

WAPA-SN Rates Informal Public Process

Western Area Power Administration
Sierra Nevada Region
Thursday, June 25, 2020
9:00 AM – 12:00 PM
Web Conference

WebEx Housekeeping Items

- All participants are muted on entry to ensure a smooth remote meeting
- For questions during Q&A periods, please choose one of the following options:
 - Send questions to the host in the WebEx chat
 - Use the “Raise Hand” icon next to your name in participant list. The host will unmute and call on you
- Phone only participants: When prompted by the host, press *6 from device to unmute yourself on WebEx
- Some questions may be answered later in other presentations
- We will have time for additional questions at the end of the meeting
- Make sure you are not “double-muted” when attempting to talk (i.e. muted on your device in addition to the WebEx client)



Agenda

1. WebEx Host	Tony Henriquez, Public Utilities Specialist - Rates
2. Proposed Rates Process Timeline	Autumn Wolfe, SN Rates Manager
3. WAPA-SN Operations Business Procedures for EIM Entity Settlements	Tong Wu, SN Settlements Manager
4. Sale of Surplus Products	Rosemary Jones, SN Power Marketing and Energy Services Specialist
5. Generator Dispatch Ranges	Robert Delizo, SN Resources Scheduling Manager
6. EIM Charge Types and Rate Schedules Follow-up Q&A	Autumn Wolfe, SN Rates Manager
7. Q&A	Tony Henriquez, Public Utilities Specialist - Rates
8. Closing Remarks	Autumn Wolfe, SN Rates Manager

WAPA-SN's Proposed Rates Process Timeline

Autumn Wolfe
SN Rates Manager

Proposed Timeline

May 11, 2020	1 st Informal Customer Meeting
Jun 8, 2020	2 nd Informal Customer Meeting
Jun 25, 2020	3 rd Informal Customer Meeting
Jul 10, 2020	4 th Informal Customer Meeting
Jul 2020	Federal Register Notice Published (90-Day Comment Period Begins)
Aug 17, 2020	Formal Customer Public Information & Comment Forum (WebEx only)
Oct 2020	90-Day Comment Period Ends
Feb 2021	Final Federal Register Notice Published
Apr 1, 2021	New Rate Schedules Effective Date

WAPA-SN Operations Business Procedures for EIM Entity Settlements

Tong Wu
SN Settlements Manager

BANC EIM Charge Allocation – Tier 1 Summary

Terminology: Charges can be +/-

Direct Assignment for Intertie Transaction (identified by information on e-Tag):

- Instructed Imbalance Energy

Metered Demand (i.e., Load Ratios) for

- All other Charges

BANC EIM Charge Allocation – Tier 1 Examples

Charge Code	Description	Proposed Allocation
4564	GMC-EIM Transaction Charge	Load Ratio
4575	Scheduling Coordinator ID	Load Ratio
64600 64700	FMM and RTM Instructed Imbalance Energy	Interchange activity (e-Tag)
64750	Real Time Uninstructed Imbalance Energy (UIE)	Load Ratio
64770, 67740, 69850	RT Imbalance Energy Offset EIM, RT Congestion Offset EIM, RT Marginal Losses Offset EIM	Load Ratio
64740	Unaccounted for Energy (UFE)	Load Ratio
6194, 6196 6294 6296, 6478	Spin and Non-Spin obligation and neutrality, RT System Imbalance Energy Offset	Load Ratio
7070, 7076 7077 7078, 7087,7088	Flexible Ramp Up & Down, Forecast Movement and Uncertainty	Load Ratio
6045	Over-scheduling and Under-scheduling Charge	Load Ratio
6046, 66200, 66780	Over/Under Scheduling Allocation, RT Bid Cost Recovery EIM, RT Bid Cost Recovery Allocation	Load Ratio

BANC EIM Charge Allocation – Tier 1 by Charge Codes

- See Attached Table in Separate Document, or see the table posted on WAPA’s website at:

