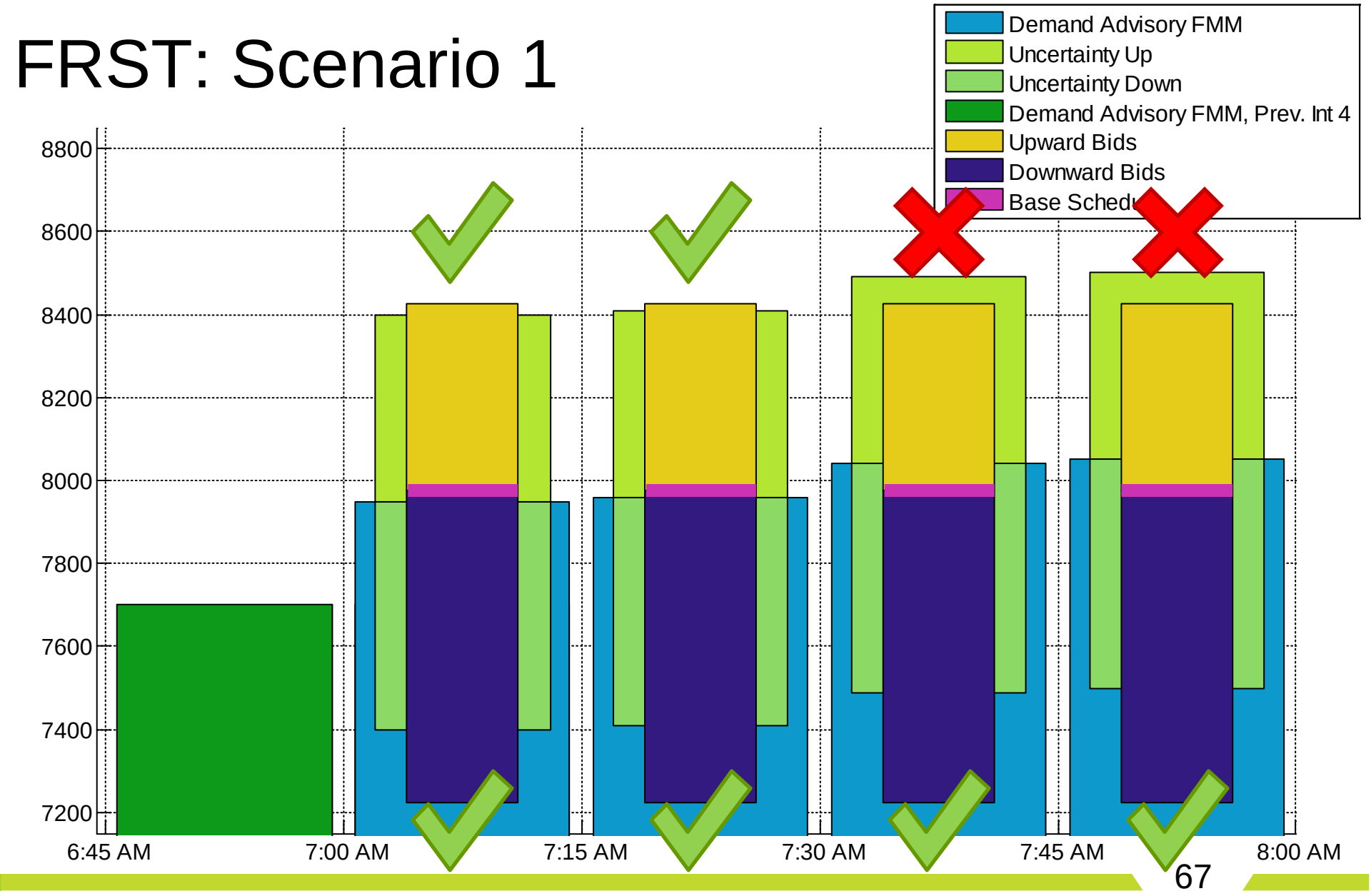
FRST: Scenario 1



FRST: Scenario 1



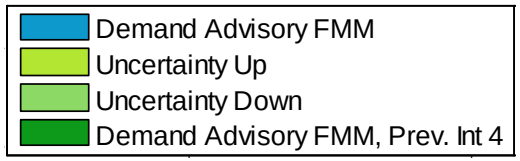
FRST: Scenario 1

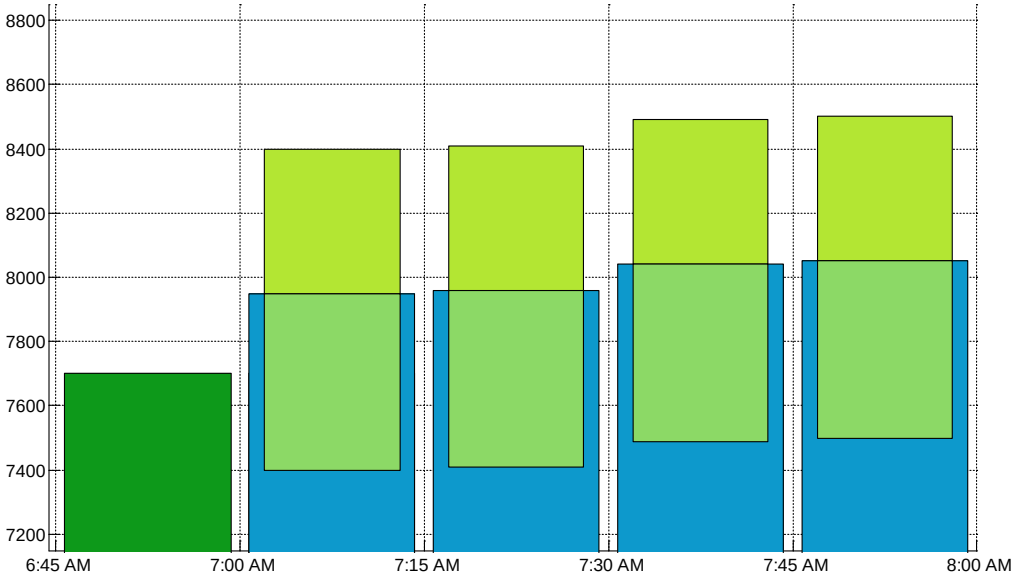


FRST Scenario 1: Summary

- The BA's bid range capacity was insufficient
- The BA failed to meet the flex ramp up requirement for the 3rd and 4th 15-min intervals of the next hour, and failed these intervals
- Due to the failure, the BA is limited in incremental imports from the EIM for the 3rd and 4th 15-minute intervals of the next hour

