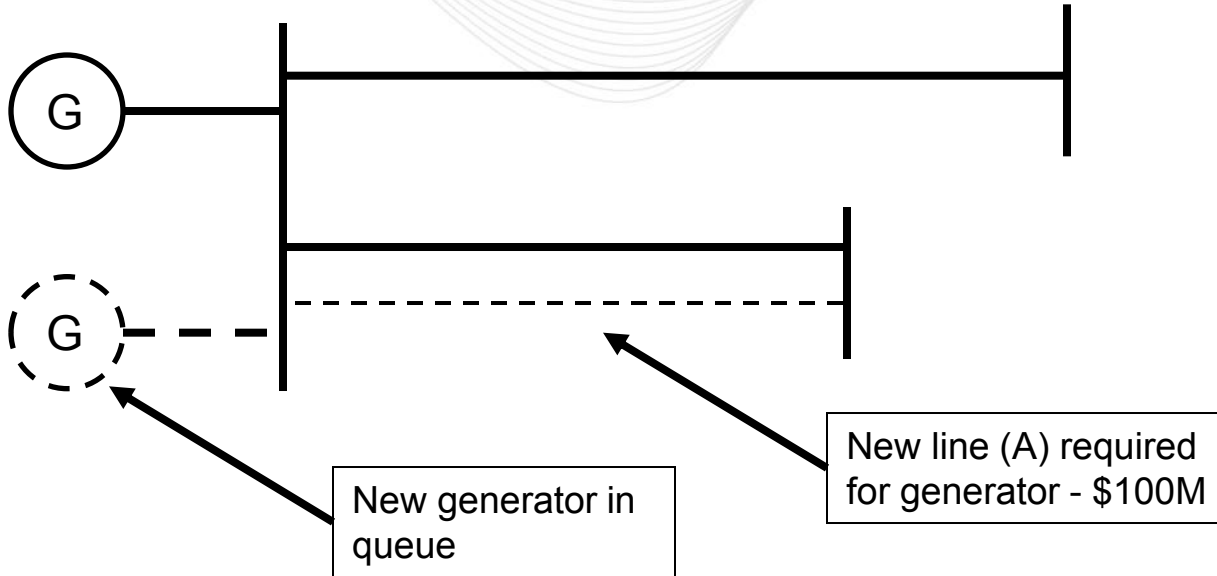


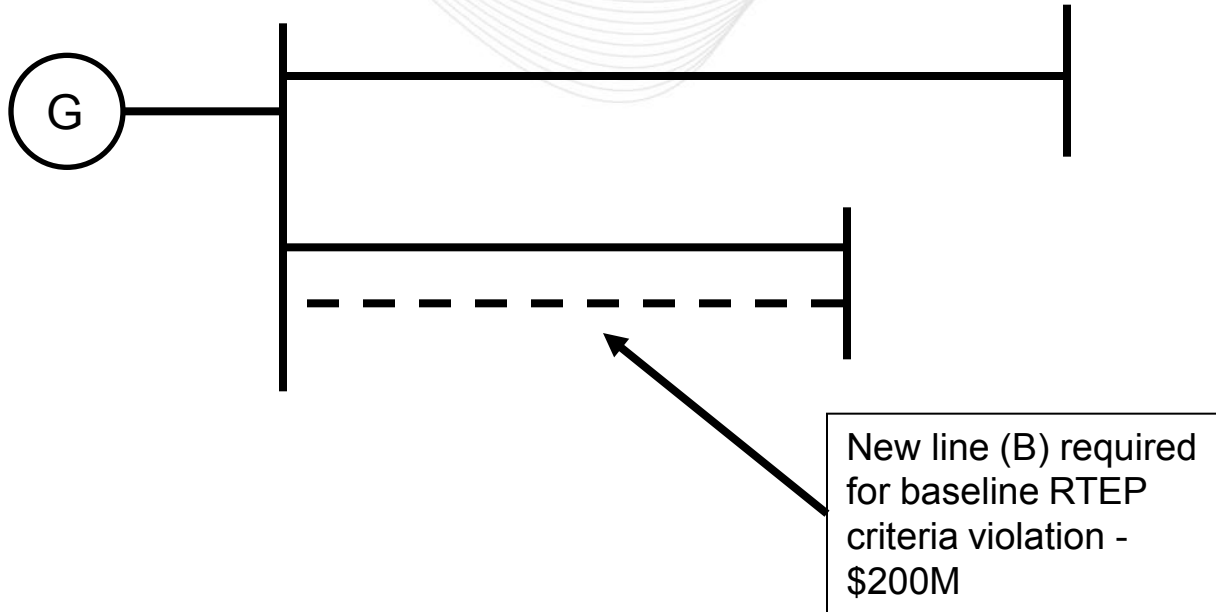
# Generation Interconnection (GI) as an Input to Multi-Driver Approach