[https://www.wapa.gov/regions/SN/rates/Documents/BANC EIM Settlement Allocations Summary 20200611.pdf](https://www.wapa.gov/regions/SN/rates/Documents/BANC_EIM_Settlement_Allocations_Summary_20200611.pdf)

Sale of Surplus Products

Rosemary Jones

SN Power Marketing and Energy Services Specialist

Sale of Surplus Products

- Sale of Surplus Products is grouping mechanism used in Rates across WAPA
- Surplus sales only happen if:
 - There is a Rates Schedule
 - Product or program design does not factor into amount available or otherwise impact base resource
 - Product occurs after 2-day ahead and, therefore, may not always be available
- Reclamation and WAPA strive to be water neutral each day when providing surplus products
- Current products were shared with the customers before pilot testing; Max Peaking was a collaboration between WAPA and customers at CCC meetings

Current Benefits

SN, in conjunction with customers through customer meetings, implemented three surplus product sales under the current rates – sale of energy through Max Peaking Program, Sale of Spinning Reserves, and Regulation Up/Down Pilot Program . The benefits have been shared at customer meetings at least once a year. Below approximates benefits since the beginning through May 2020.

Products	Customer Purchasing Groups	Net Benefits	Year
Energy Max Peaking only	WSPP Trading Entities or Markets	\$44,000,000	2006
Reserves Spinning	BAAs or Markets	\$4,300,000	2011
Regulation Pilot – Reg Up	Markets	\$700,000	2018

Surplus Products in Rate Schedule

Surplus Products occur after the requirements for Operations, Project Use, First Preference and Base Resource Customers are met with all available forecasted generation.

Products	Applicable to these Purchasing Entities	Availability	Scheduling Period
Energy	WSPP Trading Entities or Markets	Daily or Hourly	Day Ahead, Real Time, EIM
Reserves	BAAs or Markets	Daily	Day Ahead
Regulation	Markets	Hourly	Day Ahead, EIM
Resource Sufficiency	Direct Connect Customers	Hourly	EIM
Frequency Response	BAAs or Markets	Daily	Day Ahead

New Products

- Resource Sufficiency
 - EIM Balancing ensures BAA has the capability of balancing their own area for each operating hours
 - Failing final balancing test could expose loads to over- or under-scheduling penalties
 - Goal is to be cost neutral on capacity and bid energy in at a similar level as energy behind other surplus products like Spin
- Frequency Response
 - Not many details yet-on indefinite hold by FERC
 - However, BANC is going to participate in trials in November which is local only
 - Uses existing reserves
 - Will be offered as Spinning Reserves are today

