

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

California Independent System Operator Corporation)	Docket No. ER06-615-038 Docket No. ER08-1113-000
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**ANSWER OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR
CORPORATION TO EMERGENCY MOTION FOR
CLARIFICATION OF AFFECTED IBAA ENTITIES AND
REQUEST FOR SHORTENED RESPONSE TIME**

Pursuant to Rule 213 of the Rules of Practice and Procedure, 18 C.F.R. § 385.213 (2008), of the Federal Energy Regulatory Commission (“Commission”), the California Independent System Operator Corporation (“CAISO”) hereby submits its answer to the Emergency Motion For Clarification of Affected IBAA Entities And Request For Shortened Response Time (“Emergency Motion”).¹ The Affected IBAA Entities “seek emergency clarification that the Commission's March 13, 2009 Order² on the CAISO's MRTU readiness filing precludes the CAISO from implementing its IBAA.”³

The CAISO respectfully requests that the Commission reject the Emergency Motion because (1) the CAISO has provided all market participants, including the Affected IBAA Entities, the opportunity to complete IBAA training; and (2) Affected IBAA Entities have not stated sufficient grounds to reverse the Commission’s prior findings that the Affected IBAA Entities will not be subject to unjust or unreasonable interchange pricing.

¹ The Affected IBAA Entities are the Modesto Irrigation District (“MID”), Transmission Agency of Northern California (“TANC”), City of Redding (“Redding”), Sacramento Municipal Utility District (“SMUD”), and Turlock Irrigation District (“TID”).

² *California Indep. Sys. Operator Corp.*, 126 FERC ¶ 61,221 (2009) (“*MRTU Readiness Order*”).

³ Emergency Motion at 1.

I. DISCUSSION

The Affected IBAA Entities state that the Commission's orders concerning the IBAA⁴, including the *MRTU Readiness Order*, preclude implementation of the IBAA proposal until two things have taken place: (1) the IBAA entities have been afforded an opportunity to complete IBAA training; and (2) the CAISO has in place tariff language for Market Efficiency and Enhancement Agreements ("MEEAs") that complies with the Commission's directives.⁵ As set forth below, the CAISO has provided Affected IBAA Entities with training consistent with the Commission's orders. In addition, the Commission has already found that the Affected IBAA Entities will not be subject to unjust or unreasonable interchange pricing prior to Commission action on CAISO's further compliance filing as directed by the Commission's *IBAA Order on Compliance*.⁶

A. CAISO Has Provided IBAA Training Consistent With The Commission's March 13 Readiness Order.

The Affected IBAA Entities assert that the CAISO has failed to provide them with IBAA training and assistance. This is incorrect. The CAISO has afforded all market participants opportunities for IBAA training, and representatives of all of the Affected IBAA Entities participated in that training. On February 24, 2009, the CAISO held a training session on IBAA issues. The training focused on the mechanics of scheduling and settling IBAA interchange transactions. With limited exceptions, scheduling an IBAA interchange transaction is the same as scheduling any other interchange transaction under MRTU. With respect to settlements, the training provided

⁴ *California Indep. Sys. Operator Corp.*, 124 FERC ¶ 61,271 (2008) ("*September 2008 IBAA Order*"); *Cal. Indep. Sys. Operator Corp.*, 126 FERC ¶ 61,207 (2009) ("*IBAA Order on Compliance*").

⁵ Emergency Motion at p. 1.

⁶ *Cal. Indep. Sys. Operator Corp.*, 126 FERC ¶ 61,207 (2009).

an overview of how to validate locational marginal prices for IBAA interchange transactions.

Attached hereto as *Exhibit 1* is a copy of the training materials and attendance lists for the February 24, 2009 training. At the training, the CAISO received a number of questions related to the IBAA proposal. The CAISO prepared and posted responses to these questions.⁷ On March 19, 2009, the CAISO held a supplemental training session to provide an overview of its responses and walk through examples of IBAA interchange transactions and the calculation of locational marginal prices for those transactions.

Attached hereto as *Exhibit 2* is a copy of the training materials and attendance lists from the supplemental training.

The training that the CAISO has offered is consistent with the Commission's *MRTU Readiness Order*, and representatives of each of the Affected IBAA Entities attended both training sessions. Moreover, pursuant to the Commission's directives, the CAISO is committed to resolve any remaining questions market participants may have and will continue to provide support to those participants engaging in IBAA transactions after launch of MRTU.

B. The Affected IBAA Entities Will Not Be Subject to Unjust or Unreasonable Interchange Pricing Prior to The Commission Approving Tariff Language Associated with MEEAs

With regard to the MEEA tariff provisions, the Affected IBAA Entities allege:

without the changes ordered to the MEEA tariff provisions, there is no means for IBAA Entities to avoid *the unreasonable default import an[d] export prices under the IBAA*. Since the availability of a non-discriminatory MEEA is, by the Commission's own account, "integral" to the reasonableness of the IBAA mechanism and since an MEEA mechanism compliant with the Commission's directives is still not in

⁷ The responses to the questions can be found at: <http://www.caiso.com/1f50/1f50ae5b32340.html>.

place, it follows that permitting the CAISO to put its existing IBAA mechanism in effect at MRTU start up would mean that the CAISO would be allowed to implement a tariff provision FERC had already declared unreasonable.⁸

The reasoning of the Affected IBAA Entities is based on an incorrect premise that the default import and export prices under the IBAA proposal are “unreasonable.” To the contrary, the Commission held in the *September 2008 IBAA Order* and in the *IBAA Order on Compliance* that that the default pricing points are just and reasonable.⁹ As a result, the Affected IBAA Entities will not be subject to unjust and unreasonable interchange pricing prior to final approval of the MEEA requirements. Indeed, the Commission has approved the CAISO’s compliance filing regarding the default pricing points.¹⁰

In its *IBAA Order on Compliance*, the Commission directed the CAISO to make changes to its tariff language related to MEEAs but, as noted above, accepted default IBAA pricing for voluntary interchange transactions.¹¹ The Commission directed that the CAISO submit these tariff changes after the anticipated start of MRTU. The Commission did not modify its prior determination that the CAISO should implement the IBAA proposal simultaneously with the start of MRTU.¹² The Commission did not direct the CAISO to suspend IBAA implementation until final tariff language addressing MEEAs was approved. As such, the Commission confirmed that the CAISO should implement the IBAA simultaneous with MRTU *Go-Live*.

⁸ Emergency Motion at 3 (emphasis added).

⁹ *September 2008 IBAA Order* at P 82 and PP 83-92; *IBAA Order on Compliance* at P 130.

¹⁰ *IBAA Order on Compliance* at P 130.

¹¹ The CAISO notes that the interchange transactions between the CAISO and IBAA are voluntary and have an impact the CAISO system. The Commission recognized this point in approving the CAISO’s default pricing rules. *IBAA Order on Compliance* at P 110.

¹² *September 2008 IBAA Order* at P 350.

Finally, in its *MRTU Readiness Order*, the Commission explicitly rejected arguments that the CAISO should delay IBAA implementation until after MRTU Go-Live while pending IBAA issues still exist.¹³ The Commission’s decision makes sense. Even if there were no pending compliance obligation regarding the MEEA requirements, implementing a MEEA with an IBAA entity will still require negotiation, execution, and filing at the Commission under Section 205 of the Federal Power Act (“FPA”). Contrary to the allegations of the Affected IBAA Entities, the just and reasonable default pricing points for interchange transactions with the IBAA do not become unjust and unreasonable as a result of the need to finalize the tariff language associated with MEEAs.

III. Conclusion

The CAISO has provided IBAA training to the moving parties as well as all other market participants. The CAISO will continue to provide support as needed for market participants interested in engaging in voluntary interchange transactions between the CAISO and the IBAA. The Commission has determined that the CAISO’s proposed default pricing rules for IBAA interchange transactions are just and reasonable and

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¹³ *MRTU Readiness Order* at P 80.

the CAISO should implement its IBAA proposal simultaneous with MRTU Go-Live. For these reasons, the Commission should reject the motion for clarification.

