



RPPTF Meeting

PJM Conference & Training Center – Tesla Conference Room

Toll-free call-in number (866) 398-2885, Passcode: 327265

WebEx Details:

<https://pjm.webex.com>

Password: : rpp0123pjm

January 23, 2015

9:30 am, Eastern Standard Time

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|--|------------------------------|---------------------|
| • Call to Order, Announcements, Roll call | Fran Barrett/Andrew Gledhill | 9:30 am – 9:45 am |
| • Update on Multi-Driver Filing | Pauline Foley | 9:45 am – 10:00 am |
| • Generation Interconnection as an Input to Multi-Driver Approach <ul style="list-style-type: none">– Refresher of examples and explanation of timing issues– Focus on Example 1 and 1a<ul style="list-style-type: none">• Discuss range of potential issues– Next steps | Steve Herling/Pauline Foley | 10:00 am – 11:30 am |
| • New Action Items, Next Steps and Adjournment | Fran Barrett | 11:30 am – 11:45 am |

Anti-trust:

You may not discuss any topics that violate, or that might appear to violate, the antitrust laws including but not limited to agreements between or among competitors regarding prices, bid and offer practices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that might unreasonably restrain competition. If any of these items are discussed the chair will re-direct the conversation. If the conversation still persists, parties will be asked to leave the meeting or the meeting will be adjourned.

Code of Conduct:

As a mandatory condition of attendance at today's meeting, attendees agree to adhere to the PJM Code of Conduct as detailed in PJM Manual M-34 section 4.5, including, but not limited to, participants' responsibilities and rules regarding the dissemination of meeting discussion and materials.

Public Meetings/Media Participation:

Unless otherwise noted, PJM stakeholder meetings are open to the public and to members of the media. Members of the media are asked to announce their attendance at all PJM stakeholder meetings at the beginning of the meeting or at the point they join a meeting already in progress. Members of the Media are reminded that speakers at PJM meetings cannot be quoted without explicit permission from the speaker. PJM Members are reminded that "detailed transcriptional meeting notes" and white board notes from "brainstorming sessions" shall not be disseminated. Stakeholders are also not allowed to create audio, video or online recordings of PJM meetings.



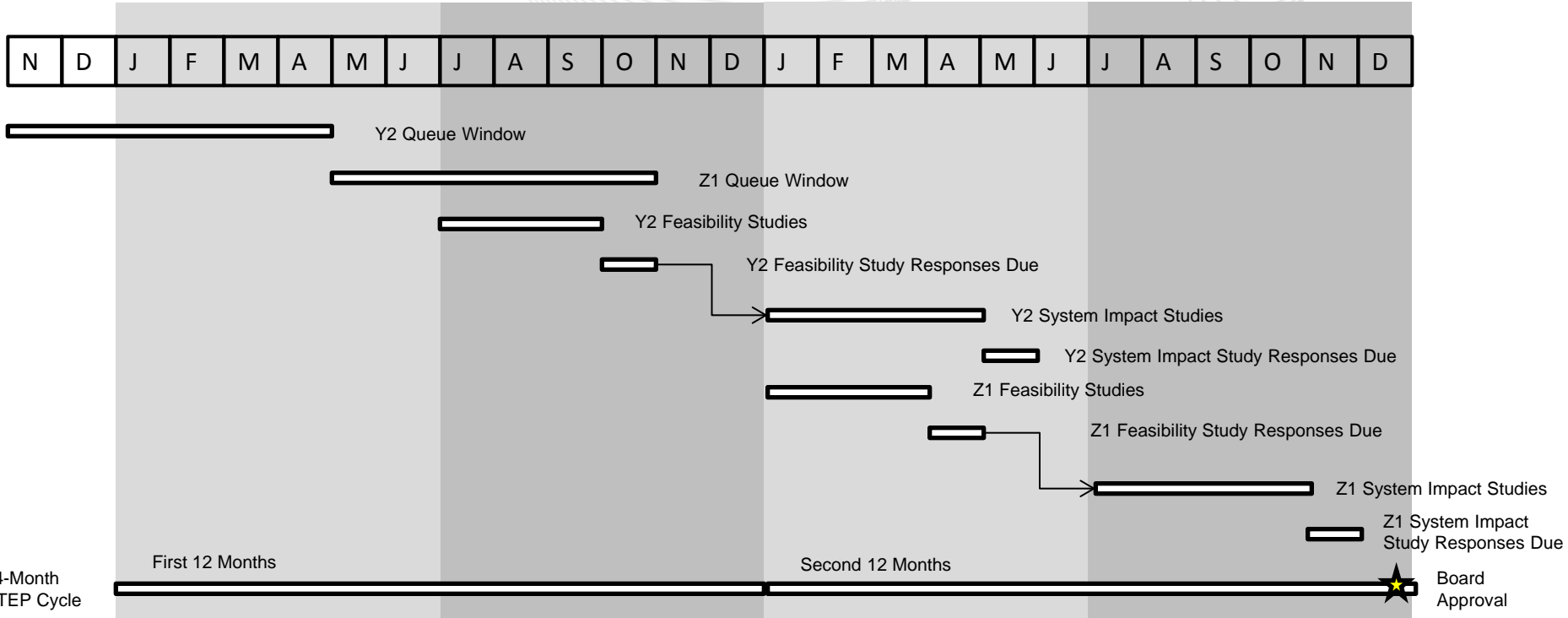
Update on Multi-Driver Filing

January 23, 2015

- Sept. 12, 2014:
 - In Docket No. ER14-2864-000, PJM filed proposed revisions to Schedule 6 of the Operating Agreement to add Multi-Driver Approach;
 - In Docket No. ER14-2867-000, PJM Transmission Owners filed proposed revisions to Schedule 12 to add a cost allocation methodology for Multi-Driver Projects.
- Nov. 17, 2014: FERC issued a Deficiency Notice in both dockets.
- Dec. 23, 2014: PJM and TOs filed a joint response to the FERC deficiency notice.
- Jan. 14, 2015: Protest out-of-time by PSE&G
- Feb. 23, 2015: Projected date for issuance of Commission order

