

# Transmission Rights Market

Intertie Traders Standing Committee  
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# Transmission Rights Market

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# What are Transmission Rights?

- Transmission Rights:
  - Are financial instruments, periodically auctioned by the IESO
  - Purchased by market participants to hedge against inertia congestion costs in the spot market or as a speculative investment.
  - Transmission rights are available for inertia paths; import or export, between Ontario and our external zones.
  - Holders of TRs are entitled to a revenue stream based on the number of rights they hold times the price difference between the zones of their TRs.
  - The IESO TR market pays out in full to holders of TRs, regardless of the physical energy traded.
- Transmission Rights *do not*:
  - guarantee the physical transmission of energy or directly affect the scheduling of transactions in the real time market.

# Transmission Rights Availability

- The IESO calculates the number of TRs available for auction based on the forecasted capability of each intertie reduced by a ‘confidence level’
- The ‘confidence level’ was set conservatively at market opening to ensure that the number of TRs sold was less than the available transmission capability under certain conditions to reflect physical factors such as:
  - ambient conditions, planned and contingent outages and system security
- On multi-circuit paths the number of TRs for sale would be equal to the transfer capability of the intertie with one line out of service.

# Board Authorities

(under the market rules)

- Disburse surplus funds from the TR Clearing Account to market participants based on their previous month's AQEW, at their discretion. (Ch. 8 - 4.18.2)
- Establish the reserve threshold for the TR clearing account. (Ch. 8 – 4.18.3)
- Establish the 'confidence level' to reflect the degree to which the congestion rents will be sufficient to cover the TR payouts. (Ch. 8 – 4.7.1)

# Confidence Level (Ch.8 Rule 4.7.1 & 4.18.3)

- Effective March 2004, following IESO stakeholder engagement, in an effort to maximize trade and increase trading liquidity the Board agreed to use the TR surplus above a set threshold, to allow an increase in the volume of TRs sold via the following algorithm.
  - Reserve Threshold = \$10 million

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%

maximum # of TRs = physical capability of intertie

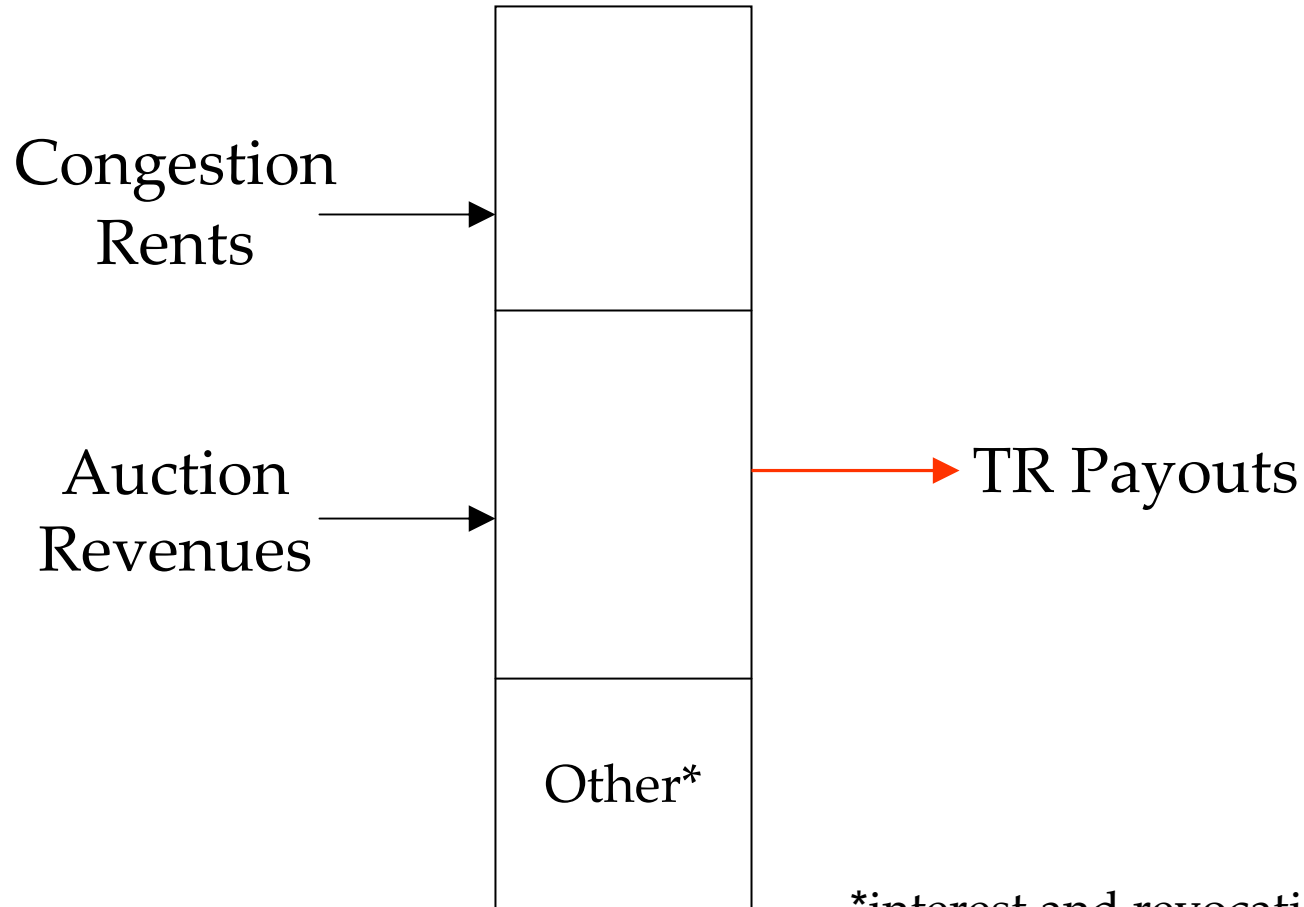
minimum # of TRs = physical capability with one line out of service (the base amount)