Respectfully submitted,

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Dated: March 20, 2009

Exhibit 1

Scheduling and Pricing of Integrated Balancing Authority Areas (IBAAAs)



J. Buglino, Senior Client Trainer

February 24, 2009



California ISO
Your Link to Power

Agenda

- 🌐 What is an Integrated Balancing Authority Area?
- 🌐 IBAA Scheduling and Pricing Concepts
- 🌐 MRTU Marginal Losses Adjustment
- 🌐 Registering Resource IDs
- 🌐 Scheduling Scenarios
- 🌐 IBAA Scheduling and Tagging
- 🌐 Scheduling to Settling
- 🌐 Locating Prices
- 🌐 ETC/TOR/CVR Example

Objectives

By the end of this class, you will be able to:

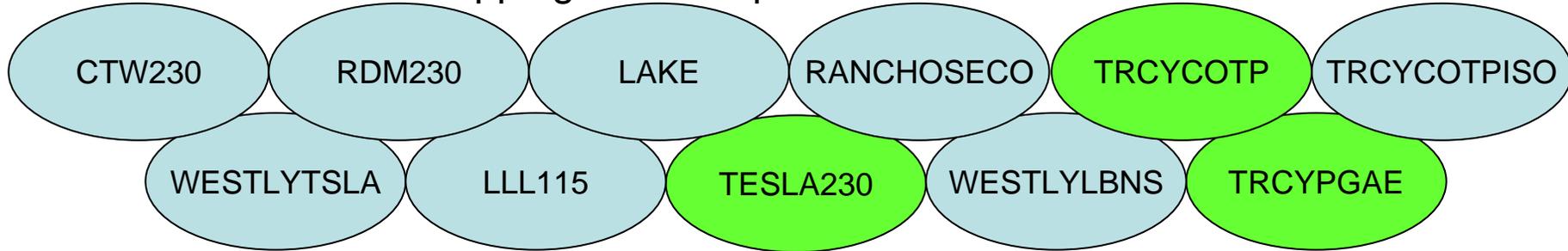
- 🌐 Describe what an IBAA is
- 🌐 Describe how to submit IBAA Schedules and Bids
- 🌐 Describe where to find IBAA Schedules and Prices
- 🌐 Explain where IBAA transactions are settled

What is an IBAA?

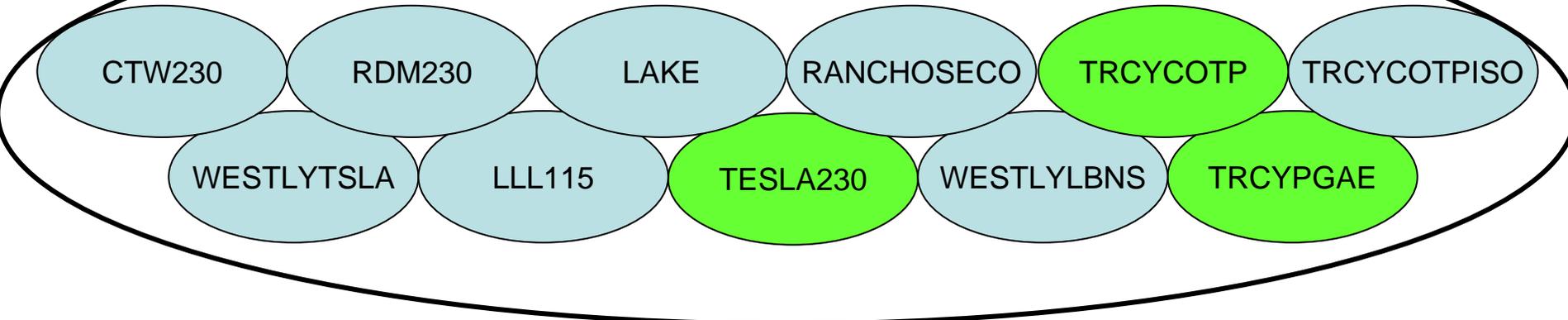
- 🌐 Balancing Authority Area (BAA) that has multiple interconnections with the CAISO.
- 🌐 Parallel transmission and power flow modeling accuracy is dependent on both systems.
- 🌐 IBAA network topology is modeled in further detail in the CAISO's Full Network Model beyond the simple radial modeling of interconnections.
- 🌐 Objectives of IBAA:
 - Ensure feasible forward-market schedules
 - Effective Congestion Management
 - Align forward market *schedules* and *prices*
 - Increase market efficiency
 - Provides more accurate pricing at ties when given insufficient network information of another Balancing Authority.

IBAA Scheduling and Pricing Concepts

IN GENERAL,
Imports to the CAISO scheduled at these ties will be paid the import price based on a mapping to the Captain Jack substation



SMUD Hub

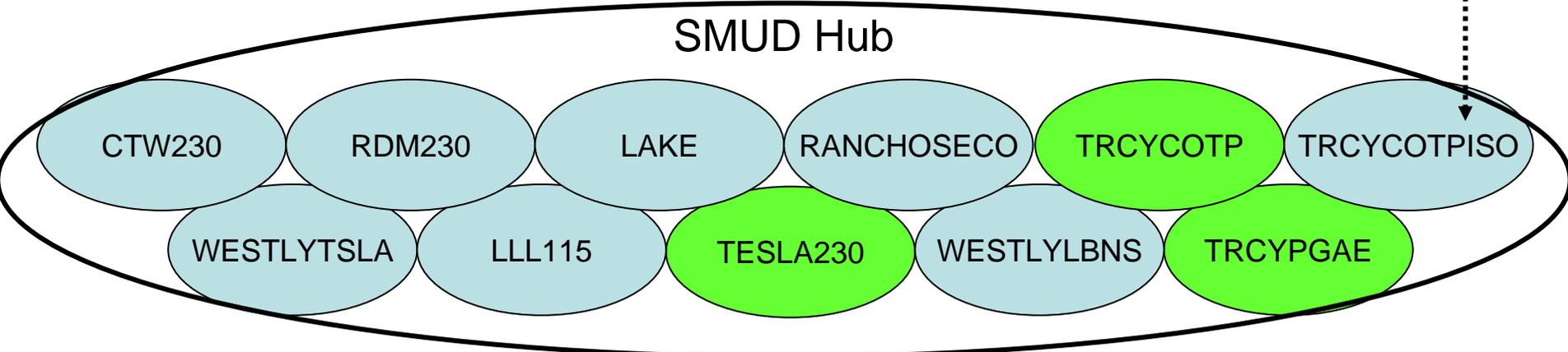
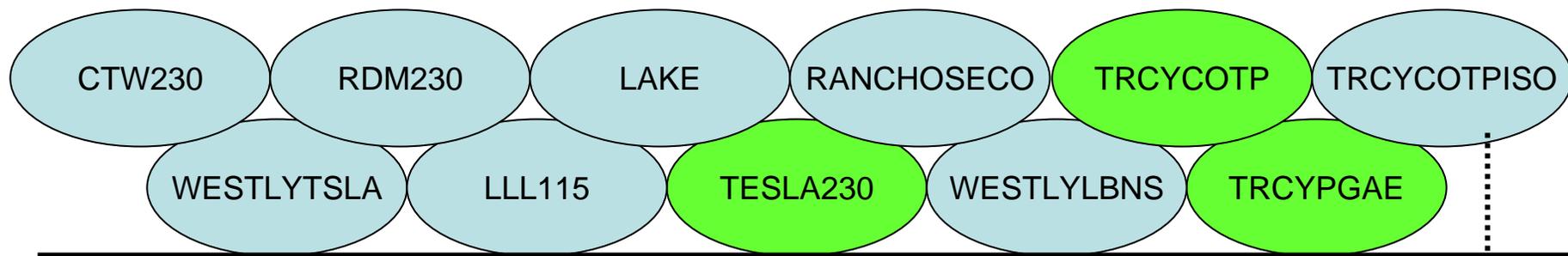


IN GENERAL, Exports from the CAISO scheduled to IBAA at these ties will be charged the SMUD Hub Price

Scheduling Constraint

IBAA Scheduling and Pricing Concepts

EXCEPT, when there is a scheduling constraint on a particular tie. When a scheduling constraint occurs, the price will reflect the constraint at that particular tie point.



