DOCKET
12-IEP-1D
DATE MAY 14 2012
RECD. MAY 21 2012

Generator Interconnection and Deliverability Allocation Procedures (GIDAP) (aka "TPP-GIP Integration")

CEC IEPR Workshop, May 14, 2012

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Proposal addresses three key challenges by integrating generator interconnection procedures (GIP) with transmission planning process (TPP).

1. Plan and approve major ratepayer-funded upgrades under a single, holistic transmission planning process

   Minimize role of GIP in driving rate-based upgrades

2. Ratepayers will cover GIP delivery upgrade costs only for projects aligned with TPP resource portfolios

   Current GIP tariff requires ratepayers to fully reimburse new generation projects for all network upgrade costs

3. Structure of GIP study process will produce realistic results even with extreme queue volume

   Huge volume drives unrealistic upgrade requirements

Central design concept builds on the new “public policy-driven” transmission category created in 2010

- Observation: Most significant GIP-driven upgrades are for resource adequacy deliverability
- Annually develop generation resource portfolios for TPP
  - Identify public policy upgrades needed to provide deliverability
  - Annual plan provides MW of deliverability in portfolio areas
- Allocate rate-based TP deliverability to projects based on development milestones
  - Projects allocated rate-based TP deliverability either do not pay, or post & are reimbursed for most network upgrades
  - Projects not allocated TP deliverability either convert to “energy only,” or pay for upgrades without reimbursement

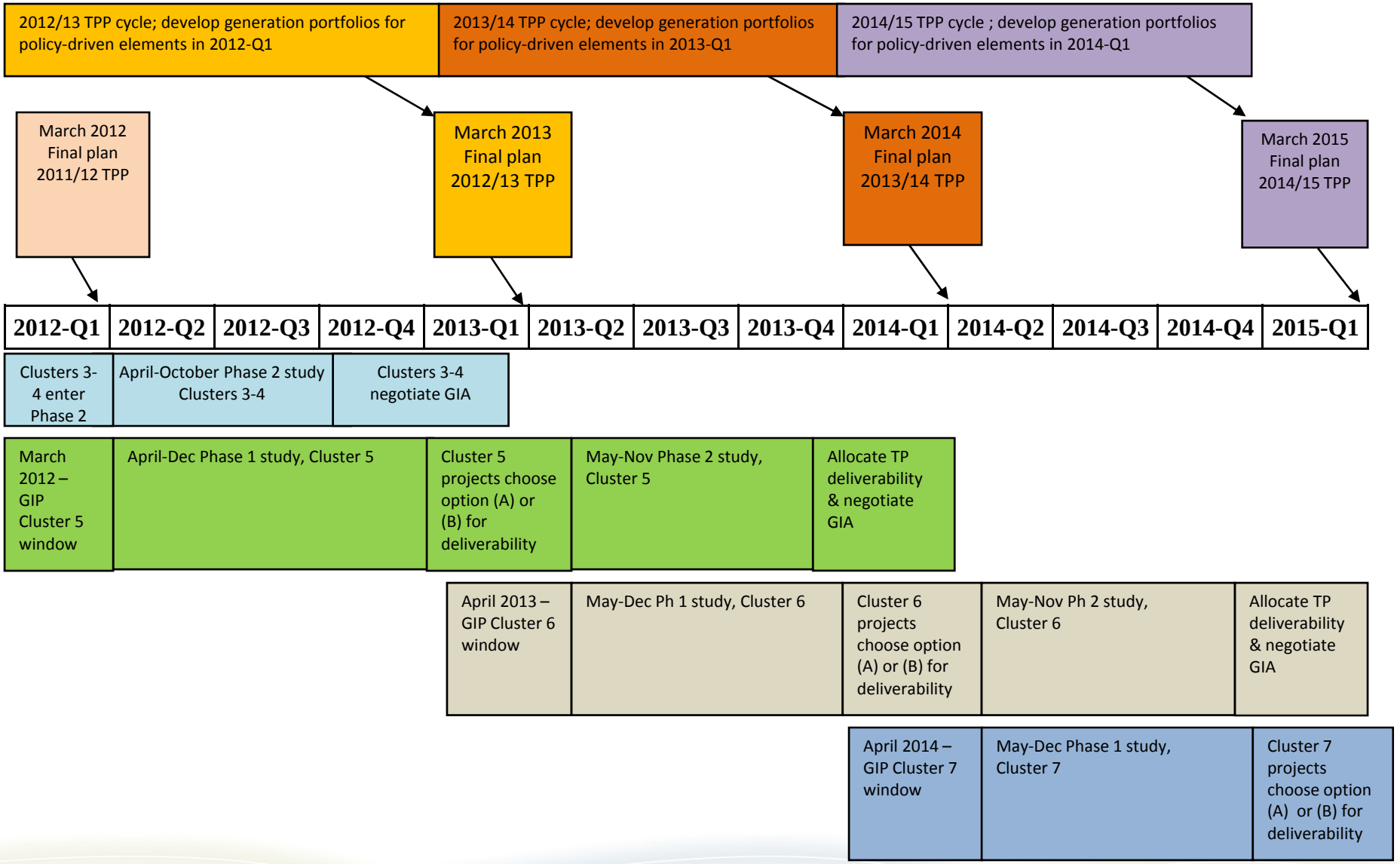
Overview of new GIP structure (starting with Cluster 5)