FRST: Scenario 2





- **EIM BA Data**

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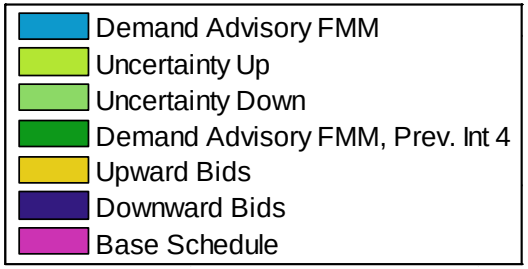
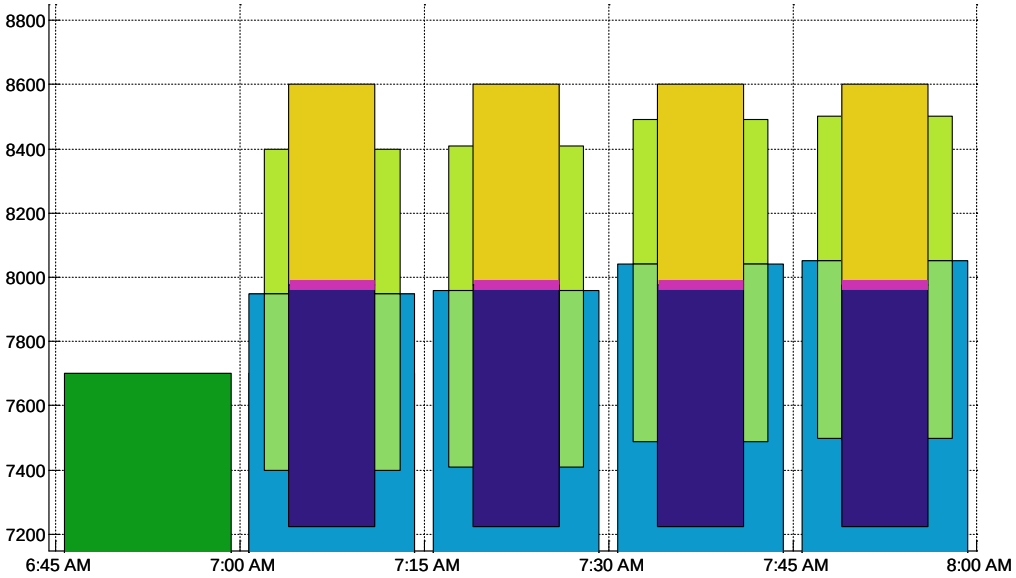
FRST: Scenario 2





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	LSE1	LSE2	LSE3	BA Total
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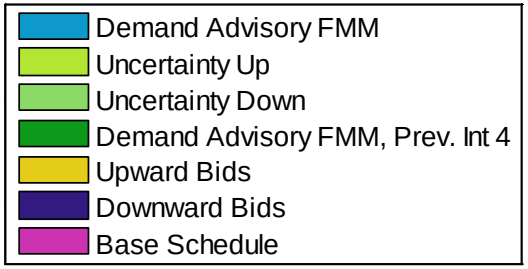
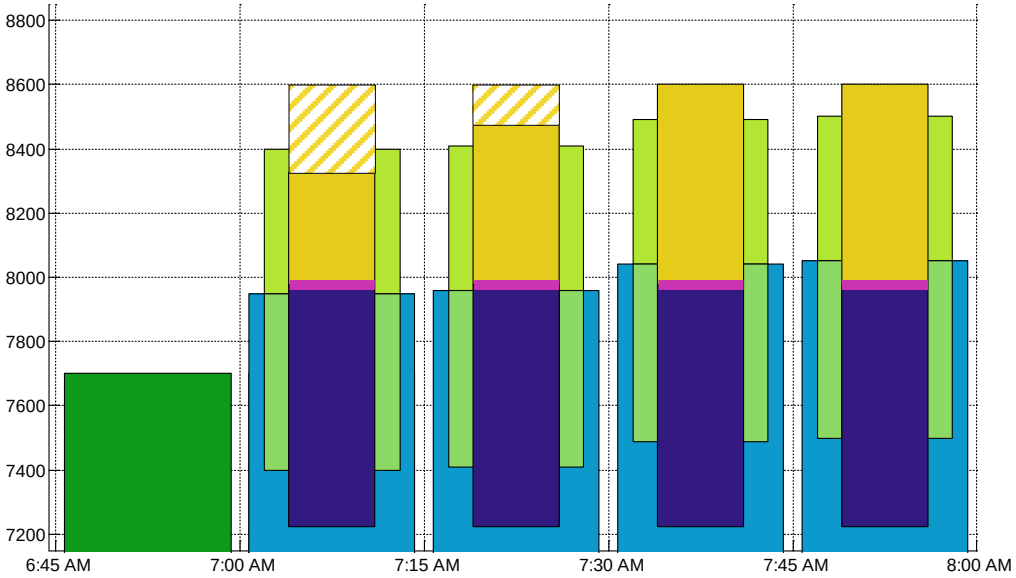
Base Schedules	3075	2950	1950	7975
Upward Bids	+150	+50	+425	+625
Downward Bids	-250	-350	-150	-750