# Confidence Level cont'd

- The algorithm, in effect, changes the confidence level for short-term (monthly) rights.
- Nine of the fifteen paths are subject to an increase/decrease in TRs in each quarter
- Since April 2004, the amount of rights sold on certain ties have increased 44% [example](#)
- Two of the paths (Michigan to Ontario and New York to Ontario) will be at 100% of their TTC in the next year

# TR Clearing Account

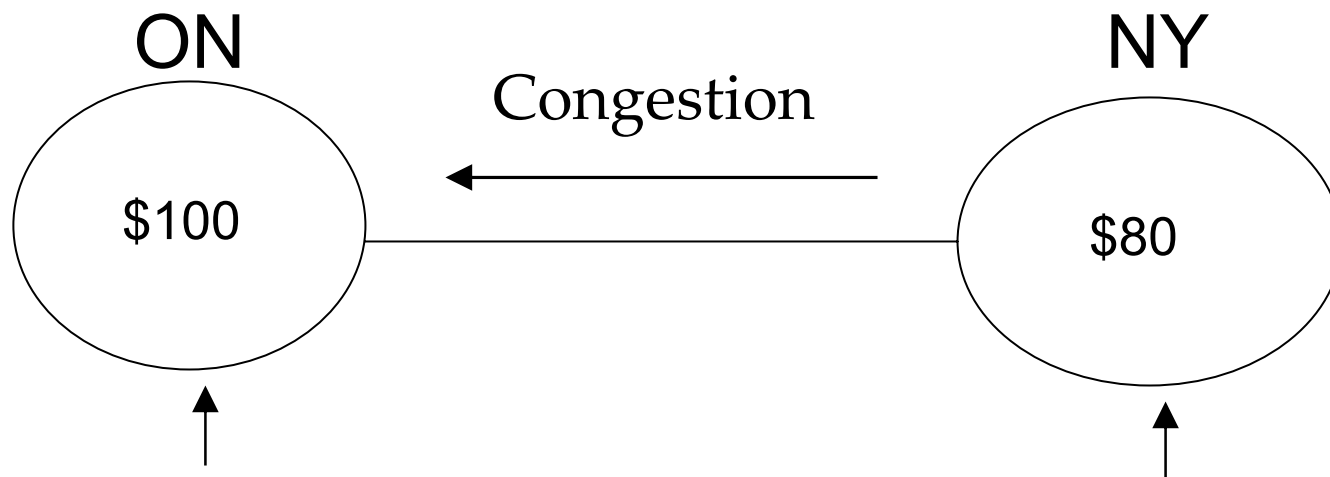
$$\text{Account Balance} = \text{Auction Revenues} + \text{Interest} + \text{Congestion Rents} - \text{TR Payouts}$$