Scheduling limit in the import direction will lower LMP at the import tie and will lower LMP in the export direction.

MRTU Marginal Losses Adjustment

- For SCs that pay the Western Area Power Administration (Western) or Transmission Agency of Northern California (TANC) for losses on the use of the COTP:
- The CAISO will replace the Marginal Cost of Losses at the otherwise applicable source for such Schedules with the Marginal Cost of Losses at a price calculated as if an actual generator is located at Tracy.

IBAA Scheduling and Pricing Concepts

- Mapping associated with SMUD interties, to the Captain Jack substations for Imports and SMUD Hub for Exports:

ITC	TNAME	OASIS NODE ID (IMPORT)	OASIS APN OR NODE ID (EXPORT)
COTP_ITC	TRCYCOTP	CAPTJACK_5_N015	SMDG_ASR
COTPISO_ITC	TRCYCOTPISO	CAPTJACK_5_N512	SMDH_ASR
CTW230_ITC	CTW230	CAPTJACK_5_N510	SMD5_ASR
LLNL_ITC	LLL115	CAPTJACK_5_N509	SMD6_ASR
OAKDALE_ITC	OAKDALE	OAKDLTID_1_N001	OAKDLTID_1_N001
RDM230_ITC	RDM230	CAPTJACK_5_N511	SMD4_ASR
RNCHLAKE_ITC	LAKE	CAPTJACK_5_N508	SMD7_ASR
RNCHLAKE_ITC	RANCHOSECO	CAPTJACK_5_N507	SMD8_ASR
STANDIFORD_ITC	STANDIFORD	STANDFD2_1_N011	STANDFD2_1_N011
TRACY230_ITC	TESLA230	CAPTJACK_5_N506	SMD9_ASR
TRACY500_ITC	TRCYPGAE	CAPTJACK_5_N505	SMDA_ASR
WESTLYLBNS_ITC	WESTLYLBNS	CAPTJACK_5_N003	SMDC_ASR
WESTLYTSLA_ITC	WESTLYTSLA	CAPTJACK_5_N504	SMDB_ASR

Scheduling Point (Tie) Names

Current Scheduling Point X-Ref	SCHEDULING POINT (TNAME)	BRANCH_GROUP	GROUP _TYPE	ITC	GROUP_ TYPE	EXP_ MW_ RATING	IMP_ MW_ RATING
CTNWDW_2_CTTNWD	CTW230	CTW230_BG	BG	CTNW230_ITC	ITC	1594	1594
CTNWDW_2_RNDMTN	RDM230	RDM230_BG	BG	RDM230_ITC	ITC	320	320
LAKE_2_GOLDHL	LAKE	RNCHLAKE_BG	BG	RNCHLAKE_ITC	ITC	1271	1271
RANCHO_2_BELOTA	RANCHOSECO						
OAKTID_1_OAKCSF	OAKDALE	OAKDL_BG	BG	OAKDL_ITC	ITC	246	246
LLNL_1_TESLA	LLL115	LLNL_BG	BG	LLNL_ITC	ITC	164	164
NEW	TRCYCOTPISO	COTPISO_MSL	BG	COTPISO_ITC	ITC	33	33
TRACY5_5_COTP	TRCYCOTP	COTP_MSL	BG	COTP_ITC	ITC	1567	1567
TRACY5_5_PGAE	TRCYPGAE	TRACY500_BG	BG	TRACY500_ITC	ITC	4388	4388
TRCYPP_2_TESLA	TESLA230	TRACY230_BG	BG	TRACY230_ITC	ITC	396	396
WESTLY_2_LOSBNS	WESTLYLBNS	WESTLYLBNS_BG	BG	WESTLYLBNS_ITC	ITC	637	637
WESTLY_2_TESLA	WESTLYTSLA	WESTLYTSLA_BG	BG	WESTLYTSLA_ITC	ITC	637	637
STNDFD_1_STNCSF	STANDIFORD	STNDFD_BG	BG	STNDFD_ITC	ITC	306	306
N/A	N/A	TRACYHRDLN_BG	BG	No ITC needed since not a scheduling location.	N/A	73	73

Registering Resource IDs

- When participants register intertie Market Resource ID in the Master File, participant shall identify the IBAA Node or ANode that is associated with the IBAA transaction.
- A Market Resource ID can only be associated with one Node or Anode
- Market Resource ID Registration and Naming Convention:
 - Tname in Market Resource ID will be Tname of the boundary intertie name but the source in the Master File the Market Resource ID is actually linked to Node or ANode where the transaction will be modeled.

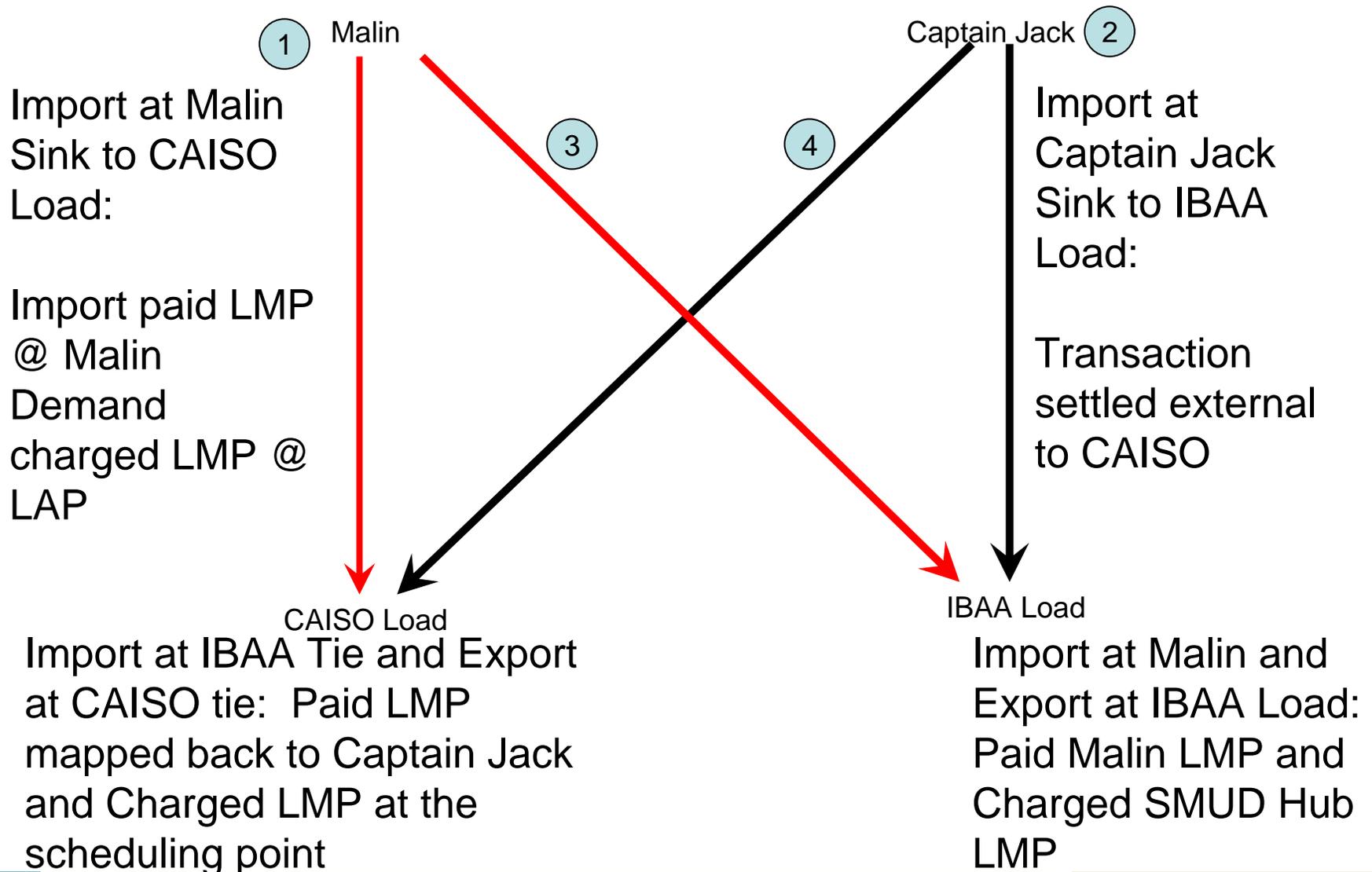
SCID_Tname_I/E_ETYPE_XXXXXX
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JCB1_TRCYPGAE_I_F_000012

Registering Resource IDs for Marginal Losses Adjustment

- Resource IDs need to be established for import schedules to the CAISO Balancing Authority Area at the terminus of the California-Oregon Transmission Project (COTP).
- For the purpose of establishing Schedules that are eligible for Marginal Losses Adjustment, unique Resource IDs can be used to submit Bids and/or Self-Schedules.
- SCs need to certify that these unique Resource IDs will only be used for transactions that use the COTP and pay Western or TANC for losses for the use of the COTP.

