

Outstanding Action Items

Design Working Group Meeting
June 4, 2009



1. Changes in offers between DA and RT - Continued
2. DA-PCG Eligibility Requirements - Continued (Action Item 1)

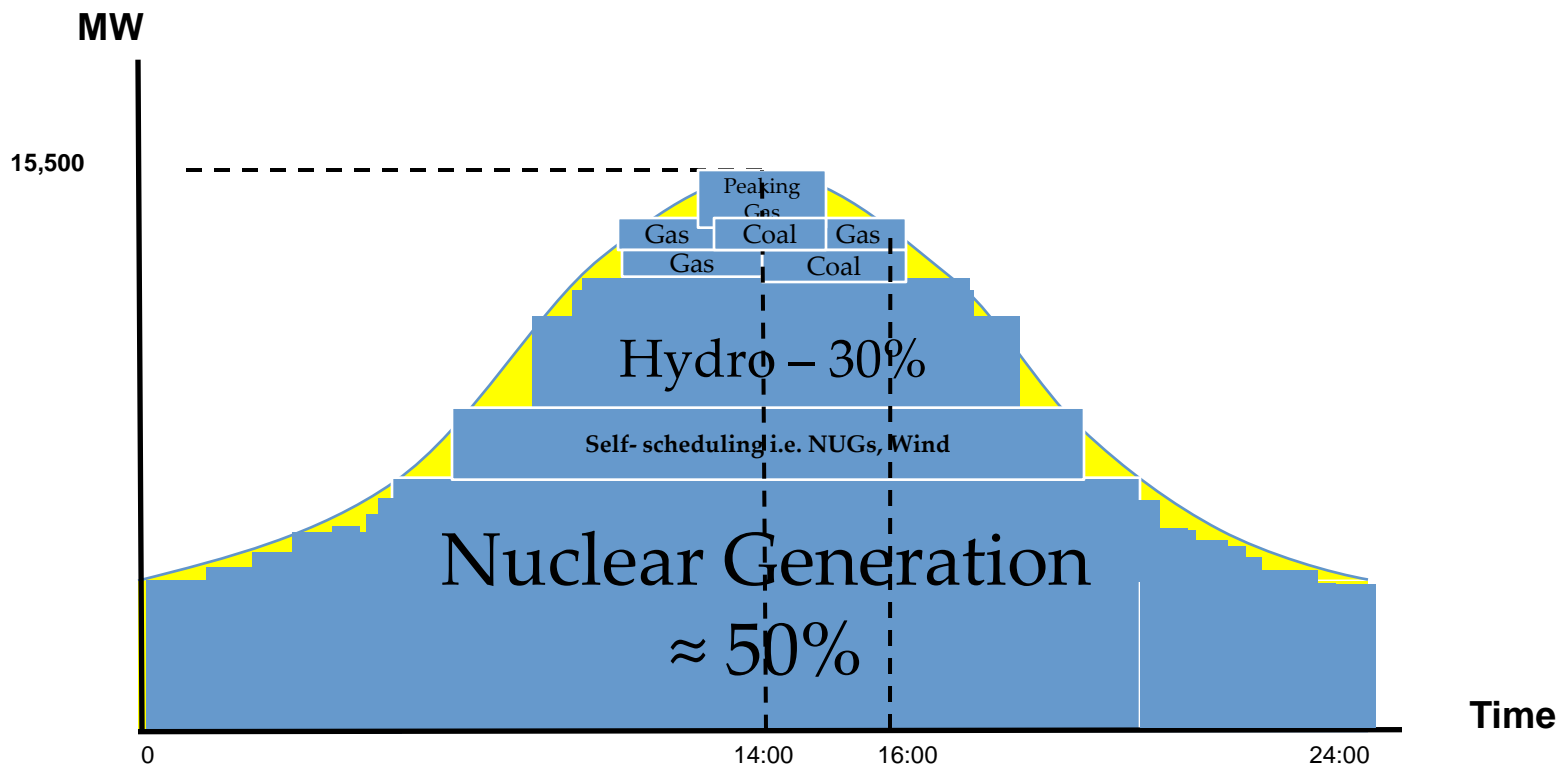
- Stakeholder real-time pricing concerns have been noted to IESO Senior Management Team
- IESO has committed to find a “discussion forum” outside of EDAC to address and resolve concerns
- Need some time to formulate the methodology for these future discussions to ensure they are meaningful
- Would like to take some time today to discuss general assumptions

- Scheduling over 24 hour using 3 part offers means fewer over-committed resources relative to today – where most of the efficiency is achieved
- Better scheduling uses **average forecast** rather than peak - guarantees on average schedules
- Likely fewer gas generator will be scheduled given the long high minimum loading point quantities and minimum generation block run times

- Generators offering zero must be the marginal unit to affect real-time price
- With DA schedules based on average, this is unlikely to happen over all intervals of any hour –it could happen for some 5 minute intervals but unlikely over an entire hour
- Many quick start and peaking generation not under guarantees will receive DA schedules and will continue to do so in RT, offer in at marginal costs