FRST: Scenario 2





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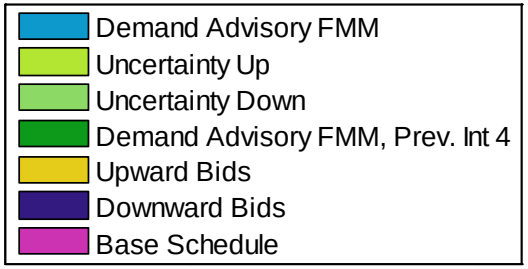
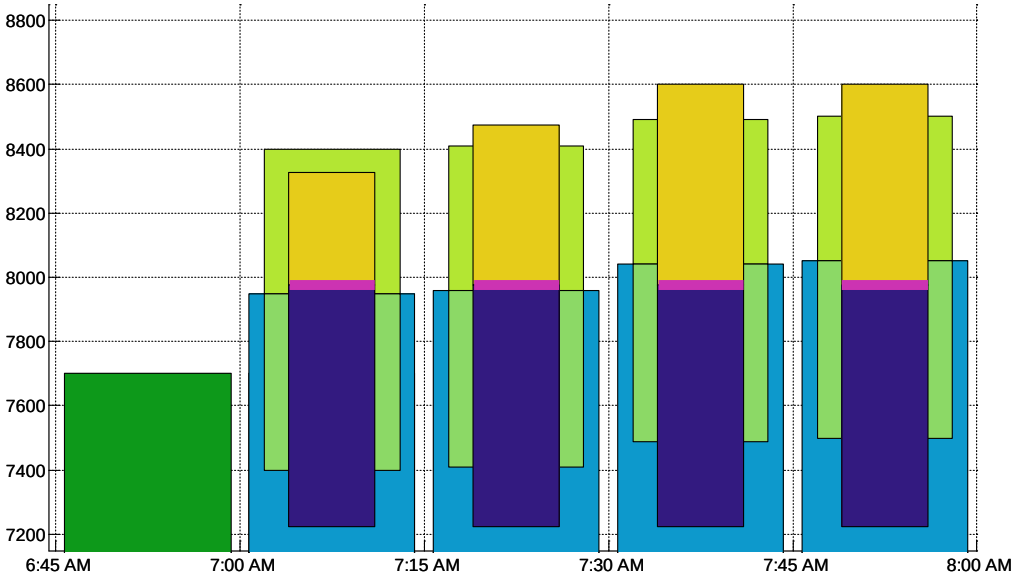
Ramp Rate (MW/15min)	1000	500	150	N/A

FRST: Scenario 2





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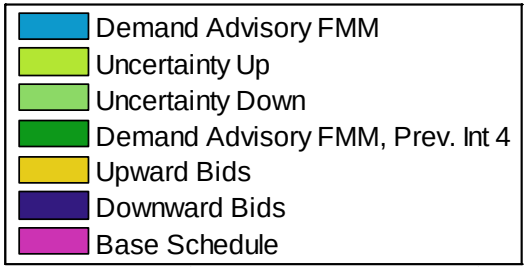