- Phase 1 study assesses deliverability for reasonable MW amounts (based on TPP portfolios) when queue is very large
- Each project makes a choice in entering phase 2:
  - Option A: Project requires rate-based TP deliverability
  - Option B: Project is willing & able to pay for delivery upgrades
- Phase 2 study identifies delivery upgrades only for Option B, assuming Option A & prior clusters use TP deliverability
- ISO allocates TP deliverability to the most viable projects
  - Rank projects based on development milestones
  - Both A and B are eligible for allocation
  - Option A not allocated may “park” until next cycle
  - Projects allocated must demonstrate retention milestones

Proposal balances multiple objectives and diverse stakeholder concerns.

- Limit ratepayer cost exposure, while facilitating development of new generation projects
  - Provide realistic upgrade needs and costs for projects
  - Approve sufficient, but not excessive, rate-based transmission
    - Allocate TP deliverability to new projects only after reserving capacity for viable existing queue projects
  - Limit cash reimbursement for reliability upgrades to $60,000 per MW of generating capacity
- Align with bilateral procurement process, while complying with open access principles
  - GIP study results will inform procurement decisions
  - Allocate TP deliverability to projects fairly, transparently
- Minimize impact of large existing queue, without retroactive rule changes

Timeline for Integrated TPP and GIP



Proposal distinguishes 3 network upgrade types for generation projects

- Area Delivery Network Upgrades (ADNU)
  - Identified in TPP to provide deliverability for MW generation quantities in grid areas specified in TPP resource portfolios
    - Projects allocated rate-based TP Deliverability are not required to post or pay for ADNU
  - Identified in GIP Phase 2 study for Option B projects
- Local Delivery Network Upgrades (LDNU)
  - Identified in GIP studies; specific to generation project
- Reliability Network Upgrades (RNU)
  - Identified in GIP studies; specific to generation project
  - Required to address a problem that cannot be managed through market congestion management
- All projects post for their shares of LDNU and RNU.

Reimbursement of LDNU postings is linked to TP deliverability allocation

- Option (A) and (B) projects allocated TP deliverability receive full reimbursement of LDNU postings after commercial operation
- Option (A) projects not allocated TP deliverability that remain in queue as energy only are reimbursed for first LDNU posting
- Option (B) projects not allocated TP deliverability are not eligible for cash ratepayer reimbursement of LDNU or ADNU costs
  - "First-mover-late-comer" provisions may provide partial cash reimbursement from later generation projects
- All projects are reimbursed for RNU costs up to $60,000 per MW of installed capacity after commercial operation
  - Mean of all RNU costs from transition cluster and clusters 1-2, and covers full RNU costs for 71% of MW of project capacity

