



## **STRAW PROPOSAL**

# **Deliverability of Resource Adequacy Capacity on Interties**

**April 6, 2011**

## Table of Contents

1. Executive Summary .....	3
2. Stakeholder Process .....	5
3. Background.....	6
4. Issue to be Addressed .....	8
5. Comments on the Issue Paper.....	8
5.1. Annual Nature of the Import Allocation.....	8
5.2. Prospective, Historical and Physical Intertie Limits.....	10
5.3. Suggested Approaches.....	10
5.4. Timing and Coordination .....	12
6. Straw Proposal .....	13
6.1. Establish Target MIC Values and Supporting Network Upgrades via the TPP .....	14
6.2. Expanded MIC Methodology.....	16
6.3. Model Expanded MIC Values in GIP .....	16
7. Next Steps .....	17

## 1. Executive Summary

The California Independent System Operator (“ISO”) publishes this straw proposal regarding changes to the methodology for calculating the maximum import capability (“MIC”) for resource adequacy (“RA”) purposes. This straw proposal is the next step in a stakeholder process that was initiated with the ISO’s issue paper posted on March 15, to which stakeholders submitted comments on March 29, 2011.<sup>1</sup>

The MIC, which the ISO calculates annually, is the maximum megawatt (“MW”) amount of import capacity that will be available to load serving entities (“LSEs”) for procuring resources outside the ISO balancing authority area (“BAA”) to meet their RA requirements for the upcoming year. Several stakeholders have raised concerns that the current MIC methodology, because it determines the MIC based on the amount of energy the ISO BAA has imported historically during peak system load hours, results in excessively low MIC values for a few selected ties. As a result, these stakeholders assert, the use of external resources to meet RA requirements is unnecessarily limited at these selected ties, resulting in increased costs of procuring RA capacity and barriers to the timely development of external renewable resources due to the inability of these resources to provide RA capacity.

In response to these concerns, the ISO initiated this stakeholder process and now publishes this straw proposal to revise the MIC calculation methodology so as to make it possible to yield larger MIC values than the current historically-based approach allows, without compromising the fundamental requirement that all RA capacity be simultaneously deliverable to the ISO BAA to meet peak load conditions.<sup>2</sup>

The proposed revisions to the MIC methodology are one part of a two-part approach in which the ISO proposes to expand the amount of import capacity available to LSEs for obtaining RA capacity from external resources. The second part focuses on the transmission in the ISO BAA required to support the expanded RA import capacity. Utilizing new provisions in the ISO’s transmission planning process (“TPP”) that were approved by the Federal Energy Regulatory Commission (“FERC”) in December 2010 – particularly the new public policy-driven category of transmission elements – the ISO proposes to identify any transmission additions or upgrades that will be needed to maintain the additional RA import capacity in support of the state’s renewable energy requirements.

Thus the ISO’s approach to expanding RA import capacity has two major elements: (1) the TPP component, in which targeted resource areas and associated interties that require expanded RA import capacity are identified, along with any required transmission needed to ensure deliverability; and (2) the MIC methodology component, in which the annual MIC methodology will be revised to expand MIC capacity on identified interties beyond historically-determined amounts based on existing transmission or subject to the completion of required upgrades. The MIC methodology is the focus of this paper; in addition, the paper provides an explanation of the TPP component to set forth the broader solution.

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<sup>1</sup> See Deliverability of RA Capacity on Interties initiative, <http://www.caiso.com/2b42/2b42b9378530.html>.

<sup>2</sup> It is important to note that this initiative is limited in scope to the MIC calculation itself; at this time the ISO does not intend to consider any changes to the current procedures for allocating shares of the annual MIC to LSEs for their use in meeting their RA requirements.

The approach starts with the transmission planning component. In the TPP, the ISO will establish target expanded MIC capacity MW values for each intertie that will be sufficient to support RA deliverability for the MW amount of resources behind each intertie that are included in the ISO's base case policy driven portfolio. In other words, the ISO will first establish the base case policy driven portfolio, which at this time includes renewable resources that will be sufficient to meet the state mandate of 33% renewable energy on an annual basis by 2020. Next, the ISO will determine the needed MIC MW quantities to support RA deliverability for the quantity of external resource capacity in the policy driven portfolio that will utilize each intertie for scheduling imports into the ISO BAA. For those interties where there are no external resources included in the policy driven portfolio, the ISO will assume that no additional MIC is needed beyond the historically-determined level under the current methodology.