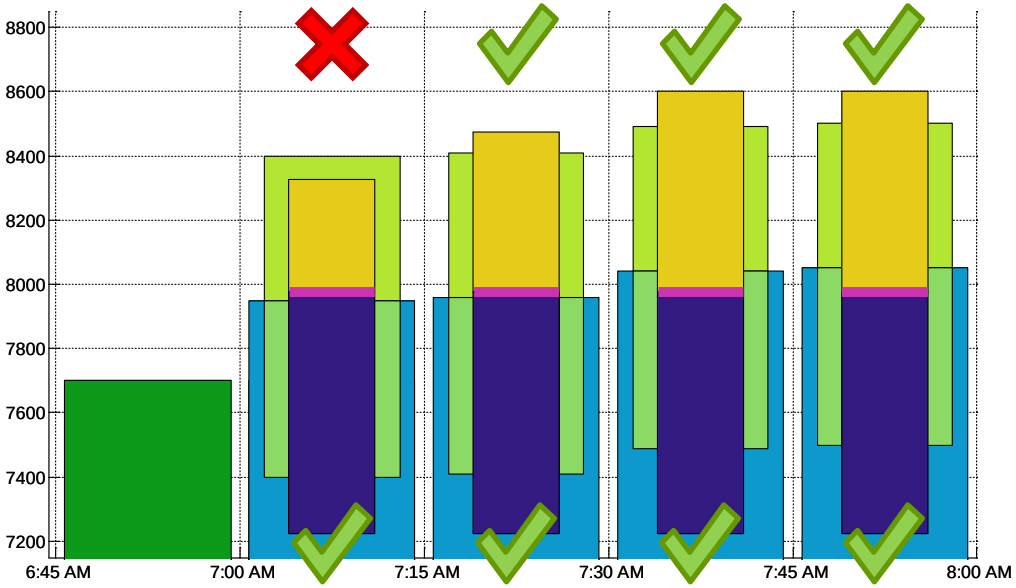

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