

**ISO RESPONSES TO STAKEHOLDER COMMENTS
RECEIVED ON THE DRAFT FINAL PROPOSAL**

**Deliverability of Resource Adequacy
Capacity on Interties**

June 15, 2011

I. Overview

The purpose of this document is to respond to stakeholder comments. This initiative does not require Board approval as it does not involve an amendment to the ISO tariff and it will proceed through the business practice manual (BPM) change management process. The BPM change management process began on June 9, 2011 with the submission of proposed revision request (PRR) 444 which is posted on the ISO website at <https://bpm.caiso.com/bpm/prr/show/PRR000000000444>

The draft final proposal (DFP) for this initiative was posted on May 5, 2011. The DFP presented the ISO's proposal for changes to the methodology for calculating the maximum import capability (MIC) for resource adequacy (RA) purposes.

Comments on the DFP were due on May 19, 2011. Nine sets of comments were submitted on the DFP: 8minutenergy Renewables (8minutenergy), BrightSource Energy (BSE), CalEnergy Operating Corporation (CalEnergy), California Public Utilities Commission (CPUC) Staff, California Wind Energy Association (CalWEA), Imperial Irrigation District (IID), Imperial Valley Renewable Energy Task Force (IV Task Force), Pacific Gas and Electric Company (PG&E), and Southern California Edison (SCE). The stakeholder comments and ISO responses to those comments are provided below.

II. Comments and ISO Responses

Stakeholder comments and ISO responses are grouped under specific elements of the expanded MIC proposal.

1. **MIC Baseline.** Use the existing historically-based MIC methodology to establish a baseline set of values on for each intertie.

Comments:

- CalWEA proposes that the ISO allow MIC on an intertie to be prospectively calculated/updated based on the OTC on that intertie once system changes, by design or otherwise, within the CAISO and WECC systems allow the simultaneous import constraint into CAISO to be raised by a certain value (e.g., 10%).

ISO Response:

Operating Transfer Capability (OTC) is the maximum allowable import at a certain intertie in real-time and allows resources outside the ISO to schedule their energy up to this amount. These schedules are treated like any other energy-only schedules across the ISO. The capacity required under the RA program is based on the concept of "deliverability" to aggregate load. It is not reasonable to consider the entire "OTC" amount deliverable when this may not be physically possible, and which may negatively impact internal resources that may be using capacity on internal ISO paths to deliver power to the same aggregate of load. Furthermore, the total OTC for all branch groups within the ISO is over 35,000 MW and it is technically infeasible for the ISO to import 35,000 MW of resources at any instantaneous point in time.

2. Assess Remaining Import Capability (RIC) Relative to the Transmission Planning Process (TPP) Policy Goals and Use the Maximum of Either Current or Prospective RIC. For each intertie or a sum of interties electrically connected to a resource area identified in the TPP main policy resource portfolio, the ISO will determine whether the RIC available (after Step 4 in ISO tariff section 40.4.6.2.1) is sufficient to achieve stated TPP policy goals relative to the total capacity attributed to resources modeled. Expanded RIC = Max{(Current RIC), (Prospective RIC based on TPP resource portfolio)}

Comments:

- CalWEA proposes that the ISO allow target MIC values to be updated for interties with neighboring BAs with significant renewable resource development activities even if such renewable development does not specifically qualify as policy-driven or for that matter even if such development is not even overtly targeted for CA.
- CalWEA proposes: The ISO is identifying the policy driven import (and MIC) target for an intertie, and the ISO should specifically rely on use the one policy driven resource portfolio that most heavily rely on out of state (out of the CAISO) resources to meet the state's policy-driven (currently RPS) goals for developing its policy-driven target imports.

ISO Response:

The ISO does not see a benefit from expanding MIC values, with inherent transmission additions and/or deliverability network upgrades for outside the ISO new resources that do not qualify as policy-driven. First, these new non-policy driven resources may still be used by LSEs for RA showings as long as they replace some of the existing contracts (for example existing coal resource contracts) with RA contracts with these new resources. Second, when in service these additional non-policy driven resources may be able to increase MIC for upcoming years by scheduling their power into the ISO grid at hours with high load within the ISO control area. Any resource that is outside the ISO, and is intended for delivery to LSEs outside the ISO, does not require RA Import Allocation because it has no impact on MIC.

The ISO will rely on the most likely (base case) policy driven scenario in order to balance cost to ratepayers and environmental harm of building new transmission.

3. Preliminary Expanded MIC equals Expanded RIC less ETCs, TORs, and Pre-RA Import Commitments.

Comments: None.