The next step in the TPP will be to assess whether any additional transmission facilities or upgrades are needed to support the target expanded MIC values. Some expanded MIC values on certain interties may require associated network upgrades to ensure the deliverability of power from targeted resource areas identified in the TPP. The ISO will then incorporate these upgrades into its annual comprehensive transmission plan in accordance with the provisions of the revised TPP. In addition, once the comprehensive transmission plan, including these upgrades, is approved by the ISO Board of Governors, the expanded MIC values and associated transmission upgrades will be incorporated into the assumptions for the interconnection studies performed under the ISO's generator interconnection procedures ("GIP"). As these new facilities are constructed and put into service on the ISO grid, the facilities will enable the ISO to make the expanded MIC values available to LSEs in the annual RA deliverability assessment using the revised MIC methodology that is the main subject of this straw proposal.

On March 31, the ISO posted the *2011/2012 Transmission Planning Process Draft Unified Planning Assumptions and Study Plan*.<sup>3</sup> Publication of this document is one of the first steps in the development of the 2011/2012 Comprehensive Transmission Plan. Section 3.1.2 of the document discusses supporting RA deliverability status for needed renewable resources outside the ISO BAA. The ISO will hold a stakeholder meeting on April 7 to discuss the document and development of the 2011/2012 plan.

The expanded MIC methodology that the ISO now proposes will continue to utilize the current approach based on historical energy schedules during peak load conditions, and will expand those historically-determined values for specific interties based on the TPP assessment described above. Such an expansion will depend, of course, on the completion of the associated TPP-identified and approved transmission additions and upgrades. Specifically, the ISO proposes that the annual MIC determination, which is conducted in May and June of each year, will assume that transmission scheduled to be in service prior to the start of the upcoming RA compliance year will be in service for that year.

In the following sections, the straw proposal provides a timetable for the stakeholder process, a brief background, an overview of comments received on the issue paper and the ISO's response to those comments, a straw proposal for stakeholder review and comment, and an outline of next steps. Additional background information is contained in the issue paper.

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<sup>3</sup> The document can be found at <http://www.caiso.com/2b52/2b52e70dca70.pdf>.

## 2. Stakeholder Process

This straw proposal will be discussed during a stakeholder conference call on April 13. The ISO believes that an expanded MIC methodology, used to establish expanded MIC values in the TPP, can be adopted under existing tariff authority; therefore the proposal will not require Board of Governors' approval or a FERC filing. The ISO will conduct its usual stakeholder process with a series of papers and stakeholder discussions to develop the expanded MIC methodology. It will then incorporate the new MIC methodology into the Reliability Requirements Business Practices Manual ("BPM") through the established BPM change management process. The schedule for the stakeholder process and the BPM change management process is shown in Table 1.

<b>Table 1</b>	
<b>Stakeholder Process</b>	
Mar-15	Post Issue Paper
Mar-22	Hold Stakeholder Conference Call, 3:00 p.m. to 4:30 p.m.
Mar-29	Receive Comments on Issue Paper
Apr-6	Post Straw Proposal
Apr-13	Hold Stakeholder Meeting, 1:00 p.m. to 5:00 p.m.
Apr-20	Receive Comments on Straw Proposal
May-5	Post Draft Final Proposal ("DFP")
May-12	Hold Stakeholder Conference Call
May-19	Receive Comments on DFP
<b>BPM Change Management Process</b>	
Jun-9	Submit BPM Proposed Revision Request ("PRR")
Jun-10 - Jun-23	Open Comment Period on PRR, 10-business days
Jun-28	Hold BPM Monthly Management Meeting
Jul-5	Post PRR Recommendation
Jul-6 - Jul-19	Open Comment Period on PRR, 10-business days
Jul-26	Hold BPM Monthly Management Meeting
Aug-2	Post Final PRR Decision, effective immediately or on a date specified

A web page has been established for this initiative that provides access to meeting materials, proposals, and stakeholder written comments. This information can be found at <http://www.caiso.com/2b42/2b42b9378530.html>.

### 3. Background

The current MIC methodology is part of the ISO deliverability assessment process. Simultaneous deliverability of energy from all RA capacity to meet peak load conditions is an essential element of the RA program. To meet their RA requirements, LSEs must procure capacity that has been demonstrated to be deliverable through the ISO's deliverability assessment process.

The ISO deliverability assessment process is set forth in *Tariff Sections 40.4.6.1, Deliverability Within the CAISO Balancing Authority Area, and 40.4.6.2, Deliverability of Imports, and Reliability Requirements BPM Sections 5.1.3.4, Deliverability to Aggregate of Load, and 5.1.3.6, Deliverability of Imports*. The foregoing provisions specify the process for establishing on an annual basis deliverability for internal supply resources and imports. Once the deliverability of resources is established through the ISO's deliverability assessment, LSEs are able to count the deliverable capacity toward their respective year-ahead and month-ahead RA requirements.

