Imperial County Transmission Consultation

Draft
Second Discussion Paper

October 1, 2014

Ver2.1

Draft Discussion Paper

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1. Introduction

The CAISO is conducting a stakeholder consultation on options to address renewable generation deliverability out of Imperial County in support of the CAISO's transmission planning process. This consultation effort is intended to provide opportunities for stakeholder input on a range of issues that will inform the CAISO's 2014-2015 transmission planning process, which is currently underway.

In the 2014-2015 transmission planning process, the CAISO is studying renewable generation portfolios provided by the California Public Utilities Commission (CPUC) to identify the transmission solutions that would enable increased volumes of renewable generation in Imperial County. A number of factors have driven the need for these studies which include but are not limited to past efforts of the CAISO and the CPUC to enable renewable generation in Imperial County; high level environmental assessments performed by the California Energy Commission (CEC)/Aspen Environmental Group of certain potential transmission alternatives in the Imperial County/Southern California region; interest in geothermal generation development in the Salton Sea area and; loss of coastal generation including the early retirement of the San Onofre Nuclear Generating Station (SONGS) and the implementation of the Once Through Cooling (OTC) requirements in the Los Angeles and San Diego areas.

The CAISO has considered that an open dialog on all of the factors mentioned above was necessary to ensure that stakeholder issues and concerns related to these factors could be brought forward and considered in the CAISO's current planning effort. On July 14, 2014 the first Imperial County consultation stakeholder meeting was held to begin the consultation process. During that meeting a number of topics were discussed, in particular to gather stakeholder input and guidance on the following:

1. Overview of the CAISO's 2014-2015 transmission planning effort to assess deliverability capability out of Imperial County into the CAISO;
2. Viability of major 500 kV AC or HVDC transmission from Imperial County to the LA Basin/San Diego area, building on the existing CEC/Aspen Environmental Group environmental feasibility analysis of potential corridor designations in southern California;
3. Consideration of reallocating a portion of the Maximum Import Capability (MIC) that is allocated to the transmission path from Arizona to enable increased capability from Imperial County.

Given the above this, the second discussion paper was prepared to document information which the CAISO received from the July 14 stakeholder meeting; the extensive written comments that were provided by participants in the consultation effort; and to present conclusions based on the information received. The CAISO wishes to extend its appreciation to all participants that have provided input into this consultation.

2. Stakeholder Process

The CAISO's 2014-2015 transmission planning process is currently underway and under the guidance of the 2014-2015 Transmission Planning Process Unified Planning Assumptions and Study Plan[1]. Based on the current planning schedule a draft transmission plan will be posted for stakeholder review in January 2015. In order for the stakeholder consultation effort to provide meaningful input into the current CAISO transmission planning effort, it must be completed by December 2014 so that information from the consultation effort can be considered in the policy-driven transmission analysis of the 2014-2015 transmission planning process.

To this end, the CAISO launched the consultation effort when it posted the first discussion paper on July 2, 2014. The discussion paper was followed by a stakeholder meeting on July 14 and written comments from stakeholders were received on July 28. Comments were received from 23 stakeholders. CAISO staff reviewed and developed responses to those comments; all of which have been incorporated into a stakeholder comment matrix[2]. The stakeholder comment matrix was posted to the CAISO's web site on October 1.

A second stakeholder meeting for the Imperial County Transmission Consultation effort will be held on October 8. Accordingly, the CAISO intends to follow the stakeholder consultation schedule to the completion of the consultation effort.

Proposed Stakeholder Consultation Schedule

Date	Action
July 2	Post first discussion paper ***[Completed]***
July 14	Stakeholder meeting (in person) ***[Completed]***
July 28	Stakeholder comments due by 5:00 p.m. ***[Completed]***
September 24-25	Stakeholder meeting #2 of the 2014-2015 transmission planning process ***[Completed]***
October 1	Post second discussion paper ***[Completed]***
October 8	Second stakeholder meeting
October 15	Stakeholder comments due by 5:00 p.m.
October 31	Post finalized discussion paper
November 19-20	Stakeholder meeting #3 of the 2014-2015 transmission planning process
January 2015	CAISO posts draft transmission plan