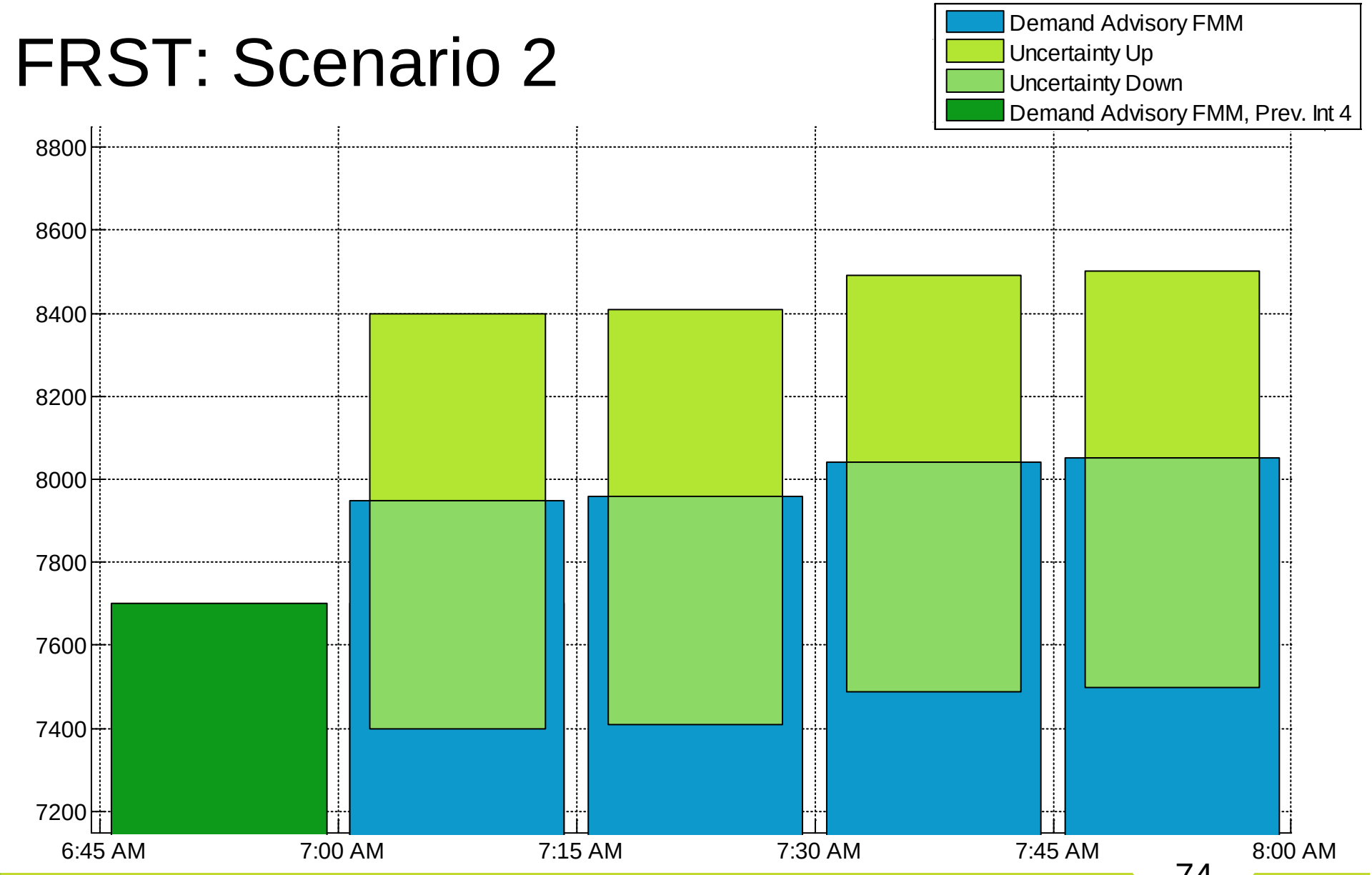
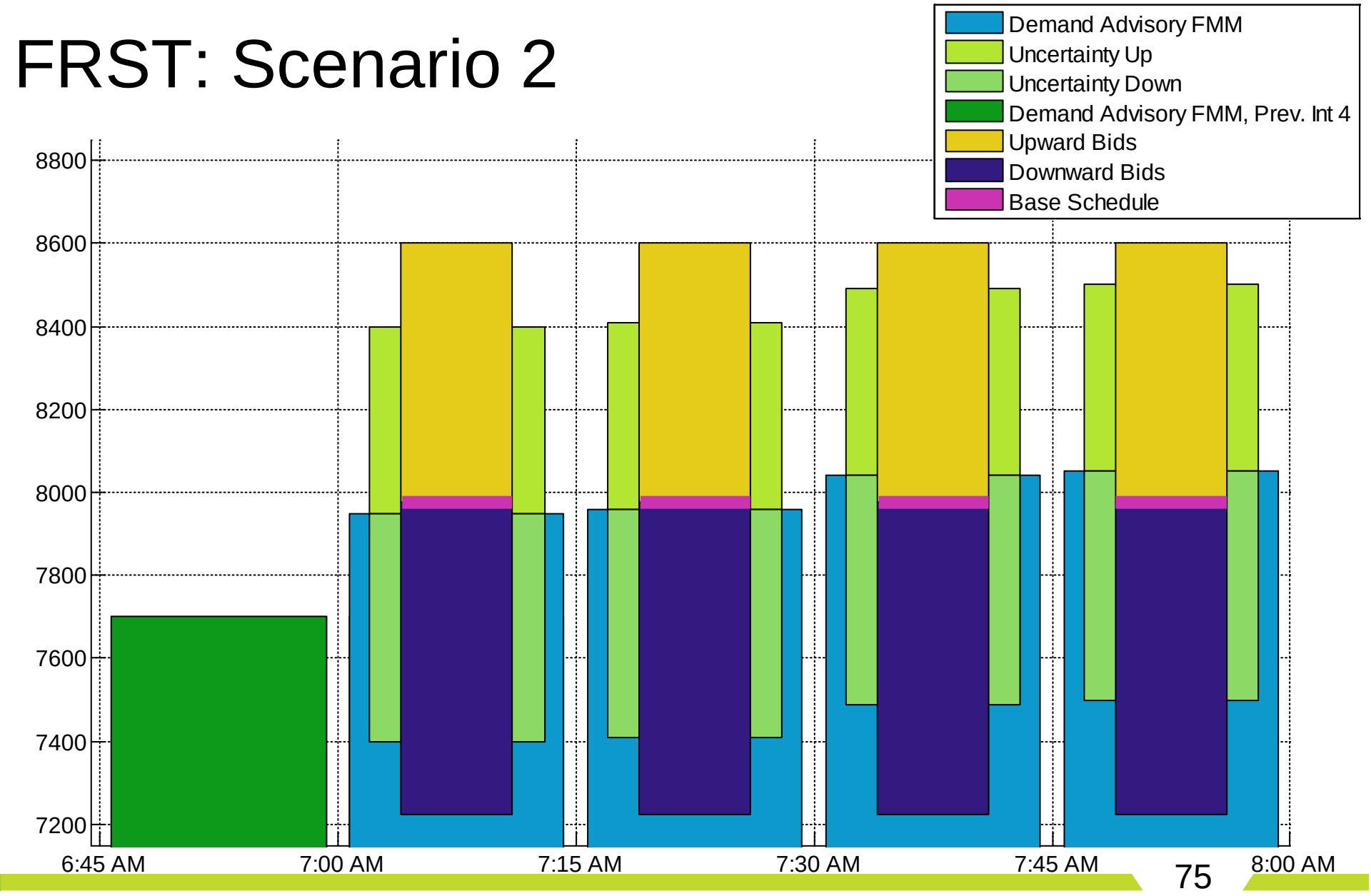
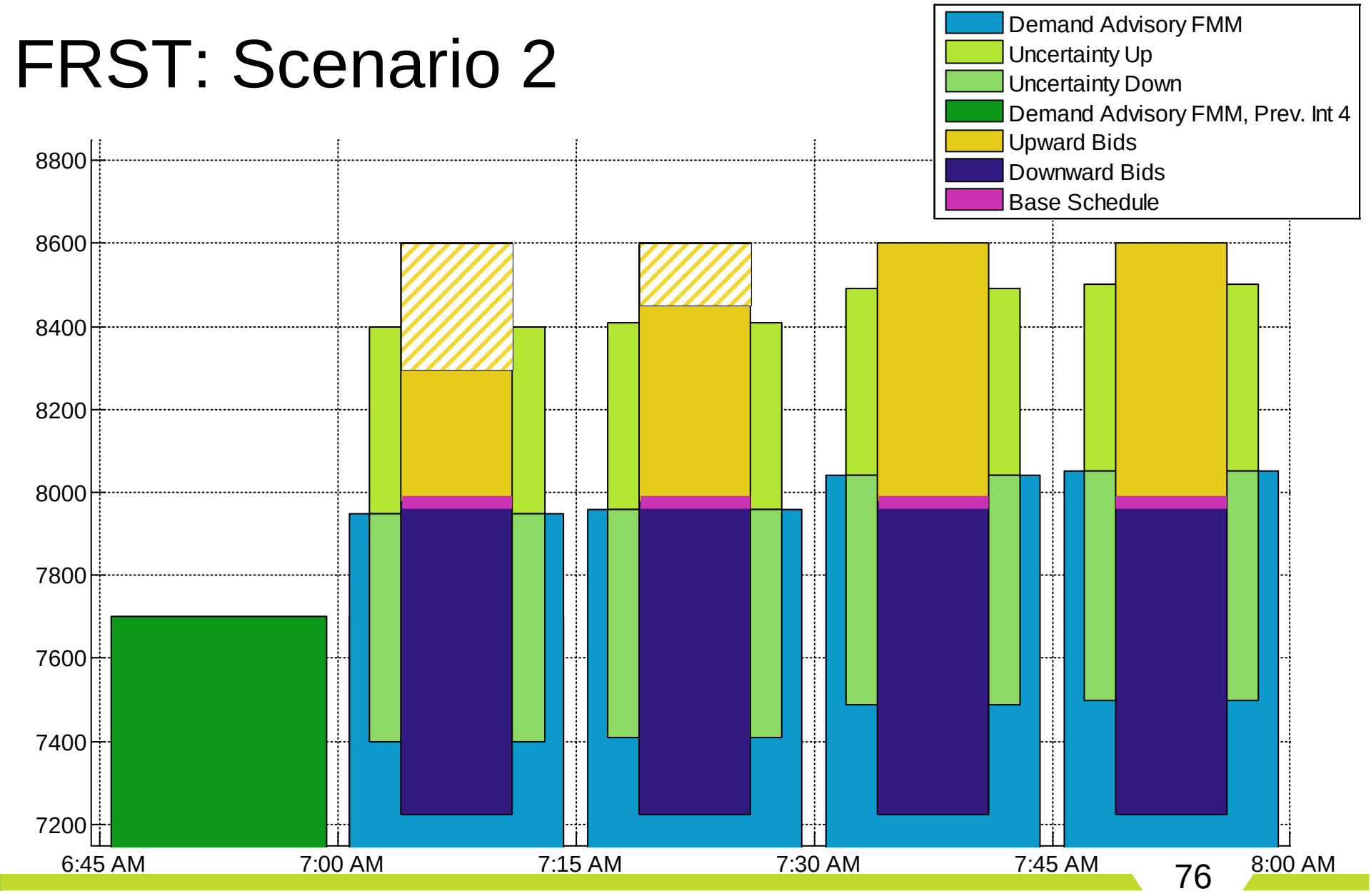