\*interest and revocation

# Congestion Rents and TR Payouts

Intertie congestion can cause traders to be paid less or charged more for energy than Ontario resources.



Loads pay \$100

Suppliers paid \$80

Suppliers paid \$100

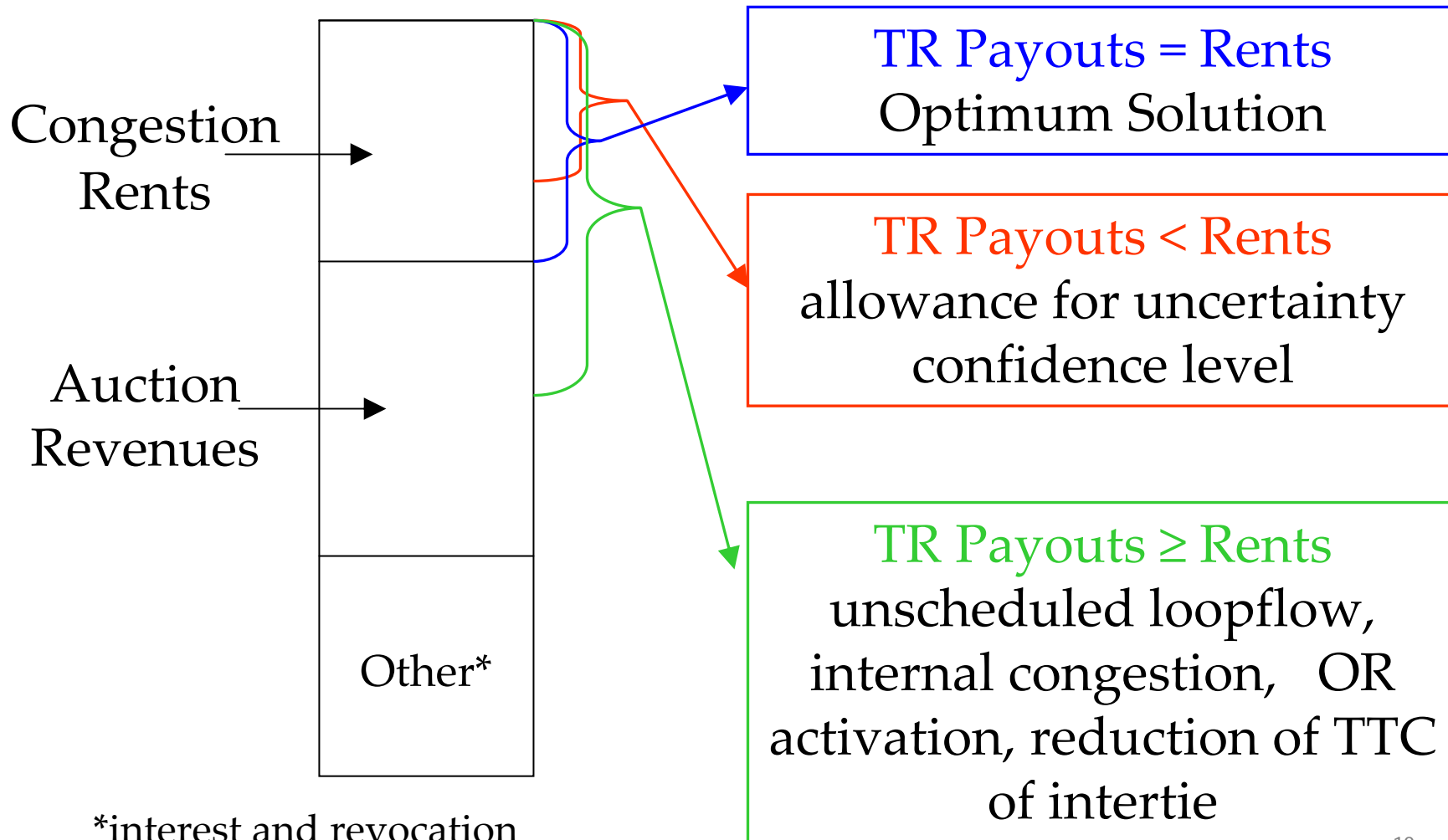
$\$ \Delta = \text{Congestion Rents}$

TR Payout to owners of NY-ON TRs =  $\$ \Delta \times \text{MW}$

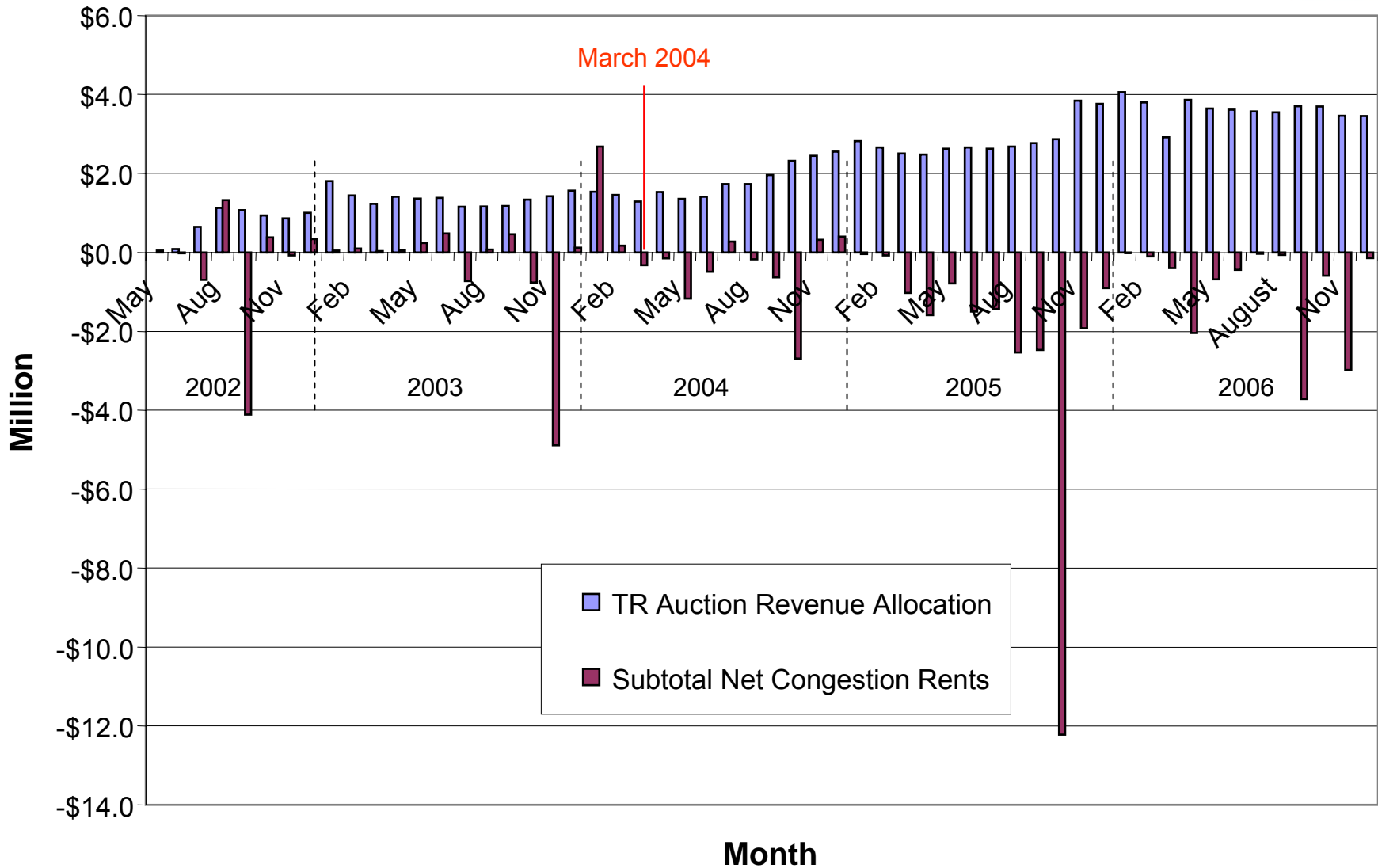
# TR Clearing Account Outcomes

## TR Account

## Outcomes



# TR Account Activity



# Account History

- Prior to the 'confidence level' changes, in April 2004 the congestion rents were, with few exceptions, greater than the TR payouts.
- For the past 24 months the TR Payouts have been greater than congestion rents
- Congestion rent shortfalls have resulted in \$47 million in auction revenues and interest being used to fund the TR payouts