Scheduling Scenarios

Imports to Load



QUIZ

- 🌐 If an SC wheels an import at Tracy and exports at Malin, where will this SC be paid and charged?
 - Import side of the wheel will be paid at the Tracy import location mapped back to the Captain Jack price.
 - Export side of the wheel will be charged the LMP at the Malin scheduling point.
- 🌐 If an SC imports at Malin and sinks to a CAISO load, where will this SC be paid and charged?
 - Import will be paid the Malin LMP, and the sink will be charged the LMP at the default LAP where sinked.
- 🌐 How is the Resource ID different for an IBAA Resource versus a CAISO Resource?
 - In general, there is no difference – just a different tie name, unless Resource is registered for Marginal Losses Adjustment

Scheduling and Tagging



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IBAA Scheduling and Tagging – Partial List

MRTU Tie Point	Old Tie Point	Adjacent B/A
CTW230	CTNWDW_2_CTTNWD	SMUD
LAKE	LAKE_2_GOLDHL	SMUD
LLL115	LLNL_1_TESLA	SMUD
OAKDALE	OAKTID_1_OAKCSF	TID
RANCHOSECO	RANCHO_2_BELOTA	SMUD
RDM230	CTNWDW_2_RNDMTN	SMUD
STANDIFORD	STNDFD_1_STNCSF	SMUD
TESLA230	TRCYPP_2_TESLA	SMUD
TRCYCOTP	TRACY5_5_PGAE	SMUD
TRCYCOTPISO**	TRACY5_5_COTP	SMUD
TRCYPGAE	TRACY5_5_PGAE	SMUD
WESTLYLBNS	WESTLY_2_LOSBNS	TID
WESTLYTSLA	WESTLY_2_TESLA	SMUD
**Scheduling point for use of external ISO Transmission rights, not a physical tie.		

Reference:

www.caiso.com/

-Operations Center
 --Markets
 ---Interchange
 Scheduling and Tagging

Misc. Info. Field:

MRTU Tagging Requires
 3 Elements to validate:

-Contract Ref Number
 -Energy Type
 -Resource ID from MF

IBAA Scheduling and Tagging

- 🌐 SCs must provide the correct Market Award information in the “Misc. Info.” field of the Physical Path on the e-Tag to allow the ISO Interchange Transaction System to validate Interchange requests against Market reservations.
- 🌐 Include a Contract Reference Number (CRN) for Existing Transmission Contracts (ETCs), Transmission Ownership Rights (TORs) or Converted Rights (CVRs), otherwise specify NONE.
- 🌐 Include Energy Product Type. One tag per product unless dynamic.
- 🌐 If dynamic, then place the total MW value of all Market Awards in the Transmission Profile, and your Energy award MW value in the Energy Profile of the NERC e-Tag.

IBAA Scheduling and Tagging

MRTU e-tagging References:

- 🌐 The MRTU NERC e-Tagging Templates for tagging Interchange Awards with the ISO may be found at: [www.caiso.com](http://www.caiso.com/Operations%20Center/Markets/Interchange%20Scheduling%20and%20Tagging/MRTU%20Interchange%20Scheduling%20and%20Tagging) / Operations Center / Markets / Interchange Scheduling and Tagging / MRTU Interchange Scheduling and Tagging or by using the following link: <http://www.caiso.com/2098/20987dd9fe40.xls>.
- 🌐 The MRTU Market Data requirements and Business Rules for ISO e-Tagging are located at <http://www.caiso.com/2098/20987ca75020.pdf>.
- 🌐 The ISO's NERC e-Tagging requirements are located in Operating Procedure S-313 NERC Tagging Requirements. The ISO BPM for Market Operations, section 6.3.2 also includes an MRTU e-Tagging reference. <http://www.caiso.com/17e9/17e9d7742f400.html>.

Locating Prices



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Locating the Prices

- Prices may be found in CMRI and OASIS
- Compare Inter-tie Name with the C-Node Mapping Document (from Slide 8)

TRCYPGAE = CAPTJACK_5_N505 (OASIS)

ITC	TNAME	OASIS NODE ID (IMPORT)	OASIS APN OR NODE ID (EXPORT)
TRACY500_ITC	TRCYPGAE	CAPTJACK_5_N505	SMDA_ASR

Locating Prices in OASIS

California ISO OASIS Atlas Prices Transmission System Demand

Report: Locational Marginal Prices (LMP) Market: DAM Node: CAPTJACK_5_N505
 Group: SELECT NODE

Date From: 02/04/2009 To: 02/04/2009

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Locational Marginal Prices (LMP)

DAM	HE01	HE02	HE03	HE04	HE05	HE06	HE07	HE08	HE09
02/04/2009									
CAPTJACK 5 N505									
LMP	50.00847	46.93514	40.41682	42.47393	43.32130	43.74778	49.43947	50.01432	50.01455
Congestion	7.05245	7.15646	4.14402	5.48952	5.10761	4.65709	2.96331	2.08338	1.40155
Energy	42.36712	39.13298	35.63843	36.31263	37.66751	38.60428	46.17601	47.72097	48.48693
Loss	0.58890	0.64569	0.63436	0.67178	0.54618	0.48641	0.30014	0.20997	0.12607

Trade Date: 2/04/09

HE1 LMP: 50.01

MCC: 7.05

MCE: 42.37

MCL: 0.59

Comparing Prices between OASIS and CMRI

Day-Ahead Import-Export Commodity Prices

Start Date: 02/04/2009
End Date: 02/04/2009

Resource: [Empty]
Scheduling Point: IPP, MEAD230, SYLMAR, SILVERPEAK55, GONIPP
Direction: Import, Export
Energy Type: Firm Energy, Non-Firm Energy, Dynamic Interchange, Wheeling, Unit Contingent
Product: Energy, A/S Non-Spinning, A/S Spinning, RUC
Price Type: LMP, Congestion, Energy, Loss, ASMP

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TOC First Prev Next Last Goto Page 1 of 2 100% Search Download Excel Print

Day-Ahead Import-Export Commodity Prices for 02/04/2009

Scheduling Coordinator:

Resource	Scheduling Point	Direction	Energy Type	Product	Price Type	HE01	HE02	HE03	HE04
						[\$]	[\$]	[\$]	[\$]
_TRCYPGAE_J_F_	TRCYPGAE	Import	Firm Energy	Energy	LMP	50.01	46.94	40.42	42.47
_TRCYPGAE_J_F_	TRCYPGAE	Import	Firm Energy	Energy	Congestion	7.05	7.16	4.14	5.49
_TRCYPGAE_J_F_	TRCYPGAE	Import	Firm Energy	Energy	Energy	42.37	39.13	35.64	36.31
_TRCYPGAE_J_F_	TRCYPGAE	Import	Firm Energy	Energy	Loss	0.59	0.65	0.63	0.67