[1] http://www.caiso.com/Documents/2014-2015FinalStudyPlan.pdf
[2] http://www.caiso.com/planning/Pages/TransmissionPlanning/2014-2015TransmissionPlanningProcess.aspx

3. Technical Addendum – Imperial County Deliverability

At the onset of the consultation initiative a great deal of interest was being focused on the prominence of renewable resources within the Imperial County area and the transmission capacity hurdles that were seemingly in place, inhibiting the ability of this renewable energy to freely move from Imperial County to the CAISO's transmission network. For the CAISO, the ability to consider any resources, renewable or otherwise, outside of the CAISO's network to contribute to the state's resource adequacy need is guided by the import deliverability that is available at the intertie point the energy enters the CAISO's transmission network. During the July 14 stakeholder meeting, it became evident that there was a need for greater clarity regarding the current deliverability capability for the Imperial county area. As a result, the CAISO posted a technical addendum[3] to the July 2, 2014 Imperial County Transmission Consultation Draft Discussion Paper to provide clarifying information. The technical addendum provided the following summary information:

1. As part of the resource adequacy program, the CAISO was required to determine how much import capacity (deliveries from outside the CAISO balancing authority area) could be relied upon to meet the needs of CAISO consumers during peak load conditions. To accomplish this goal, the CAISO established the Maximum Import Capacity (MIC) process to assess the import capacity based on historical high flows of energy being delivered into the CAISO. Since the IID system is its own balancing authority area, the CAISO has established MIC values for each import path from IID.
2. IID currently has 462 MW of deliverability (MIC) to the CAISO on Path 42.
3. The CAISO previously targeted increasing the MIC from IID to a total of 1,400 MW (462 MW existing + 938 MW additional). This objective was established in the CPUC renewable generation portfolios that set amounts for the Imperial zone at 1,700 MW. Importantly, the 1,700 MW RPS target for the Imperial zone is incremental to the existing 462 MW MIC and did not distinguish between whether the resources would be connecting to the CAISO grid directly or to the IID system. Previous transmission plans indicated this target was achievable with the approved transmission development that was already underway. Specifically, prior transmission plans indicated there was sufficient transmission approved to support a potential incremental 938 MW of IID MIC needed to reach the 1,400 MW IID MIC target as well as support a potential additional 762 MW of Imperial zone generation connecting directly to the CAISO system for a total of 1,700 MW.
4. With the early retirement of SONGS, the CAISO's forecast for additional deliverability from the Imperial zone above the existing 462 MW IID MIC was reduced from 1700 MW to zero MW. In light, of this the CAISO undertook further assessment of the impact approved upgrades in the 2013-2014 CAISO transmission plan would have in supporting generation deliverability for the Imperial zone. As well, IID have subsequently identified 200 MW of new generation under

[3] http://www.caiso.com/Documents/TechnicalAddendum-ImperialCountyDeliverability.pdf

construction and connecting to the IID system that have power purchase arrangements in place with LSEs inside the CAISO grid and include resource adequacy capacity. The ISO will therefore be adjusting the estimated future MIC from 462 MW to 662 MW to reflect this information, in keeping with the original commitment regarding the potential for up to 1400 MW. The technical addendum will also need to be updated to reflect this new information.

5. The transmission additions approved in the 2013-2014 transmission planning cycle restore a forecast future additional amount of deliverability for the overall Imperial zone of up to 1,000 MW.[4] It was anticipated that 100-200 MW could be available for increasing the MIC from IID. However, based on an initial review of CPUC approved power purchase agreements in the Imperial, Baja, and south San Diego zones, and recent information concerning 200 MW of renewable generation proceeding in IID with capacity sales into the ISO grid, the CAISO determined that the 1,000 MW is expected to be insufficient for generation that is already moving forward and connecting to the CAISO and IID systems. If there is limited deliverability, the impacts will be shared equally, according to existing ISO methodologies amongst the incremental import capability from IID and the new CAISO-connected generation's net qualifying capacity.
6. The CAISO is further re-examining the IID MIC in the 2014-2015 planning cycle as well as exploring options to increase the IID MIC. Specifically, the CAISO will be determining the transmission needs for two renewable development scenarios provided by the CPUC for the 2014-2015 planning cycle. A base case scenario that includes 1,000 MW of additional renewable generation in the Imperial zone[5], which as noted in #5 above was found to be supported in the 2013-2014 transmission plan but is nonetheless being reassessed in the 2014-2015 planning cycle along with the rest of the updated RPS portfolio amounts provided by the CPUC, and a second "sensitivity" scenario that includes an increase of 2,500 MW in that zone.[6]
7. One option for increasing MIC without transmission upgrades is the re-purposing of import capability from Arizona. While not expected to be a 1-for-1 trade-off, this option considers reducing MIC from Arizona import paths to increase the MIC from IID. The CAISO is exploring this approach through a stakeholder consultation process.