- Most of these revenues (\$42 million) have been used since the reduction in the 'confidence level'

# Account History cont'd

- Despite shortfalls the account balance has continued to increase an average of \$3 million a month (including \$300,000 in interest)
- The continued increase is a result of increased auction revenues due to:
  - Higher TR volumes
  - Higher TR Auction market clearing prices (MCP)

# Account History cont'd

Account History (June 2002 – December 2006)	
(1) TR Auction Revenues & Revocation	\$ 136 458 000*
(2) Total Congestion Rents	\$ 214 152 000
(3) Total TR Payments	\$ 261 326 000
(4) Total Shortfall in Rents (2-3)	(\$ 47 174 000)
(5) Total Interest	\$ 7 056 000
<b>Account Balance (1+4+5)</b>	<b>\$ 96 340 000</b>

\*includes \$14,918,000 of deferred auction revenues from long term auctions

- Rate of Return over the course of the market = 91.5%

# Long Term Right Rate of Return (ROR) ieso

Power to Ontario.  
On Demand.

- Long Term Auction data analyzed from July 2002 – January 2006
- Average ROR for a long term right was equal to 174%
- All but two paths have averaged a positive ROR
- A minimum ROR equal to -100% is the result of no congestion on the path for the year for which the right was purchased.

## Long Term ROR

	Average	Minimum	Maximum
MB-ON	192%	-83%	864%
MICH-ON	846%	-95%	12109%
MINN-ON	621%	-66%	2530%
NY-ON	1458%	-99%	15049%
ON-MB	140%	-100%	2626%
ON-MICH	199%	-100%	2362%
ON-MINN	1183%	-100%	5959%
ON-NY	594%	-86%	6662%
ON-D5A	-96%	-100%	-69%
ON-H4Z	2010%	-95%	18035%
B5D-ON	286%	-99%	2760%
D4Z-ON	143%	-99%	1795%
D5A-ON	-70%	-100%	109%
P33C-ON	293%	-100%	6006%
X2Y-ON	482%	-100%	6344%