ISO Response: N/A

Deliverability Study. Once the new preliminary expanded MIC has been established for the base case policy resource portfolio developed in the TPP, and during the same TPP cycle, the ISO will conduct a deliverability study for this intertie(s), in order to assure simultaneous deliverability of the main portfolio. Any transmission additions required in order to maintain deliverability of the main portfolio resources may be justified as policy- driven transmission as allowed under the ISO tariff section 24.4.6.6.

If the TPP deliverability studies indicate that no further network upgrades are needed to support the target expanded MIC value on a particular intertie, then the ISO will make the expanded MIC quantity available to the LSEs gradually between 2012 and 2020. The ISO will post the projected annual values on the ISO web site in conjunction with the TPP. (DFP, p.17)

Dec 2011: Deliverability Assessment completed for the draft Comprehensive Transmission Plan in the 2011/2012 TPP.

Jan 2012: Draft Estimates of Future RA Import Capability by Intertie for 2012-2021 based on the proposed network upgrades in the 2011/2012 TPP.

Mar 2012: Final Estimates of Future RA Import Capability by Intertie, 2012-2021 assuming proposed network upgrades in the 2011/2012 TPP.

Comments:

- 8minutenergy wants the Deliverability Assessment conducted much sooner than Dec 2011. More importantly, it wants the Draft Estimates of Future RA Import Capability by Intertie for 2013 made available in July 2011 as part of the GIP Cluster 1 & 2 studies, or after the BPM process is complete in Aug 2011 in the Sep/Oct 2011 timeframe.
- PG&E would like the CAISO to clarify: (1) why a gradual expansion approach is needed, and (2) how will the CAISO determine the schedule of release of expanded MIC.

ISO Response:

The ISO will publish the target MIC and will undertake the deliverability studies as soon as possible considering that other TPP studies and corporate goals need to be pursued in parallel.

The gradual expansion release is necessary because network upgrades may be required in order to achieve the target MIC and expansion of MIC may not be possible or may only be partially possible until the network upgrades are in-service. Second, the 33% renewable policy goal target is set for year 2020 and it is expected that LSEs will gradually increase their renewable portfolios in order to achieve this target. In establishing the base case portfolio, the ISO works collaboratively with the CPUC and other local regulatory authorities and power purchase agreements (PPAs) are an important part of choosing the base case portfolio, and, as such, the in-service dates for new out-of-the-ISO BAA resources should be mostly known. If released too early, the additional MIC capacity may have a negative effect on other resources within the ISO control area (especially those under construction). Furthermore, since new renewable in the adjacent BAA are not built the LSEs only choice is to sign conventional resources for the first few years and that contradicts the policy goal used in order to increase MIC.

4. **Multiple Interties to One Targeted Resource Area.** If more than one intertie electrically connects the area affected by the new expanded MIC; then the split of the expanded MIC should be done as follows:
 - a) Pre-RA import commitments and available ETCs should be maintained on the same branch groups as historical data provides.
 - b) The expanded target for RIC shall be split in a way that closely mimics actual flow split between the involved ties (electrically connected to this area).

- c) Once one of these ties reaches its OTC the allocation is stopped and the remaining capacity will be split between the remaining ties in the same fashion as in (b) above.
- d) The final split should be checked through deliverability assessment and further adjustments may be done in order to minimize the required new transmission to achieve the policy-driven goal.

Comments:

- PG&E states that Step (5c) may be inconsistent with the premise behind Step (5b): an allocation of the remaining capacity across the remaining ties (as is proposed for Step 5c) would only be justified if the CAISO could demonstrate that the flow that is identified in Step (5c) is feasible. If that assumption is not valid (i.e., the power flows in the same manner as Step (5b) resulting in additional MWs flowing on the Operational Transfer Capability OTC-limited tie), then the allocation should stop, and transmission upgrades would be required on the OTC-limited tie before a further allocation of capacity to any of the ties (as proposed in Step (5c)).
- PG&E also notes that if the transmission upgrades change the electrical characteristics of the interties involved, Step (5b) should be repeated before assigning a new expanded MIC since the power flow split may change considerably.
- 8minutenergy proposes that, if there are multiple interties flowing into the same transmission path as the IID interties (e.g., imports from Palo Verde) where the MIC values have not been fully utilized, or where they have been used to support arrangements that have expired (or will do so in the time horizon considered), then that “unused” MIC should be available for reallocation to other interties (e.g., the SCE-IID intertie) for that path.