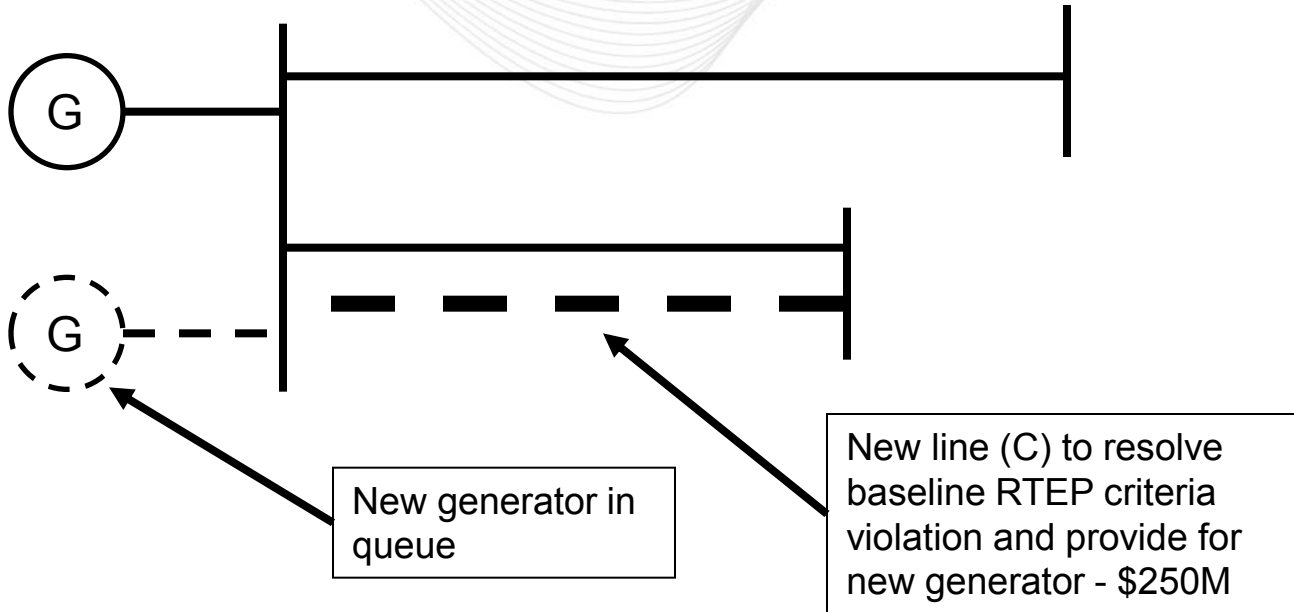
September 19, 2014

- 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







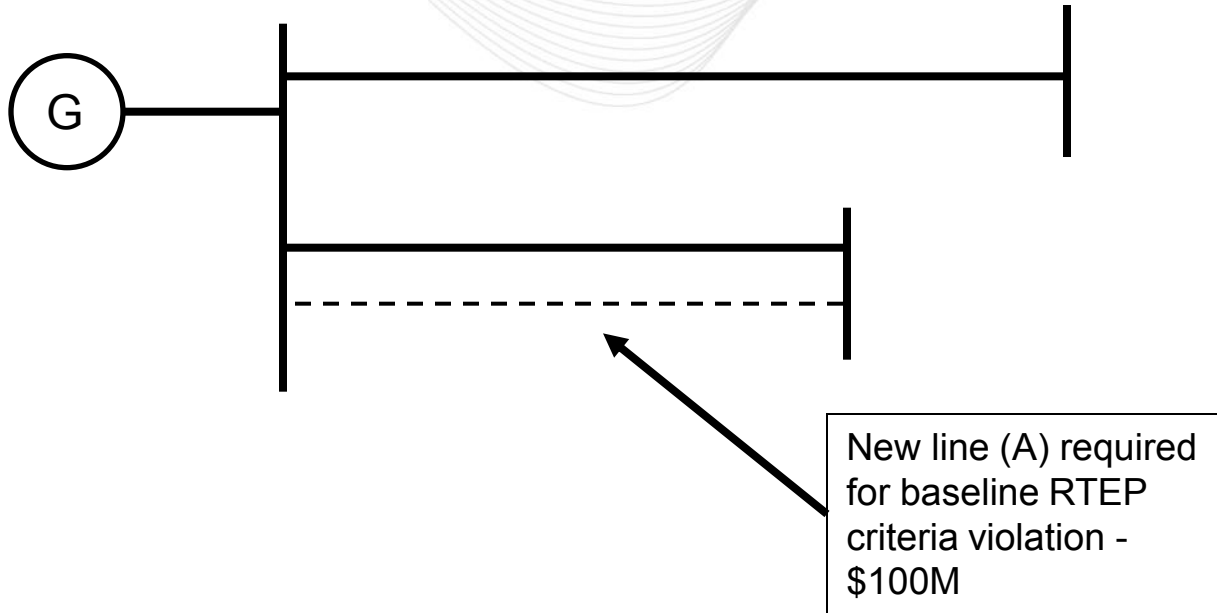
- Timing
  - *Is generator ready to commit (execute ISA) when decision would need to be made so that line C can be completed before onset of criteria violation?*
    - *If not, what level of certainty would be acceptable to move forward with line C?*
  - *Can line C be completed before onset of criteria 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?*

