

SE-110: Transmission Rights Market

Information Webinar
April 29th, 2013



- To provide background information on the Transmission Rights Market
- Specifically aimed at stakeholders who desire more information to enable them to participate in SE-110

- Background on the Transmission Rights Market
- TR Clearing Account history
- Design of SE-110 and Scope of Phase 1
- Next Steps

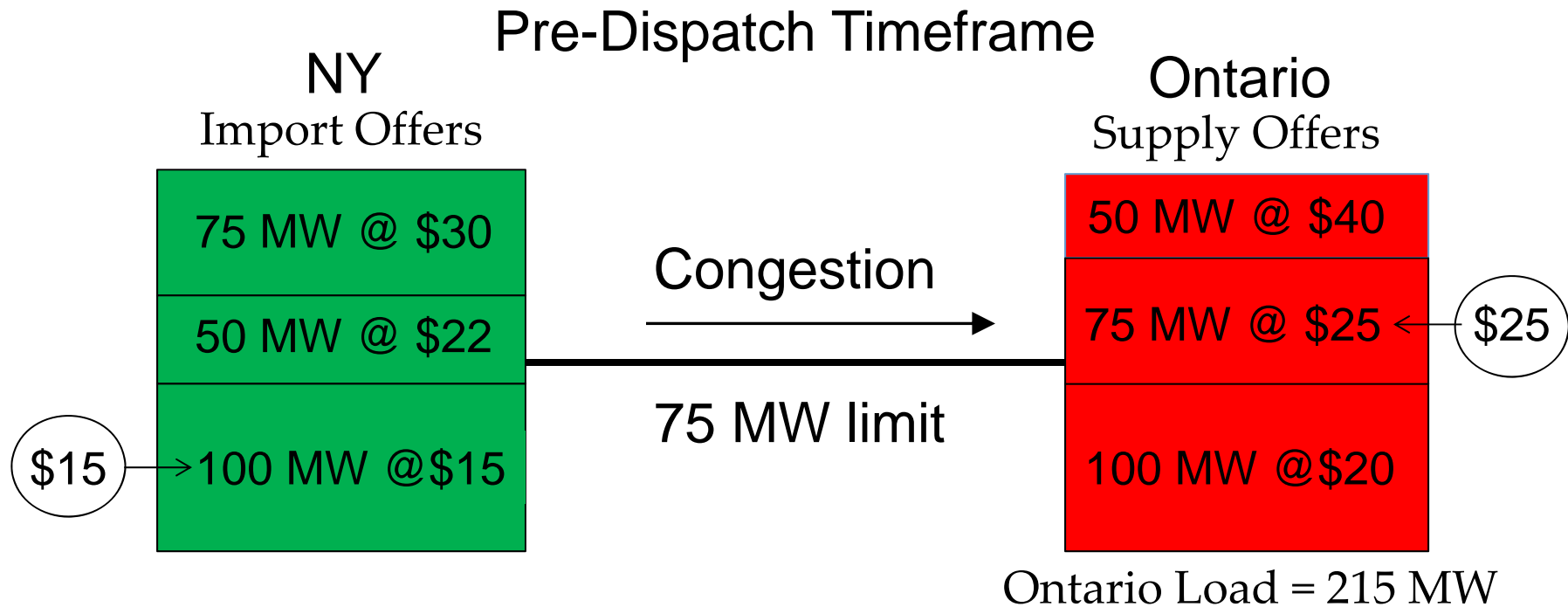
What are Transmission Rights?

- Transmission Rights:
 - Financial instruments, auctioned by the IESO for speculation or as a hedge against intertie congestion costs (intertie congestion costs can cause traders to be paid less or be charged more for energy)
 - TRs entitle holders to a revenue stream based on real-time price differences between an Intertie Zone and Ontario
 - TRs are paid in full to holders of TRs, regardless of the physical energy traded
- Transmission Rights *do not*:
 - Guarantee the physical transmission service or affect the scheduling of transactions

What are Congestion Rents? Pricing in the Intertie Zones

- Imports and Exports are:
 - scheduled an hour ahead in the pre-dispatch timeframe
 - settled at the applicable real-time intertie zone price which is the intertie congestion price (ICP) based on the last pre-dispatch before the start of the hour, plus each 5-minute real-time price in Ontario (MCP)
- Exports are charged the price in the zone through which they are exporting
- Imports are paid the price in the zone through which they are importing