Integrated TPP-GIP: GIP Phase 1

- Modified GIP phase 1 study approach will provide more realistic & useful results than today
  - Identify RNU and LDNU for all projects in cluster
  - Identify ADNU for a “GIP phase 1 study portfolio” that reflects realistic development amounts
  - For each study area, model generation up to amount of TP deliverability in latest transmission plan, plus about 50%
  - Study indicates cost of network upgrades if development in an area exceeds TPP portfolio amount
  - Provides information to LSEs and regulatory authorities for evaluating procurement options

- For a grid area where queue volume exceeds amount studied for deliverability, ISO will calculate $/MW rate equal to ADNU cost divided by incremental MW amount of generating capacity studied
  - Use rate to extrapolate ADNU cost estimates for full study group and for each project in group
- GIP phase 1 results provide each project with cost cap for its RNU and LDNU
  - Retain today's GIP provisions on security posting
  - Modify LDNU cash reimbursement to align with TP deliverability allocation.

Phase 1 does not cap project exposure to ADNU costs.

Integrated TPP-GIP: From Phase 1 to Phase 2

- Between phase 1 results and deadline for posting for phase 2, project must elect one of two options:

(A) => the project requires TP deliverability

  - Project makes normal GIP first security posting for RNU and LDNU, but not for ADNU

(B) => the project is willing & able to pay for all network upgrades without cash reimbursement by ratepayers.

  - Project posts security for RNU, LDNU and ADNU
  - ADNU security posting equals $/MW cost rate determined in phase 1 study, times project MW deliverability
  - Upgrades paid for without reimbursement are treated as merchant transmission, eligible for CRRs
  - Customer may select non-incumbent transmission company

Integrated TPP-GIP: GIP phase 2

- Perform baseline re-study prior to each GIP phase 2 to assess impacts of:
  - Withdrawals from queue since last phase 2 study
  - Transmission additions and upgrades approved in TPP
  - Awards of TP deliverability to prior cluster projects
- Phase 2 study will determine
  - RNU and LDNU for all projects
  - RNU and LDNU cost caps, as today
  - ADNU for (B) projects, assuming (A) projects fully utilize but do not exceed available TP deliverability
  - ADNU cost estimates – but not cost caps – for (B) projects

Allocation of TP deliverability after GIP phase 2

Allocation of TP deliverability has two steps.

Step 1: Reserve TP deliverability for prior commitments, to avoid over-allocating and triggering rate-based TPP expansion

- Existing queue projects meeting two criteria:
  - Have executed PPA in good standing with an LSE, and
  - Have GIA in good standing.
- Projects previously allocated TP deliverability that meet retention criteria
- Expansion of MIC (maximum import capability for RA)
- Deliverability for distributed generation (work in progress)

If TP deliverability is fully consumed by above, none is available for the new cluster

- Step 2 – Allocate available TP deliverability to current cluster and “parked” previous cluster (A) projects
  - Performed after phase 2 results, prior to deadlines for second security posting and GIA execution
  - Eligible projects must meet two minimum threshold criteria related to permitting and project financing:
    - Applied for government permit/approval for construction of generating facility
    - On an active short-list for an LSE’s request for offer.
  - If amount of (A) and (B) projects meeting threshold criteria does not exceed available TP deliverability, then all will be allocated and may execute GIAs accordingly.
    - Project only on short-list must have PPA by next cycle

- If total (A) and (B) meeting threshold criteria exceed amount available, ISO will ration TP deliverability
  - Calculate a numerical score for each eligible project and allocate TP deliverability to highest scoring projects (Methodology to be set forth in the Business Practice Manual (BPM)
  - Three categories of development milestones:
    - Permitting status
    - Project financing status
    - Land acquisition
  - "Borderline" project – available TP deliverability provides only partial deliverability – may accept available amount, and reduce physical capacity or deliverability status