Generator Dispatch Ranges

Robert Delizo

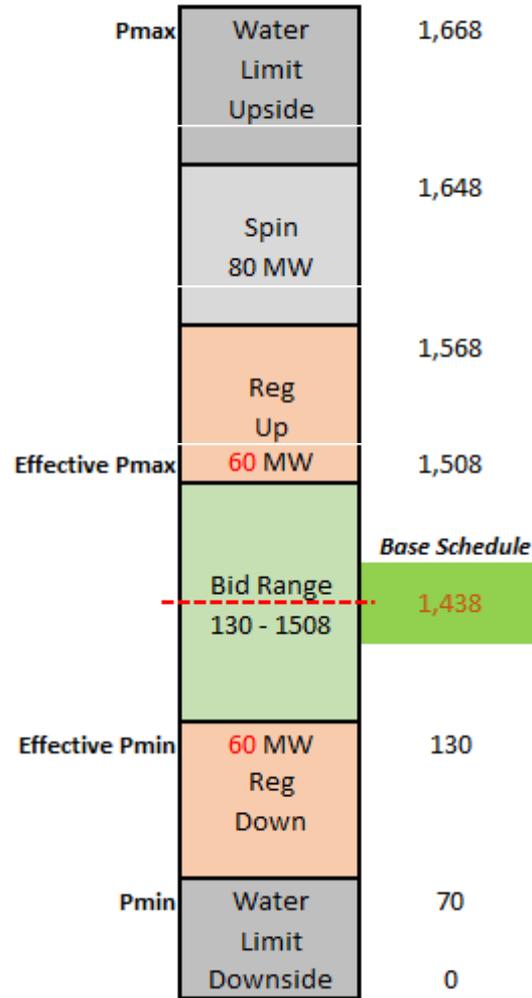
Resources and Scheduling Manager

EIM-PRSC Generator MW Capacities

EIM Resource	Plant	2DA, MW	High, MW	Low, MW
Shasta and Trinity River Division Aggregation	Shasta	536	568	0
	Trinity	100	130	10
	Carr	140	140	0
	Spring Creek	160	180	0
	Keswick	50	50	50
Folsom and Nimbus Aggregation	Folsom	180	210	0
	Nimbus	10	10	10
New Melones Aggregation	New Melones	300	380	0
Total		1,476	1,668	70

Customer Schedules

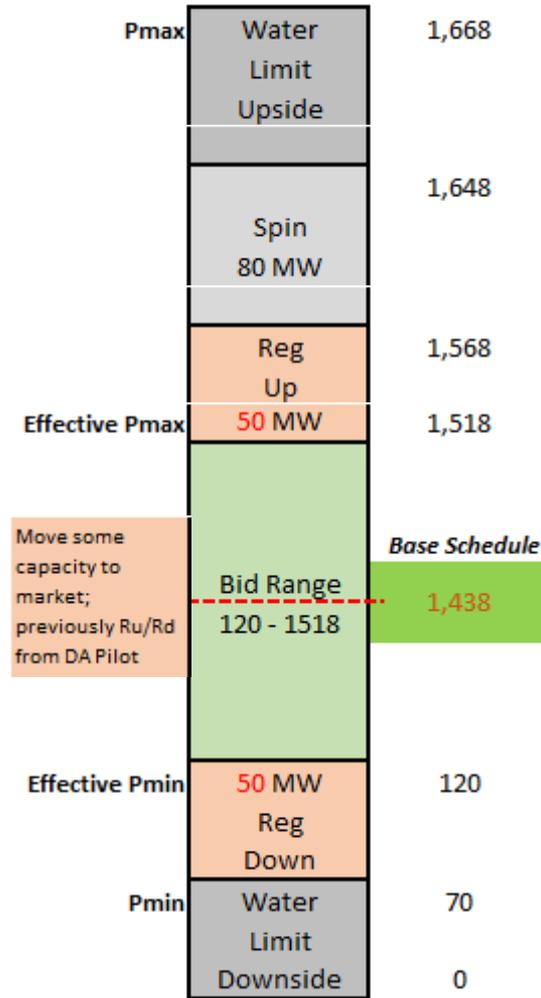
Load, Full Requirements	Interchange	1,188
	Load	28
	Loss	79
DDR		143
		1,438



OUTAGE CARD=20 Reclamation cannot run generators full out
EIM Spin/Non-Spin Base Schedule. Submitted to CAISO.
EIM Reg-Up Base Schedule. Submitted to CAISO.
EIM Market Dispatch Range -- Base Schedule MW must fall within. -- DOTs always within (except ABC). -- EIM Gen Bid can drive DOT within.
EIM Reg-Down Base Schedule. Submitted to CAISO.
OUTAGE CARD=70 Reclamation must run generators

EIM-PRSC Generator MW Capacities – Capacity for the Resource Sufficiency Product

EIM Resource	Plant	2DA, MW	High, MW	Low, MW
Shasta and Trinity River Division Aggregation	Shasta	536	568	0
	Trinity	100	130	10
	Carr	140	140	0
	Spring Creek	160	180	0
	Keswick	50	50	50
Folsom and Nimbus Aggregation	Folsom	180	210	0
	Nimbus	10	10	10
New Melones Aggregation	New Melones	300	380	0
Total		1,476	1,668	70