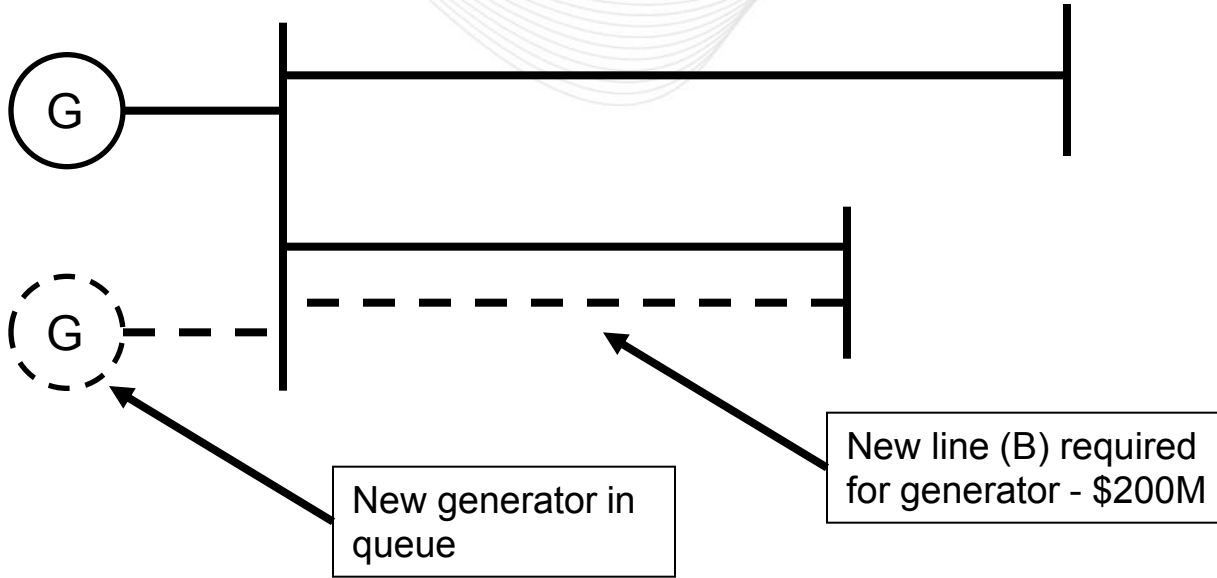
- Options
  - *Capture options*

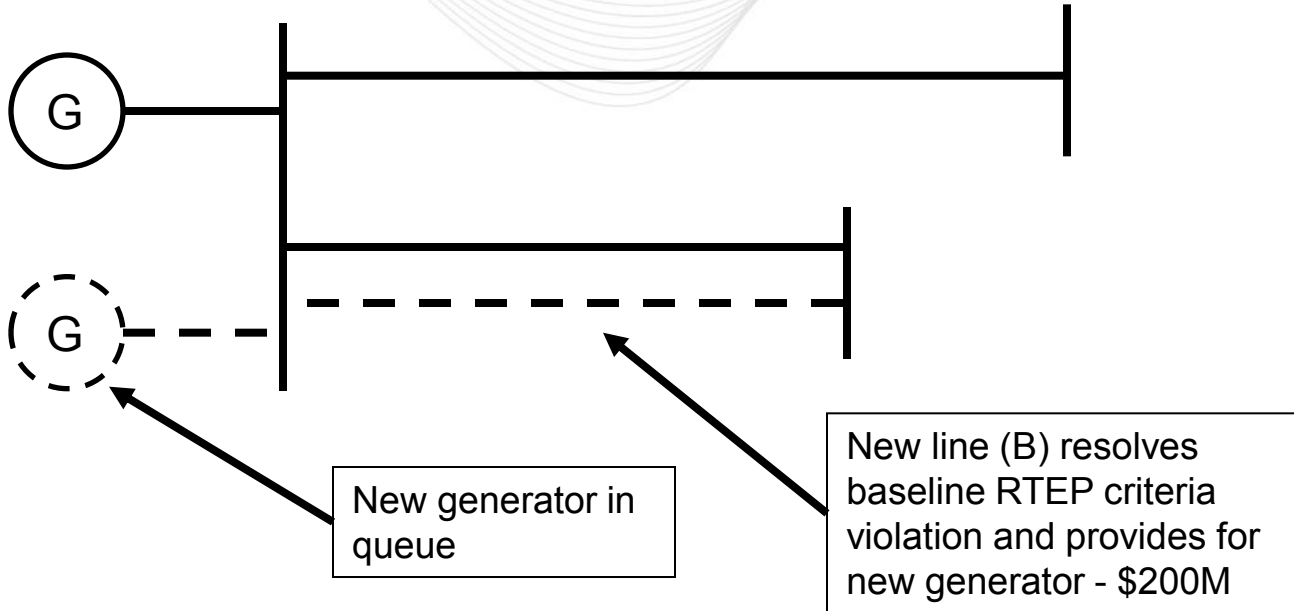
- Generator requires upgrade that completely replaces a smaller baseline RTEP upgrade
  - *Generator enters queue before RTEP violation is identified*
  - *Generator enters queue after RTEP violation is identified*
  - *Generator in-service date is before date of RTEP violation*
  - *Generator in-service date is after date of RTEP violation*