# Auction Revenues

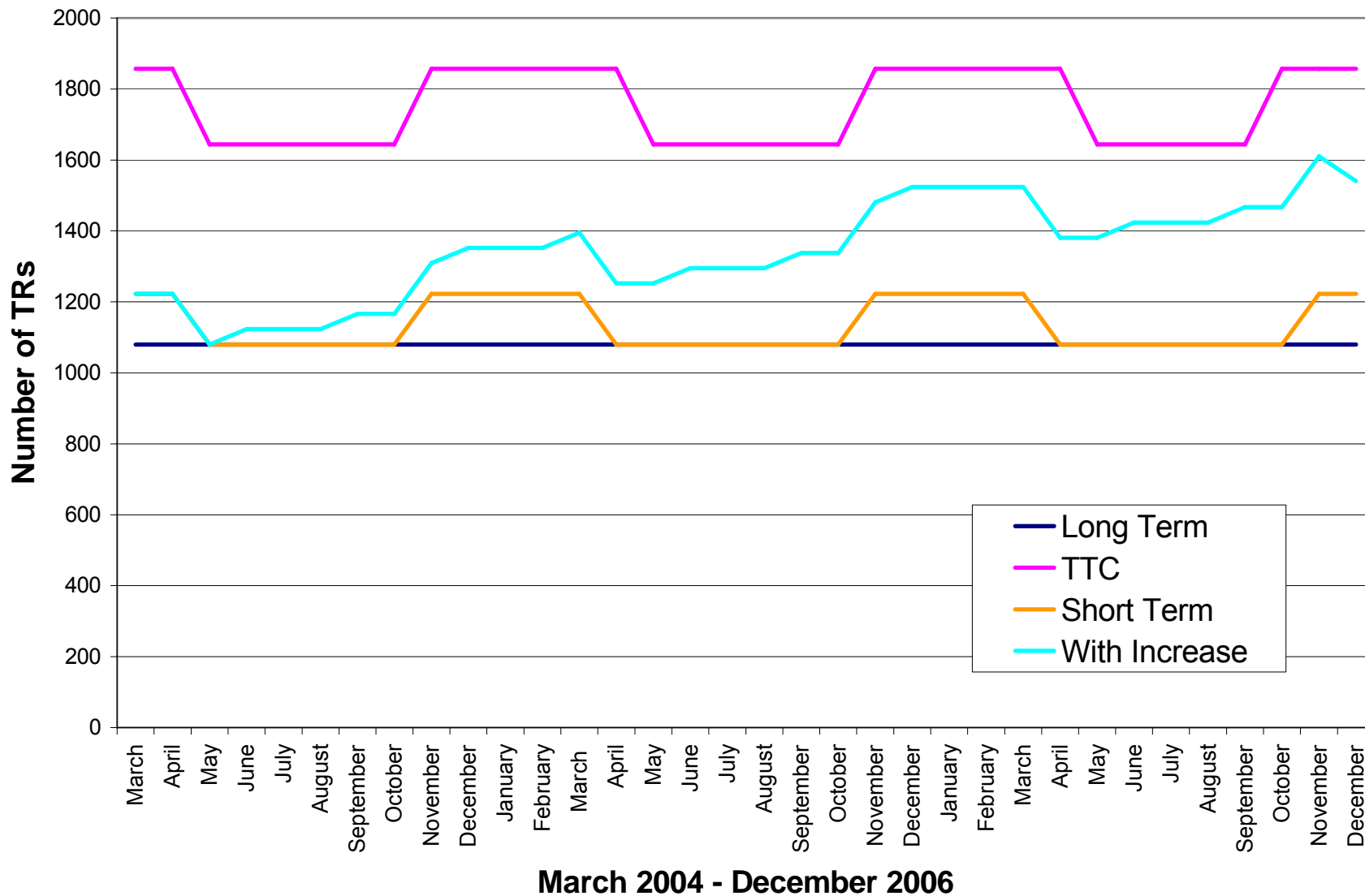
- Auction revenues have been fairly evenly split on import and export paths over the life of the market

	Long Term	Short Term	Total	% of Total
Import Ties	\$ 68 454 750	\$ 12 080 250	\$ 80 535 000	59%
Export Ties	\$ 44 492 175	\$ 11 472 825	\$ 55 965 000	41%

# Going Forward

- Distribution of \$4.75 million over 12 consecutive months to begin in conjunction with 3x ramp rate.
- The IESO will continue to increase the number of TRs for sale with a revised threshold of \$20 million.
- The TR clearing account balance, the reserve threshold and the deferred auction revenue amounts will be published in the IESO “Monthly Market Report”
- The IESO will undertake analysis of entire TR market and will be making recommendations to the Board:
  - Participation in market
  - Publication of data i.e. rate of return
  - Value of the ‘confidence level’ algorithm

# TR increase example



# Long Term ROR