For RA capacity procurement purposes, the import capability of the ISO system is determined by the ISO and then allocated to LSEs in accordance with the detailed 13-step process set forth in *Tariff Section 40.4.6.2*. In Step 1 – which is the subject of this initiative – the MIC for each intertie is determined by the highest actual historical energy import quantities during peak system-load hours of the most recent two years. The current import capability values were posted to the ISO website in July 2010.<sup>4</sup>

The methodology for determining the MIC at each intertie is described in the Reliability Requirements BPM with additional technical details set forth in two additional documents, which were developed in the 2005 RA Initiative on Deliverability.<sup>5</sup> Below are the key excerpts from those two documents.

- *Preliminary Deliverability Baseline Analysis Study Report*<sup>6</sup>
  - Historical Import Scheduled Deliveries Methodology. The methodology to establish historical import scheduled deliveries is described in the Appendix 2 document. Specifically, the prior two years of historical import schedule data is examined during high load periods. The sample hours are selected by choosing hours with the highest total import level when peak load was at least 90% of the annual system peak load (Appendix 2, p.1).
  - Screening for Abnormally Low Historical Import Values. To prevent the use of abnormally low historical import schedule values for a particular branch group, the ISO has applied the following screening test to identify significantly abnormal data for a particular branch group. Two tests are performed on branch group data to screen for significantly abnormal data. The first test is applied to all branch groups and the second test is applied to branch groups identified in the first test. The first test is based on calculating the average and standard

<sup>4</sup> *California ISO Maximum RA Import Capability for Year 2011*, <http://www.caiso.com/27c6/27c675b81c230.pdf>.

<sup>5</sup> Resource Adequacy Initiative on Deliverability, <http://www.caiso.com/181c/181c902120c80.html>.

<sup>6</sup> Appendix 2: Initial CAISO Import Level for the Deliverability of Imports Assessment, CAISO, 4/12/2005, <http://www.caiso.com/docs/2005/05/03/200505031710356864.pdf>.

deviation for each set of branch group data. Then if the minimum Scheduled Net Interchange value for a branch group deviated significantly from the average value for that branch group then the second test was applied to that branch group. It is assumed that the data fit a normal distribution and that 95% of the samples should be within two standard deviations of the average. Therefore, a significant deviation from the average would be at least two standard deviations. However, because of the small number of samples a less restrictive test was applied, and a significant deviation from the average was assumed to be a deviation of more than 1.3 standard deviations from the average (80% of the samples should be within 1.3 standard deviations of the average). (Appendix 2, p.2)

- *Supplemental Deliverability Study*<sup>7</sup>
  - This study describes three refinements to the initial import level (established in Appendix 2 above). The Supplemental Study addresses consideration of existing resource contracts, the effect of expiring Existing Transmission Contracts, and the effect of East of River short-term upgrades. These changes result in MIC increases at certain interties relative to the initial import levels determined in the prior steps.

The ISO deliverability assessment process is also described in the *ISO On-Peak Deliverability Assessment Methodology for Resource Adequacy Purposes*.<sup>8</sup> In addition, the following report provides detailed information about this process: *Preliminary Deliverability Baseline Analysis Study Report, Appendix 1: Generation and Import Deliverability to the Aggregate of Load (Baseline) Study Methodology, Executive Summary, April 8, 2005*.<sup>9</sup>

Revising the RA import capability methodology was previously identified in the ISO's market initiatives roadmap process as a desirable market enhancement and is currently listed in the Revised Catalogue of Market Design Initiatives dated October 18, 2010. The excerpt from the catalog is shown below.

#### **9.9 Allocation of RA Import Capacity (D)**

*The allocation of RA Import Capacity among market participants is currently prioritized by the allocation made in the prior year. This approach, similar to CRR allocations, is illogical because it locks in such allocations based on past data without requiring ongoing support to demonstrate the going-forward merit of these allocations. Over time, this process disadvantages market participants who wish to acquire out-of-state resources that could otherwise lower the cost of energy supply into the CAISO, since the RA capacity value may not be realized. SDG&E proposes that the CAISO implement a process whereby RA Import Capacity is allocated among market participants based on demonstrable need or benefit to the overall market.*

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<sup>7</sup> September 23, 2005 -- *Import Levels for RA Planning Purposes, Explicit Consideration of Existing Resource Contracts, Expiring Transmission Contracts, and East of River Short-Term Upgrades*, <http://www.caiso.com/docs/2005/09/23/20050923165719616.pdf>.

<sup>8</sup> *ISO On-Peak Deliverability Assessment Methodology for Resource Adequacy Purposes, Updated April 10, 2009*, <http://www.caiso.com/23d7/23d7e41c14580.pdf>.

<sup>9</sup> See <http://www.caiso.com/docs/2005/05/03/200505031708566410.pdf>.