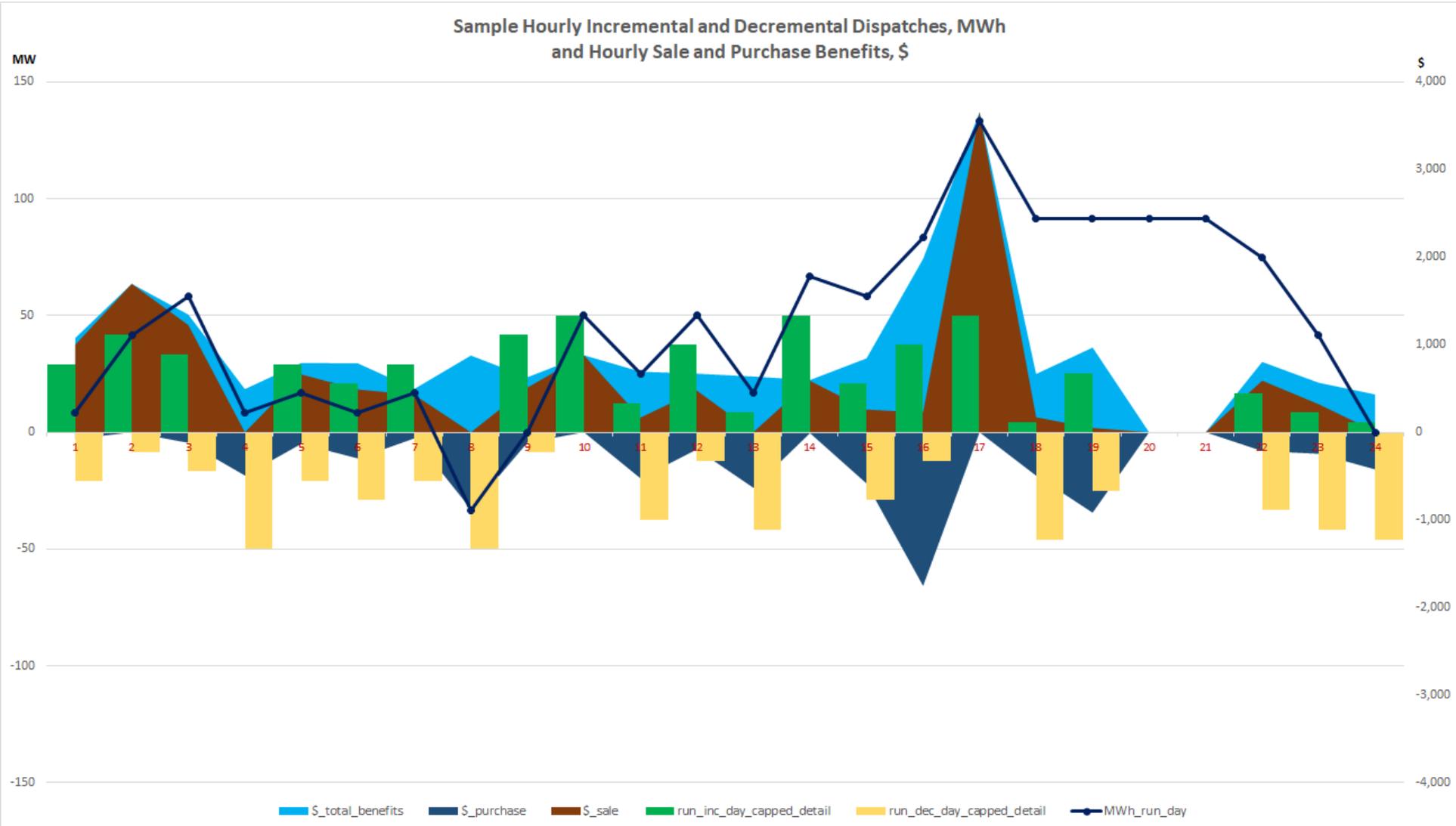


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Customer Schedules	
Load, Full Requirements	Interchange 1,188