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





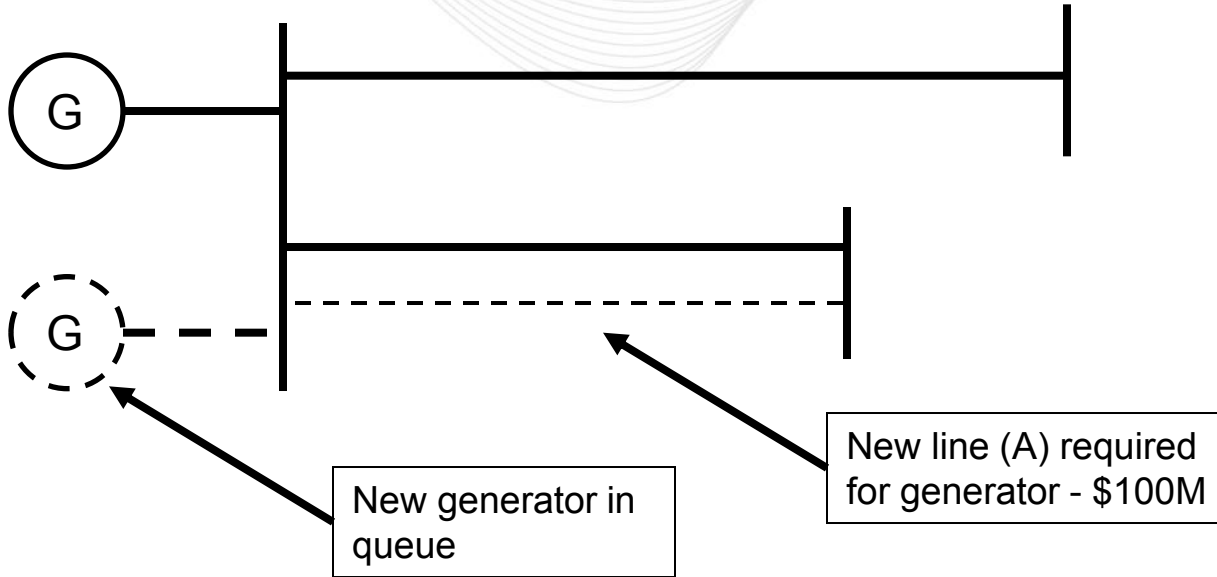


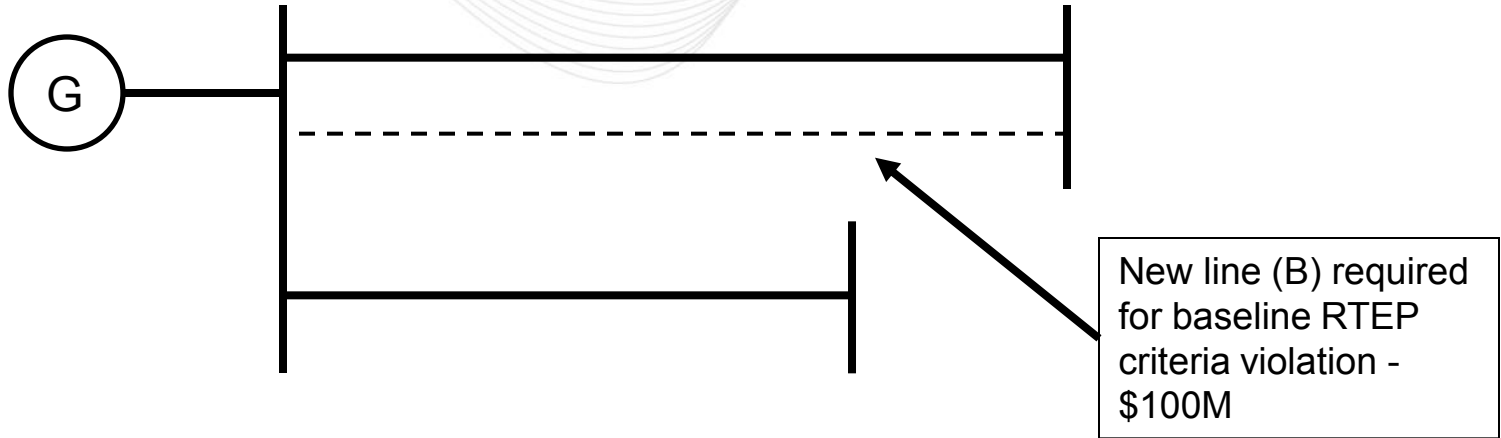


- Timing
  - *Is generator ready to commit (execute ISA) when decision would need to be made so that line A can be completed before onset of criteria violation?*
    - *If not, what level of certainty would be acceptable to move forward with line B?*
  - *Can line B be completed before onset of criteria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

