

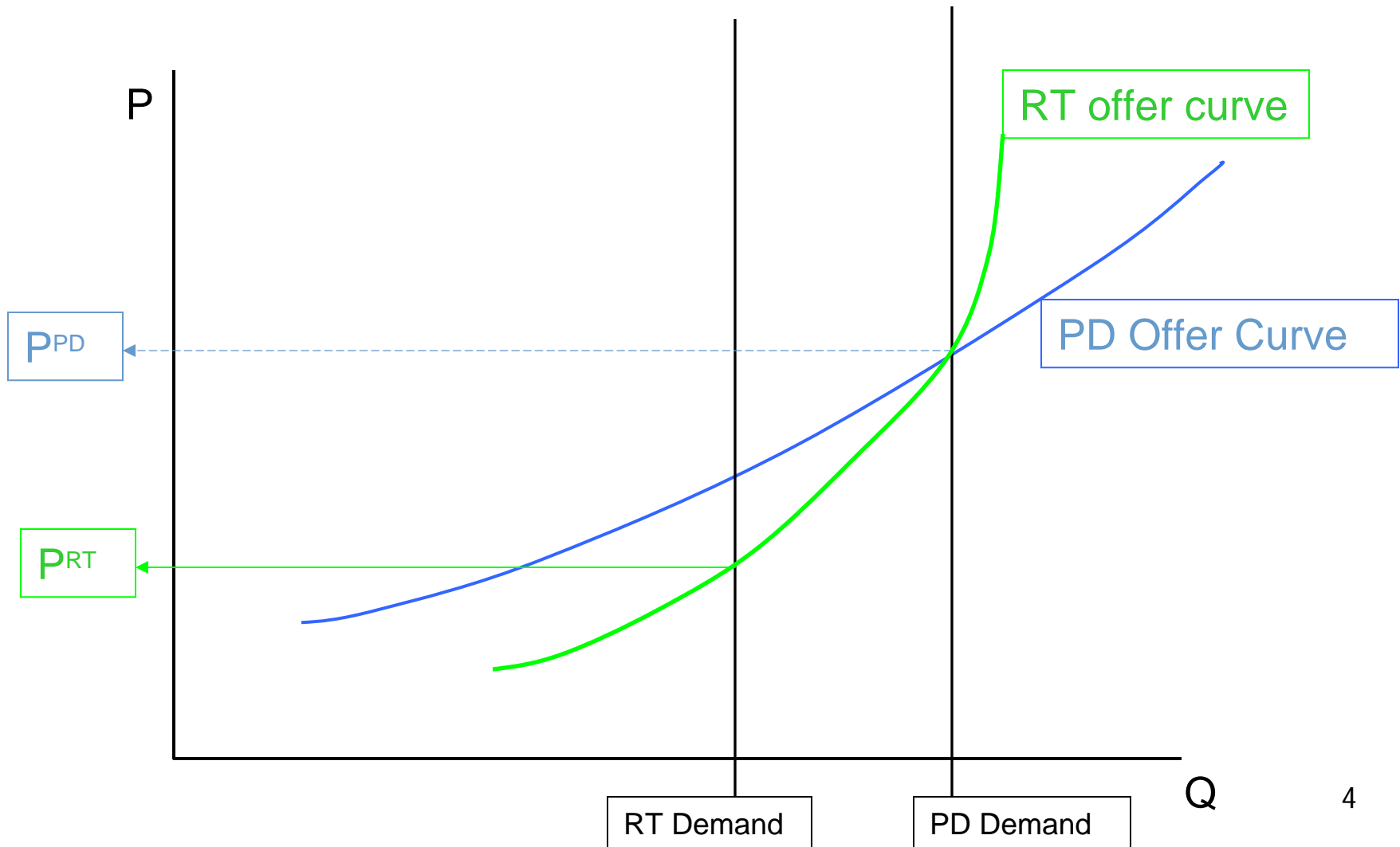
Intertie Transactions and the Ontario Market Clearing Price