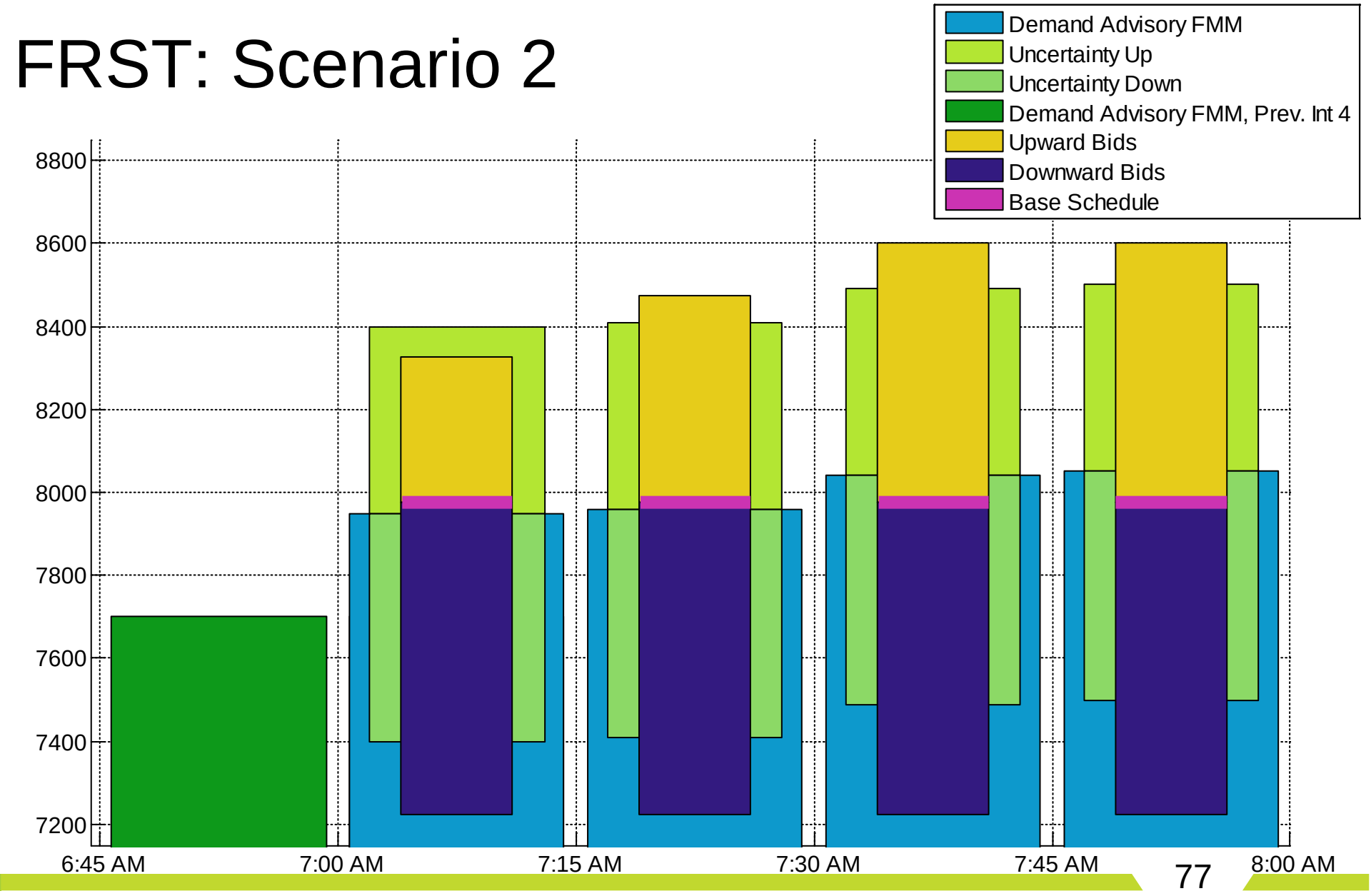
FRST: Scenario 2



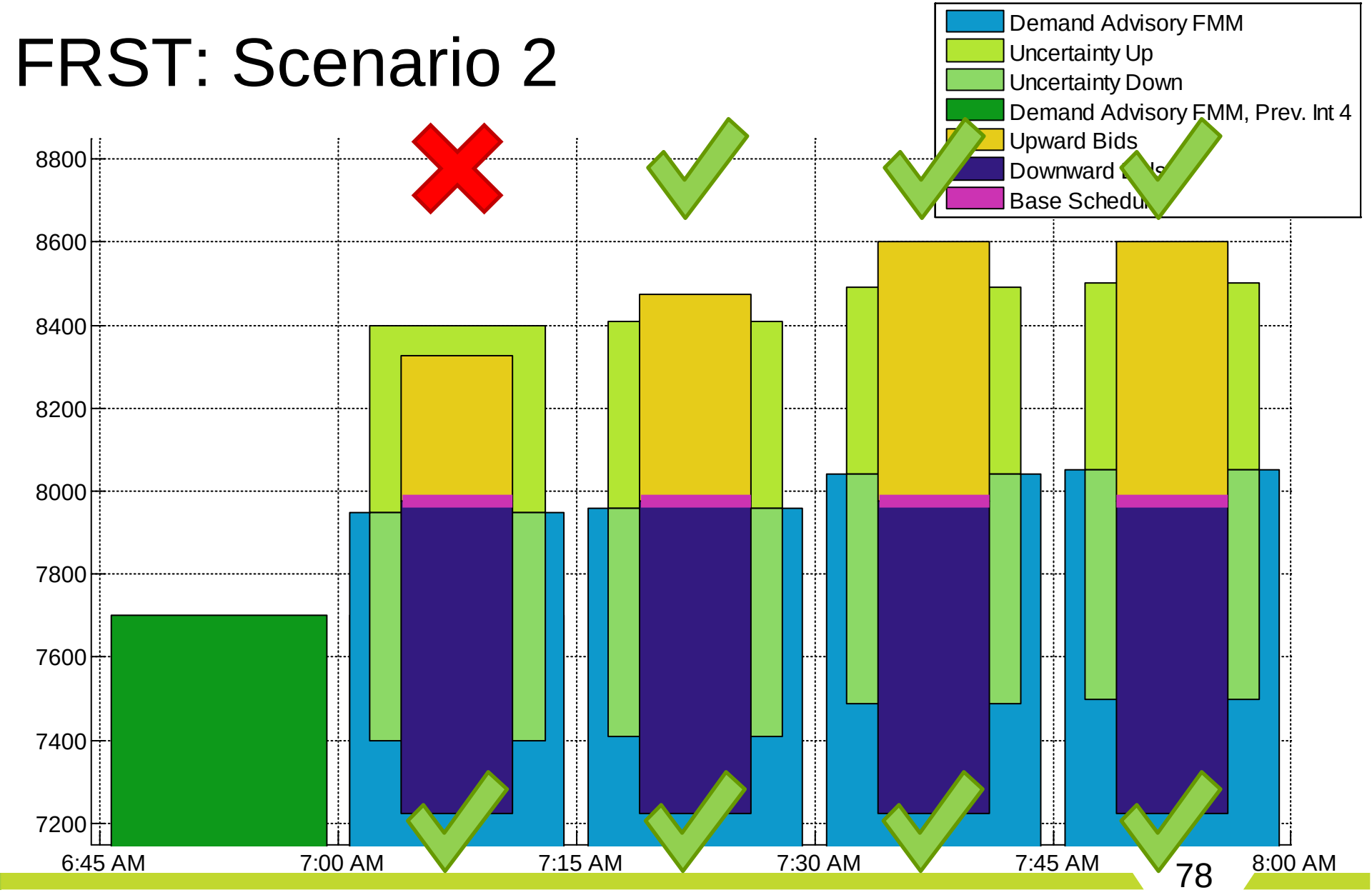
FRST: Scenario 2



FRST: Scenario 2



FRST: Scenario 2



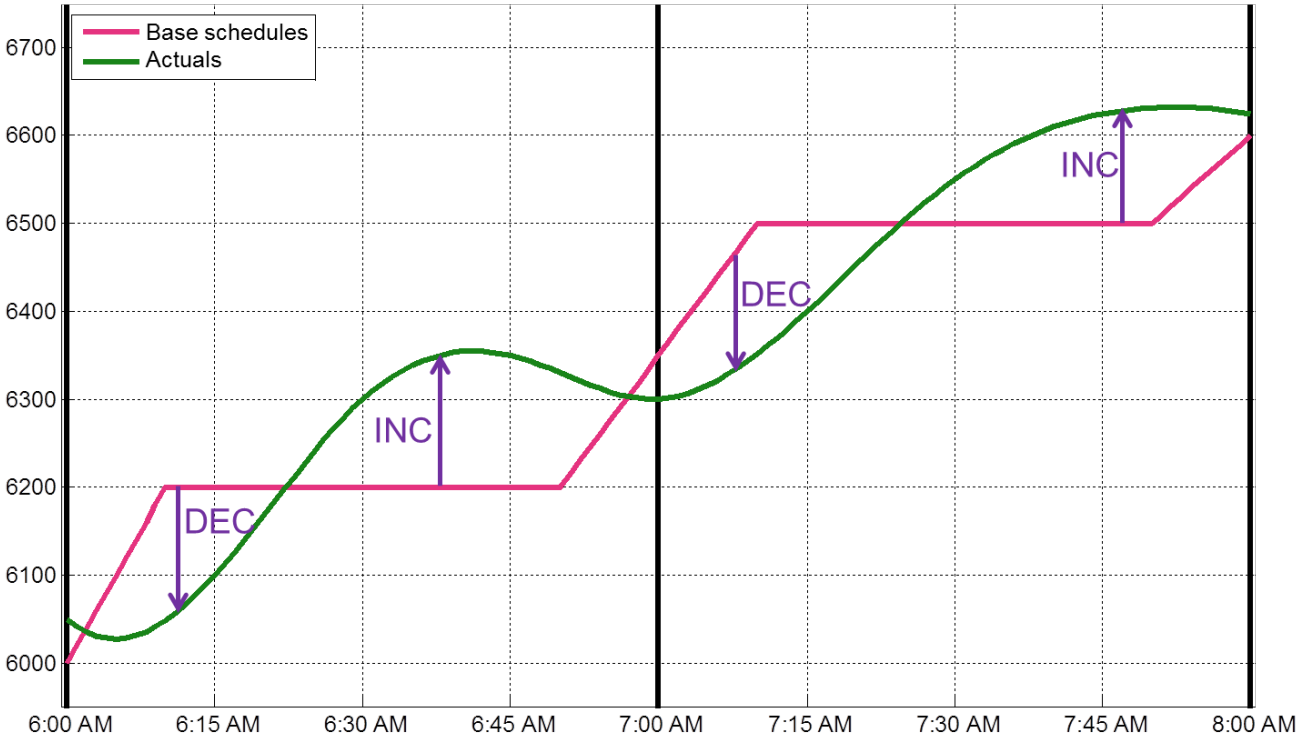
FRST Scenario 2: Summary

- The BA's overall bid range capacity was sufficient
- The BA's ramp capability was insufficient