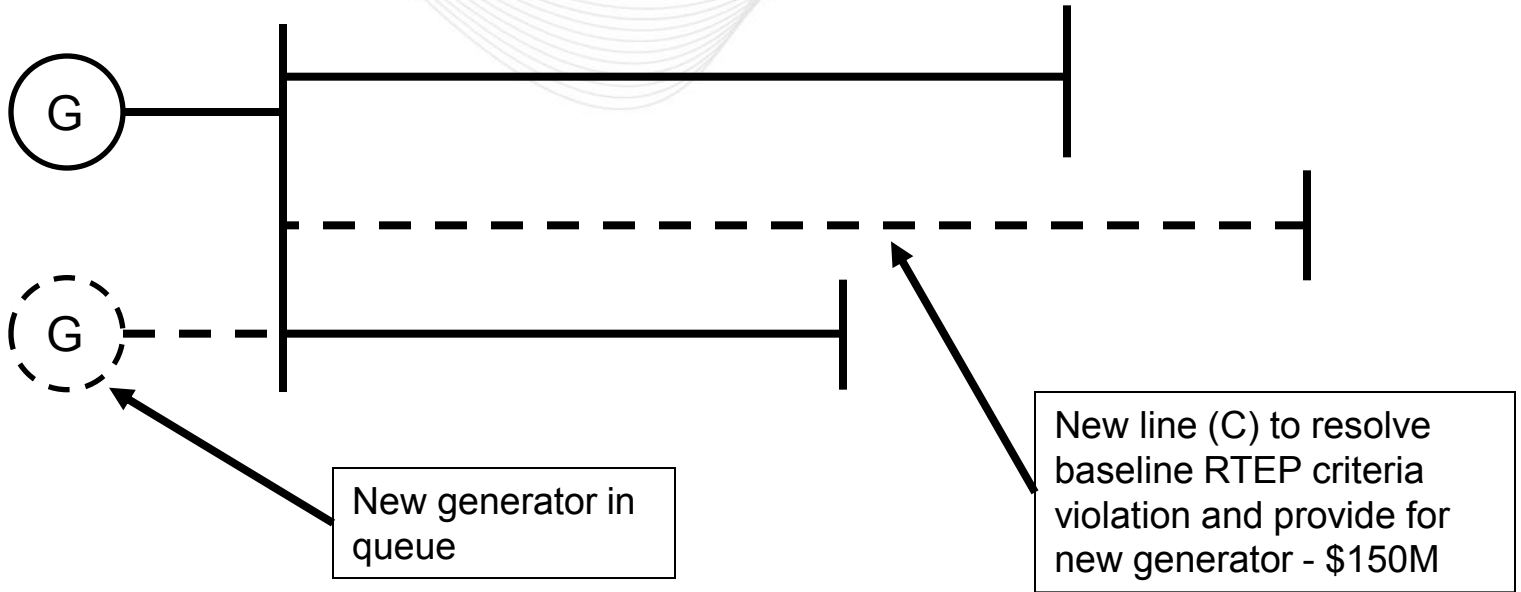
- Options
  - *Capture draft rule-based options*