Market Pricing Working Group
April 7, 2006

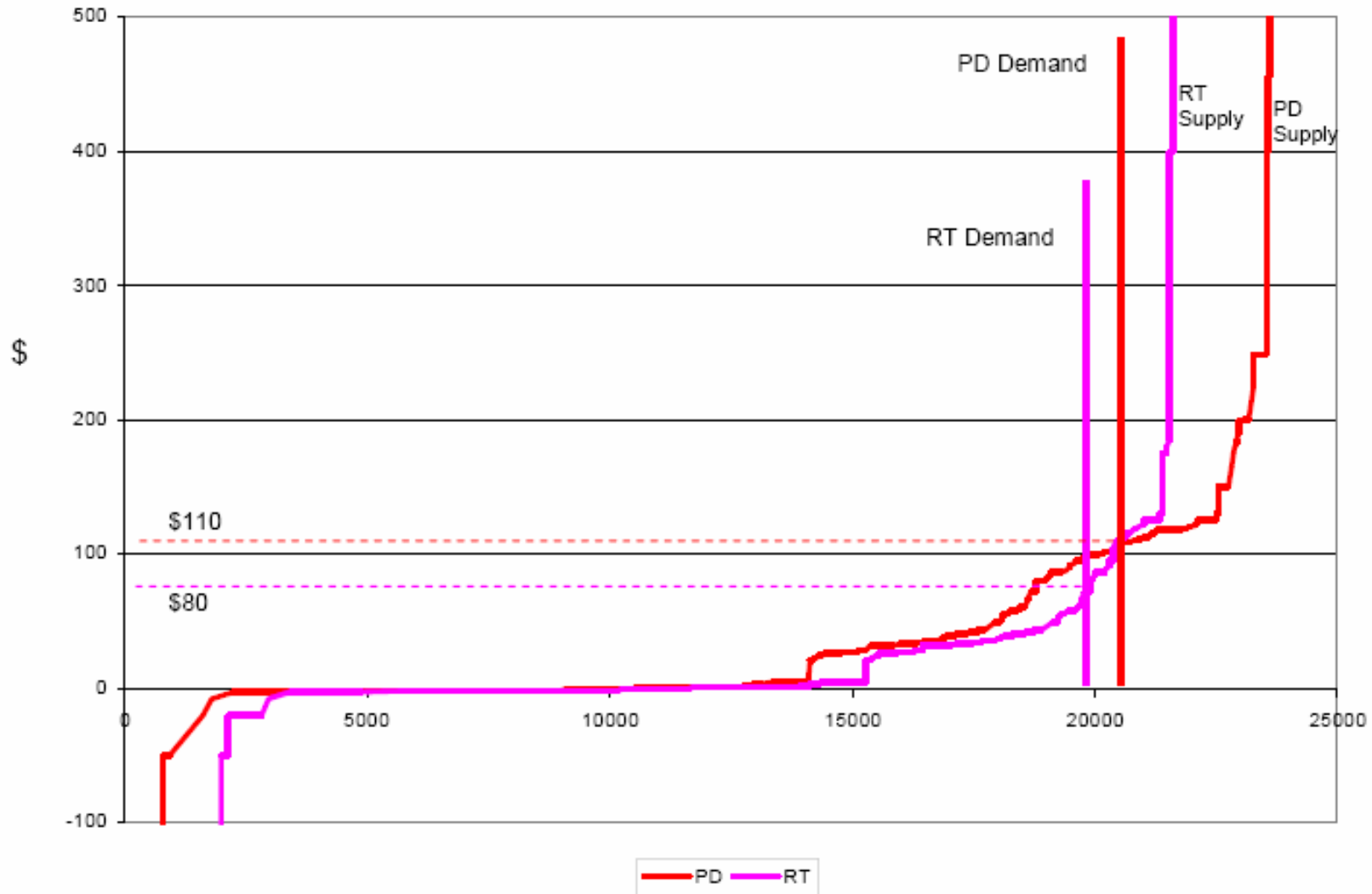


1. Intertie transactions in the real time market under the current design
 - How Intertie transactions are scheduled
 - Real time price impacts of intertie transaction scheduling
2. Investigating the possibility of allowing intertie transactions to set the real time Market Clearing Price (MCP)
 - Should they be allowed to set the price?
 - Available options
 - Possible impacts of making a change

- Intertie transactions are economically selected one hour ahead based upon their offer/bid and the 1 hour ahead pre-dispatch price
- All transactions that are economically successful receive a market schedule for the entire hour for the economic portions of their offer/bid
- Intertie transactions do not change within the dispatch hour for economics, so are unable to supply the incremental MW and therefore are currently unable to set the MCP



Current Offer Curves (Real Time and Pre-Dispatch)



Why Are we Investigating the Possibility of a Change?