Generation Interconnection (GI) as an Input to Multi-Driver Approach

January 23, 2015

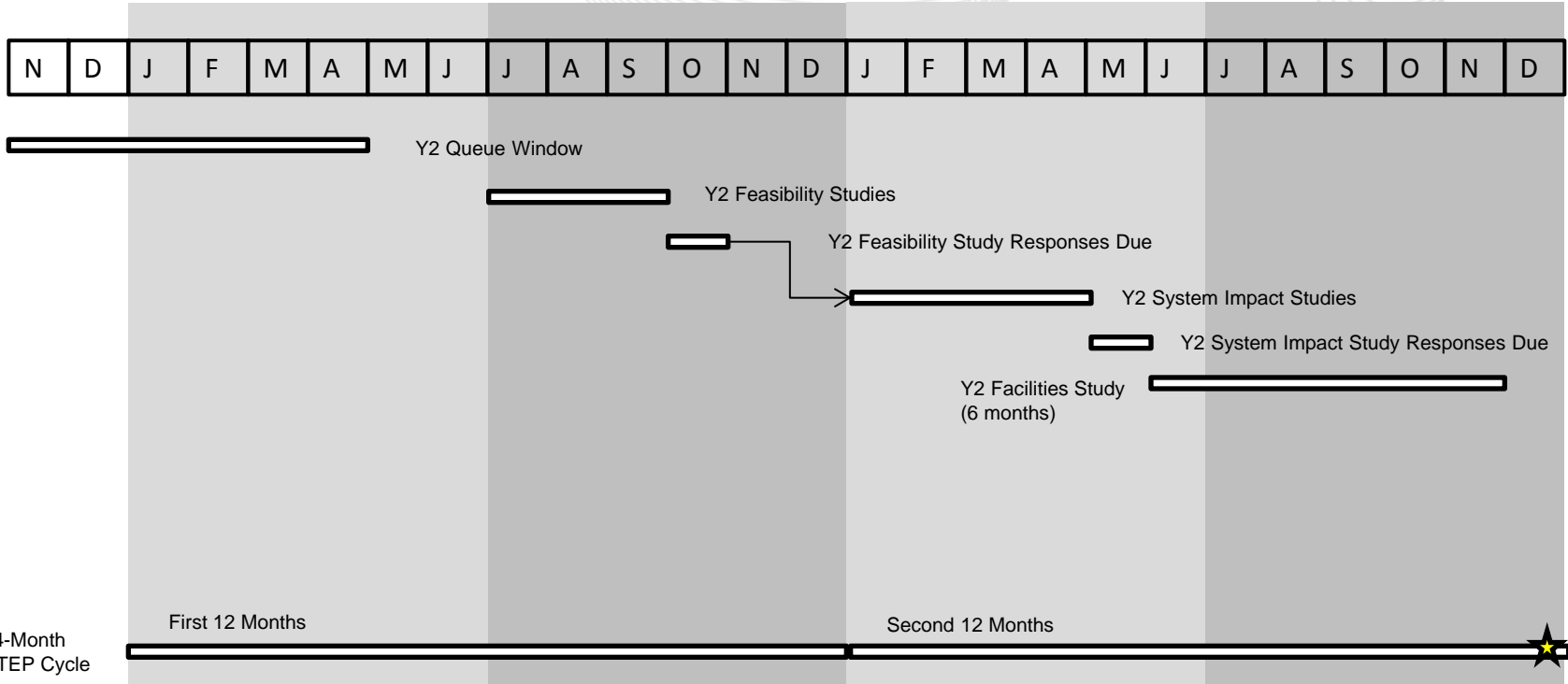


24-Month
RTEP Cycle

First 12 Months

Second 12 Months

Board
Approval

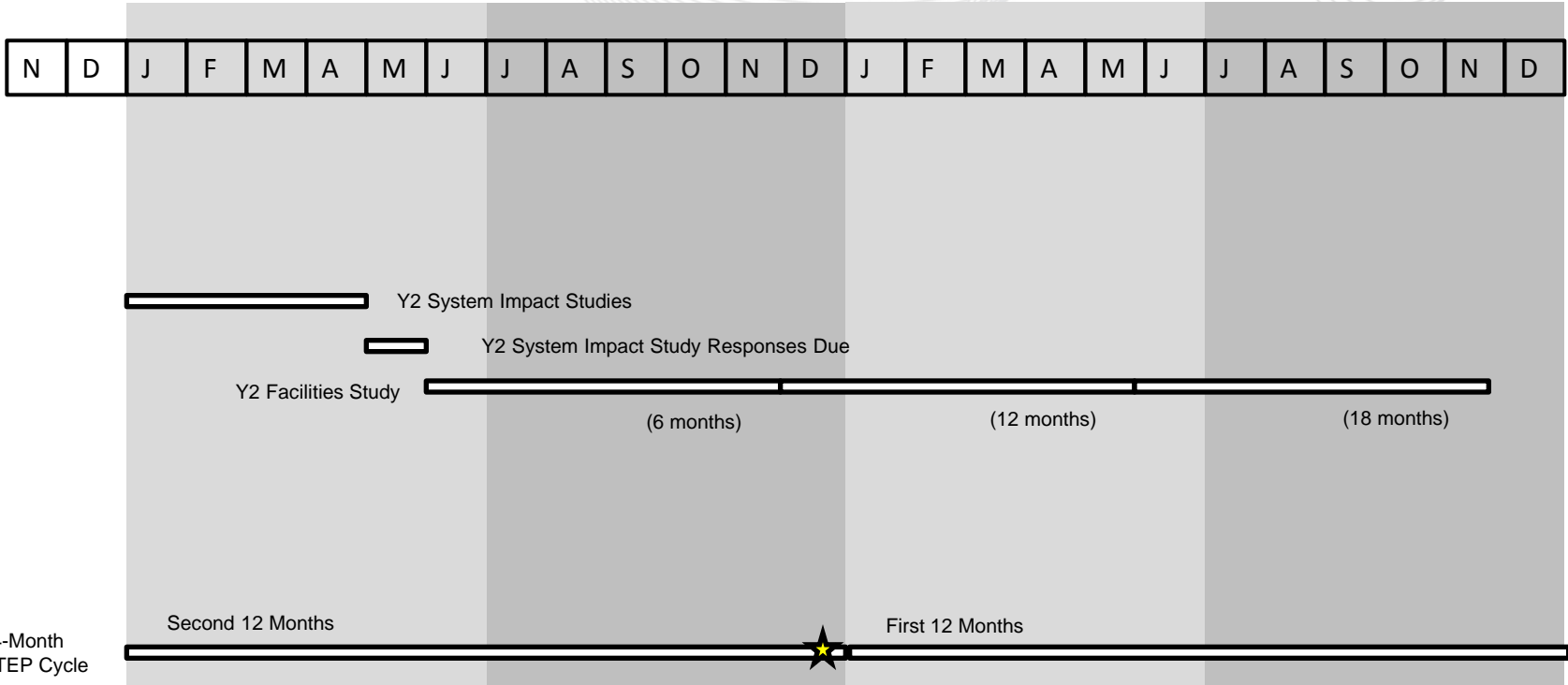


24-Month
RTEP Cycle

First 12 Months

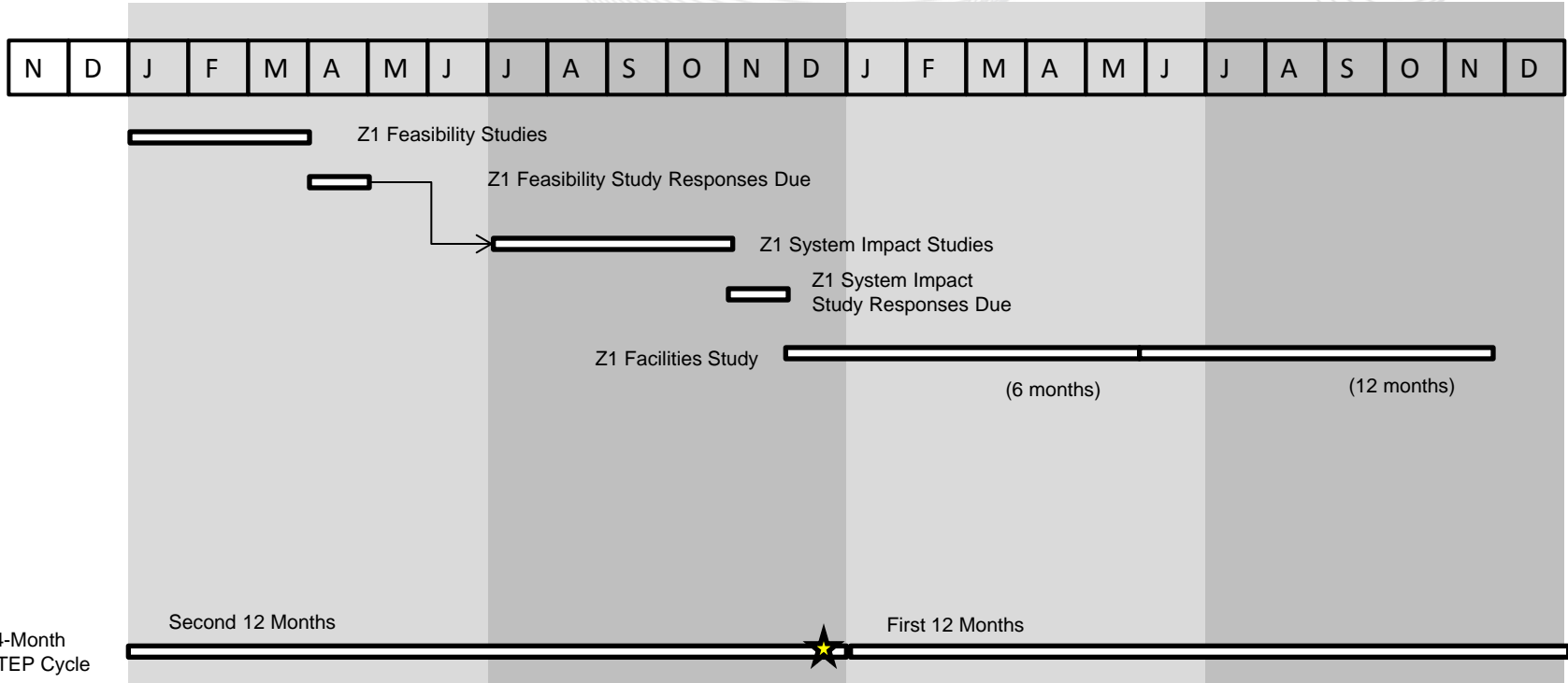
Second 12 Months

Board
Approval



24-Month
RTEP Cycle

Board
Approval



24-Month
RTEP Cycle

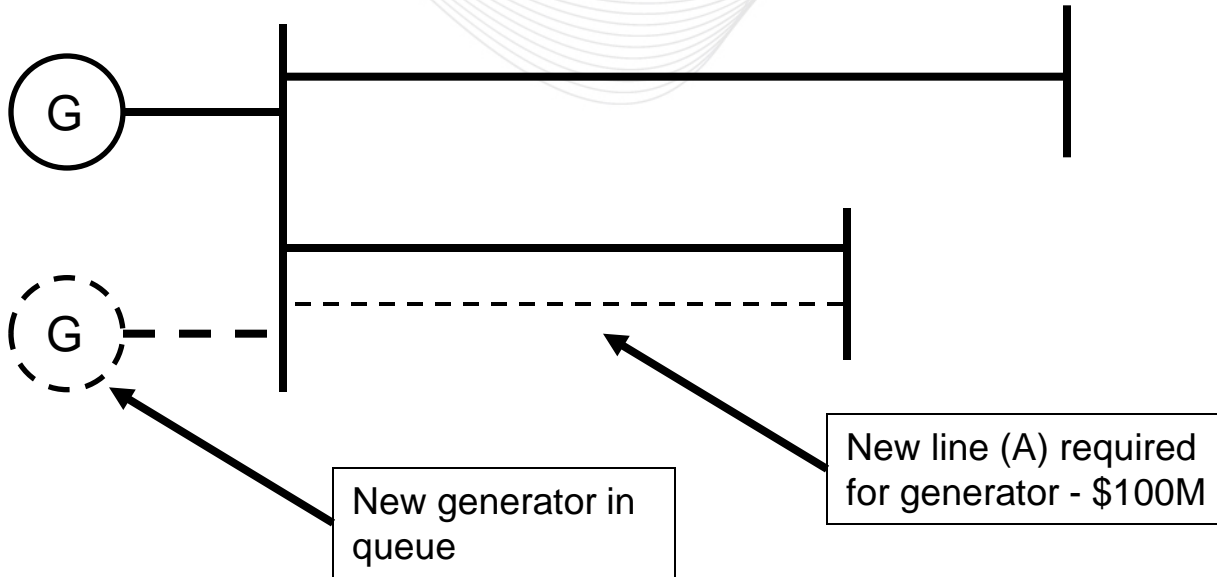
Second 12 Months

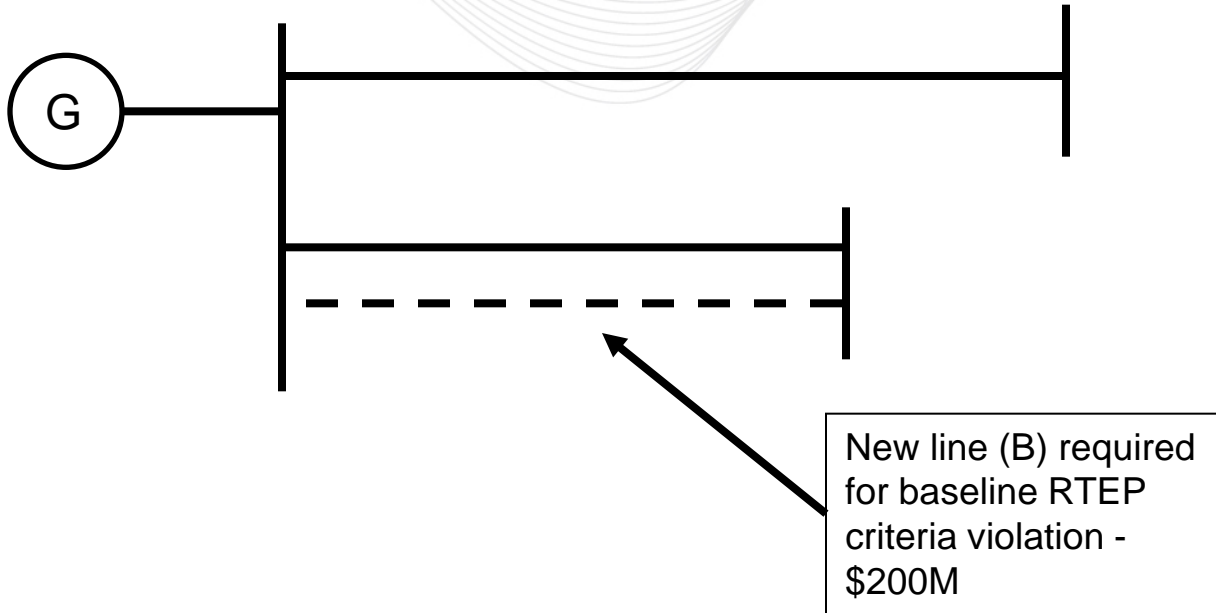