	Load 28
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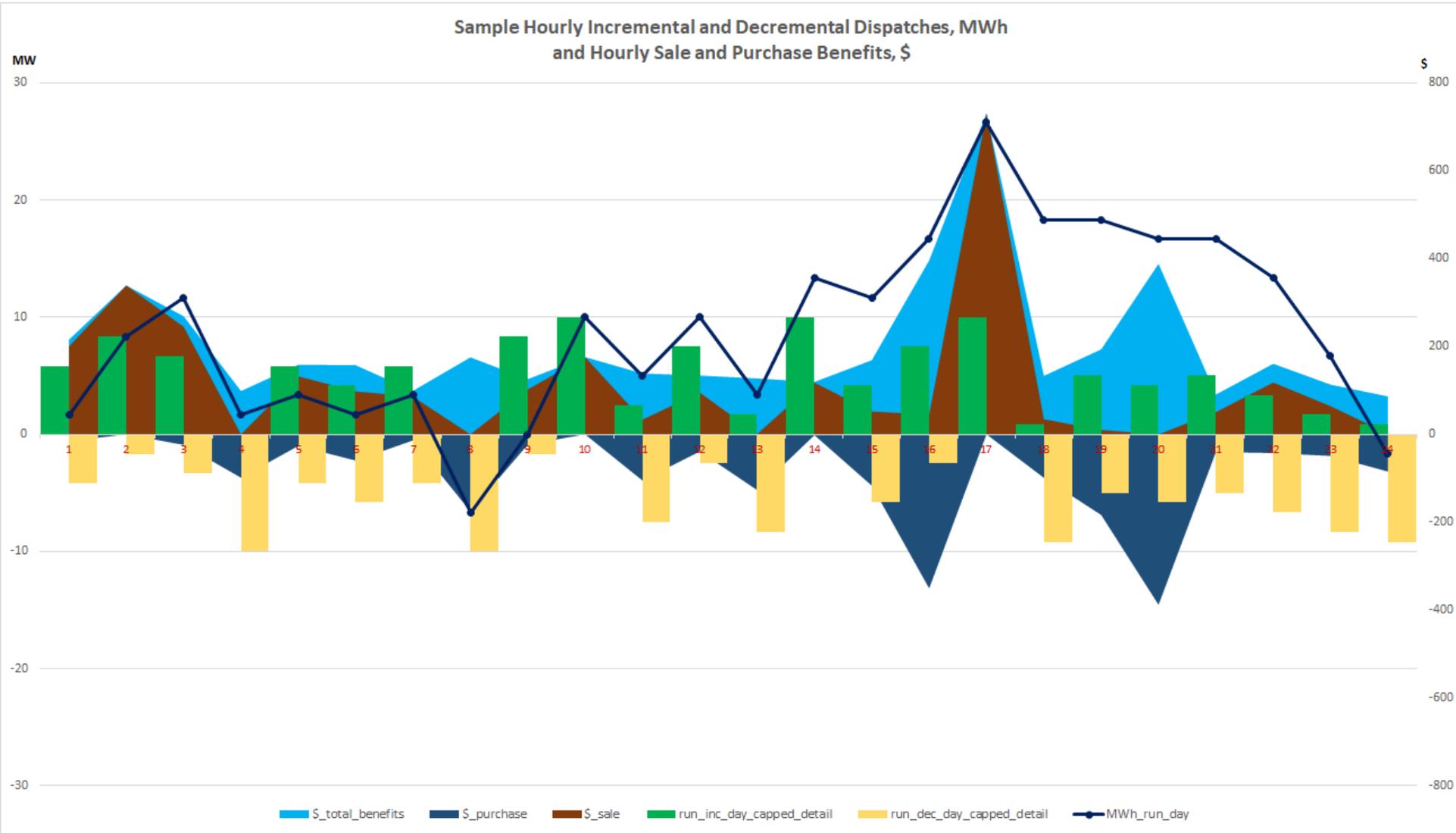
EIM Dispatches, Sale and Purchase Benefits – Proxy Resource