What are Congestion Rents? Example

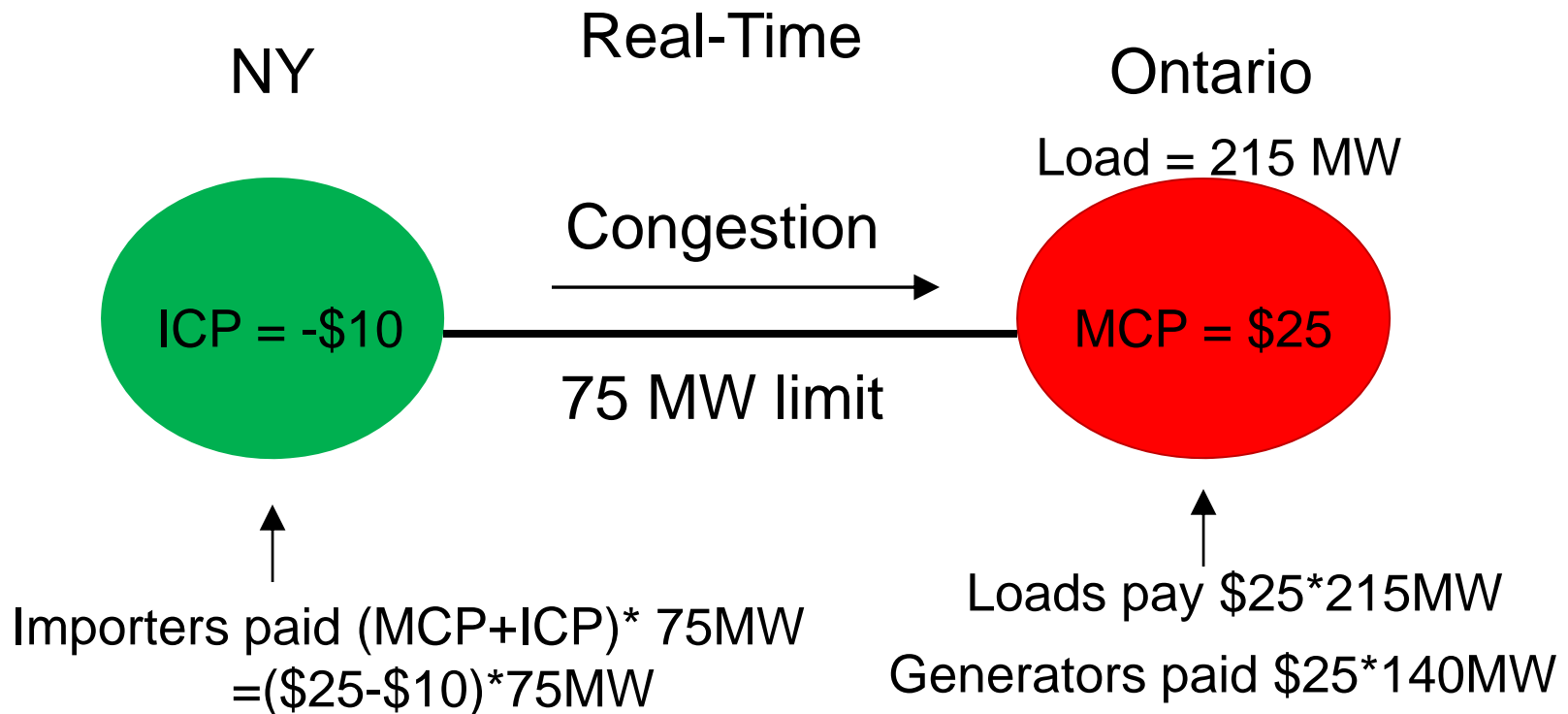


Price in the zone is determined by the cost of satisfying an additional increment of demand in the zone (1 more MW) using energy from either an intertie zone transaction or a transaction in the Ontario zone, whichever is most economic

What are Congestion Rents? Example (cont.)

- The pre-dispatch Intertie Zone Clearing Price in the example is used to determine the Intertie Congestion Price:
 - Pre-dispatch timeframe Ontario Price = \$25
 - Pre-dispatch timeframe Intertie Zone Clearing Price = \$15
 - ICP = Intertie Zone Clearing Price – Ontario Price
= -\$10
- A negative ICP indicates import congestion
- A positive ICP indicates export congestion

What are Congestion Rents? Example (cont.)