First 12 Months

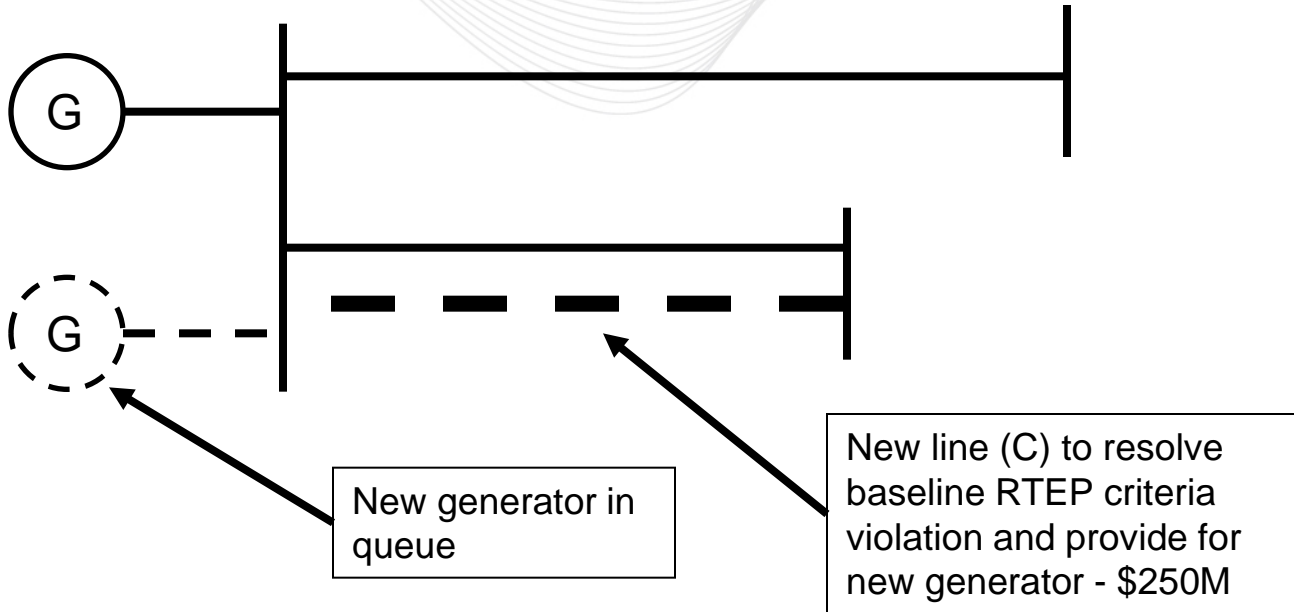
Board
Approval

- Generator requires upgrade that will be completely replaced by baseline RTEP upgrade
 - *Generator enters queue before RTEP violation is identified*
 - *Generator enters queue after RTEP violation is identified*
 - *Generator in-service date is before date of RTEP violation*
 - *Generator in-service date is after date of RTEP violation*
- Baseline upgrade would be smaller (and less expensive) without generator