On balance, the CAISO 2013-2014 transmission plan currently supports:

- The existing IID MIC of 462 MW
- Incremental deliverability of approximately 1000 MW of which up to 200 MW will be allocated to incremental new generation under construction and connecting to the IID

[4] The recently approved major transmission projects that are needed to improve the deliverability generation out of the Imperial Zone are the Imperial Substation Phase Shifter (expected in-service 2017), and the Delaney-Colorado River 500 kV line (expected in-service 2020). Approved in earlier transmission planning cycles, the Sycamore-Penasquitos 230 kV line (expected in-service 2017) and the Bay Blvd Substation (expected in-service 2017) are also needed to ensure the delivery of renewable generation from the Imperial zone.
[5] The Imperial zone includes both IID and CAISO connected new generation in Imperial County.
[6] http://www.caiso.com/Documents/2014-2015RenewablePortfoliosTransmittalLetter.pdf

system that have power purchase arrangements in place with LSEs inside the CAISO grid and include resource adequacy capacity and the new generation in the area connecting directly to the CAISO grid);

And the CAISO 2014-2015 transmission planning effort is exploring achieving additional deliverability from the Imperial zone through:

- Updating the base case study assumptions (i.e., recalculating baseline of what level IID MIC can be supported absent further action, based on expected CPUC procurement);
- Re-purposing import capability from Arizona to increasing the IID MIC;
- Transmission upgrades or operational modifications.

4. Clarification of Maximum Import Capability (MIC)

4.1 Deliverability to the aggregate of load

Maximum Import Capability is a quantity in MWs determined by the CAISO for each intertie into the CAISO balancing authority area to be deliverable to the CAISO balancing authority area based on CAISO study criteria.

Deliverability is an essential element of any resource adequacy assessment. LSE compliance with resource adequacy procurement obligations will be affected by the ability of their procured supplies to serve load under peak conditions. Therefore, an effective deliverability study is essential in resource planning so that LSEs are able to 'count' their resources to determine if they are satisfying the required reserve margins. The deliverability of internal generation or imports to the aggregate of load measures the capability of the transmission system given the dispatch of other proximate generation resources to deliver power output from a particular generator or import to load in the CAISO control area during peak demand conditions. A resource whose output is not fully deliverable will have the capacity that it may offer for resource adequacy purposes reduced. Consequently, CAISO has developed a deliverability study to assess deliverability of internal generation and imports to serve load in the CAISO control area. This deliverability assessment of internal generation and imports to the aggregate of load is performed through both annual assessments to measure general system changes and for new generating facilities through the Large Generator Interconnection Procedure (LGIP).

A detailed explanation of the CAISO deliverability study methodology, including numerous examples of the methodology being applied, can be found in a technical paper entitled "Generator Interconnection and Deliverability Study Methodology Technical Paper" [7]. Additional information may also be found in the Business Practice Manual for Reliability Requirements.[8]

[7] http://www.caiso.com/Documents/TechnicalPaper-GeneratorInterconnection-DeliverabilityStudyMethodology.pdf
[8] http://www.caiso.com/rules/Pages/BusinessPracticeManuals/Default.aspx

As an input assumption, the deliverability study includes the amount of baseline maximum import capability as well as any increases in import capacity for particular import paths that were adopted in the Transmission Planning Process (TPP).

4.2 Establishment of MIC

4.2.1 *MIC Baseline*

Under the expanded MIC methodology, the historically-based MIC ("historical MIC") methodology is used to establish a baseline set of values for each intertie. Specifically, the prior two years of historical import schedule data is examined during high load periods. The sample hours are selected by choosing two hours in each year, and on different days within the same year, with the highest total import level when peak load was at least 90% of the annual system peak load. The historically-based MIC values are then determined to be the scheduled net import values for each intertie plus the unused Existing Transmission Contract ("ETC") rights and Transmission Ownership Rights ("TOR"), averaged over the four selected historical hours.