Trade Date: 2/04/09

HE1 LMP: 50.01

MCC: 7.05

MCE: 42.37

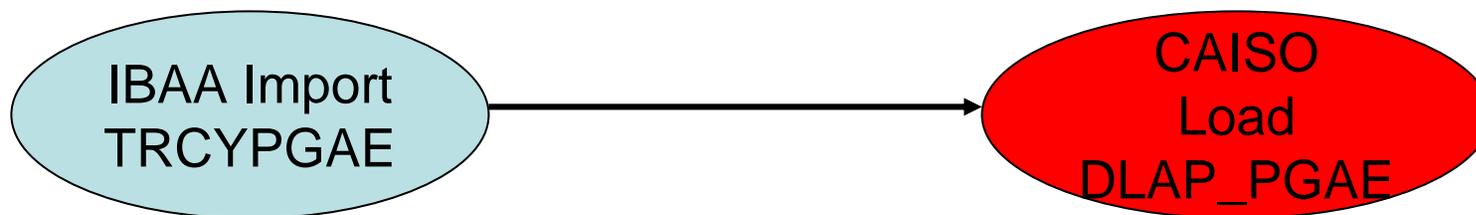
MCL: 0.59

Validating Prices

- 🌐 In general, any import scheduled on one of the IBAA ties will be paid the LMP mapped back to Captain Jack.
- 🌐 In general, any exports scheduled on one of the IBAA ties will be charged the SMUD Hub price.
- 🌐 Price differentials are the result of either:
 - A scheduling constraint at a particular tie or
 - A Marginal Losses Adjustment
- 🌐 Scheduling constraints may be validated in OASIS
 - Transmission Tab
 - Transmission Interface Usage

Using ETC/TOR/CVRs

*Note: For simplicity, no losses are illustrated in this example



Schedule: 100MW

Import LMP = \$45.00
SMEC = 42.00
MCL = 0.00
MCC = 3.00

Initial Calculation:

$-1(100) \times \$45 = (\$4500)$

ETC/TOR/CVR Calculation:

MCC (Sink) – MCC (Source) x Schedule
 $(8.00 - 3.00) \times 100 = (\$500)$

SC is paid $(\$4500) + (\$500) = (\$5000)$

SC is charged \$5000

Net = \$0

Schedule: -100MW

DLAP LMP = \$50.00
SMEC = 42.00
MCL = 0.00
MCC = 8.00

Initial Calculation:

$-1(-100) \times \$50 = \5000

Putting it all together

- 🌐 Verify your Resources in the Master File
- 🌐 Master File changes prior to Go Live will not be accepted after February 27

REMINDERS

- 🌐 Import bids requires a monotonically INCREASING bid curve
- 🌐 Export bids require a monotonically DECREASING bid curve
- 🌐 Bids and schedules are received through SIBR
- 🌐 Day-Ahead Market results may be retrieved through CMRI
- 🌐 Real-time dispatches will be done in the HASP
- 🌐 Pricing may be found in CMRI and OASIS

Wrapping It Up...

- 🌐 Imports and Exports are scheduled just like any other transaction at a scheduling point.
- 🌐 In general, imports to the CAISO Control Area using IBAA scheduling points will be paid the import price based on a mapping to the Captain Jack substation.
- 🌐 In general, exports from the CAISO Control Area will be charged the SMUD Hub Price.
- 🌐 Marginal Losses Adjustments may affect the LMP for SCs that use COTP and pay losses to Western or TANC
- 🌐 Scheduling constraints at the IBAA ties may affect the LMP for transactions at that IBAA tie location
- 🌐 Scheduling constraints may be validated under the Transmission tab on OASIS





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Date of Conference:	TUESDAY, FEBRUARY 24, 2009 9:00 AM PACIFIC

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15.	HESS, STEPHEN	EDISON MISSION	949 798-7833
16.	HOPKINS, LISA	POWEREX	604 891-6048
17.	JONES, ROSEMARY	WESTERN	916 353-4533
18.	JUNG, GIFFORD	POWEREX	604 891-6040
19.	LAM, JEFF	POWEREX	604 891-6020
20.	LAWSON, GARY	SMUD	916 732-5802
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26.	MOORE, MAT	ACES MARKETING	317 272-7048
27.	MUM, CHRIS	CONSTELLATION	503 552-6162
28.	SCANLAN, PAUL	SMUD	916 732-5602
29.	SCHWARZ, GREG	SMUD	916 732-6849
30.	SHEA, KAREN	SCE	626 302-9560
31.	SMITH, CHRIS	SMUD	916 732-5926

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35.	YAZDI, ALI	POWEREX	604 891-5004

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Sign-in Sheet

TRAINING:	Integrated Balancing Authority Area (IBAA)		
DATE:	February 24, 2009	TIME:	9:00 a.m. – 12:30 p.m.
HOST:	Keoni Almeida	LOCATION:	North & South Lake Tahoe Conf Room
Facilitator:	Keoni Almeida	Arranger:	Mitzi Guthrie

ATTENDEES: Please sign-in below.

Name	Company	Phone	Email	Sign In
Altenhoff, Dirk	OATI	612-360-1641	dirka@oati.net	<i>Dirk Altenhoff</i>
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Brehm, Greg	Robertson-Bryan	916-405-8909	greg@robertson-bryan.com	
Burk, Deane	CDWR	916-574-1364	dburk@water.ca.gov	<i>Deane Burk</i>
Burk, Deane	CDWR	916-574-1364	dburk@water.ca.gov	
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Downey, Mark	Redding Electric	530-245-7047	mdowney@reupower.com	<i>Mark Downey</i>
Edwards, Gloria	Western			<i>Gloria Edwards</i>
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Rahman, Brian	ZGlobal	916-221-0532	brian@zglobal.biz	<i>Brian Rahman</i>
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Tyler, Maria	Western			<i>Maria Tyler</i>
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Wardell, Michael	RSVL	916-774-5622	mwardell@roseville.ca.us	<i>Michael Wardell</i>
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Whitney, Michael	NCPA	916-781-4205	Mike.whitney@ncpa.com	<i>Mike Whitney</i>
Wilson, Heather	SMUD	916-732-6715	hwilson@smud.org	<i>Heather Wilson</i>

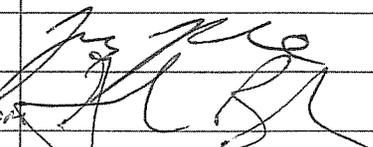
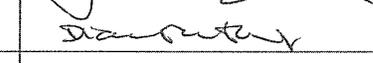
Name	Company	Phone	Email	Sign In
Young, Fred	NCPA	916-781-4284	Fred.young@ncpa.com	
Zimmer, Tony	NCPA	916-781-4229	Tony.zimmer@ncpa.com	
Becher, Graham	ACES	317-344-7264	gbecher@acespower.com	
Diane Tran	LS Power	408 315 2037	dtran@lspower.com	Diane Tran
MARLENE MTA	Calpine		smithm@calpine.com	
Michael Krane	SCE	626-302-7455	Michael.Krane@sce.com	
EDWIN TSO	SCE	626-302-9712	EDWIN.TSO@sce.com	TSC
Karen Shea	SCE		Karen.Shea@sce.com	