IESO charges Load = \$5375

IESO pays Suppliers (Generators & Importers) = \$3500 + \$1125 = \$4625

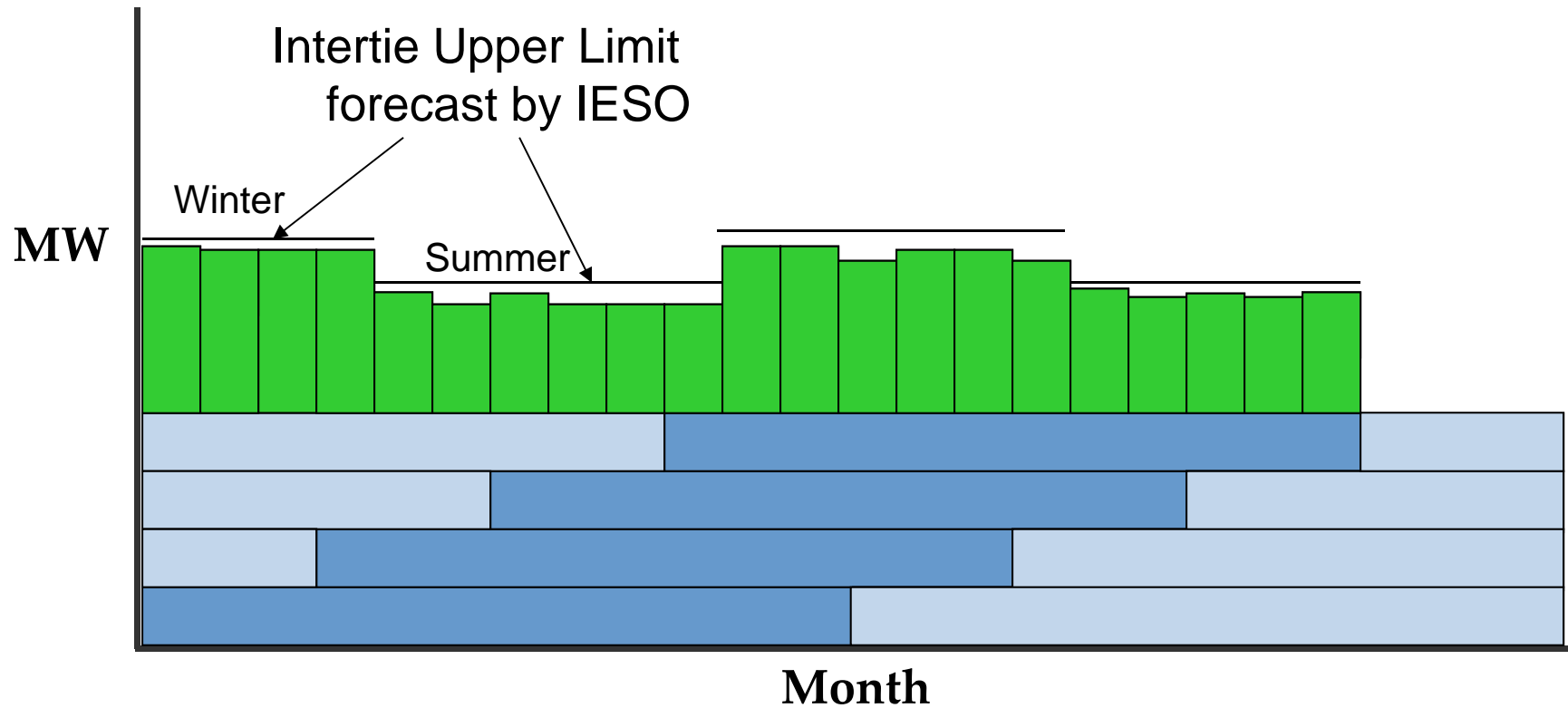
$\$ \Delta = \text{Congestion Rents} = \750

- TR Base Quantity
 - The minimum number of TRs offered on a path
 - Based on the transfer capability of an intertie reduced by applicable margins
 - Based on a “confidence level” set to ensure that an intended balance between TR payments and congestion rent collection is achieved
 - Currently the number of TRs for sale increases or decreases based on a set “stabilization algorithm” which is intended to achieve a confidence level set by the Board