The baseline MIC is a short leaved self-correcting methodology. The old contracts that LSEs are no longer scheduling will result in 50% reduction in the import capacity used by these old contracts one year later and complete elimination of the old contracts import capacity used after the second year. Same goes for new import schedules based on new contracts supplied by the LSEs the first year they will get a 50% increase due to these new schedules and after two years the LSEs get the full import capacity increase due to these new contract schedules.

Remaining Import Capability (RIC) relative to target expanded MIC values determined in the TPP. For each intertie or a sum of interties electrically connected to a resource area identified in the TPP base case resource portfolio, the CAISO will determine whether the RIC available (after Step 4 in CAISO tariff section 40.4.6.2.1) is sufficient to achieve the target expanded MIC values that were derived in the TPP from the stated policy goals. If sufficient RIC exists in order to achieve the target expanded MIC values, the CAISO will continue to use the historically-based MIC methodology for that intertie for the annual RA import allocation process. If there is not sufficient RIC to achieve the target expanded MIC values, the CAISO will estimate the target expanded RIC based on the estimated Qualifying Capacity for each type of resource modeled in the base case resource portfolio that requires deliverability to the CAISO grid.

4.2.2 *Target Expanded MIC*

The new target expanded MIC value, for each intertie or sum of interties electrically connected to an identified resource area, equals the sum of the following: the target expanded RIC, the applicable ETC and TOR rights for the years of interest and the Pre-RA Import Commitments still under contract in the years of interest.

Once the new target expanded MIC has been established for the base case resource portfolio developed in the TPP, and during the same TPP cycle, the CAISO will conduct a deliverability study for this intertie(s), in order to assure simultaneous deliverability of the base case resource portfolio under the

assumptions identified above. Any transmission additions required in order to maintain deliverability of the base case portfolio resources may be approved as policy-driven transmission in the TPP under tariff section 24.4.6.6.

4.3 MIC Allocation to LSEs

For each intertie, the Available Import Capability will be determined by subtracting from the MIC the import capability on each intertie associated with ETC and TOR rights held by load serving entities that do not serve load within the CAISO balancing authority area.

Total available import capability will be assigned on an annual basis for a one-year term to LSEs serving load in the CAISO balancing authority area and other market participants through their respective scheduling coordinators, based on LSEs proportionate share of the forecasted resource adequacy compliance year coincident peak demand for the CAISO balancing authority area relative to the total coincident peak demand for the CAISO balancing authority area as determined by the California Energy Commission. Priority allocation is given to existing ETC and TOR right holders as well as to holders of pre-RA import commitments (any power purchase agreement, ownership interest, or other commercial arrangement entered into on or before March 10, 2006, by a LSEs serving Load in the CAISO BAA).

Detailed description of this process (13 steps) is available in the CAISO Tariff section 40.4.6.2 "Deliverability of Imports".[9]

5. Aspen Environmental Group Environmental Feasibility Analysis - Update

Since the May 2014 publication of the Aspen Consultant's report on the environmental feasibility of eight transmission alternatives to the closure of the San Onofre Nuclear Generating Station (SONGS)[10] prepared for the Energy Commission, the California ISO found that the closure significantly reduced the capability of the transmission system to deliver future renewable generation from the Imperial Irrigation District (IID) due to changes in electricity flow patterns over the electric transmission system. This change impacts the ability to achieve deliverability of import capability from the IID at the intended targeted level of 1,400 megawatts (MW). As with the original report, Energy Commission staff may consider these alternatives for potential electric transmission corridor designation.

In July 2014, the California ISO held a workshop titled "Imperial County Transmission Consultation Stakeholder Meeting" (July 14, 2014, Folsom, California) to discuss the issues regarding delivering renewable generation out of the Imperial Valley to the rest of the electrical transmission system. Aspen authors presented a summary of the May 2014 report findings, and stakeholders were invited to provide

[9] http://www.caiso.com/rules/Pages/Regulatory/Default.aspx
[10] http://www.energy.ca.gov/2014publications/CEC-700-2014-002/index.html

comments by July 28, 2014. Some of the comments suggested that the initial report be expanded to include additional transmission alternatives following specific routes. The routes studied in the second environmental feasibility analysis are:

- Proposed Hoober Substation to SONGS (proposed by the IID).
- Midway Substation to Devers Substation (proposed by SCE).