Exhibit 2



IBAA Training Addendum - Examples

J. Buglino, Senior Client Trainer

March 17, 2009

Disclaimer

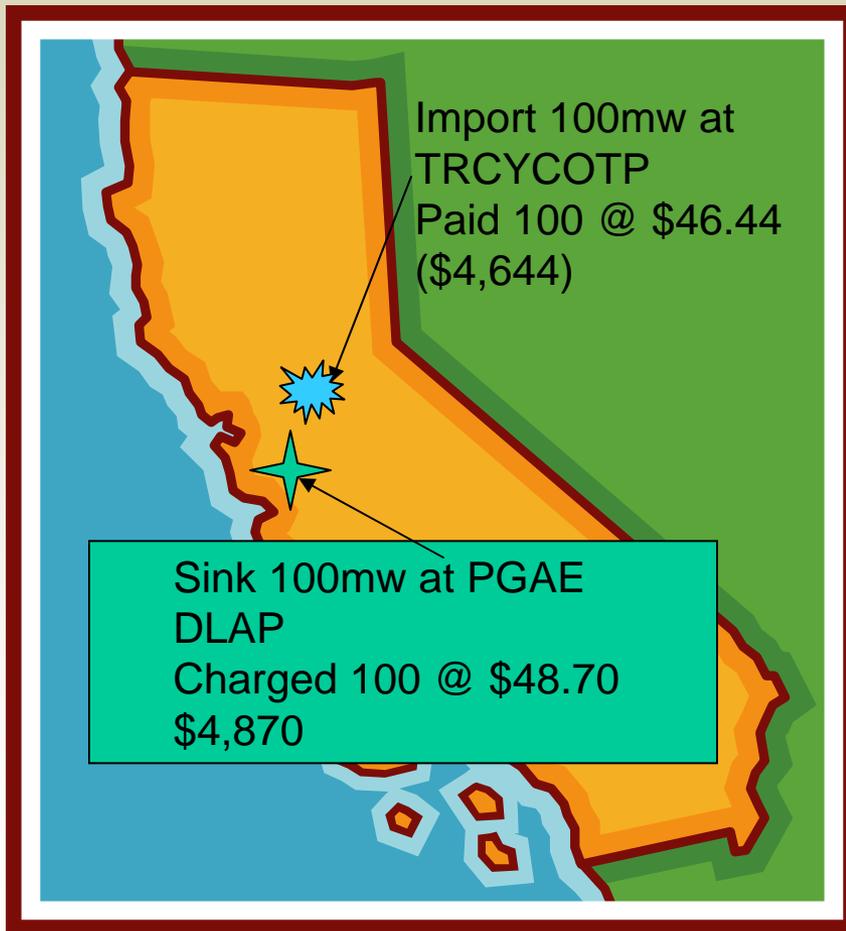
- All the LMP values and the MW values are for illustrative purposes only.
- Actual schedules and LMPs will be based on actual bids from Scheduling Coordinators and will be determined by the Market Software.
- Prices were located on OASIS using Trade Date February 11, 2009 for HE 18
- Congestion component used for Scheduling Constraint example is for illustrative purposes only.

Price Divergence

- Price divergence between the LMPs mapped back to Captain Jack at the IBAA ties for imports or for the IBAA tie locations within the SMUD Hub will occur:
 - When a net scheduling constraint is binding at a specific IBAA tie location. The import and export prices will reflect the cost of congestion resulting from the scheduling constraint.
 - When a resource is registered to receive a Marginal Losses Adjustment because the import uses the COTP and Western or TANC has charged that import for losses associated with the use of the COTP. This specific LMP will not be posted to OASIS. The calculation of the Marginal Losses Adjustment will be reflected on the Settlements Statement for certified resources.

Example 1

Import on IBAA Tie (TRCYCOTP) / Sink at PGAE DLAP



LMP at CAPTJACK_5_N015
(TRCYCOTP) = \$46.44
MCE = \$46.69
MCC = \$ 0.54
MCL = \$- 0.79
(Example does not include
marginal loss adjustment as
shown in later examples.)

LMP at PGAE DLAP = \$48.70
MCE = \$46.69
MCC = \$ 0.13
MCL = \$ 1.88

Example 2 – Scheduling Constraint for (1) Import on IBAA Tie with Sink to PG&E-DLAP, and (2) Export on IBAA Tie (TRCYCOTPIISO)



For the TRCYCOTPIISO IBAA Tie, the net of the import and export schedules may not exceed 33mw in the import direction. Schedules will be adjusted so that the net schedule at this location will not exceed the scheduling constraint.

The LMP in the import and export directions will reflect congestion resulting from the scheduling constraint.

(Schedules (1) and (2) are unrelated transactions by different SCs.)

Example 2A

Import on IBAA Tie (TRCYCOTPIISO) with Sink at PGAE-DLAP /
Export at IBAA Tie TRCYCOTPIISO with No Scheduling Constraint

Schedule (1):

LMP at CAPTJACK_5_N512

(TRCYCOTPIISO) = \$46.44

MCE = \$46.69

MCC = \$ 0.54

MCL = \$ -0.79

Schedule (2):

LMP at SMDH_ASR (TRCYCOTPIISO)