May be timing issues, but may not change integration of drivers







- Timing
 - *Is generator ready to commit (execute ISA) when decision would need to be made so that line C can be completed before onset of criteria violation?*
 - *If not, what level of certainty would be acceptable to move forward with line C?*
 - *Can line C be completed before onset of criteria violation, even if generator is ready?*
 - *If not, are acceptable operational measures available?*
 - *How do we manage generator rights if commercial date is after line B would have been in service, but before line C can be placed in service?*
 - *Other?*

Example 1 – Proposed Business Rules

- Generator must execute ISA or interim ISA to be integrated into MDA
 - *MDA is still a baseline RTEP upgrade but is also identified with required “Network Upgrades” for generator*
 - *MDA becomes part of base case for subsequent interconnection studies*
 - *Right to change mind regarding participation in MDA will be based on construction status, continuing need, and impact on subsequent projects – security will be used to complete MDA as with any other Network Upgrade if decision is to proceed with MDA*
 - *If MDA cannot be completed, requirements for generator must be re-tooled*
 - *Treatment is the same whether RTEP violation is identified before or after generator enters queue*

- Interim deliverability rights
 - *If generator enters queue after RTEP violation is identified rights will be based on ability to manage criteria violations during interim*
 - *If generator enters queue before RTEP violation is identified rights will be awarded based on projected in-service date of original Network Upgrades*
- Cost allocation to generator
 - *Based on Network Upgrade that would have been required without MDA (existing but-for test)*

- HTP
 - *If generator enters queue after RTEP violation is identified rights will be based on ability to manage criteria violations during interim*
 - *If generator enters queue before RTEP violation is identified rights will be awarded based on projected in-service date of original Network Upgrades*
- Byron - Wayne
 - *Based on Network Upgrade that would have been required without MDA (existing but-for test)*

Example 1 – Required Changes

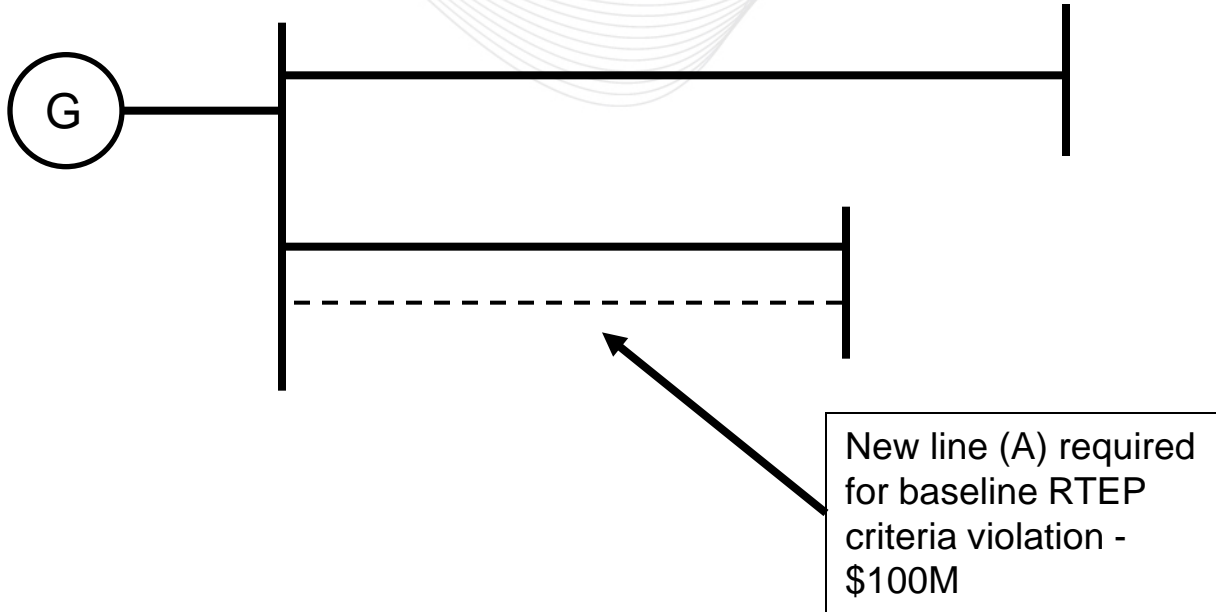
- Slide intentionally left blank. Will be updated on Thursday.

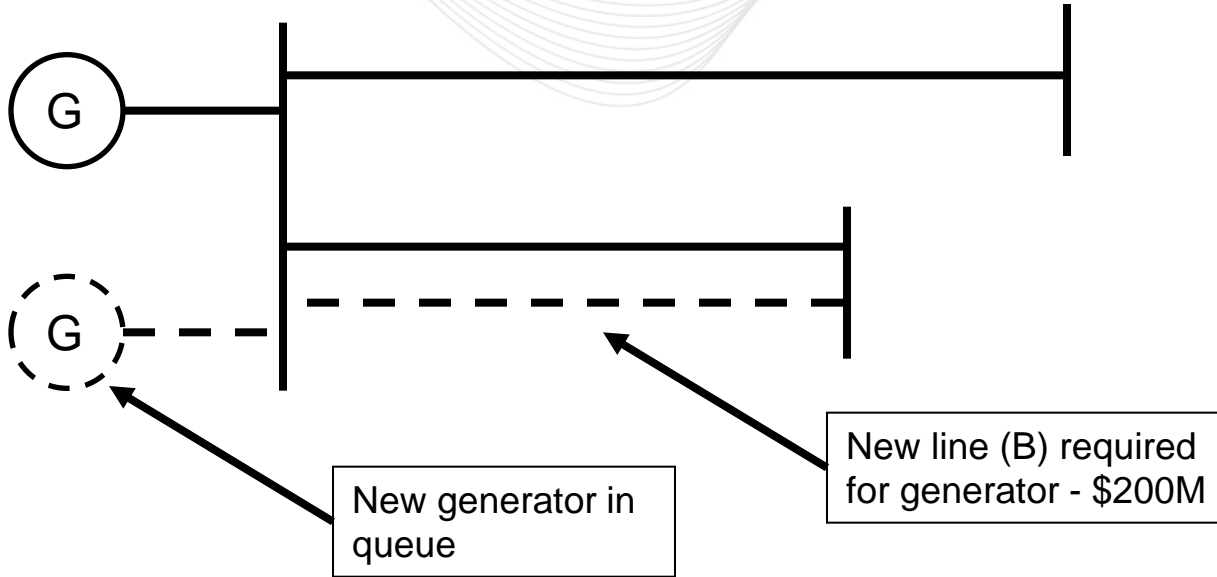
- Generator requires upgrade that completely replaces a smaller baseline RTEP upgrade

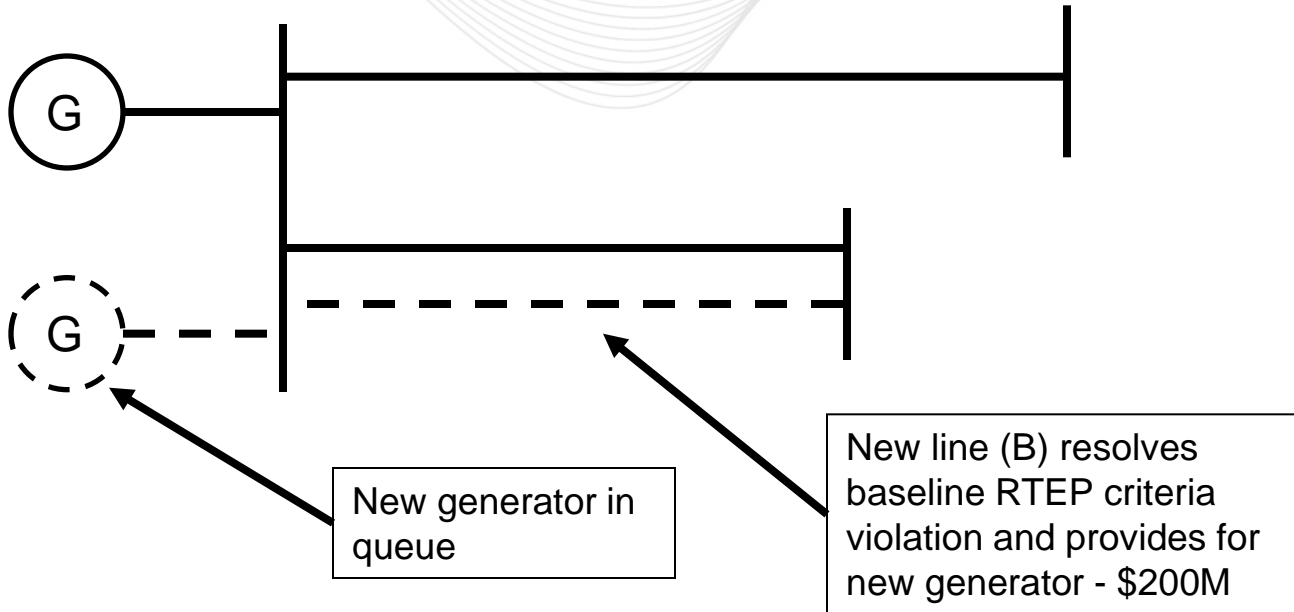
- *Generator enters queue before RTEP violation is identified*
- *Generator enters queue after RTEP violation is identified*
- *Generator in-service date is before date of RTEP violation*
- *Generator in-service date is after date of RTEP violation*