- The BA failed to meet the flex ramp up requirement for the1st 15-min interval of the next hour, and failed this interval
- The BA is limited in incremental imports from the EIM for the 1st 15-minute interval of the next hour

Balancing Reserves and EIM

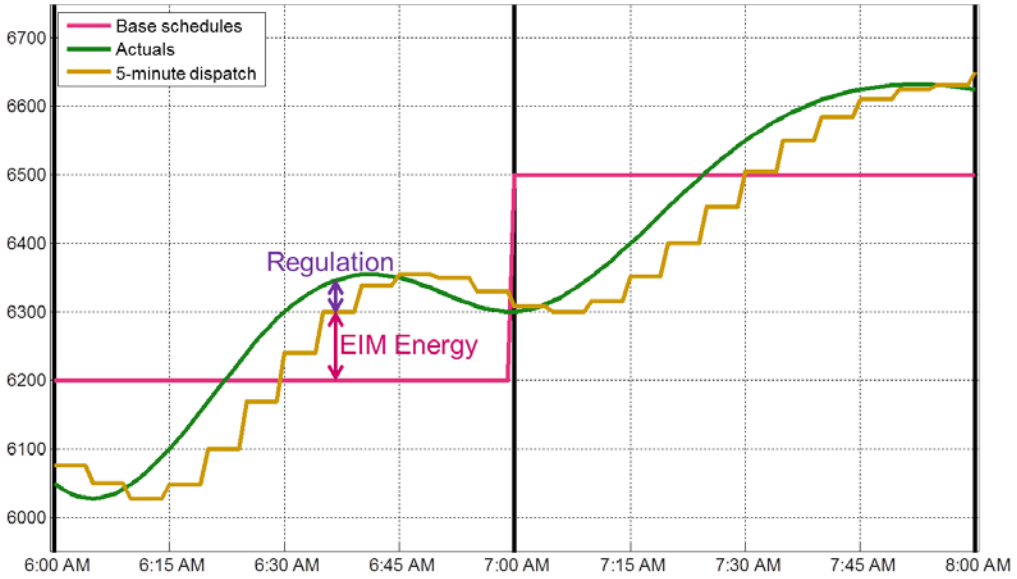
Balancing Reserves in the EIM

- BPA currently holds balancing reserves in order to balance within-hour variability