- Auctions are held quarterly and consist of two rounds
- Ownership starts at the beginning of the following quarter
- Ownership is valid for 12 months
- In each quarterly auction, the IESO offers approximately 25% of the long term capability of the intertie (25% of the TR Base Quantity or available transfer capability, whichever is lower)
- Of the quantity of long-term TRs offered in each quarterly auction, one-quarter is offered in round 1 with the remainder offered in round 2

- Any rights available in a month in addition to the long-term TRs, as well as rights unsold in a long-term auction, are auctioned as short-term TRs
- Auctions are held monthly and consist of one round (note that the market rules Ch. 8 sec 4.11.3 allows for the possibility of 1 month TRs to be offered at the quarterly long-term auctions)
- Ownership starts at the beginning of the following month
- Ownership is valid for one month

Long and Short Term TRs



- Short Term Rights
- Long Term Rights

Within the existing Rules the Board:

- Establishes the confidence factor, currently reflective through the stabilization plan (Ch. 8 – 4.7.1)
- Can order the disbursement of funds from the TR Clearing Account to transmission customers (loads) (Ch. 8 - 4.18.2)
- Establishes the Clearing Account reserve threshold, currently at \$20M (Ch. 8 – 4.18.3)

- Effective March 2004, the Board agreed to stabilize the increase in the TR Clearing Account and to return the surplus to the TR market by adjusting the volume of TRs sold via the following stabilization algorithm:

Acct Balance	Net TR Revenues for last 3 months	Monthly TR volume
> Threshold	Positive	Increase by 4%
> Threshold	Negative	Stay the same
< Threshold	Positive	Stay the same
< Threshold	Negative	Decrease by 4%

- Under this confidence level, auction revenues that had previously been available for disbursement to transmission customers to offset transmission service charges can be used to facilitate the sale of more TRs

- An increase in the number of TRs sold was intended to lead to:
 - increased hedged trades, which in turn would lead to more competition and more imports
 - increased reliability as a result of more imports
 - increased participation and competition in the TR market
- The IESO Board anticipated that the benefits of selling an increased number of TRs would more than offset the benefit of the transmission service offset that Ontario loads would otherwise have obtained.

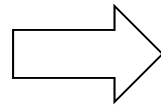
- 12 of the 17 paths are subject to a potential increase or decrease in TRs each quarter as a result of the stabilization algorithm.
- Between April 2004 and December 2012 the amount of TRs sold on certain paths has increased 25 times by 4% increments.
- Many paths have the potential for TRs to be sold at 100% of the available transfer capability.

TR Path Information (cont.)

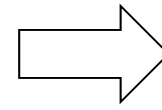
Path	Path Type	TTC (MW) w/ All Element I/S				TR Base Quantity Considerations			TR Base Quantities (MW)				MW Increment
		Import		Export		Element O/S	Radial	SMO	Import		Export		
		Summer	Winter	Summer	Winter				Summer	Winter	Summer	Winter	
Michigan	multi circuit	1600	1650	1900	1910	L4D	no	no	850	900	1080	1000	34
New York	multi circuit	1600	1850	2000	2100	PA301	no	no	700	940	800	900	28
PQAT	multi circuit	1250	1250	1250	1250	GC1	no	no	615	615	615	615	25
Manitoba	multi circuit	288	300	288	300	K22W	no	no	150	177	150	177	6
PQBEAU	multi circuit	800	800	420	470	B5D	yes	yes	390	390	-	-	16
PQP33C	single circuit	270	345	0	0	Breaker	yes	no	190	190	-	-	8
PQD5A	single circuit	250	250	200	200	Breaker	yes	no	110	110	115	115	4
Minnesota	single circuit	100	100	150	150	-	no	no	80	80	130	130	0
PQD4Z	single circuit	65	85	0	0	-	yes	no	36	75	-	-	0
PQH4Z	single circuit	0	0	95	110	-	yes	no	-	-	65	65	0
PQX2Y	single circuit	65	65	0	0	-	yes	no	45	45	-	-	0
PQQ4C	single circuit	88	88	32	52	-	yes	yes	-	-	-	-	0
PQH9A	single circuit	120	176	60	60	-	yes	no	-	-	-	-	0