May be timing issues, but may not change integration of drivers

In Example 1, generator upgrade does not resolve baseline criteria violation – need a bigger upgrade to solve both issues







- Timing
 - *Is generator ready to commit (execute ISA) when decision would need to be made so that line A can be completed before onset of criteria violation?*
 - *If not, what level of certainty would be acceptable to move forward with line B?*
 - *Can line B be completed before onset of criteria violation, even if generator is ready?*
 - *If not, are acceptable operational measures available?*
 - *Other?*

- Generator must execute ISA or interim ISA to be integrated into MDA
 - *MDA is still a baseline RTEP upgrade but is also identified with required “Network Upgrades” for generator*
 - *MDA becomes part of base case for subsequent interconnection studies*
 - *Right to change mind regarding participation in MDA will be based on construction status, continuing need, and impact on subsequent projects – security will be used to complete MDA as with any other Network Upgrade if decision is to proceed with MDA*
 - *If MDA cannot be completed, requirements for generator must be re-tooled*
 - *Treatment is the same whether RTEP violation is identified before or after generator enters queue*

- Interim deliverability rights
 - *If generator enters queue after RTEP violation is identified rights will be based on ability to manage criteria violations during interim*
 - *If generator enters queue before RTEP violation is identified rights will be awarded based on projected in-service date of original Network Upgrades*
- Cost allocation to generator
 - *Generator receives credit against other required Network Upgrades based on cost of original baseline RTEP upgrade that is replaced (existing tariff rule)*

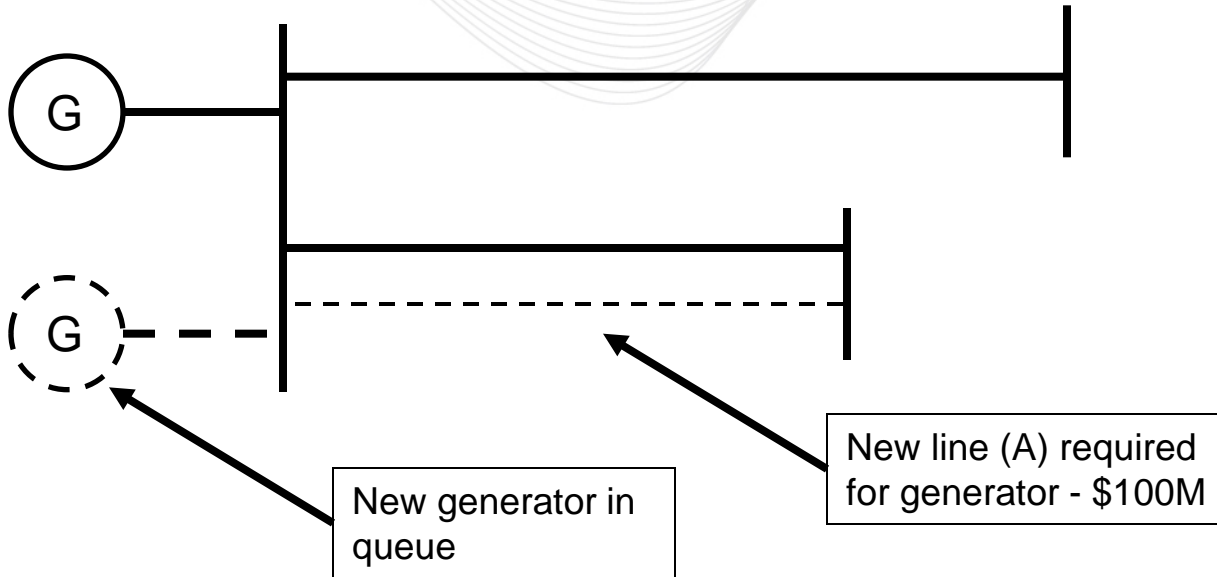
- Queue position A02 – Oak Hall
 - *138 kV Network Upgrades identified in System Impact Study eliminated need for different 138 kV baseline upgrades previously identified in RTEP*
 - *Need for baseline upgrades was obviated by A02 required Network Upgrades, not by A02 generation*
 - *Work had not yet begun on RTEP upgrades*
 - *Credit to Oak Hall was calculated based on costs and timing of required facilities*
 - *Oak Hall executed ISA, baseline upgrades were removed from the RTEP, required A02 Network Upgrades were constructed*