## 4. Issue to be Addressed

Under the current MIC methodology, some interties to the ISO BAA currently have very low or even zero MIC values. Some stakeholders contend that an unnecessarily low MIC value can prevent LSEs and renewable developers from negotiating bilateral contracts for energy and capacity from projects outside the BAA. For example, a zero MIC value on an intertie means that no LSE will be able to use that intertie for the delivery of RA capacity, and therefore no RA revenue streams are available to generation projects that would schedule energy at those interties, even though the generation projects might otherwise be more desirable than some generation projects located inside the ISO BAA that are able to offer RA capacity. Moreover, some of these external projects are located in areas rich in renewable energy potential, which could be used by LSEs to meet the requirements of the state of California's renewable portfolio standard ("RPS"),<sup>10</sup> including the 20% and 33% energy goals. This initiative is intended to develop an improved MIC methodology that would allow for increased import capability where warranted. With increasing renewable development expected outside the ISO BAA, the ISO expects increased interest in such expansion of RA import capability beyond the levels determined by the current historical-based MIC methodology.

## 5. Comments on the Issue Paper

Comments on the issue paper were due on March 29, 2011. The comment template posted by the ISO asked stakeholders whether the ISO adequately framed the issue and whether stakeholders had any suggested approaches for an expanded MIC methodology. Eleven sets of comments were respectively submitted on the issue paper: 8minutenergy Renewables, Inc. ("8me"), CalEnergy Operating Corporation ("CalEnergy"), California Public Utilities Commission ("CPUC") staff, Imperial Irrigation District ("IID"), NextEra Energy Resources ("NextEra"), Noble Americas Energy Solutions ("Noble Solutions"), Pacific Gas & Electric Company ("PG&E"), San Diego Gas & Electric Company ("SDG&E"), Shell Energy North America ("Shell"), Sacramento Municipal Utility District ("SMUD"), and ZGlobal on behalf of Solar Gen 2 and Green Light Corporation.

Three stakeholders strongly support (8me, IID and NextEra), and five stakeholders specifically support (CalEnergy, CPUC, SDG&E, Shell and SMUD), ISO efforts in this initiative to develop and implement changes to the current MIC methodology to expand RA import capability beyond historical-based values. Noble Solutions stated that it is in agreement, in principal, with the ISO proposal to revise the MIC methodology, but reserves its final position after the ISO offers a specific proposal. No stakeholder expressed opposition. SMUD stated that the ISO has properly captured the essence of the issue, agrees with the ISO that this can be addressed through a limited BPM change and encourages the ISO to maintain this straight forward approach.

### 5.1. Annual Nature of the Import Allocation

Two stakeholders (NextERA, ZGlobal) have raised the issue of the annual nature of the import allocation process. NextERA contends that buyers of imported RA have been reluctant to enter into long-term commercial transactions for imported resources because the commercial terms do not align with annual nature of the import allocations which can undermine a project's financeability. NextERA states that, while the ISO's initiative would help increase the import

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<sup>10</sup> RPS Program, <http://www.cpuc.ca.gov/PUC/energy/Renewables/>.

allocation for LSEs, it will do little for developers and generators of external resources unless the annual nature of the import allocation is addressed.

ZGlobal asserts that the nature of the year-to-year allocation does not give adequate assurance to LSEs or developers that projects within California BAAs will realize their full value. However, ZGlobal does note that this issue appears to be out-of-scope for this stakeholder process, but does consider it important enough to highlight this additional concern relative to the present process.

In contrast, SDG&E recognizes the value of quickly implementing a useful change to the current RA import process. SDG&E accepts the limitations (limited scope) of the ISO's initial proposal. SDG&E stated that it understands that changes to the MIC allocation process would likely require significant revisions of tariff sections 40.4.6.2.1, which would slow this process and further delay resource development in California. Thus, given the timing of issues associated with the RA program's annual compliance framework, SDG&E believes it is important to keep this process simple, focused, and on target for resolution by the end of this summer. Accordingly, SDG&E supports the ISO's decision to isolate and remedy the discrete barriers to purchase power contracting that initiated this process.

**ISO Response:** The issue of the annual nature of the import allocation process is beyond the scope of this initiative, which was acknowledged by ZGlobal. As established in the ISO tariff, the Available Import Capability Assignment Process (aka, "RA import allocation process") set forth in Section 40.4.6.2.1 specifies that the "total Available Import Capability will be assigned on an annual basis for a one-year term to Load Serving Entities serving Load in the CAISO Balancing Authority Area and other Market Participants through their respective Scheduling Coordinators, as described by the following sequence of [13] steps" (emphasis added). This issue has been previously raised by parties and was addressed by the ISO in 2007 within the context of the MRTU RA import capacity tariff filing:

"Certain parties raised the need for longer-term certainty in the allocation process and, in particular, providing future resource commitments with an assignment priority similar to that accorded Pre-RA Import Commitments. The CAISO agrees that a multi-year resource adequacy obligation has merit to promote investment and that appropriate actions should be taken to integrate such longer-term obligations into the resource adequacy program. However, the CAISO elected not to provide such priority on the basis that it would upset the careful balance reflected in the Import Capability Assignment Amendments. On the one hand, the CPUC is currently examining the issue of multi-year resource adequacy obligations and requested that the CAISO forego adoption of elements in its import capability assignment process that might limit the flexibility of its deliberations. On the other hand, LSEs desiring longer-term resource commitments are able to obtain the necessary certainty under the Import Capability Assignment Amendments. Absent the loss of respective Load share, a LSE can be assured on a year-in-year-out basis that it will receive Available Import Capability in accordance with its Import Capacity Load Share" (ISO FERC filing, March 22, 2007, Assignment of Import Capability for Resource Adequacy Purposes, Attachment C, Board Memorandum and Board Decision, p.11  
<http://www.aiso.com/1bad/1bada07e42a50.pdf>)

The ISO observes that the CPUC has examined the issue of multi-year RA obligations, but has opted to retain the current annual approach.

## 5.2. Prospective, Historical and Physical Intertie Limits

Six stakeholders (CPUC, IID, PG&E, SDG&E, SMUD, and ZGlobal) emphasized that an expanded MIC methodology should be aligned with physical and prospective intertie limits, not historic schedules. CPUC staff stated its support for ISO efforts to improve the MIC methodology with a more prospective assessment that will increase MIC where possible. IID stated that the expanded MIC methodology should be based on the physical capabilities at the specific interties and not impose artificial restrictions based on historical schedules that unnecessarily limit imports as is the case with the current MIC methodology. The PG&E and SDG&E comments on this issue are discussed in the Suggested Approaches section below. SMUD simply stated that the expanded MIC methodology should be aligned with physical intertie limits, not historic schedules.

ZGlobal contends that an expanded MIC process should incorporate known projects within the other four California BAAs that predominantly reside within California that intend to transmit energy and capacity to LSEs within the ISO, and then compare that with historical usage and physical intertie limits.

**ISO Response:** The ISO agrees with stakeholders in this area. The straw proposal contains all three elements: prospective, historical and physical.

- **Prospective:** In the TPP, the ISO will first prospectively establish target expanded MIC MW values for each intertie that will be sufficient to support RA deliverability for the MW amount of resources behind each intertie that are included in the ISO's base case policy driven portfolio.
- **Historical:** In the straw proposal, the existing, historically-based MIC methodology will be used to establish a baseline set of values for each intertie.
- **Physical:** Under the expanded MIC methodology, the ISO will conduct a deliverability study to assure the physical, simultaneous deliverability of the TPP main portfolio which will include expanded MIC values at certain interties. In addition, on the issue of multiple interties to one targeted resource area (fifth step in the expanded MIC), under the straw proposal (1) the target for Remaining Import Capability ("RIC") will be split in a way that closely mimics actual flow split between the involved ties (electrically connected to this area), and (2) once one of these ties reaches its Operating Transfer Capability ("OTC"), the allocation is stopped and the remaining capacity will be split between the remaining ties in the same fashion as in (1).

## 5.3. Suggested Approaches

SDG&E proposed the use of a contingency-based power flow analysis to demonstrate a simultaneously feasible future level of imports of RA capacity. This could be combined with other factors, including the existence of signed power purchase agreements with ISO LSEs and the status of those projects in the BAAs' generator interconnection queues. The contingency based power flow analysis would take into account grandfathered RA imports, and would not result in any unmitigated reliability criteria violations. This analysis would be done each year prior to the date on which ISO LSEs are required to make their annual RA showings for the following year.

To the extent the analysis identifies reliability criteria violations triggered by the MIC increases, SDG&E recommends the ISO consider low cost mitigation, such as expanding a remedial action scheme, that can be implemented prior to the date on which the upcoming year's RA showing is due. SDG&E acknowledges that the details of a contingency based-power flow analysis would need to be worked out, and strongly believes it is important that the process and assumptions not be so conservative as to nullify the intended purpose of revising the import RA process.

PG&E offered some suggestions to determine whether the current MIC methodology is inadequate.

1. **Examine Congestion During Historical Peak Load Hours.** PG&E suggested that that the current MIC values posting (*ISO Maximum Resource Adequacy Import Capability for Year 2011*, <http://www.caiso.com/27c6/27c675b81c230.pdf>) be supplemented by examining whether the interties are congested or constrained during the historical hours examined. PG&E contends that if the interties are congested then it would not follow that more intertie space could be released for RA imports without expanding the physical capacity on the intertie.
2. **Post ATC Values.** PG&E would like to see the Available Transmission Capacity ("ATC") for each intertie during the peak schedule hours used in the historical method. The current table, which shows OTC, might be misleading in that it would appear that much more intertie space is available than might actually be true. As an alternative, the ISO could provide the ATC within a certain confidence interval (say 99%) over multiple hours rather than just examining the peak hours to compare with the existing methodology.