Excerpt: market manual 4.4, appendix C.3, table C-1

Auction
Revenues

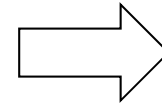
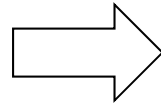


Transmission
Rights
Clearing
Account



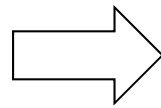
TR Payments

Congestion
Rents



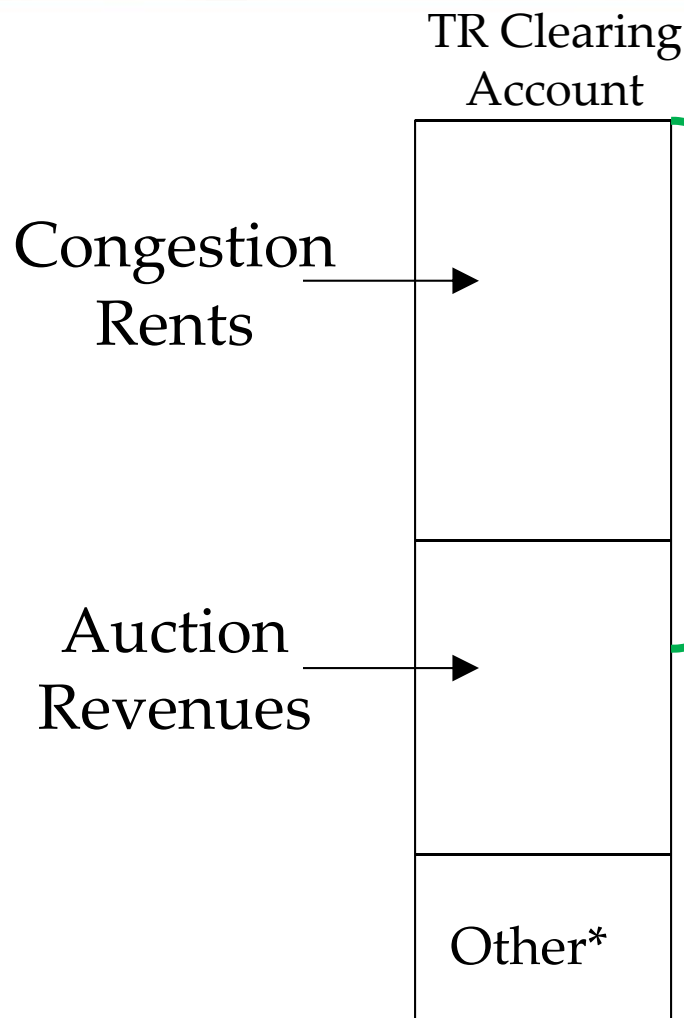
Payments to
Transmission
Customers,
Ch 8, sec
4.18.2