ISO Response:

The ISO will check through deliverability studies as stated in item d) above to make sure the entire target MIC can be accommodated; if it cannot then additional network upgrades may be proposed and approved in order to achieve the target MIC. Deliverability studies are also done with the additional network upgrades in place in order to assure that they actually get the target MIC deliverable to the aggregate of load.

The focus of the multiple intertie element of the proposal is on the allocation of capacity, not the determination of capacity levels. Thus, there is no “unused” capacity, only a total amount of capacity to allocate. The deliverability study will confirm the viability of the historically based Current MIC values as being either sufficient or insufficient to accommodate prospective or target MIC import levels. Expanded MIC or RIC values that would result from network upgrades and established through the deliverability study are not considered “unused.”

8minutenergy noted that the 502 MW MIC for the SCE-IID intertie as shown in the *California ISO Maximum RA Import Capability for year 2011* posting, <http://www.caiso.com/27c6/27c675b81c230.pdf> is significantly less than the 600 MW value figure quoted in the DFP at page 10, where the latter value is the same as the OTC, and the DFP may have mistakenly picked up that value as the MIC. The ISO confirms that this was a typo which should have read 502 MW of MIC.

5. Publish Expanded MIC Values. Once established, the appropriate expanded MIC values will be published in the annual ISO transmission plan, including annual values up to 2020 to reflect the expected in-service dates of any needed transmission additions and upgrades.

Comments: None.

ISO Response: N/A.

ISO Generation Interconnection Queue

BrightSource Energy “believes that expanding RA import capacity is a laudable goal, such objective should not be accomplished at the expense of generation projects currently in the ISO queue but whose interconnection studies are not yet complete (i.e., in Clusters 3 and 4). All of BSE’s comments focus on ensuring that generators already in the ISO interconnection queue will not be impacted by expanded RA import capacity. If the ISO can confirm this, then BSE can support the methodology. If not, then BSE would like a more thorough explanation concerning how interconnection customers in the queue could be affected and what mitigation measures the ISO will take to protect those interconnection customers from being unfairly disadvantaged in favor of generation outside of the ISO BAA.”

BrightSource Energy requests clarification as to how the proposal would affect “construction time of the upgrades for expanded MIC may impact IRs in cluster studies: With the introduction of expanded MIC that might trigger additional upgrades, BSE has concerns that the new required upgrades may impact the timing of full deliverability for interconnection customers already in the queue. For example, expanded import capability could require additional NU that would not otherwise be needed to serve the relevant queue clusters, and these additional NUs could have delayed in-service dates. Moreover, it is unclear to BSE whether the expanded MIC could allow import projects, potentially relying on the same upgrades identified in a cluster study, to become deliverable prior to generators connected to the ISO grid. It would be unjust and unreasonable if import projects are deemed fully deliverable prior to projects already in the queue that are relying on the same upgrades. In sum, BSE requests that the ISO clarify in the BPM that generators already in the ISO queue will not be delayed or otherwise disadvantaged as a result of the expanded import RA capacity implementation.

ISO Response:

The ISO believes that there should be little to no impact to resources already in the ISO interconnection queue, and that at times network upgrades needed in order to make target MIC deliverable may allow additional resources within the existing queue to interconnect or move faster through the queue than before. As specified in the DFP, it is ISO’s intent that there should be no negative or timing delays for existing resources in the queue and that is why the expanded MIC will be released gradually between 2012 and 2020 to accommodate for the required network upgrades to coordinate among the in-service dates for resources in the ISO queue as well as external resources

in order to make this a seamless transitions as much as possible.

Cost and Timing of Network Upgrades, and Cluster Impacts

BrightSource Energy's "understanding is that the expanded MIC will be implemented after the Cluster 3 Network Upgrades and 4 Phase I study, but before Phase II. Thus, the Phase II cluster study will include the expanded MIC and associated upgrades which could substantially alter the Phase I study results. If its understanding is correct, BSE is concerned that the Cluster 3 and 4 Phase I studies may provide little useful information and that the plan of service for Phase II could be delayed and/or more expensive with the additional RA import capacity included. While BSE understands that developers' maximum cost responsibility for Network Upgrades will be capped after Phase I, BSE is concerned that generators outside of the ISO BAA could be unduly benefitting and that generators that already in the ISO interconnection queue could be subsidizing those generation projects. For example, if several generators drop out of a cluster after Phase I, could the remaining generators be financing a plan of service utilized by generators outside of the CAISO, with no commensurate cost responsibility? The ISO indicates that any additional upgrades caused by the expanded MIC would be identified in the TPP; however, BSE would like clarification that generators studied as part of a cluster will not be financing any upgrades that will be utilized by import RA capacity, as that would not be a just and equitable result."