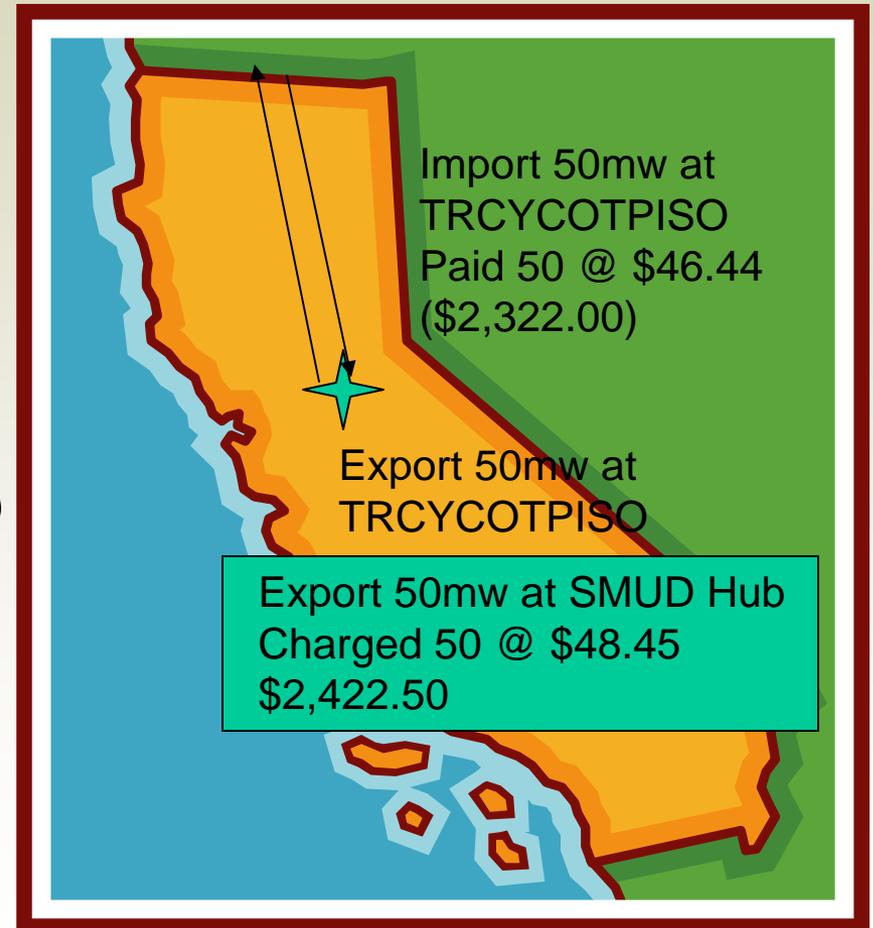
SMUD HUB = \$48.45

MCE = \$46.69

MCC = \$ 0.54

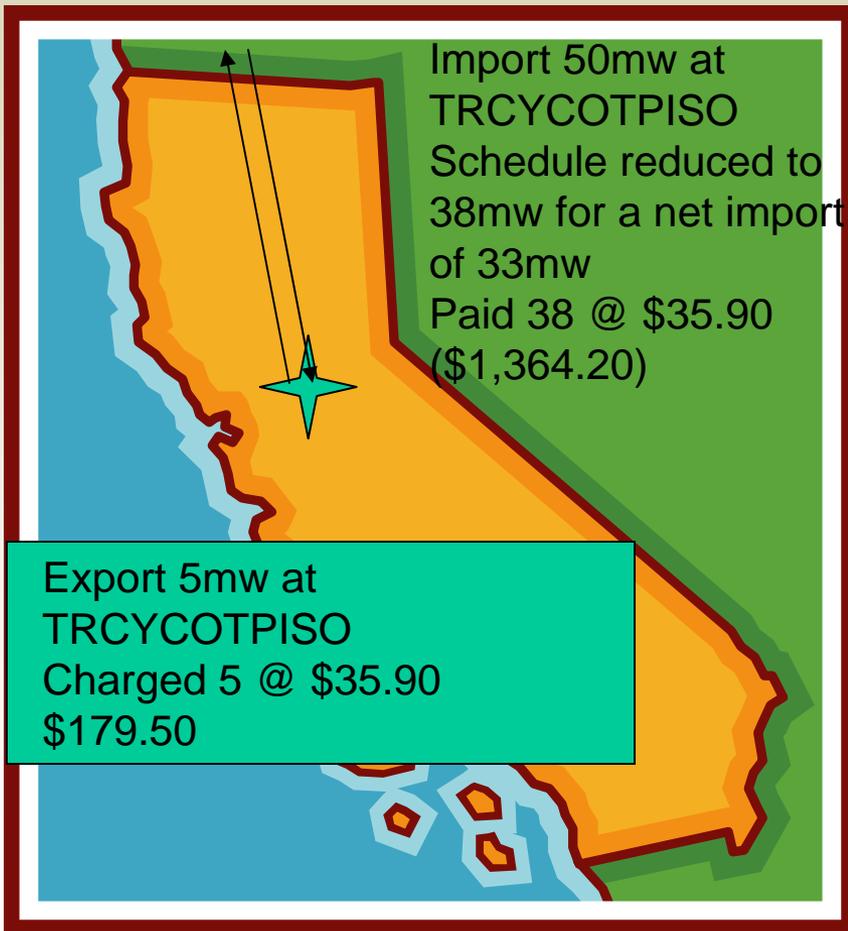
MCL = \$ 1.22

Import of 50mw and Export of 50mw
result in a net schedule of Zero (0)



Example 2B –

Import on IBAA Tie (TRCYCOTPIISO) with Sink at PGAE-DLAP /
Export on IBAA Tie (TRCYCOTPIISO) with Binding Scheduling Constraint



Schedule (1):

LMP at CAPTJACK_5_N015

(TRCYCOTPIISO) = \$35.90

MCE = \$46.69

MCC = -\$10.00

MCL = \$- 0.79

Schedule (2):

LMP at SMDH_ASR

(TRCYCOTPIISO)

SMUD HUB = \$35.90

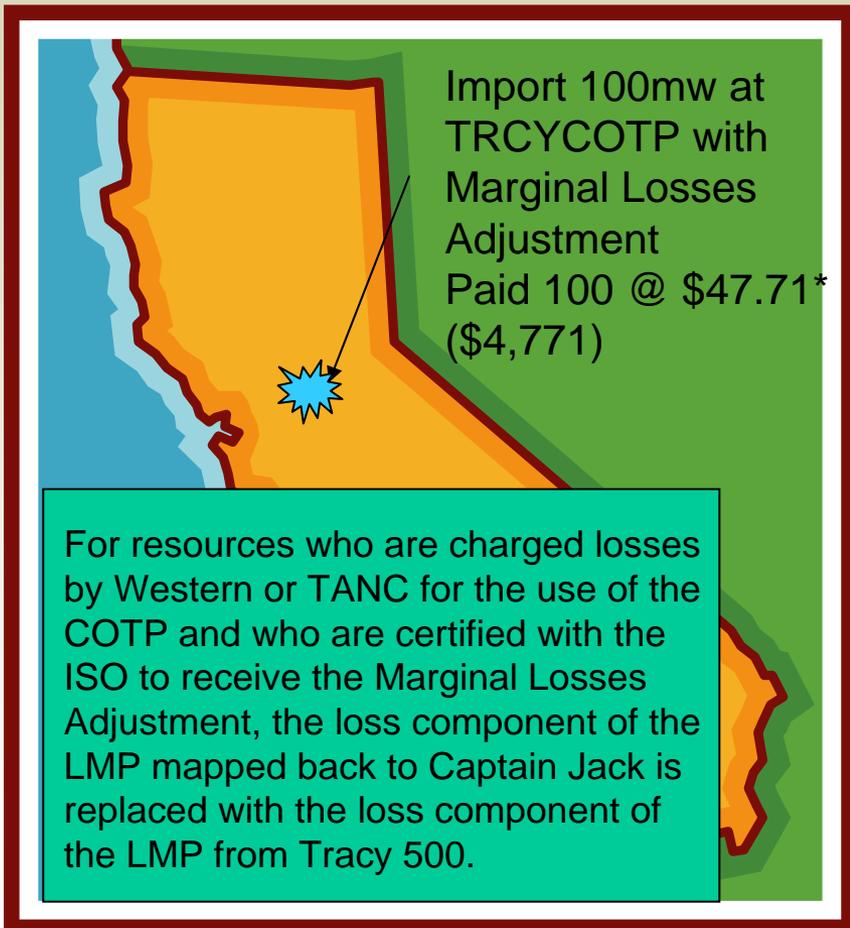
MCE = \$46.69

MCC = -\$12.67

MCL = \$ 1.88

Congestion will be reflected in both the import and export directions.

Example 3 – Resource ID Certified for Marginal Losses Adjustment Import on IBAA Tie (TRCYCOTP)



LMP at CAPTJACK_5_N015
(TRCYCOTP) = \$46.44
MCE = \$46.69
MCC = \$ 0.54
MCL = \$- 0.79

Original loss component mapped back to Capt Jack

LMP at TRACY_5_N047
(TRACY 500) = \$47.70
MCE = \$46.69
MCC = \$ 0.54
MCL = \$ 0.48

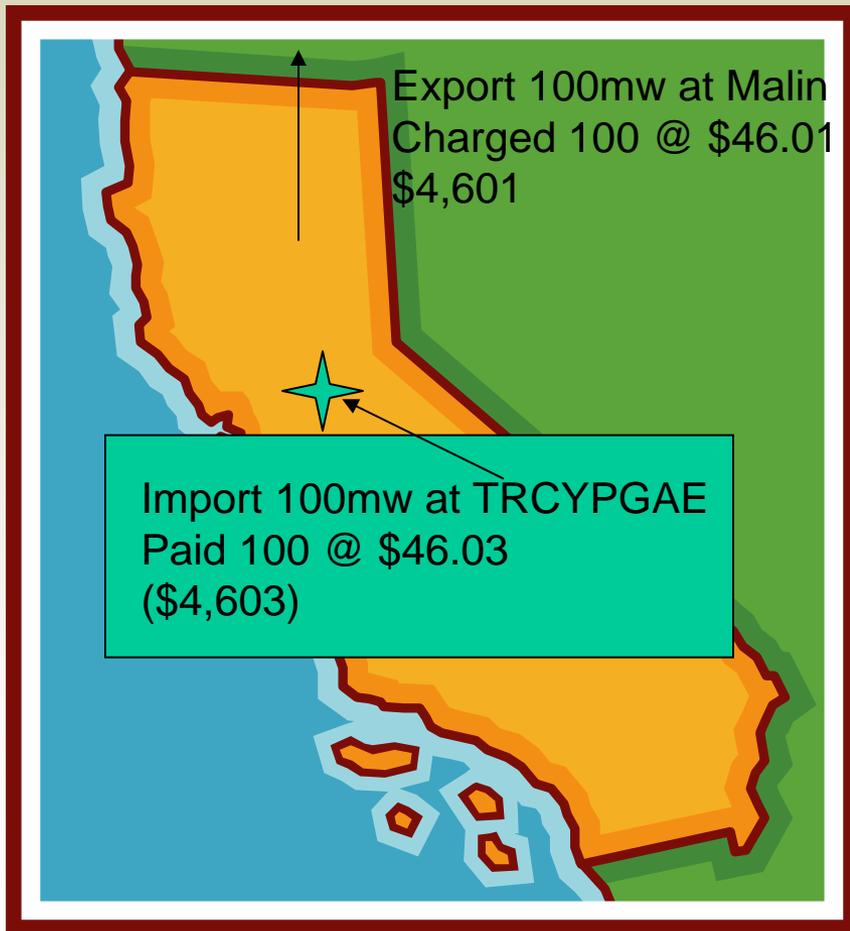
Tracy 500 loss component

LMP Used for Marginal Losses Adjustment
(TRCYCOTP) = \$47.71*
MCE = \$46.69
MCC = \$ 0.54
MCL = \$ 0.48

*The LMP upon which this transaction is settled, will not be posted to OASIS.