Other*



*interest and revocation

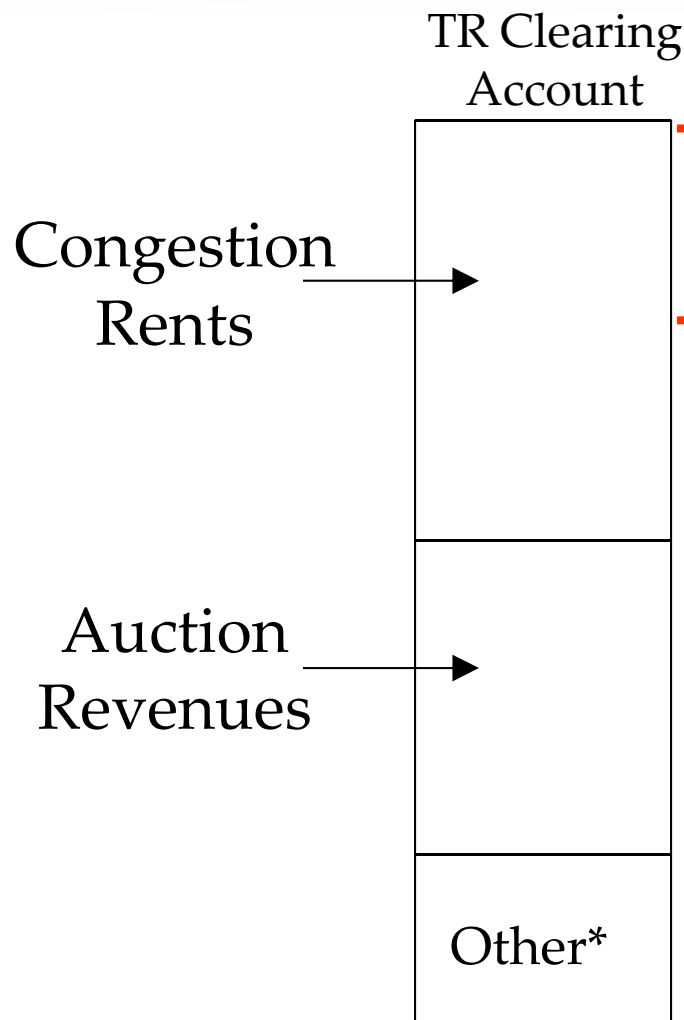
Examples of TR Market Operation



TR Payments \geq Congestion Rents

- When the MW flowing is less than MWs of rights sold
- Currently most frequent monthly result
- Must use Auction Revenues to cover TR Payments
- Resulting from selling more rights, unscheduled loopflow, internal congestion, failed transactions and/or interface reductions

*interest and revocation

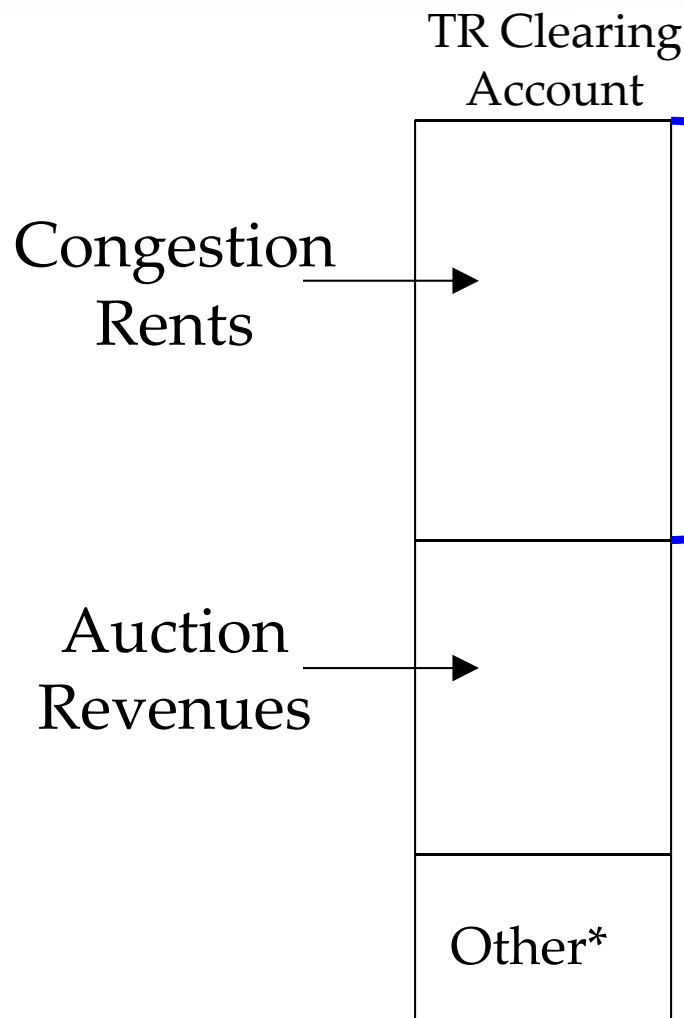


TR Payments < Congestion Rents

- When the MW flowing is greater than MWs of rights sold
- Occurred often prior to the stabilization formula (and increase in rights)
- Account surplus increases
- Results from a higher transmission capability relative to the planned capability at the time of auction or a more conservative confidence level