ISO Response:

In the "deliverability studies" for Phase II, the ISO will look at the impact created by the "additional" MIC required for interties. At this time the ISO envisions three distinct outcomes:

First, network upgrades are solely required in order to get the "additional" MIC deliverable; in other words, they are not needed for resources remaining in queue during Phase II. In this case the ISO may propose through the next cycle of TPP additional network upgrades in order to achieve full deliverability of expanded MIC.

Second, network upgrades are needed in order to get the remaining resources in the queue in Phase II deliverable, but they are not sufficient to get the expanded MIC fully deliverable. In this case, the ISO would appropriately size, through the TPP, the network upgrades required in order to achieve deliverability for both the resources remaining in Phase II as well as expanded MIC.

Third, network upgrades are needed for the remaining resources in the queue in Phase II and they are enough in order to achieve deliverability for the expanded MIC. In this case the resources remaining in Phase II would have to share the financing cost of this upgrade anyway (regardless if MIC would be expanded or not); as such they should not be impacted on their financing; also as an added assurance their financing costs are capped after Phase I.

Coordination with Other Initiatives

BrightSource Energy "is concerned that the ISO has not fully considered (or communicated) how the integration of these three initiatives into one comprehensive plan that works together in a rational and fair manner to achieve policy goals will be accomplished. Thus, BSE believes that the three initiatives – TPP, GIP Phase II, and this initiative – should be implemented at the same time to ensure that they are properly integrated and that no stakeholder is unduly disadvantaged.

However, if the ISO decided to finalize this initiative before the completion of GIP II and TPP, BSE requests at least that complete and detailed information regarding expanded MIC be provided to stakeholders before the finalization of 2011/2012 TPP resource portfolio.

ISO Response:

The Expanded MIC methodology will be finalized well in advance of the issuance of the draft and final Comprehensive Transmission Plans associated with the 2011/2012 TPP resource portfolios, however this concern has been addressed through the BPM language introduced under the Reliability Requirements BPM for this initiative that ties and clearly explains the interrelation and timing of processes needed in order to achieve integration within TPP, GIP and RR.

Evaluation of Resources in the CPUC RFO Process

CalEnergy, in its comments on the DFP, essentially reiterates its comments filed on the straw proposal. CalEnergy, while supportive of the overall proposal, remains concerned that there is too much ambiguity between the CPUC 2011 request for offers (RFO) process and the associated monetary values attributed by load serving entities to generators regarding MIC. Specifically, CalEnergy seeks clarification that, in the 2011 RFO process, the CPUC and its LSEs would be able to evaluate resources which would utilize the new Expanded MIC import capability through their RFP process, against other generation directly connecting to the ISO system, without penalty attributable to the MIC value (or lack thereof).

IID requests that in addition to adopting the proposed changes to the RA MIC methodology, the CAISO, California Public Utilities Commission, IOUs and other stakeholders work to ensure that offers received from solicitations during the current RFO process be evaluated under the RA MIC methodology that will be put in place as a result of this stakeholder initiative.

IV Task Force also urges that the CAISO, CPUC, IOUs and other stakeholders ensure that the interim procurement decisions that take place while the final methodology is being implemented are done in a fair manner and without unnecessarily excluding Imperial Valley renewable projects from consideration during this year's procurement process.

IID and IV Task Force support the ISO's proposed methodology and request that the ISO work with the CPUC, IOUs, and stakeholders to ensure that projects located in the Imperial Valley are evaluated as though deliverable, prior to the ISO deliverability study and prior to the implementation of any required (and yet to be specifically identified) transmission upgrades. Entities that would make some of the aforementioned assumptions would also assume some level of risk based on future events.

ISO Response: CPUC Commissioner Mark J. Ferron addressed this issue via Assigned Commissioner's Ruling (ACR) on June 7, 2011. The ACR ruled that the IOUs are to not "use a MIC less than 1,400 MW for imports from the IID BAA as part of its LCBF evaluation of project bids within the 2011 RPS solicitation. An IOU using a MIC of less than 1,400 MW must present clear and convincing evidence why it did so as part of any advice letter or application seeking Commission approval of a contract from the 2011 RPS solicitation." The ACR is available on the CPUC website, <http://docs.cpuc.ca.gov/efile/RULINGS/136670.pdf>