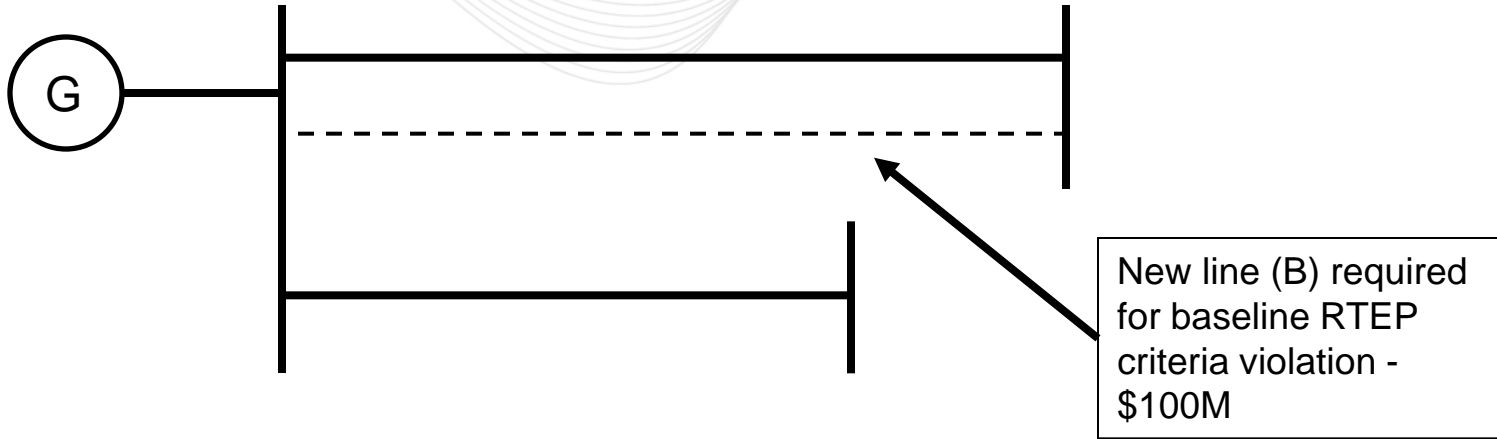


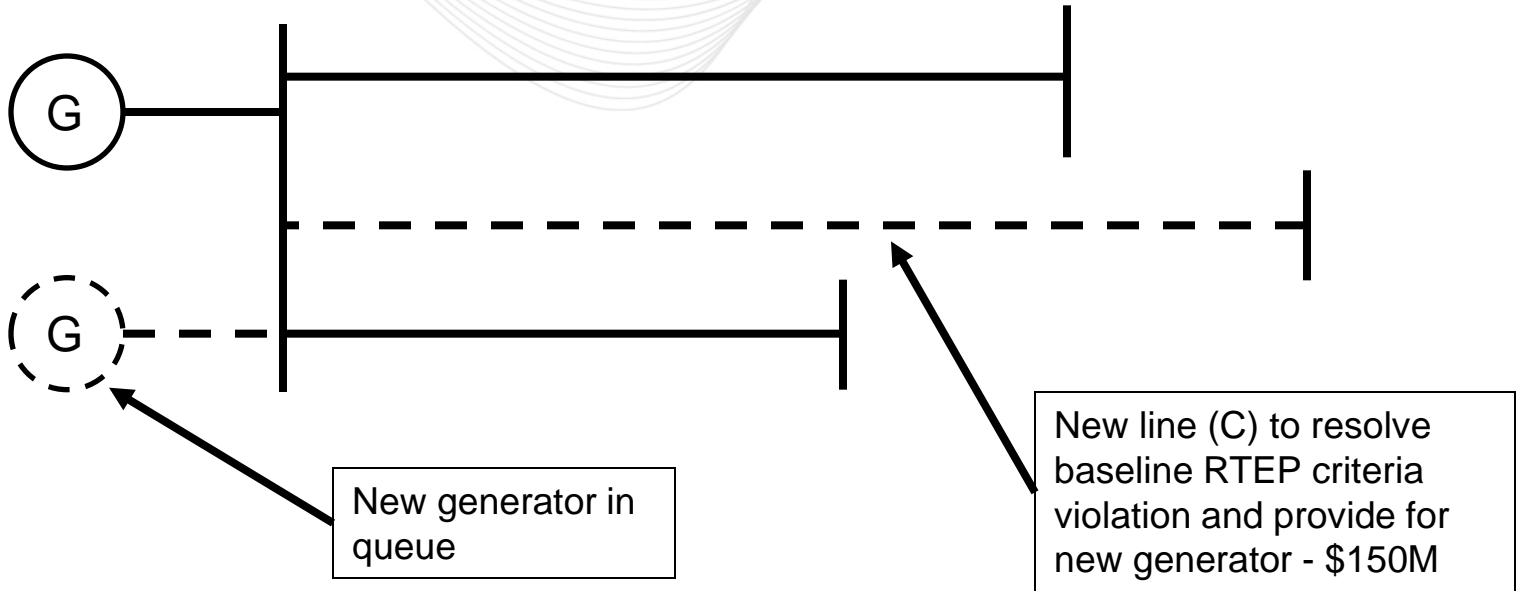
Example 1A – Required Changes

- Slide intentionally left blank. Will be updated on Thursday.

- Generator requires upgrade and baseline RTEP upgrade is required, separately, but both could be replaced by a third upgrade
 - *Similar to proportional MDA*
- Resulting MDA would be less expensive than sum of generator upgrade and originally identified RTEP upgrade
- Assume, for this example, that only one queued generator is involved and that generator has no interactions with other generators in queue







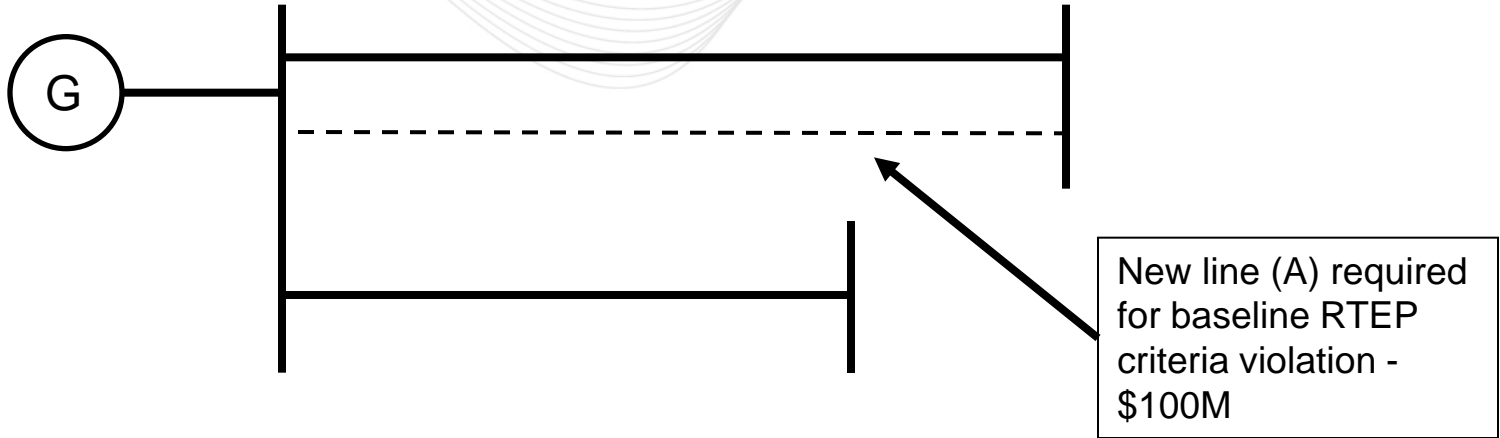
- Timing – same as for Example 1 (?)
 - *Is generator ready to commit (execute ISA) when decision would need to be made so that line C can be completed before onset of criteria violation?*
 - *If not, what level of certainty would be acceptable to move forward with line C?*
 - *Can line C be completed before onset of criteria violation, even if generator is ready?*
 - *If not, are acceptable operational measures available?*
 - *How do we manage generator rights if commercial date is after line B would have been in service, but before line C can be placed in service?*
 - *Other?*