*interest and revocation

Examples for TR Market Operation

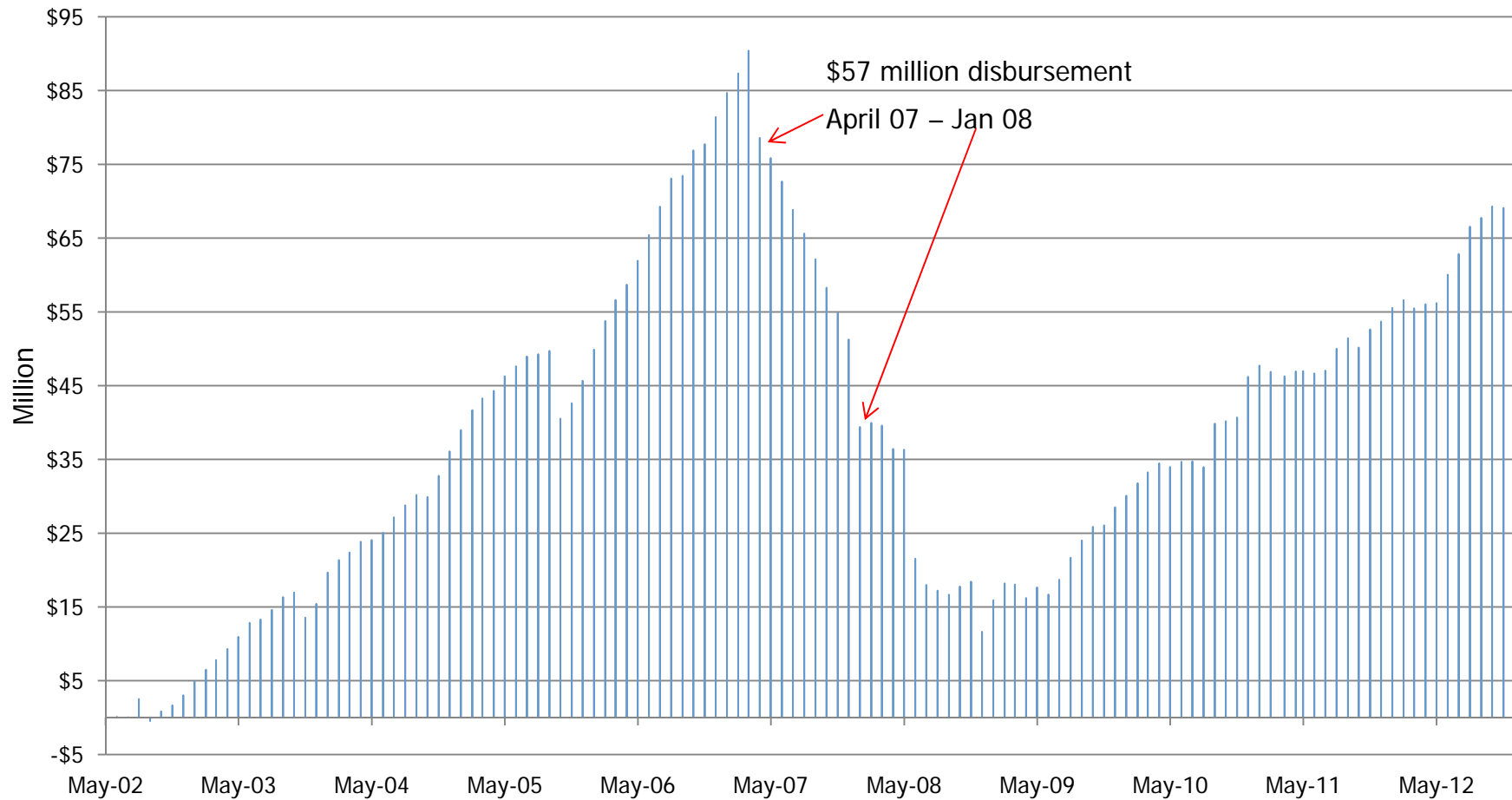


TR Payments = Congestion Rents

- When the MW flowing is equal to the MWs of rights sold
- MSP recommendation with optimum outcomes
- Auction Revenues would be available for disbursements