PG&E contends that providing the type of high level information described above might provide stakeholders with an upper bound on how much intertie space could be available and could help to determine if exploring a new methodology could provide enough benefits to be worth the effort of developing one. And, even if the analysis showed that the current methodology would not provide benefits on the existing system, PG&E believes that a methodology is needed to accommodate new transmission additions that either expand existing interties or create new ones.

**ISO Response:** The ISO straw proposal addresses SDG&E's comment, regarding a contingency-based power flow analysis, through the deliverability study to assure the physical, simultaneous deliverability of the TPP main portfolio which will include expanded MIC values at certain interties. The use of the existing MIC methodology to establish a historical baseline will account for grandfathered RA imports. As part of the deliverability study, the ISO will identify any reliability criteria violations triggered by any expanded MIC increases. Per SDG&E's comment, during the study, the ISO can consider the potential use of lower cost mitigation, such as expanding a Remedial Action Scheme ("RAS").

Regarding PG&E's suggestion to examine congestion during historical peak load hours, while such an examination could be conducted, the ISO will ultimately layer on additional RIC at certain interties and then subject the expanded MIC to further analysis in the deliverability study. This seems to be the most efficient approach and is captured in the straw proposal.

The ISO can consider posting the ATC for each intertie during the peak schedule hours used in the historical method. This is, however, not part of the straw proposal at this time.

## 5.4. Timing and Coordination

IID contends that every effort should be made to have an expanded MIC methodology in effect before the 2013 RA compliance year. IID has several projects in its interconnection queue scheduled to go on-line in the third and fourth quarter of 2012. Thus, it may be necessary to accommodate projects that might be deliverable before 2013.

8me noted the ISO statement on the conference call that a new MIC methodology would probably not be ready to implement before the 2013 RA compliance year. This would require the new MIC values in early 2012 which would meet the planned commercial online dates (“CODs”) of 8me projects in the IID area. However, 8me noted that IID-area suppliers are now seeking power purchase agreements (“PPAs”) with ISO-area LSEs in order to meet those CODs. 8me stresses that parties need some indication, as soon as possible, of the likely magnitude of the MIC designations at import points into the ISO.

CalEnergy stated that to ensure that implementation can occur to support current generation development in the Imperial Valley of geothermal and other renewable generation, ISO would need to implement the necessary policy changes in May 2011 to support full business practice implementation by August 2011. CalEnergy contends that this timing is critical to align with the 2011 utility procurement process announced by the CPUC. Specifically:

1. The ISO can provide certainty by approving the requisite transmission projects and upgrades to ensure targeted MIC is realized. The ISO stands in a unique position through their recently approved TPP to ensure that MIC necessary to unlock valuable resource areas in California is realized through approval of policy-driven transmission projects. This process should start with Board approval of Western Electricity Coordinating Council Path 42 upgrades from the Imperial Valley area in its May 2011 project approval process.
2. The ISO should work with the CPUC to provide a guidance document to connect the assumptions utilized in the CPUC-jurisdictional 2011 utility power procurement process with the forward-looking MIC assignment process contemplated in this proposal.

CPUC staff stated its expectation that a forward-looking MIC methodology would identify increased import capacity on the *existing* and *planned* system, and coordinate with required CPUC approvals. For example, the 2011-2012 TPP may find the need for new transmission internal to the ISO to maintain the deliverability of the additional import RA capacity identified under the new MIC methodology. In such cases, particularly if the identified transmission project would require a Certificate of Public Convenience and Necessity from the CPUC, it will be imperative that the ISO and CPUC weigh the cost of such transmission relative to the value of the RA capacity it would make deliverable. Such an assessment will require transparency in the methodology and assumptions that LSEs employ to ascribe capacity value to RPS projects in their least-cost, best-fit bid ranking processes. While we understand developers’ desire for certainty around deliverability early in the development process for purposes of contract negotiations, the state cannot ignore its fundamental responsibility to ensure that new transmission is cost-effective and needed.

SDG&E, as noted earlier, stated that it is important to keep this process simple, focused, and on target for resolution by the end of summer 2011. SDG&E supports the ISO’s decision to isolate and remedy the discrete barriers to purchase power contracting that initiated this process.

**ISO Response:** The ISO understands the timing concerns raised by stakeholders and notes that this effort is moving forward as quickly as possible. Per the stakeholder process schedule in section 2 of this paper, the expanded MIC methodology will be finalized in BPM language by August of this year, and expanded MIC values will be available for the 2013 RA compliance year.