Example 4

Import on IBAA Tie (TRCYPGAE) / Export at Malin



LMP at Malin =	\$46.01
MCE =	\$46.69
MCC =	\$ 0.13
MCL =	\$ -0.81

LMP at CAPTJACK_5_N505 (TRCYPGAE) =	\$46.03
MCE =	\$46.69
MCC =	\$ 0.13
MCL =	\$- 0.79

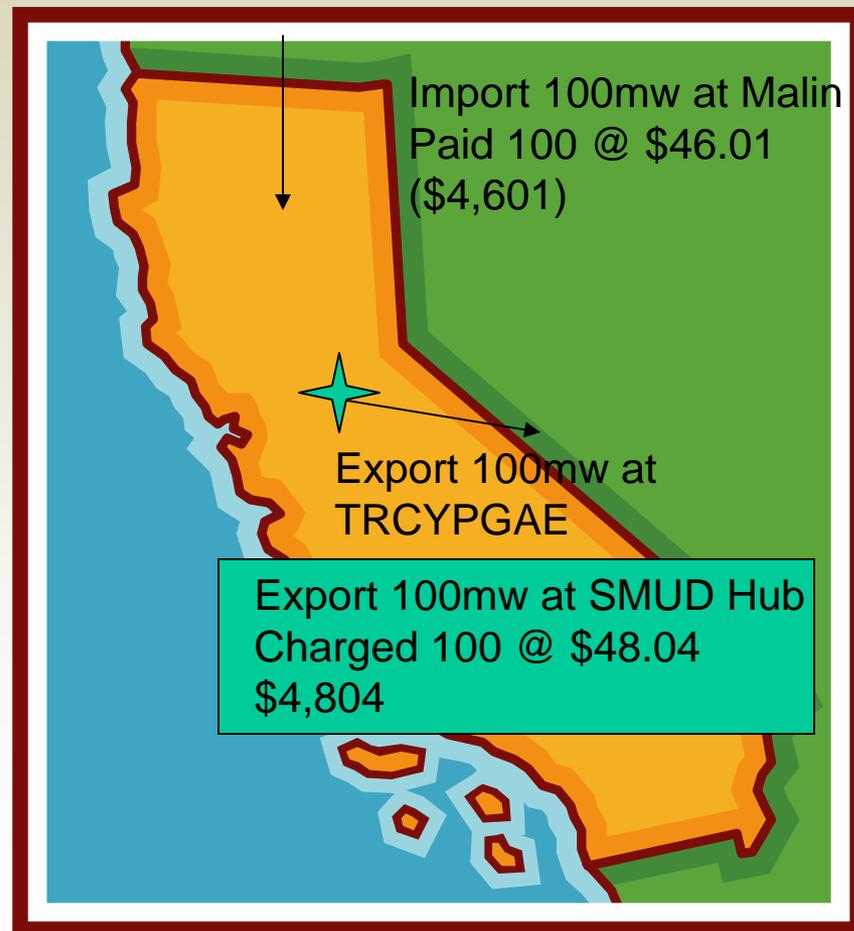
Example 5

Import at Malin – Export at IBAA Tie (TRCYPGAE)

LMP at Malin =	\$46.01
MCE =	\$46.69
MCC =	\$ 0.13
MCL =	\$ -0.81

LMP at SMDA_ASR (TRCYPGAE)

SMUD HUB =	\$48.04
MCE =	\$46.69
MCC =	\$ 0.13
MCL =	\$ 1.22

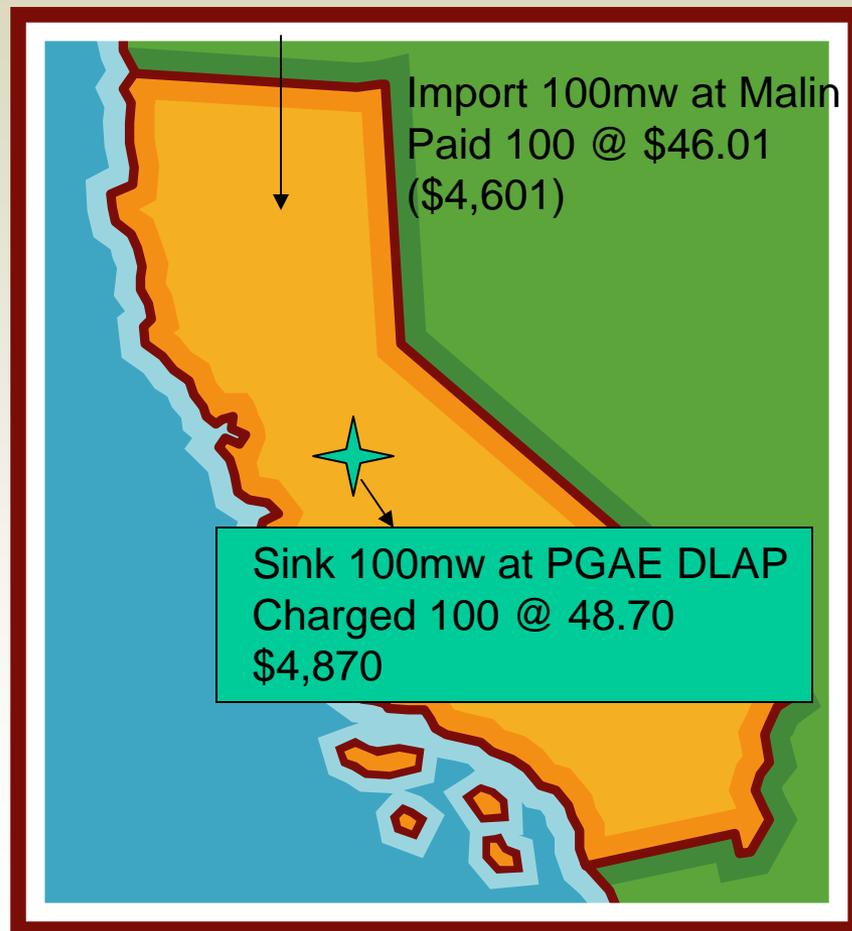


Example 6

Import at Malin – Sink at PGAE DLAP

LMP at Malin = \$46.01
MCE = \$46.69
MCC = \$ 0.13
MCL = \$ -0.81

LMP at PGAE DLAP = \$48.70
MCE = \$46.69
MCC = \$ 0.13
MCL = \$ 1.88



End of Presentation

Thank You!!



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Company Name:	CALIFORNIA ISO
Host's Name:	JIM BLATCHFORD
Name of Conference:	THE I B A A TRAINING CONFERENCE CALL
Date of Conference:	THURSDAY, MARCH 19, 2009 1:00 PM PACIFIC

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10.	HART, ROSEMARY	SMUD	916 732-7135
11.	HOLCOMB, DENNIS	SMUD	916 732-5102
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23.	PERRY, JOHN	TID	209 883-8602
24.	REITER, HARVEY	SACRAMENTO MUNICIPAL	202 728-3016
25.	RESCHKE, JAMES	ND ENERGY	702 402-5124
26.	ROMAN, EDWARD	SMUD	916 732-5667
27.	SCANLAN, PAUL	SACRAMENTO MUNICIPAL	916 732-5602
28.	SCHWARZ, GREG	SMUD	916 732-6849
29.	SHASA, MASOUD	WESTERN	916 353-4432
30.	SHERMAN, PAUL	SHERMAN CONSULTING	916 630-7073
31.	SIGLER, LISA	ACES	317 344-7245

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35.	WHITNEY, MIKE	NCPA	916 781-4205
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In order to expedite the assembly of your call, some names may have been spelled phonetically.

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