- First raised as a MPWG issue in August 2004 (Issue 7).
Excerpts from the issue paper:
 - The disparate treatment of import offers and export bids in pre-dispatch as compared to real time can yield significant price differences
 - The divergent price-determination processes calls into question the efficiency and accuracy of the pricing signals in the market
 - The differing treatment of import offers and export bids in the pre-dispatch compared to real-time price determination process gives rise to questions of fairness in the consequent application of these prices and associated adjustments and/or guarantees to resources inside and outside of Ontario.

Why Are we Investigating the Possibility of a Change?

- From the December 7, 2005 Board resolution for the Day Ahead Commitment Process:
 - “the Board recognizes the need to give focussed attention to resuming and advancing work with stakeholders on...whether intertie transactions should be considered in the calculation of the Ontario Market Clearing Price.”

- How could this effect the Intertie Offer Guarantee?
- Pre-Dispatch inputs and their effect on scheduling transactions
- Impacts on CMSC and CMSC calculations.

- Why look at design options before we've decided to make a change?
 - Need to have an idea of what Interties setting price will look like before we can adequately assess the options.

- Given that intertie transactions cannot supply the next available MW in real time, why should they be able to set the MCP?
 - Is this the most efficient, or best design?
 - Does this design provide the market with the correct price signals?
 - Is this treatment fair to all participants? i.e. Is the treatment of intertie transactions consistent with that of internal resources?
 - Are there reliability impacts of the design?
 - Does this design produce transparent prices?
 - Is this design consistent with other jurisdictions?

There are a number of possibilities:

1. Only resources which are dispatchable in 5 minutes and can provide an additional MW can set the MCP. This leads to the current design.
2. Allow intertie transactions to set the real time price as a component of other design changes (For example: 15 or 30 min scheduling instead of hourly). Maintain the current design while working on this long term plan.
3. Intertie transactions should be allowed to set the MCP in the current real time market.
4. Other possibilities?

- Which bids/offers should be included in the real time stack
 - All bids/offers
 - Only bids/offers with a pre-dispatch Unconstrained schedule
 - Only bids/offers with a pre-dispatch Constrained schedule
 - Some combination (For example; MAX {pre-dispatch unconstrained MW, pre-dispatch Constrained MW}, or similar to ISONE and allow transactions to float around some percentage of their pre-dispatch scheduled quantity)

- How to treat intertie transactions that are only partially scheduled in pre-dispatch (a transaction on the margin in pre-dispatch)?
 - i.e. If a 100 MW intertie offer has a 50 MW pre-dispatch constrained and unconstrained schedule should the entire transaction be able to float or only the 50 MW which was economic
- What is the appropriate ramp rate for Intertie Transactions
 - Infinite?
 - Zero?
 - Some other value? (0.1 MW/min? 1 MW/min? 10 MW/min? use Net Interchange Schedule Limit as ramp rate? i.e. 70 MW/min?)

How Intertie's Could Set Price: An Example

- Intertie bids/offers available in real time are those transactions with a pre-dispatch unconstrained schedule
- Assuming no ramp constraints in the unconstrained schedule (i.e. intertie transactions have been given some 'suitable' ramp rate and are capable of setting price)
- A transaction's constrained quantity does not change from pre-dispatch
- Assuming no transmission limitations or congestion