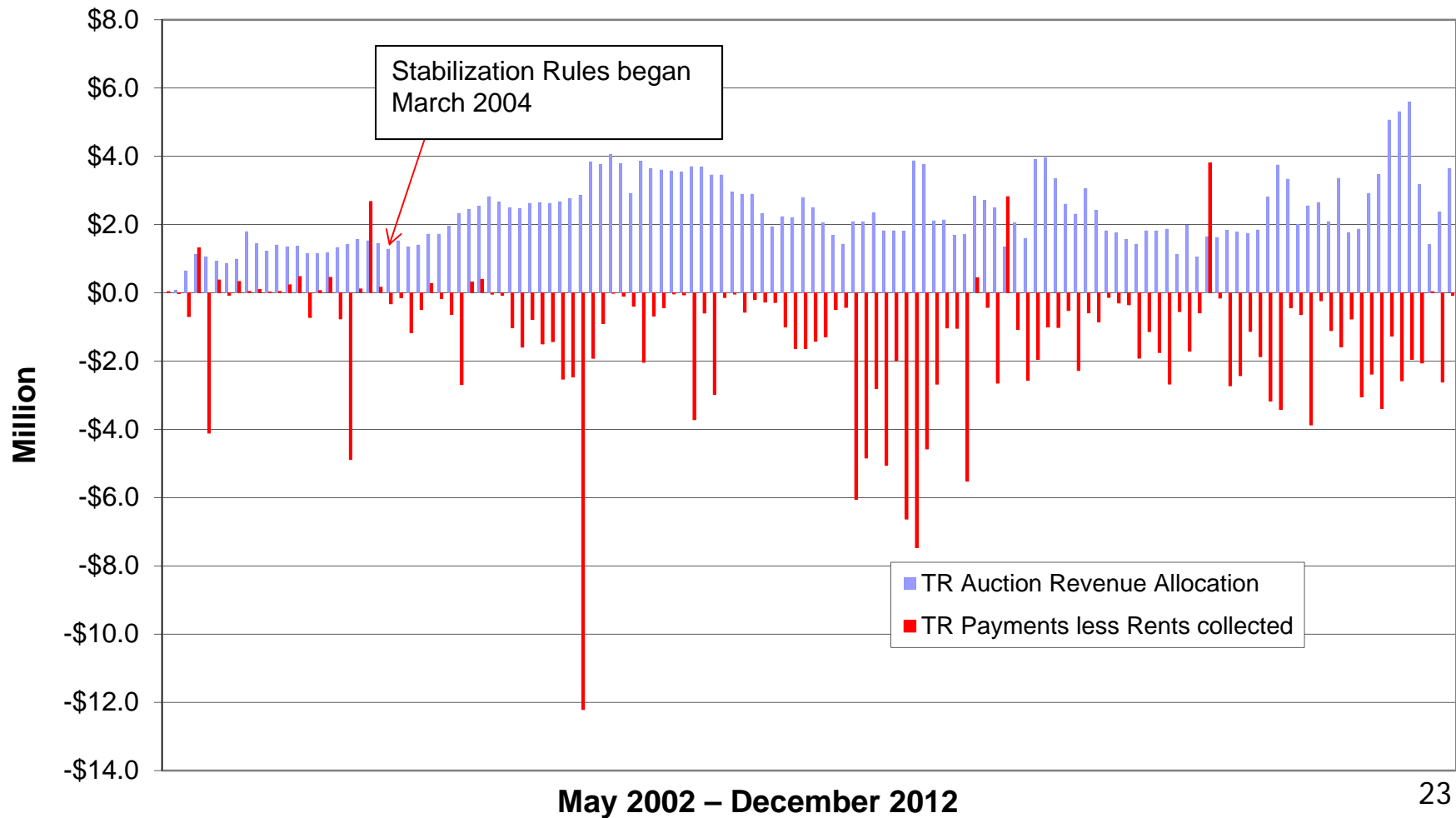
*interest and revocation

TR Clearing Account Balance



May 2002 - December 2012

TR Monthly Account Activity



Phase 1

- near term review of the confidence level
- MSP recommendation “The IESO should limit the number of transmission rights auctioned to a level where congestion rent collected is approximately sufficient to cover the payouts to transmission rights holders”
- commencing immediately

Phase 2

- long term review of the TR market design fundamentals to address known concerns, MSP recommendations and look for overall improvement
- commencing later in 2013

- Phase 1 Scope limited to a review of the confidence level implemented in 2004 to determine if it has achieved the perceived benefits of:
 - increased energy trade
 - increased import competition
 - increased participation/ownership in the TR market
- Based on analysis and feedback, the IESO will consider other options, including a modification to the design such that congestion rents collected approximately equal TR payments.

- May 3 - Deadline for Stakeholder Feedback on SE-Plan and Discussion Paper
- May 16, 2013 – Stakeholder meeting to discuss feedback received and the IESOs proposed analysis for Phase 1 (materials posted in advance)
- July/August 2013 – Stakeholder meeting to discuss findings and recommendations (materials posted in advance)
- September 2013 – IESO Board Meeting