After the allocation process

- An (A) project that does not obtain TP deliverability in the current cluster allocation may either:
  - Defer execution of GIA and “park” for one cycle
  - Execute an energy only (EO) GIA, or
  - Withdraw from the queue.
- If it parks and does not obtain TP deliverability in the next cluster’s allocation, it must either
  - Withdraw from the queue, or
  - Go forward as an EO project and meet all requirements associated with an EO GIA.
- If it withdraws, it is eligible for partial refund of first posting, based on failure to be allocated deliverability
  - Refund eligibility will extend to 18 months after phase 2

- If a (B) project is not allocated TP deliverability in the current cluster allocation period, it must either
  - Execute a GIA agreeing to pay for needed ADNU and LDNU without cash reimbursement, or
  - Withdraw from the queue.
- If the (B) project withdraws, it will be eligible for partial refund of first security posting if its phase 2 ADNU cost estimate exceeds phase 1 by lesser of 20% or $20 million
  - Must withdraw no later than 180 days after phase 2 results to be eligible for partial refund
- An (A) or (B) project allocated TP deliverability must meet annual retention criteria or lose the allocation
  - Loss of allocation does not terminate GIA: project may amend GIA to continue as energy only

Additional provisions

1. (B) projects fully fund incremental DNU they require, even if the DNU provide more deliverability than the projects fully utilize
   - Such DNU would be incorporated into ISO grid as merchant transmission facilities
   - Eligible for allocation of merchant transmission CRRs
2. “First-mover-late-comer” – Later generation projects that receive deliverability benefits from DNU funded by earlier projects will reimburse the funding parties in proportion to the benefits they receive.

Example to illustrate how the proposed integrated TPP-GIP process will work

Set-up of Example

- Example focuses on Cluster 5; GIP studies starting mid 2012
- The example, like the proposed process, focuses on a single electrical study area of the grid, not entire ISO grid at once
  - Study areas align with generation development areas specified in TPP portfolios for identifying public policy-driven transmission additions
  - Generating facilities within an electrical study area will have flow impacts on a common set of major grid facilities
- Assume “existing queue” (pre-Cluster 5) contains 15 active projects totaling 2000 MW in the study area
  - ISO proposes to apply TPP-GIP Integration provisions only to Cluster 5 and later. Pre-Cluster 5 projects may proceed under current rules, which require ISO to develop transmission for their requested deliverability status as long as they are progressing in accordance with their GIAs. This principle is implemented via “reservations” for existing queue in the allocation process described later.
- Assume cluster 5 contains 10 additional projects totaling 1500 MW
- Assume TP Deliverability = 1000 MW for the study area, based on 2011/12 transmission plan finalized 2012/Q1
  - I.e., the grid, including additions in the plan, can provide 1000 MW of deliverability for new generators in the study area

GIP Phase 1 study process for Cluster 5 (2012/Q3-Q4)

- Model approximately 1500 MW of “generic” new generation to identify ADNUs for the study area
  - 1500 MW = 1000 MW TP Deliverability + study margin
  - Modeled generation will reflect locations and resource types comprising the 3500 MW in the queue, but will not represent specific projects
  - Study identifies incremental ADNU needed if generation development significantly exceeds available TP Deliverability
  - Suppose incremental ADNU for additional 500 MW deliverability costs $100 million. Then the Phase 1 cost estimate for ADNU to expand TP Deliverability will be $100 million/500 MW = $200,000/MW
- Model all existing queue and Cluster 5 projects (25 projects totaling 3500 MW) to identify LDNUs (via local deliverability assessment) and RNUs (via reliability assessment) for Cluster 5 projects.
  - Cost estimates for these LDNUs and RNUs provide cost caps for the 10 Cluster 5 generating facilities.