Sample Hourly Incremental and Decremental Dispatches, MWh and Hourly Sale and Purchase Benefits, \$



EIM Dispatches, Sale and Purchase Benefits – Resource Sufficiency Product

Sample Hourly Incremental and Decremental Dispatches, MWh and Hourly Sale and Purchase Benefits, \$



EIM Entity Charge Types and Rate Schedules

Autumn Wolfe
SN Rates Manager

EIM Charge Types and Rates Schedules

Type	Schedule
EIM Administrative Service	Schedule CV-EIM1S
Interchange Operational Adjustments: Instructed Imbalance Energy	Schedule CV-EIM9S
Load: Uninstructed Imbalance Energy Unaccounted for Energy Under-and Over-Scheduling Load Uplifts and Offsets Bid Cost Recovery Flexible Ramping Product Operating Reserves	Schedule CV-EIM4S

Process for Commenting on Business Procedures

- Once Business Procedures are posted to OASIS, there will be a 30-day comment period
- Transmission customers can comment directly to WAPA Operations
- First Preference, Base Resource, and Project Use customers must submit their comments to WAPA Merchant as the Transmission Provider
 - Point of Contacts for WAPA Merchant are:
 - Robert Delizo - Delizo@wapa.gov
 - Charles Faust – Faust@wapa.gov

Follow-up Q&A

Autumn Wolfe
SN Rates Manager

Q&A From Informal Customer Meetings

- WAPA received over 90 questions from Informal Customer Meetings and via email
- The questions received fall within the following categories:
 - EIM Implementation and On-going Charges
 - EIM Cost Allocation
 - EIM Benefits
 - Project Use
 - Sale of Surplus Products
 - Other
- The full list of questions and responses can be found on WAPA's website: <https://www.wapa.gov/regions/SN/rates/Documents/WAPA-194%20FRN%20EIM%20Rates%20Informal%20Meeting%20QAs%20.pdf>

Q&A – Can you please explain the difference between 29.8% for the allocation of BANC’s implementation costs and the 10.9% for BANC’s on-going charges?

- The 29.8% used by BANC to allocate implementation costs is WAPA’s NEL percentage as one of four participating entities (Roseville, Redding, MID, and WAPA) for phase II of EIM implementation.
- The 10.9% used by BANC to allocate on-going administrative costs is based on WAPA’s NEL percentage as one of five participating entities (SMUD, Roseville, Redding, MID, and WAPA) for on-going costs.

Q&A – What load is included in WAPA’s NEL % that is used for the allocation of BANC’s implementation costs (29.8%) and BANC’s on-going charges (10.9%)?

The following load is included in the NEL% calculation:

- Lawrence Livermore National Lab (DOE),
- Tracy Pump Load (Project Use),
- Trinity PUD,
- City of Shasta Lake,
- SBA Losses and Station Service,
- East Contra Costa Irrigation District,
- Contra Costa Water District,
- Byron Bethany Irrigation District, and
- San Juan Water District

The 29.8% and 10.9% NEL percent is based on 2017 load data.

We have an agreement in principle with BANC and Redding to address the City of Shasta Lake’s load that was included in WAPA’s NEL.

In the future BANC will likely use a rolling three-year average to mitigate a wet/dry year issue.

WAPA’s NEL share based on Tracy pump load is 6.5% of the 29.8% used to allocate implementation costs, and 2.4% of the 10.9% used to allocate on-going costs.

Q&A – Can you tie implementation and on-going costs to our current PRR costs?