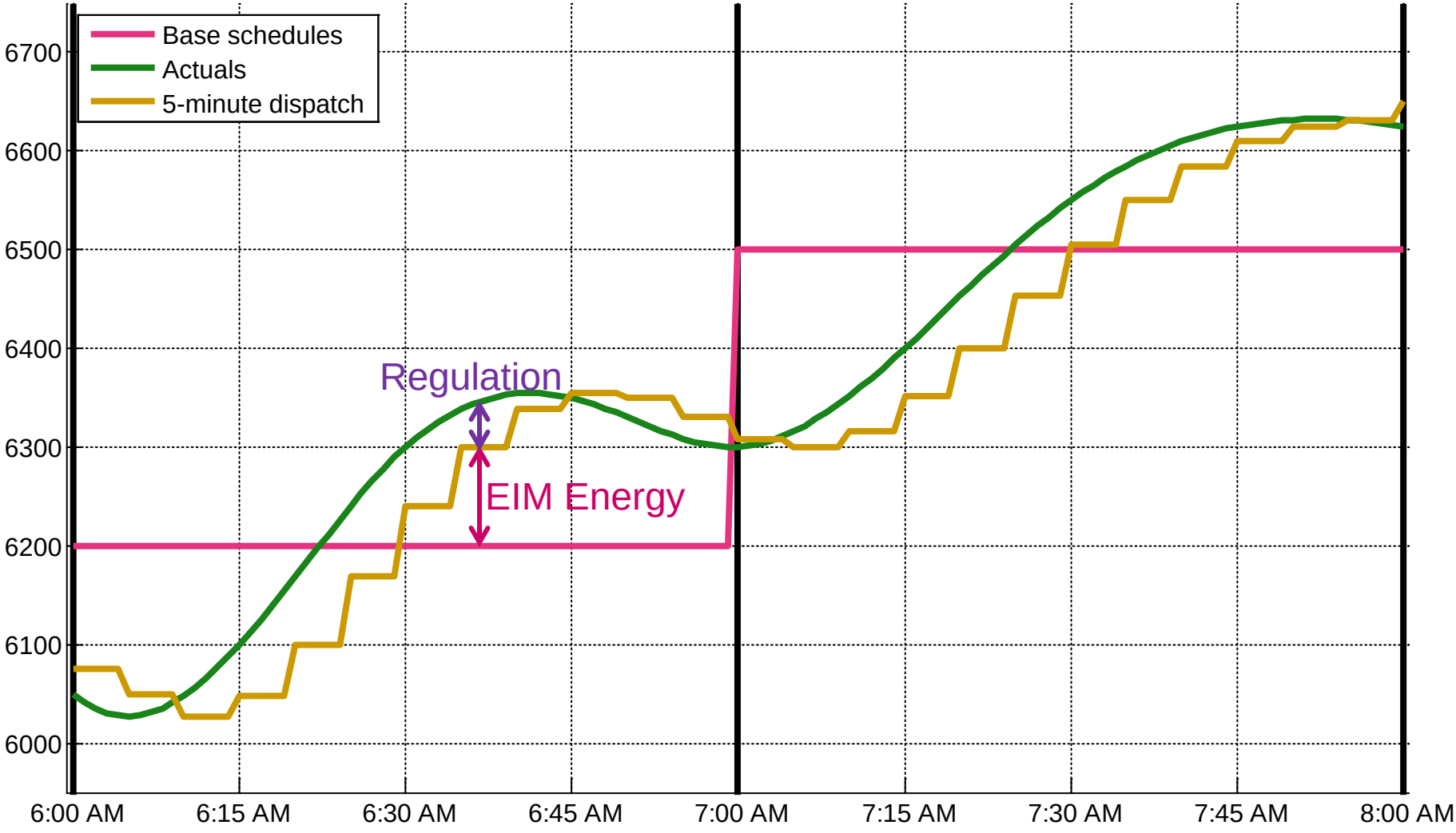


Balancing Reserves in the EIM

- Once in the EIM:
  - the EIM dispatches bid-in resources to meet imbalance
  - the BA dispatches regulation reserves (within-5 min imbalance)
- Non-regulation balancing reserves may be made available to the EIM to count towards meeting Resource Sufficiency



EIM


Base schedules
Actuals
5-minute dispatch
6700
6600
6500
6400
6300
6200
6100
6000
Regulation
EIM Energy
6:00 AM
6:15 AM
6:30 AM
6:45 AM
7:00 AM
7:15 AM
7:30 AM
7:45 AM
8:00 AM

EIM Resource Sufficiency #3:

Step 2: What's the Issue

ROD: BPA will consider developing policies to ensure it passes the RS evaluations as often as possible

- What is the expectation by BPA or its customers about how often the BA passes resource sufficiency?
  - What options are available to the BA to ensure the BA meets this target?
  - What is the expectation by BPA or its customers about what lengths BPA should go to in order to meet this target?
- What is the expectation by BPA or its customers about if or how costs/penalties associated with not passing resource sufficiency be sub-allocated?
  - Determined as part of Cost Allocation team

ROD: BPA will consider addressing RS on the sub-balancing authority area level

- What options are available to the BA in order to demonstrate resource sufficiency?
- Will the BA assign obligations tied to resource sufficiency to entities within the BA?

WRAP UP & NEXT STEPS

Next Steps

- Please provide feedback if you need additional information on the content presented by Dec. 3 via techforum@bpa.gov (with copy to your account executive).
  - Please include feedback on additional questions and time needed from BPA that should be scheduled on the upcoming “customer led” dates identified on the schedule (for a full list of upcoming dates, please see the full schedule)
- Next workshop is on Dec. 12, 2019.

Proposed December Workshop Agenda

- Proposed Topics
  - EIM Charge Code Allocation (Step 1)
  - EIM Losses (Steps 1-2)
  - Transmission Losses (Steps 1-2)

APPENDIX

Follow up from Oct 23

Follow-up on PTP/NT Agreement Templates (Incremental Changes)

- BPA may propose changes to Attachments A and F in its tariff (the form of service agreement for PTP and NT)
- BPA expects these changes to be non-material and hopes that customers will agree to incorporate the updated language, as necessary, in their contracts through the ordinary course of business

Follow-up on PTP/NT Agreement Templates (Incremental Changes) – cont'd

- Changes currently being considered are:
  - Modify title of Attachment A to be inclusive of Firm and Non-Firm Service;
  - Revise section 7 in both PTP and NT agreement templates to allow more flexibility in exhibit order, additions, or removals;
    - For example, remove exhibit for Direct Assignment and Use of Facilities (which are currently offered to customers in separate agreements);
  - Revise language to allow for electronic communication for notice and electronic signatures.

Transition from PFGA/TC-20 to TC-22

	Presented at 8/21/18 Workshop		Presented Proposal on 10/23/19		
	Addressed in the TC -20 Workshops	**Deferred to TC-22**	**Proposal and # Associated**	**Proposed for TC-22**	**Proposed for future Proceedings**
Ancillary Services	X				
Hourly Firm	X		29		X
Losses	X		9	X	
NT Conditional Firm	X				
NT NOA Attachement G	X				
NT Redispatch and Attachment M	X				
Section 9	X				
Study Process		X	27		X
Attachment C (ATC Methodology)		X	28		X
Attachment K (Regional Planning)		X	13	X	
Credit Worthiness		X	14	X	
Excluding Undesignations for firm market sales less than 1 yr		X	30		X
PTP and NT Agreement Incremental		X	15	X	
Financial Middleman *					
Simultaneous Submission Window (SSW)		X	26		X
Reservation windor for non-firm hourly PTP		X	31		X
Generator Interconnections (Attachment L and N)		X	19	X	
Sellers Choice			16	X	
~~Non-federal NT Redispatch~~			~~32~~		~~X~~
PTP/NT Agreement Templates		X	33		X

*Not in scope