- 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





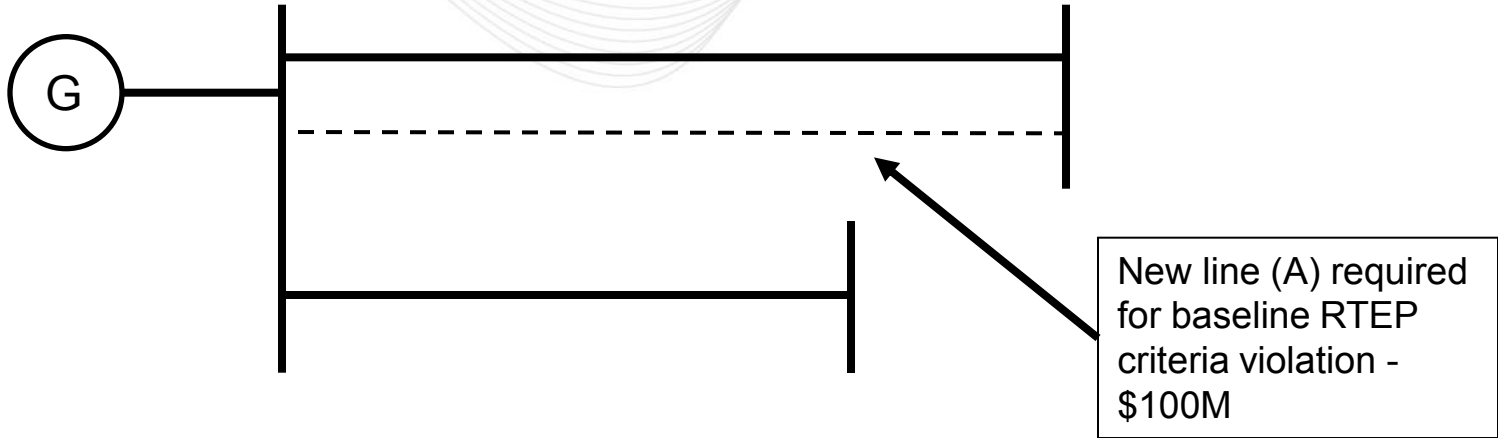


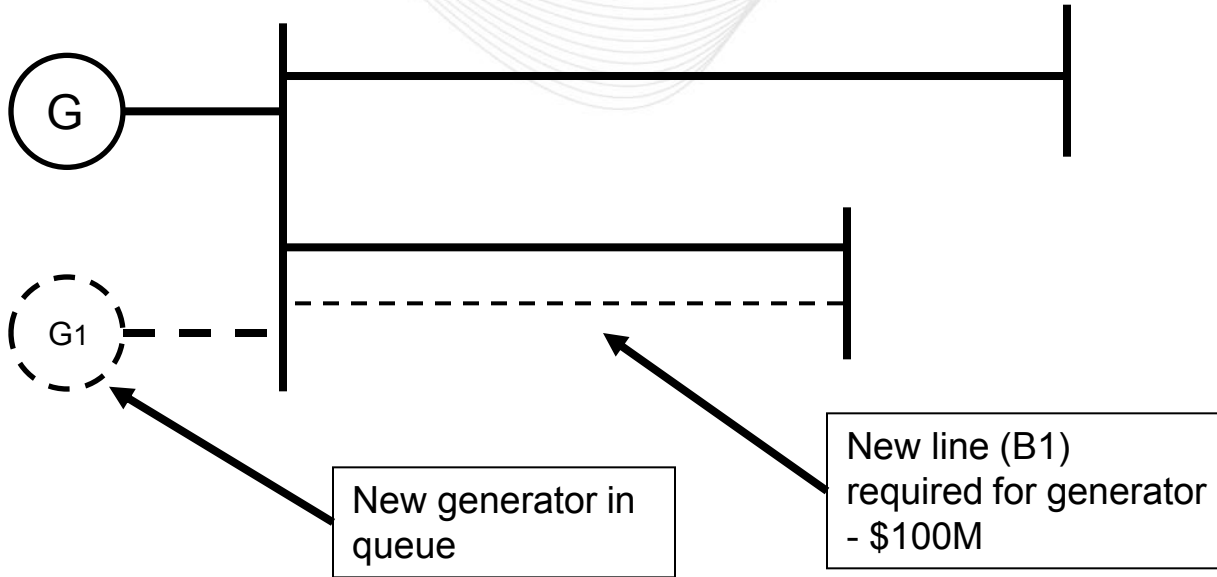


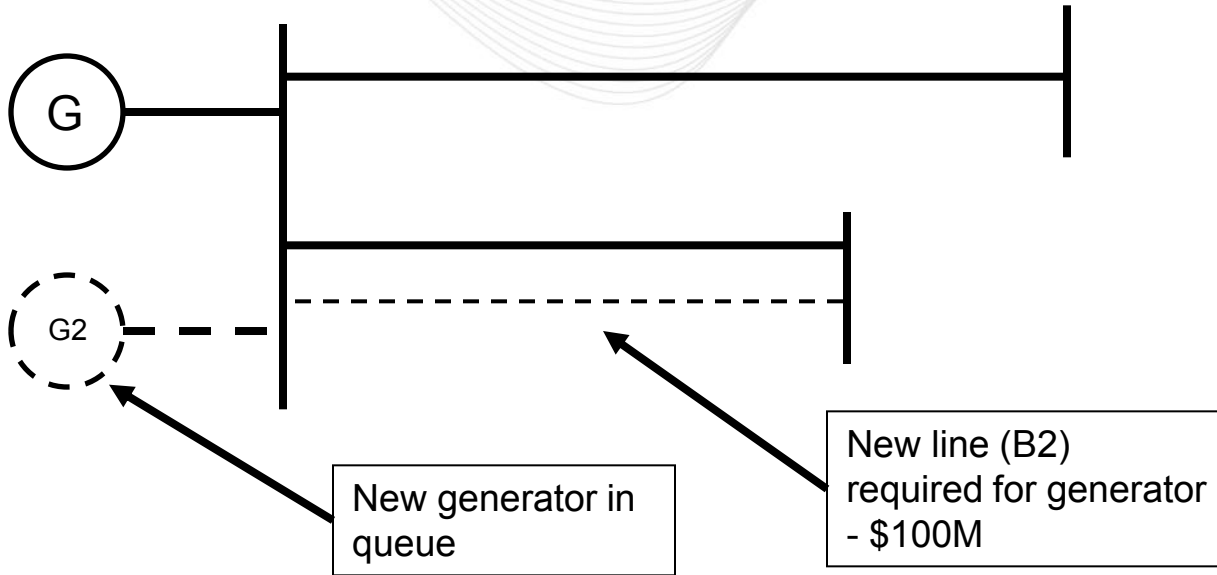
- Timing – same as for Example 1 (?)
  - *Is generator ready to commit (execute ISA) when decision would need to be made so that line C can be completed before onset of criteria violation?*
    - *If not, what level of certainty would be acceptable to move forward with line C?*
  - *Can line C be completed 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?*