Category	2019 Actual	2020 Estimate	2021 Estimate	2022 Estimate
BANC EIM Implementation Costs (Total)	\$449,292	\$742,709	\$292,448	\$0
BANC EIM On-going Costs, Annual and WAPA's share (Total)	\$0	\$0	\$477,315	\$477,315
WAPA Implementation Costs	\$545,500	\$0	\$0	\$0
WAPA On-going Costs	\$0	\$0	\$184,400	\$184,400
USBR Implementation costs	\$0	\$500,000	\$500,000	\$0
Totals	\$1,043,553	\$1,357,511	\$1,454,163	\$661,715
Implementation and Administrative On-going Costs – Percent Increase to Annual O&M				
O&M – Actual and Forecast	\$113,288,000	\$116,445,492	128,051,523	131,329,785
Percent Increase in Cost	+0.92%	+ 1.17%	+1.14%	+0.50%
Implementation and Administrative On-going Costs – Percent Increase to Annual PRR				
PRR - Forecast	N/A	N/A	\$80,993,757	\$84,760,808
Percent Increase	N/A	N/A	+1.80%	+0.78%

Some of the administrative costs may increase if CAISO or BANC increases their cost in the future. Implementation and on-going administrative costs will be included in the annual O&M on the PRR.

Q&A – Can you provide more detail on what is included in the \$477,315 on-going EIM Costs?

The \$477,315 of BANC’s on-going administrative costs allocated to WAPA includes:

- EIM Operation \$381,395
(\$3,499,039 x 10.9%)
- Legal Support \$3,270
(\$30,000 x 10.9%)
- Stakeholder Support \$10,900
(\$100,000 x 10.9%)
- CAISO Fees \$81,750
(\$750,000 x 10.9%)

WAPA’s 10.9% share of
\$4,379,038.50 = \$477,315

CATEGORY	COST ESTIMATE
Personnel - EIM Desk (5)	\$ 1,587,138.00
Personnel - Settlements (1.5)	\$ 511,718.00
Personnel - Outage Mgmt (0.4)	\$ 126,971.00
Personnel - Netwk Model (1)	\$ 267,843.00
Personnel - Meter Data Mgmt (0.5)	\$ 39,648.00
Personnel - SME/Oversight (0.4)	\$ 171,179.00
Personnel - IT Support (0.25)	\$ 55,853.00
Personnel Total (9.05)	\$ 2,760,350.00
3% Labor Adjustment	\$ 82,810.50
Updated Personnel Total	\$ 2,843,160.50
EIM Software Support	
- OATI	\$ 90,000.00
- Power Settlements	\$ 442,900.00
- ITOA	\$ 20,000.00
- WebEIM	\$ 40,000.00
EIM Software Support Total	\$ 592,900.00
EMS EIM Module	
- Amortized Capital	\$ 52,978.00
- O&M Support	\$ 10,000.00
EMS EIM Module Total	\$ 62,978.00
SMUD Total	\$ 3,499,038.50
Miscellaneous Support	
- Legal	\$ 30,000.00
- EIM Stakeholder Engagement	\$ 100,000.00
Miscellaneous Support Total	\$ 130,000.00
CAISO Charges	
- Fees	\$ 250,000.00
- Uplifts	\$ 500,000.00
CAISO Charges Total	\$ 750,000.00
TOTAL for Phase 2	\$ 4,379,038.50

Q&A – Please provide a detailed breakout for the on-going costs—estimated at \$661,715—between administrative cost and load costs.

The \$661,715 is for on-going administrative costs, not load costs, which includes the following costs:

BANC:

EIM Operations	\$ 381,395
Legal Support	\$ 3,270
Stakeholder Support	\$ 10,900
CAISO Fees	<u>\$ 81,750</u>
Subtotal	\$ 477,315

WAPA:

Vendor Software Solutions	\$ 184,400
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Total: \$ 661,715

Q&A – When joining EIM, at the BA level, out of the CAISO, what are those benefits? Is there transparency of benefits on the CAISO website?