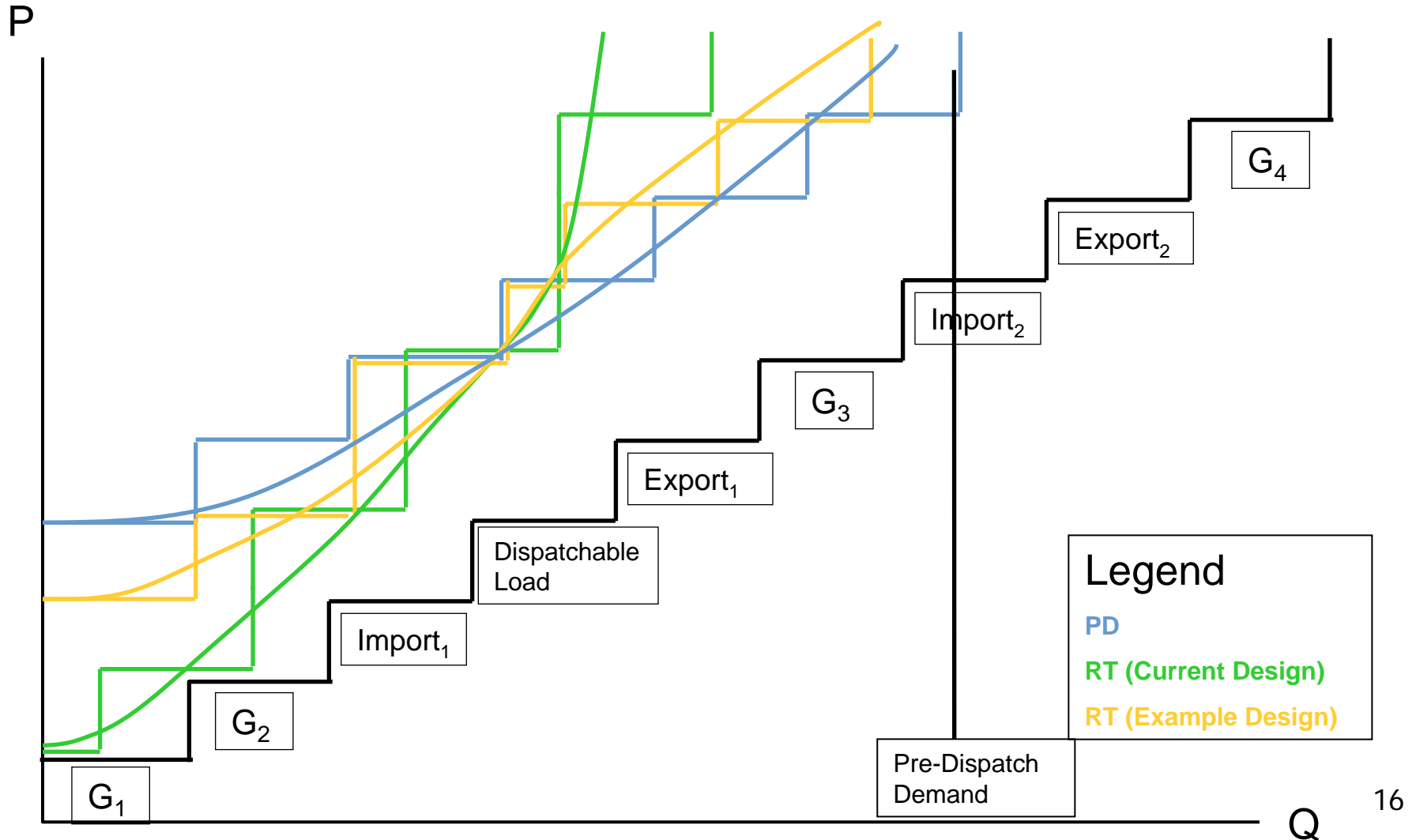
- Offers Available in Pre-Dispatch:

	Offer		Offer
Generator A	50 MW @ \$50	Import X	50 MW @ \$60
Generator B	50 MW @ \$100	Import Y	100 MW @ \$75
Pre-Dispatch Demand is 175 MW			

- Offers available in Real Time:

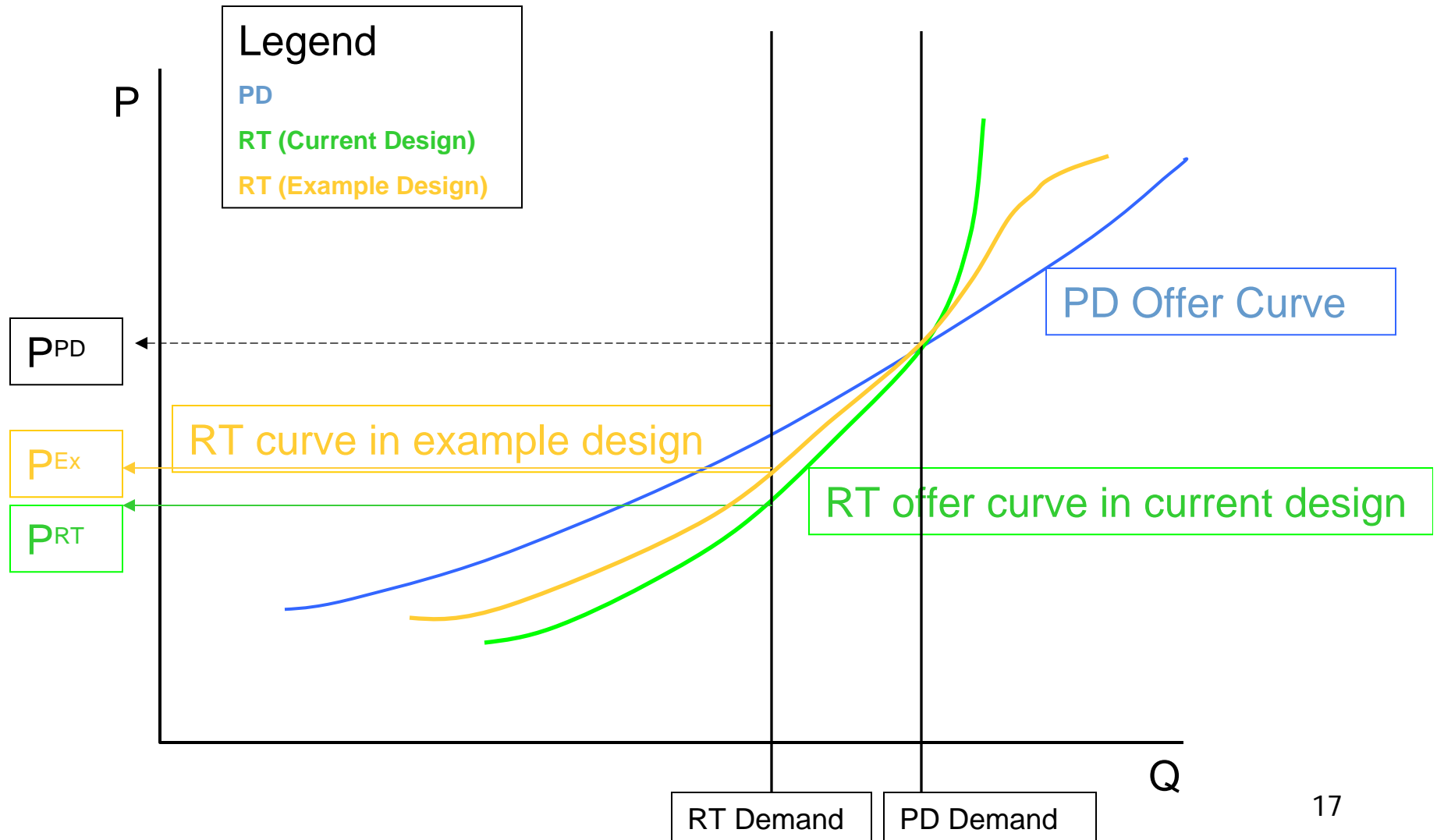
	Offer		Offer
Generator A	50 MW @ \$50	Import X	50 MW @ \$60
Generator B	50 MW @ \$100	Import Y	75 MW @ \$75

Building the Offer Curves



Possible Outcomes with Example Design

RT Demand < PD Demand



Possible Outcomes with Example Design

Real Time Demand > Pre-Dispatch Demand