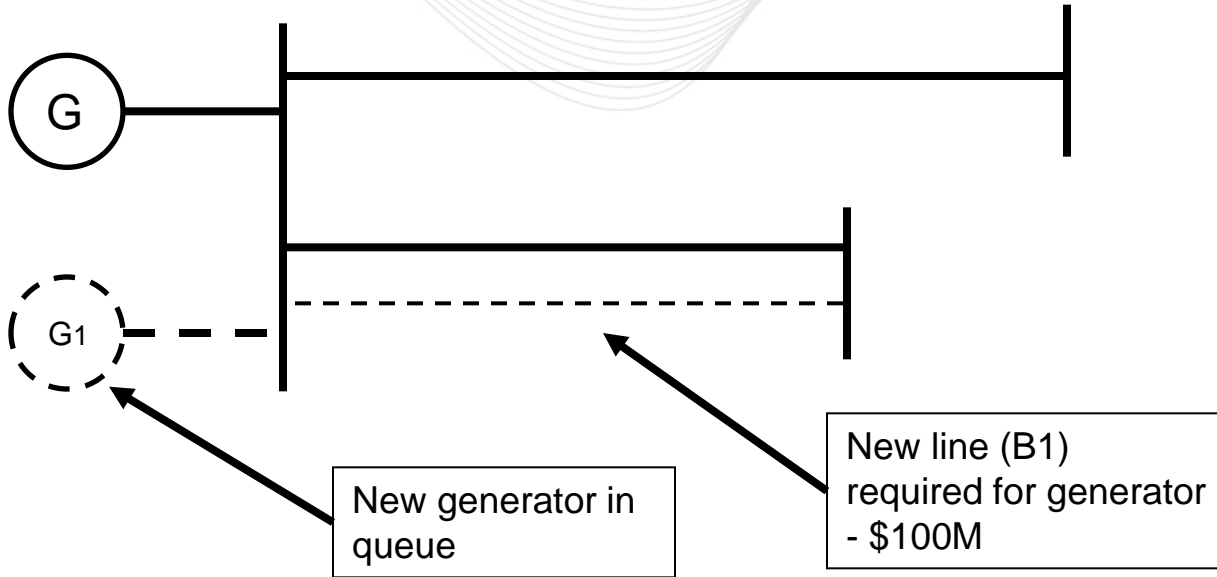
Example 2 – Proposed Business Rules

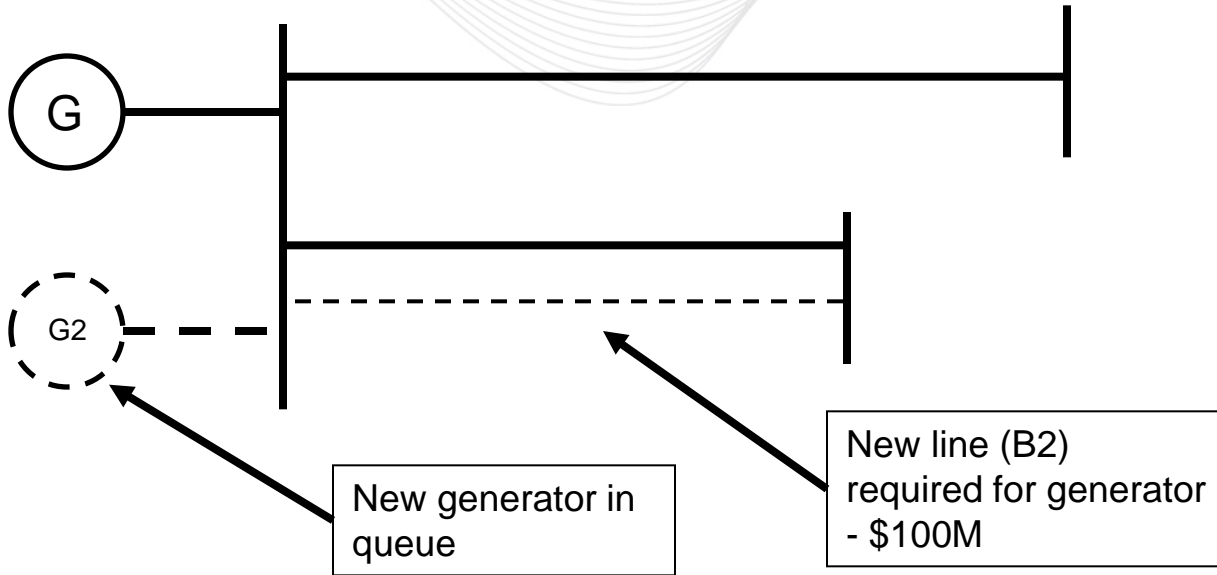
- Generator must execute ISA or interim ISA to be integrated into MDA
 - *MDA is still a baseline RTEP upgrade but is also identified with required “Network Upgrades” for generator*
 - *MDA becomes part of base case for subsequent interconnection studies*
 - *Right to change mind regarding participation in MDA will be based on construction status, continuing need, and impact on subsequent projects – security will be used to complete MDA as with any other Network Upgrade if decision is to proceed with MDA*
 - *If MDA cannot be completed, requirements for generator must be re-tooled*
 - *Treatment is the same whether RTEP violation is identified before or after generator enters queue*

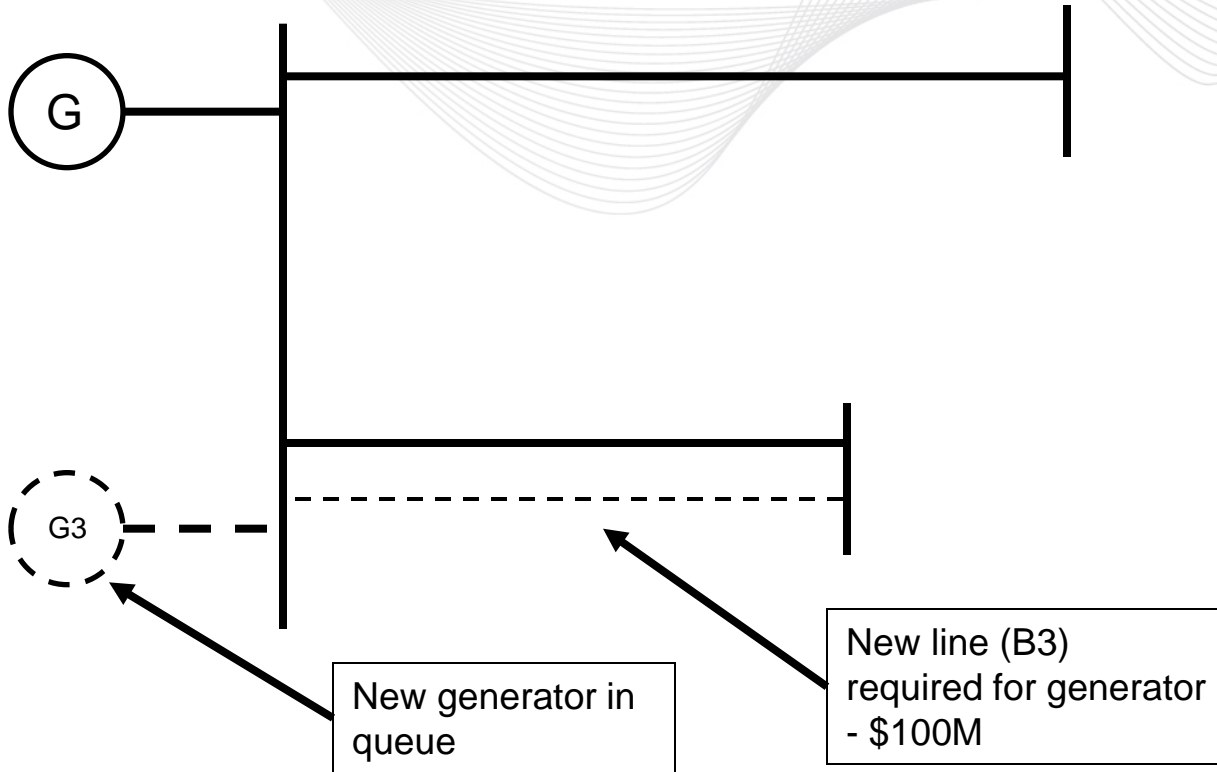
- Interim deliverability rights
 - *If generator enters queue after RTEP violation is identified rights will be based on ability to manage criteria violations during interim*
 - *If generator enters queue before RTEP violation is identified rights will be awarded based on projected in-service date of original Network Upgrades*
- Cost allocation to generator
 - *Based on Network Upgrade that would have been required without MDA (existing but-for test)*

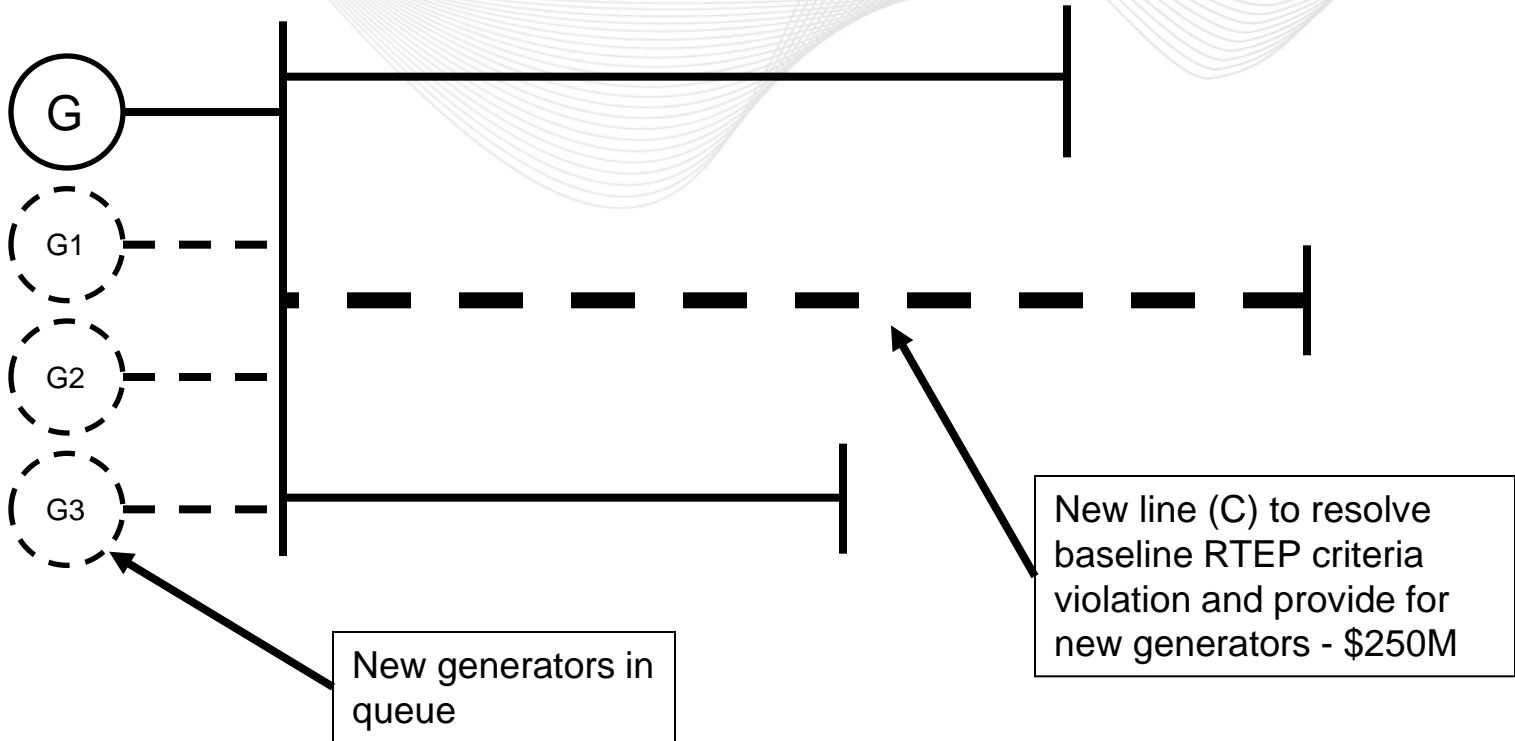
- Generator(s) requires upgrade and baseline RTEP upgrade is required, separately, but all could be replaced by a larger upgrade
 - *Similar to proportional MDA*
- Resulting MDA would be less expensive than sum of generator upgrades and originally identified RTEP upgrade