Regarding the 8me concern that IID-area suppliers are now seeking PPAs in order to meet 2012 CODs and need some indication, as soon as possible in 2011, of the likely magnitude of the expanded MIC values, the ISO intends to publish expanded MIC estimates through the 2011/2012 TPP process, based on the policy-driven resource portfolios developed for that process.

Regarding the CalEnergy comment that implementation occur to support current generation development in the Imperial Valley of geothermal and other renewable generation, the ISO plans to formulate the necessary MIC methodology changes in May 2011 that will result full business practice implementation by August 2011.

Regarding Path 42 upgrades, the ISO notes that the Mirage-Devers 230 kV reconductoring is identified as a needed policy-driven transmission element in the ISO's draft 2010/2011 comprehensive transmission plan that was posted on March 24, 2011. The ISO intends to present this plan to its Board for approval in May.

Regarding CalEnergy's suggestion of a guidance document with the CPUC, such a document already exists in the form of a memorandum of understanding (MOU) signed by the CPUC and the ISO in May 2010 in conjunction with the ISO's revisions to the TPP.<sup>11</sup> The ISO will continue to work closely with CPUC staff to implement this MOU, including collaborating to formulate the policy-driven resource portfolios that will be used to identify needed policy-driven transmission elements.

The ISO acknowledges CPUC staff's expectation that a forward-looking MIC methodology could lead to the need for new policy-driven transmission to support the expanded MIC values, and that such transmission would typically require CPUC siting approval. The ISO also agrees that the costs of such transmission are important factors to consider in the procurement decisions of the LSEs. That is why the ISO proposes to base the new MIC approach on the foundational step of formulating the policy-driven resource portfolios, which the ISO intends to be a crucial collaborative effort with CPUC staff in accordance with the MOU mentioned above.

## 6. Straw Proposal

Although this straw proposal focuses on revisions to the MIC calculation methodology, the complete solution for increasing the RA import capability has a second component that is implemented through the ISO's TPP. Before getting into the details of the MIC methodology it is important to understand how the two components work together to achieve the objective.

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<sup>11</sup> The May 2011 MOU is available at <http://www.caiso.com/2799/2799bf542ee60.pdf>.

## 6.1. Establish Target MIC Values and Supporting Network Upgrades via the TPP

The process starts in the TPP, where the ISO will first establish target expanded MIC MW values for each intertie that will be sufficient to support RA deliverability for the MW amount of resources behind each intertie that are included in the ISO's base case policy driven portfolio. In other words, the ISO first establishes the base case policy driven portfolio, which at this time includes renewable resources that will be sufficient to meet the state mandate of 33% renewable energy on an annual basis by 2020. Next, the ISO will determine the needed MIC MW quantities to support RA deliverability for the quantity of external resource capacity in the policy driven portfolio that will utilize each intertie for scheduling imports into the ISO BAA. For interties where there are no external resources included in the policy driven portfolio, the ISO will assume that no additional MIC is needed beyond the historically-determined level under the current methodology.

In terms of the MIC calculation process, the ISO will validate that sufficient RIC is available after Step 4 in the RA import allocation process to meet the target MIC values. These details are discussed below. Once the target expanded MIC values are determined, the ISO will then perform its TPP studies to identify any network upgrades needed on the ISO system to support these target MIC values, i.e., to ensure that the total amount of RA capacity resulting from these MIC values will be able to provide energy to the ISO system to meet peak load conditions. In the event there is insufficient RIC on one or more interties electrically connected to the external resource areas included in the policy driven base case portfolio, the ISO will propose transmission additions or upgrades in accordance with the ISO tariff to enable the external resource quantities in these areas to become deliverable on one or more interties.

Network upgrades identified in this manner will typically be categorized as policy-driven elements under the provisions of the TPP, and once they are approved by the ISO Board in the annual comprehensive transmission plan, will proceed through the tariff-specified process for identifying the entities that will build and own them, and will then proceed through the permitting process of the appropriate siting authority.

Because transmission often takes several years to be completed, the TPP activities described above will result in a multi-year plan that indicates the expected years when the target MIC amounts will become available. In contrast, the tariff-based deliverability assessment process determines MIC values annually for one year at a time, typically in July of each year for the upcoming RA compliance year. Thus, although the TPP will lay out a multi-year time line that indicates when the target MIC values are expected to be available, these values are formally available for LSEs to use in their annual RA resource plans only upon completion of the annual deliverability assessment process, and then only for the upcoming RA compliance year. In other words, although the TPP will adopt the target MIC values for planning purposes and will identify and approve transmission elements to support those values, the present proposal does not alter the current tariff provisions for confirming MIC quantities and allocating them to LSEs on an annual basis.