- On a quarterly basis, EIM entities can view their EIM benefits on the CAISO website; however, CAISO does not provide a benefit breakdown below the EIM entity level.
- BANC recognizes a benefits allocation methodology is something both BANC and its EIM participating customers will need to develop. This is an action item that is scheduled to be worked on later in the year.

Q&A – We understand benefits will follow costs. Please estimate and quantify benefits. Do such benefits relate primarily to reductions in load cost for direct connect customers, or benefits attributed to increased revenues for CVP generation?

- The dispatch benefits pertain to increasing the value of the CVP generation through increased revenues and cost savings. The dispatch benefits will reduce the PRR; hence the benefits apply to both direct connect and non-direct connect customers. The dispatch benefits also offset against the EIM implementation cost and ongoing costs that WAPA incurs.
- WAPA and Reclamation conducted a simulation using the historical Spin capacity as a proxy resource for EIM. In the simulation, a 50 MW limit on the resource capacity, as well as daily and weekly energy constraints were used to achieve water-neutral operations for Reclamation with the EIM dispatches of the resource. The incremental and decremental dispatches of the EIM resource translate to more revenue and cost savings, respectively, for the resource, inasmuch as the EIM dispatches are economic signals from the market.
- Under Case 1 of the simulation that was shared at the June 8th meeting, the EIM resource is bid at cost in all hours; thus, the resulting incremental dispatch revenues accrue from energy sales into the market when the LMP is higher than the cost of the resource and the resulting decremental dispatch savings accrue from purchase of cheaper energy from the market. For case 1, the dispatch benefits were \$2.11 million, net of Spinning Reserves revenue.

Q&A - Will project use, transmission, or other customers (FLS, custom product power, for example) also be assigned a share of on-going and general administrative charges through separate rates or sub-allocation processes?

- EIM implementation and on-going administrative costs are included in annual O&M. CVP transmission rates will include a portion of annual O&M.
- Scheduling Coordinator and Portfolio Management services will not see a rate increase due to WAPA's participation in EIM.
- Project Use customers do not pay for load charges; however, they will pay a portion of annual O&M that includes EIM implementation and on-going administrative costs.

Q&A – WAPA-SN indicated that they have a statutory obligation to provide generation to project use customers first; therefore, load costs and benefits for project use will go to the Power Revenue Requirement. WAPA-SN also has a statutory obligation to First Preference Customers. Will there be any information presented on First Preference Customers?

- WAPA will only incur load related EIM charges for customers who have load within WAPA's sub-balancing authority (SBA). Some customers within WAPA's SBA are Project Use customers. Load charges and benefits that are incurred will ultimately be allocated to customers based on the Tier I and Tier II proposed allocations described in the Informal Customer meetings on May 11, 2020 and June 8, 2020.
- Customers who do not have load within WAPA's footprint, such as the First Preference Customers (except Trinity), will only pay EIM charges that are allocated to the Power Revenue Requirement, based on their Entitlement percentage.
 - For more information on the Trinity exception, please see the June 8, 2020 PowerPoint presentation on WAPA's website (slides 50 – 51): <https://www.wapa.gov/regions/SN/rates/Documents/rates-informal-meeting-slides-20200608.pdf>, and
 - To identify Trinity EIM charges that are paid by BANC, or the PRR, please see the BANC EIM Entity Settlement Allocation Summary table on WAPA's website: https://www.wapa.gov/regions/SN/rates/Documents/BANC_EIM_Settlement_Allocations_Summary_20200611.pdf

Topics for July 10th Meeting?

Customer Comments and Questions

Additional information can be found on WAPA's Website:

WAPA Rate Case:

<https://www.wapa.gov/regions/SN/rates/Pages/Rate-Case-2021-WAPA-194.aspx>

SNR EIM Information:

<https://www.wapa.gov/regions/SN/PowerMarketing/Pages/western-eim.aspx>

Contact Information

Email: SNR-RateCase@wapa.gov

Closing Remarks

Autumn Wolfe
SN Rates Manager

Thank you!