Transition from Phase 1 to Phase 2 (2013/Q1)

- Suppose Project S in Cluster 5 is a 100 MW solar project requesting full capacity deliverability status, and its GIP Phase 1 results are:
  - ADNU cost = $200K/MW * 100MW = $20M
    - This is a “worst case” estimate, assuming the 1000 MW of TP Deliverability is fully utilized by other projects in the study area.
  - LDNU cost = $7M (Phase 1 cost cap, comparable to today)
  - RNU cost = $5M (Phase 1 cost cap, comparable to today)
  - IF cost = $2M (IF = interconnection facilities, paid by interconnection customer, not modified by TPP-GIP Integration proposal)
- Project S elects option A or option B
  - Option A => security posting for Phase 2 is based on IF, RNU and LDNU costs, but not ADNU
  - Option B => security posting for Phase 2 is based on IF, RNU, LDNU and ADNU costs
  - TPP-GIP Integration would not change formulas for calculating posting amounts from the constituent cost components

GIP Phase 2 study process for Cluster 5 (2013/Q2-Q4)

- Set-up assumptions for the Phase 2 study:
  - 8 Cluster 5 projects totaling 1200 MW elect option A
  - 2 Cluster 5 projects totaling 300 MW elect option B
  - Existing queue (pre-Cluster 5) contains 15 active projects, 2000 MW
  - The latest transmission plan (2012/2013 TPP cycle, finalized 2013/Q1) indicates 1000 MW TP Deliverability in the study area
- GIP Phase 2 study will do the following:
  - Model 1300 MW to identify incremental ADNU
    - 1300 MW = 300 MW option B projects, plus “generic” generating capacity to represent existing queue and 1200 MW option A projects, and to fully utilize the 1000 MW of TP Deliverability
    - This assessment produces ADNU needs and costs for option B projects
  - Model all existing queue and Cluster 5 projects (25 projects totaling 3500 MW) to identify LDNUs (via local deliverability assessment) and RNUs (via reliability assessment) for Cluster 5 projects.
    - Cost estimates for these LDNUs and RNUs provide Phase 2 cost caps for the 10 Cluster 5 generating facilities.

Allocation of TP Deliverability to Cluster 5 (2014/Q1)

- Assume latest transmission plan (2013/2014 TPP cycle, finalized 2014/Q1) indicates 1200 MW TP Deliverability in the study area
  - 200 MW deliverability increase results from TPP-identified upgrades
- Allocation Step 1: Reserve TP Deliverability for existing queue (pre-Cluster 5) projects with executed PPAs and GIAs in good standing
  - ISO status assessment determines 500 MW of 2000 MW have PPAs
- Allocation Step 2: Allocate 700 MW (1200 – 500) to Cluster 5
  - Identify eligible Cluster 5 projects based on threshold milestones (on LSE procurement short-list and have submitted permit applications)
    - Result = 400 MW option A and 200 MW option B
  - Allocate TP Deliverability to all 600 MW of eligible projects, leaving 100 MW unallocated for this cycle
  - Additional 800 MW option A projects may “park” until next cycle
  - Additional 100 MW option B project must execute GIA committing to self-fund LDNU (up to cost cap) and ADNU (not capped), or withdraw from queue

Fast forward to next allocation cycle: Allocation of TP Deliverability to Cluster 6 (2015/Q1)

- Assumptions and Allocation Step 1:
  - Latest transmission plan (2014/2015 TPP cycle, finalized 2015/Q1) indicates 1400 MW TP Deliverability in the study area (expanded by TPP upgrades)
  - Update status of existing queue projects. Result = 1200 MW meet criteria for reservation of TP Deliverability, as more existing queue projects have PPAs
  - Update status of Cluster 5 projects previously allocated TP Deliverability. Result = 500 MW meet retention criteria; one project for 100 MW fails criteria and loses allocation
  - The 100 MW Cluster 5 project losing its previous allocation must either convert to energy only or withdraw from queue
  - Result of Step 1: 1700 MW should be reserved, exceeding the 1400 MW TP Deliverability available, leaving zero for Cluster 6 and parked Cluster 5
  - Cluster 6 option A projects may park until next allocation cycle
- 300 MW excess development in the area indicates need to expand TPP resource portfolio in that area for next TPP cycle (2015/2016), so the grid will support committed deliverability status