- Timing –
 - *Are generators ready to commit (execute ISA) when decision would need to be made so that line C can be completed before onset of criteria violation?*
 - *If not, what level of certainty would be acceptable to move forward with line C?*
 - *Can line C be completed before onset of criteria violation, even if generator is ready?*
 - *If not, are acceptable operational measures available?*
 - *How do we manage generator rights if commercial date is after line B1, B2, or B3 would have been in service, but before line C can be placed in service?*

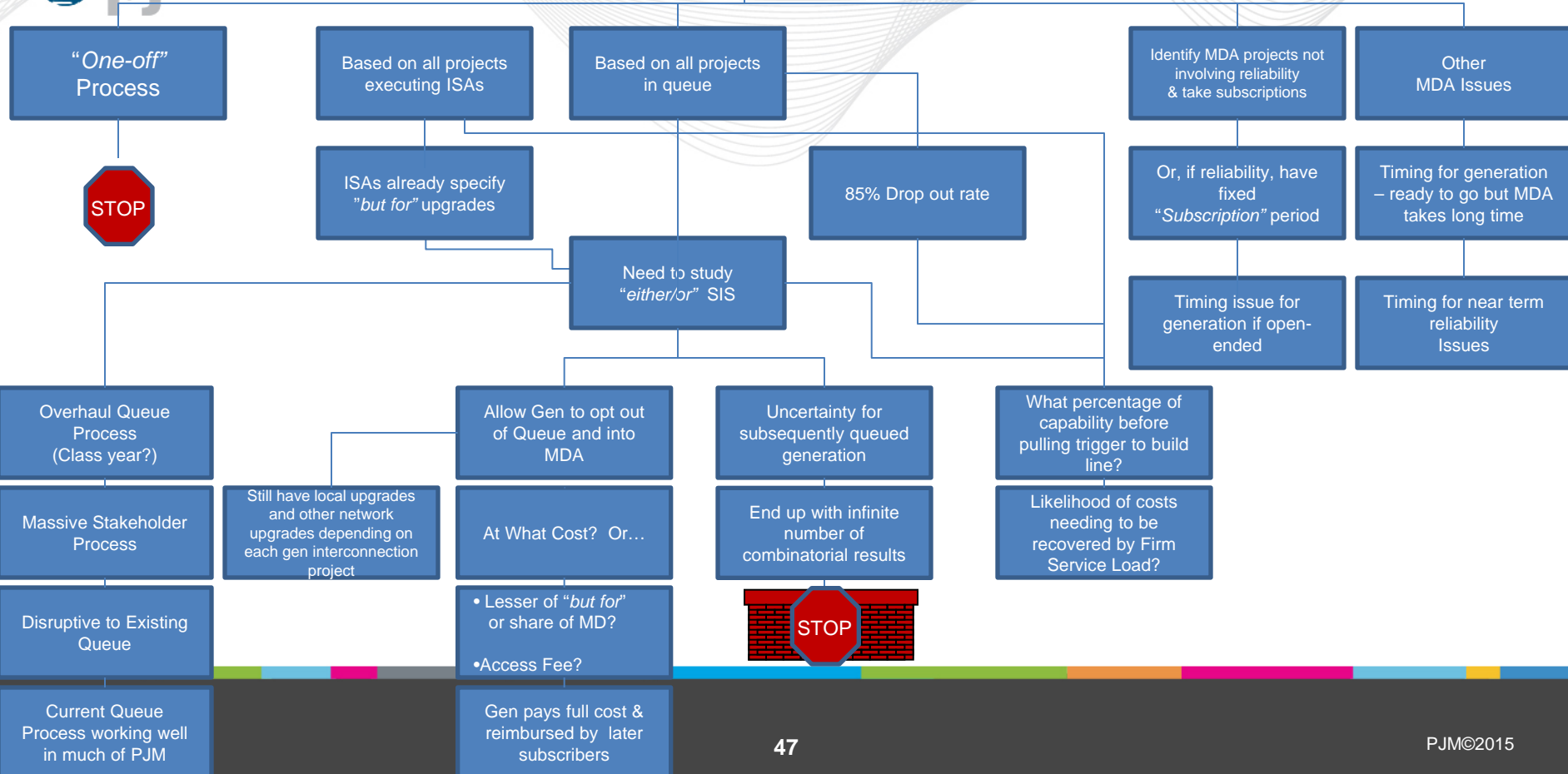
- **Subscription Process Issues**
 - Managing competing rights of multiple generators at different points in queue process
 - Managing interaction(s) between MDA capability and other requirements identified through interconnection studies
 - Managing studies for later queued projects
 - Impact of withdrawing generators on MDA
 - Impacts of MDA delay/failure to proceed (CPCN) on MDA generators and later queued generators
 - Other?

- Other
 - Cost of unsubscribed capability?
 - Basis for costs assigned to each generator
 - *but for* analysis
 - Access fee
 - other

- 3/4/5 driver project
 - What occurs when with the addition of generators, you no longer resolve one of the original drivers? (market efficiency, aging infrastructure)
 - What are some of the other issues stakeholders see?

Slides from last meeting

1 - Commitment



- Opportunity to capture stakeholder ideas
- Intent – Continue GI in parallel to MDA Business rules / consideration by MRC / MC
- “*Either/or*” Studies compound by number of generation projects
- Impact to existing (*or alternate?*) Queues
- Aligning timing of GI with RTEP/MDA cycles

- What does generator pay?
 - But-for cost based on SIS without MD project
 - Some reduced amount based on incremental or parallel apportionment (similar to discussion for public policy MD projects)

- Will require triggers or guidelines for when to apply
- Still have to deal with uncertainties for later queued projects
- Timing and risk issues for generator waiting for larger scope project
- Have to deal with cost apportionment
- Have to deal with issue of how much capability needs to be signed up before pulling the trigger
 - Issue of risk to load of paying for unused capability

- Subscription process
 - Should we do periodic analyses to identify potential MD projects targeted to delivering clusters of generation?
 - Need rules to address
 - how a generator moves from SIS upgrades to MD project
 - cost to generator
 - impact to later queued generators
 - Need to address when to fold MD project into other baseline and interconnection analyses (this issue probably applies to MD projects in all cases related to interconnection)

- Who proposes MD projects?
 - Answer: Anyone can
 - Transmission owners may see linkage to other drivers when developing solutions
 - May surface in proposal windows related to other drivers
 - Generation developer may see linkage to other drivers
 - PJM staff may see linkage to other drivers in evaluation analyses

- When do you consider MD project for generator?
 - At Feasibility or SIS stage
 - will make it very difficult to complete studies on time and will delay later queued projects
 - could work if MD project has already been identified for other drivers
 - At Facilities Study stage
 - have to manage timing with pending issuance of ISA
 - still have delay and uncertainty issues for later queued projects