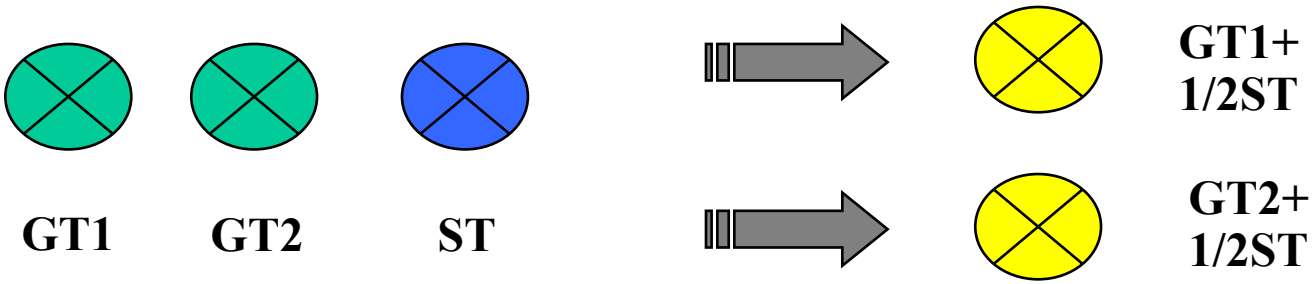
Proposed
Combined Cycle Unit
Modeling Enhancement

ISO Generation Issues Task Force

April 6, 2004

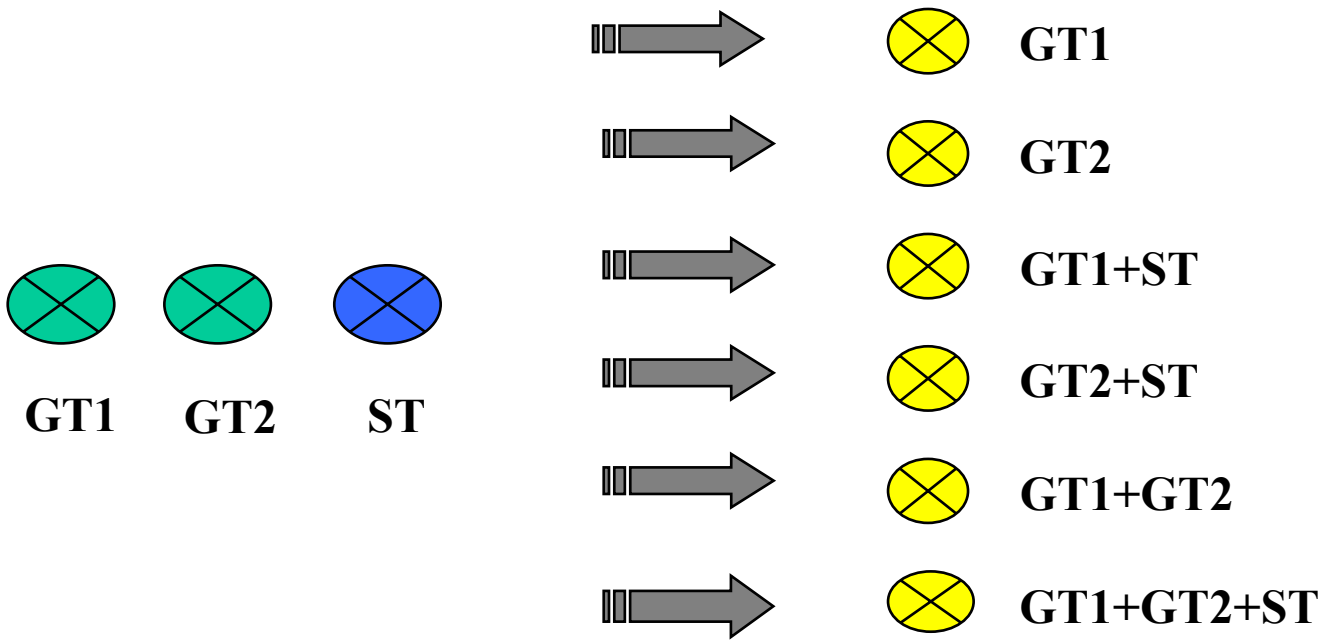
Combined Cycle Unit Modeling
Current Approach - GT/ST Coupled Model



Current model allows individual GT commitment costs to be captured; ST costs must be reflected in mingen and incremental energy costs of the "coupled model" units

Combined Cycle Unit Modeling

Proposed Approach - Plant Configuration Model



Proposed modeling approach represents the allowable potential plant configurations as "pseudo units" and additionally represents transitional limits and costs between the allowable plant configurations

Combined Cycle Unit Modeling
Proposed Approach - Plant Configuration Model

Plant configuration 'pseudo units' representation

- All existing unit modeling capabilities
  - Three part unit offer
    - Start up, Mingen, incremental energy costs
  - Start-up and notification times
  - Minimum operating and down times

Transitional attributes between allowable plant configurations

- Acceptable start-up and shut down plant configurations
- Acceptable plant configuration transitions - (ie. GT1->GT1+ST)
- Low/High Limits prior to transition
- Low/High Limits after transition
- Transition Cost - $/transition
- Transition Time - Hr
- Transition Ramp - MW/Hr