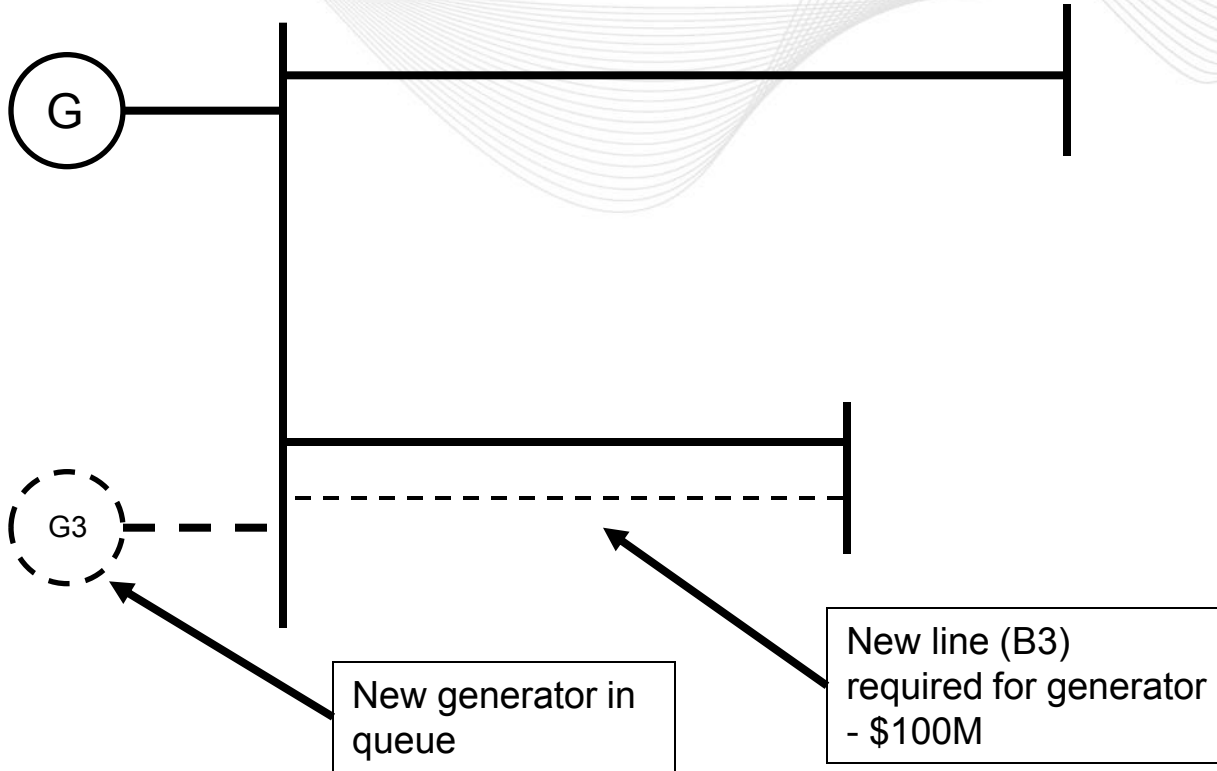
- Options
  - *Capture options*

- 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

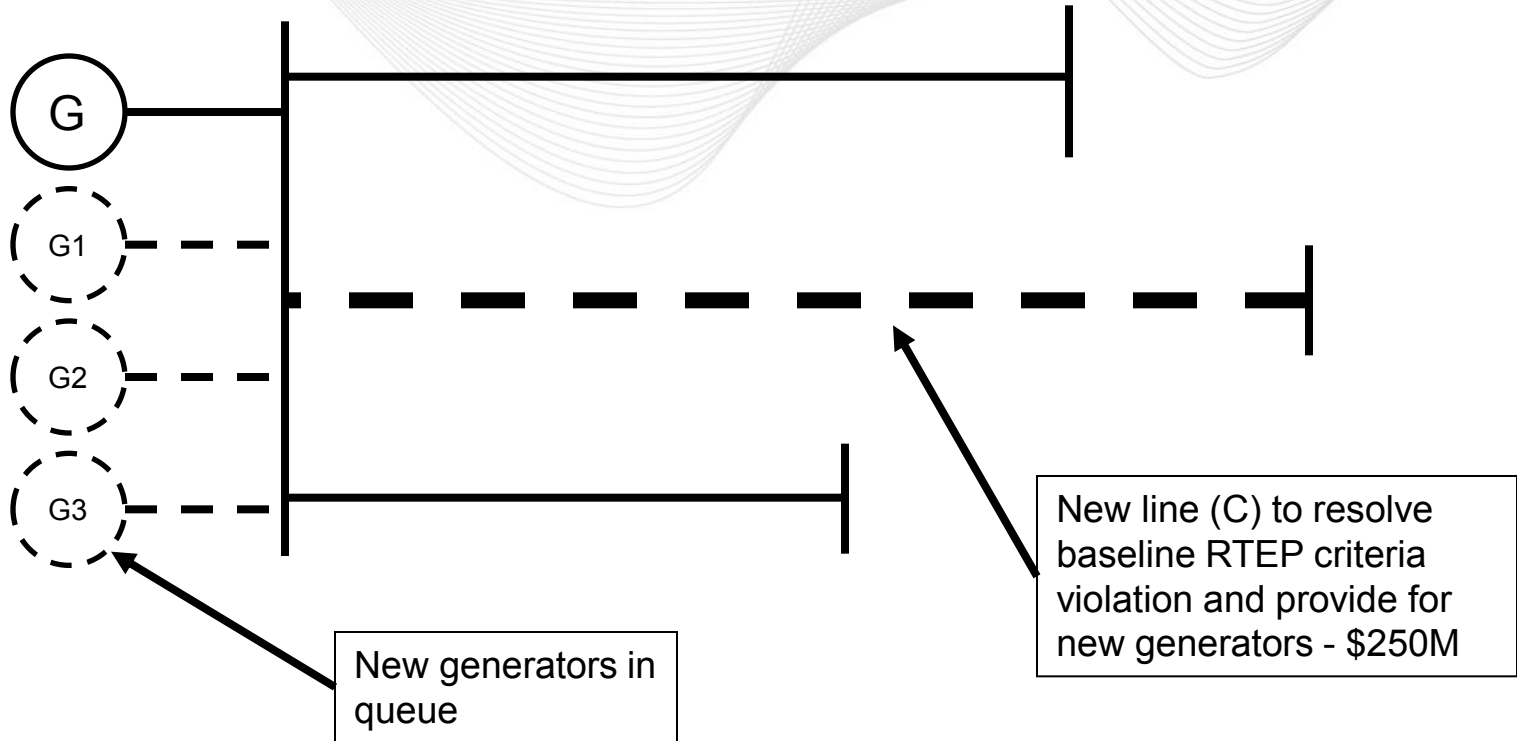












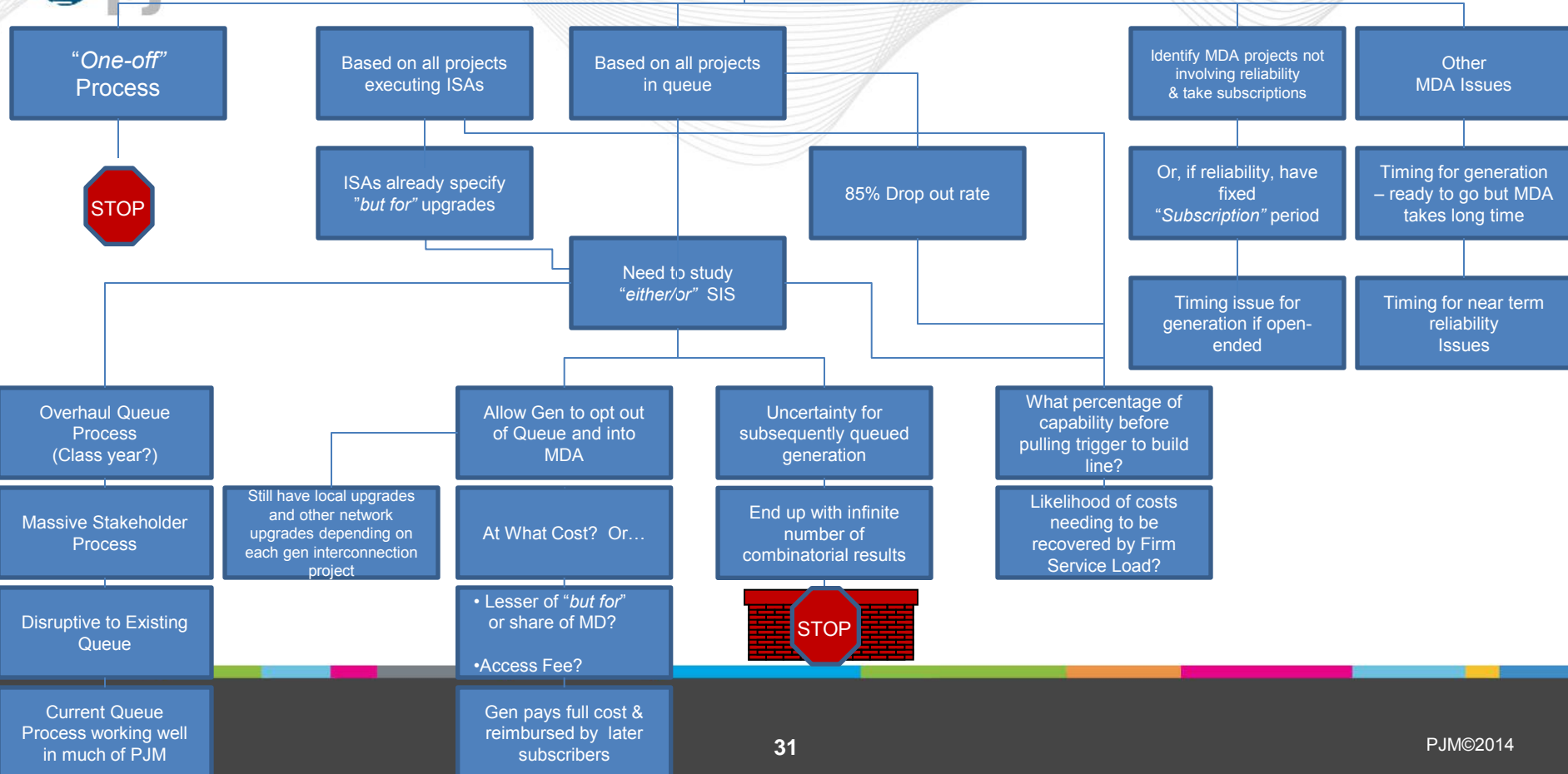
- Timing –
  - *Are generators ready to commit (execute ISA) when decision would need to be made so that line C can be completed before onset of criteria violation?*
    - *If not, what level of certainty would be acceptable to move forward with line C?*
  - *Can line C be completed before onset of criteria 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



- 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