The methodology for expanded (target) MIC values is described as follows:

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

The latest MIC values for the 2011 RA compliance year are posted at <http://www.caiso.com/27c6/27c675b81c230.pdf>

2. **Assess RIC Relative to TPP Policy Goals.** For each intertie or a sum of interties electrically connected to resource area identified in the TPP main policy resource portfolio, the ISO will determine whether the RIC available (after Step 4) is sufficient to achieve stated TPP policy goals relative to the total capacity attributed to resources modeled.
  - a. **Sufficient.** If sufficient RIC exists in order to accommodate the resources modeled in the portfolios, LSEs continue to utilize their respective import allocations as currently established through the existing annual RA import allocation process.
  - b. **Insufficient.** In the event there is insufficient RIC in order to accommodate the resources modeled in the main portfolio, the ISO will estimate the targeted expanded RIC, based on the estimated Qualifying Capacity for each type of resource modeled in the main portfolio that require deliverability to the ISO grid. For all branch groups or sum of branch groups where RIC needs to be increased due to the main portfolio, the ISO will also calculate the impact of the sensitivity resource portfolios.
3. **Expanded MIC.** The new expanded MIC values, for each intertie or sum of interties electrically connected to areas of concern, equals the sum of the following:
  - a. The targeted expanded RIC;
  - b. Applicable Existing Transmission Contract (“ETC”) rights for the years of interest; and
  - c. Pre-RA Import Commitments still under contract in the years of interest.
4. **Deliverability Study.** Once the new expanded MIC has been established for the main 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.
5. **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.

6. **Publish Expanded MIC Values.** Once established, the appropriate expanded MIC values will be published in the annual ISO transmission plan including details about the available MIC values associated with the policy resource portfolios for the upcoming 2-10 years.

## 6.2. Expanded MIC Methodology

The second major component of the proposed solution, then, is the expanded MIC methodology, which will expand the historically-determined MIC quantities for each targeted resource area as the associated network upgrades to support the expanded quantities are completed and in service.

The expanded MIC methodology the ISO now proposes will continue to utilize the current approach based on historical energy schedules during peak load conditions, and will expand those historically-determined values for specific interties based on the TPP assessment described in the prior section. Such an expansion will depend, of course, on the completion of the associated TPP-identified and approved transmission additions and upgrades. Specifically, the ISO proposes that the annual MIC determination, which is conducted in May and June of each year, will assume that transmission scheduled to be in service prior to the start of the upcoming RA compliance year will indeed be in service for that year. Although scheduled in-service dates for transmission should be reasonably accurate by this time, the ISO recognizes that in some instances they could be delayed, resulting in the non-deliverability of some RA capacity the ISO was expecting to have available. In such cases, the ISO may need to request that LSEs identify additional capacity in their month-ahead RA plans to compensate for any shortfall, or if necessary, the ISO may utilize its Capacity Procurement Mechanism to procure additional capacity on a monthly basis.

Therefore the new MIC used in the annual RA import allocation process should be the maximum between the historically determined MIC and the most recent policy determined MIC as described in the latest TPP assessment.

## 6.3. Model Expanded MIC Values in GIP

The ISO proposes to model the expanded MIC values and associated TPP-identified transmission in the GIP. These expanded MIC values and elements will be modeled in lieu of, and only if they are higher than the previous historically established MIC values, in the Phase 1 and Phase 2 GIP deliverability studies for GIP clusters. The ISO is already incorporating the TPP approach described above into its 2011/2012 TPP unified planning assumptions and study plan,<sup>12</sup> and expects to identify any transmission required to support the expanded MIC values in its 2011/2012 comprehensive transmission plan to be finalized in March 2012.

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<sup>12</sup> 2011/2012 California ISO Transmission Planning Process  
<http://www.caiso.com/286e/286e7bed428f0.html>. See the *2011/2012 Transmission Planning Process Unified Planning Assumptions and Study Plan* posted on March 31, 2011,  
<http://www.caiso.com/2b52/2b52e70dca70.pdf>.

In the event that additional transmission is required based on deliverability studies done in the next round of Phase II studies under GIP, the new transmission additions required in order to maintain deliverability of the expanded MIC may be justified as policy driven transmission as allowed under the ISO tariff. Additional network upgrades, coming out of GIP and based on the transmission policy-driven elements from the prior cycle, will be evaluated in the next TPP cycle.

## 7. Next Steps

The ISO will host a meeting on April 13 from 1:00 to 5:00 p.m. to discuss this straw proposal and answer any questions that stakeholders may have. Stakeholders are encouraged to submit written comments on the straw proposal to [ResTrans@caiso.com](mailto:ResTrans@caiso.com) by close of business April 20. Prior to the April 13 meeting, the ISO will post a template for stakeholders to use when submitting written comments. The ISO will post the written comments that it receives to the following web address by April 22 <http://www.caiso.com/2b42/2b42b9378530.html>. The ISO will consider stakeholder comments as it prepares a draft final proposal, which is scheduled to be posted on May 5.