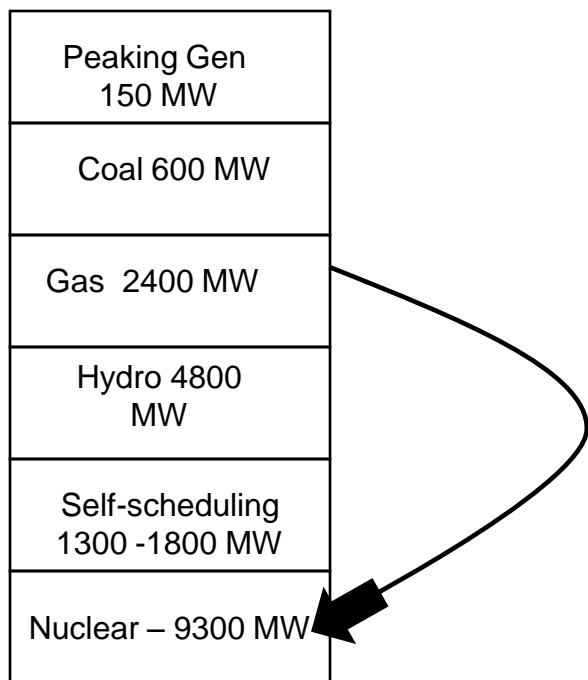
- All generation will be required to fill in RT deviations and for those that are higher than forecasted average they will be priced at RT cost not zero

Average Ontario Demand Curve with Typical Supply

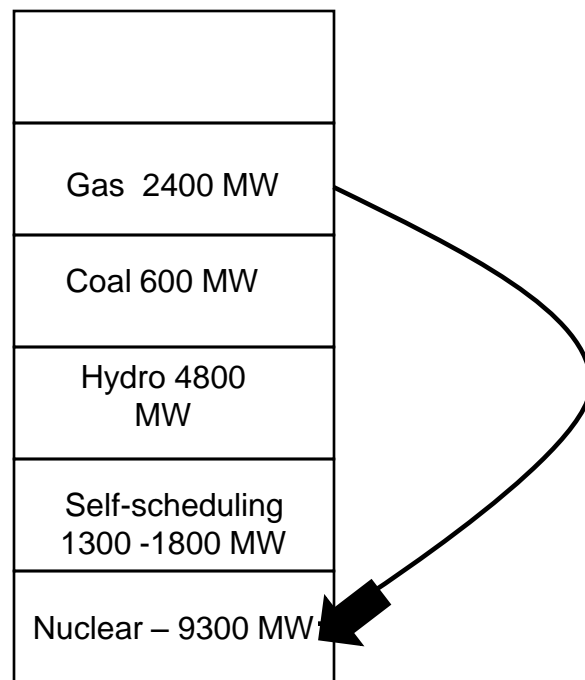


What Does the Stack Look Like

Gas bidding at zero has little affect on the RT price outcome at 14:00



Gas bidding may affect on the RT price outcome at 16:00 but in this example still set by coal



- The participant must meet the following requirements to be paid the DA-PCG:
 - The breaker must closed by the start of the 1st interval of the 1st EDAC scheduled hour
 - Achieve minimum loading point within **six** intervals of the start time of the EDAC schedule
 - Example: A resource that is scheduled to start in HE 8 is required to be at minimum loading point before the start of Interval 7 of HE 8

- Participants continue to agree to the IESO's rationale that there needs to be incentives to be on time
- Participants continue to be concerned with the following:
 - Even six intervals is not sufficient time for an “all or nothing” treatment of guarantees - units will synchronize well in advance of the requirement to be at MLP thereby exacerbating the impacts of surplus based load generation particularly in the early morning hours
 - There may be issues of generators withdrawing if they know they cannot achieve the MLP within the time frame due to unforeseen event on start up

- The participant must meet the following requirements to be paid the DA-PCG:
 - The breaker must closed by the start of the 1st interval of the 1st EDAC scheduled hour

- Components 1 through 4 will be calculated on a 5-minute interval basis for the entire EDAC scheduled period
- Component 5 will be calculated based on the following rules:
 - If the resource achieves MLP within the first 6 intervals of the start of the EDAC scheduled period, the full start-up cost will be paid
 - If the resource achieves MLP between the start of 7th interval and before the start of the 18th interval of the start of the EDAC scheduled period, the start-up cost will be calculated on a fractional basis
 - If the resource achieves MLP after the 17th interval of the start of the EDAC scheduled period, the start-up cost will not be paid

Example of Calculated DA-PCG Start-up Costs

Time of Achieving MLP	Fraction of Start-up to be Paid	Percentage of Start-up to be Paid	Start-up to be Paid
Start of Interval 1 - Before Start of Interval 2	12/12	100.00%	\$ 10,000.00
Start of Interval 2 - Before Start of Interval 3	12/12	100.00%	\$ 10,000.00
Start of Interval 3 - Before Start of Interval 4	12/12	100.00%	\$ 10,000.00
Start of Interval 4 - Before Start of Interval 5	12/12	100.00%	\$ 10,000.00
Start of Interval 5 - Before Start of Interval 6	12/12	100.00%	\$ 10,000.00
Start of Interval 6 - Before Start of Interval 7	12/12	100.00%	\$ 10,000.00
Start of Interval 7 - Before Start of Interval 8	11/12	91.67%	\$ 9,166.67
Start of Interval 8 - Before Start of Interval 9	10/12	83.33%	\$ 8,333.33
Start of Interval 9 - Before Start of Interval 10	9/12	75.00%	\$ 7,500.00
Start of Interval 10 - Before Start of Interval 11	8/12	66.67%	\$ 6,666.67
Start of Interval 11 - Before Start of Interval 12	7/12	58.33%	\$ 5,833.33
Start of Interval 12 - Before Start of Interval 13	6/12	50.00%	\$ 5,000.00
Start of Interval 13 - Before Start of Interval 14	5/12	41.67%	\$ 4,166.67
Start of Interval 14 - Before Start of Interval 15	4/12	33.33%	\$ 3,333.33
Start of Interval 15 - Before Start of Interval 16	3/12	25.00%	\$ 2,500.00
Start of Interval 16 - Before Start of Interval 17	2/12	16.67%	\$ 1,666.67
Start of Interval 17 - Before Start of Interval 18	1/12	8.33%	\$ 833.33
Start of Interval 18 - Onwards	0/12	0.00%	\$ -