This environmental feasibility analysis[11] found that permitting IID's proposed Hoober Substation to SONGS included segments that would be either challenging or possible but challenging. SCE's Midway-Devers route (having common route segments of both alternatives studied) would be possible but challenging.

The Energy Commission decided that several other proposals raised in stakeholder comments will be evaluated in time for the next CAISO Transmission Planning Process meeting in late fall 2014. That work will include proposals by Duke American Transmission Company (DATC, Baker Canyon Substation to the Santiago Substation), SDG&E (Imperial Valley to Inland), and a review of The Nevada Hydro Company's Talega-Escondido/Valley-Serrano 500 kV Interconnect (TE/VS Interconnect).

6. General Summary of Stakeholder Comments

Comments on the first discussion paper and discussion at the July 14 stakeholder meeting were submitted by 23 stakeholders. The comments have been captured, in their entirety, in a stakeholder comment matrix that is posted on the CAISO's website.

In the first discussion paper the CAISO sought to have a consultation with stakeholders to gather input and/or inform the following:

- There are major 500 kV AC or HVDC transmission options from Imperial County to the CAISO
  - Are there other options to consider?
  - Considering the information documented in the existing Aspen environmental feasibility analysis of potential corridor designations in southern California, what additional information could be provided to the Aspen to supplement their study?
- Is the reallocation of Maximum Import Capability from the transmission path from Arizona to the transmission paths from Imperial County a viable option? If so, what approaches should be considered by the CAISO to implement this proposal?

While comments received cover a broad range of topics, a general summary of those comments which addressed the input desired is provided below.

[11] http://www.energy.ca.gov/2014publications/CEC-700-2014-002/CEC-700-2014-002-AD.pdf

6.1 There are major 500 kV or HVDC transmission options from Imperial County to the CAISO – are there other options to consider?

Several comments proposed other options that the CAISO might consider other than those presented at the July 14 meeting. All options were proposed as reasonable alternatives which could utilize existing right-of-way, lower construction costs, and/or increase overall import deliverability. A common theme among some entities was consideration of reliability benefits to be gained by completing segments of some of the larger routes that were suggested for Aspen to consider. It was suggested that the ability to stage the development of segments of the various alternatives may alter permitting assumptions on individual segments, while the overall alternative may be ranked as "very challenging". The base TE/VS Interconnect was one such segment of a larger scheme that could provide reliability benefits that the larger plan may not be able to achieve. In fact, such considerations were suggested as an interim arrangement that could provide additional time to consider other options.

The proposed options are briefly described below.

6.1.1 *Baker Canyon – Santiago (AC or DC Concept)*

This option proposes to construct a new transmission line between a new 500kV station to be located in the vicinity of Baker Canyon and Santiago. Transformation from 500kV to 230kV would be required at Santiago. The DC concept is preferred which would consist of Voltage Source Converter HVDC facilities with approximately 15 miles of HVDC transmission to connect the Baker Canyon area to Santiago sited along 500kV right-of-way south of Serrano. The facility would operate at +/- 320kV and be rated at 1000 MW.

An alternative AC option was also proposed. The 500kV AC line would also be sited along the 500kV right-of-way south of Serrano and include a new 500/230kV substation in the Baker Canyon area and a double circuit 230kV line consisting of a mix of overhead and underground to Santiago. A connection with the Chino-Viejo 230kV circuit is also possible.

6.1.2 *Talega–Escondido/Valley–Serrano (TE/VS) 500 kV Interconnect Project*

The TE/VS 500 kV transmission line is proposed to be a 500 kV AC regional interconnection transmission line with a nominal design capacity of 1,000 MW. The transmission line would provide a transmission interconnection from the proposed Lake Elsinore Advanced Pumped Storage (LEAPS) hydroelectric energy storage facility to the transmission systems of Southern California Edison (SCE) and San Diego Gas & Electric (SDG&E), and it would interconnect the SCE and SDG&E systems. The TE/VS Interconnection Project would be approximately 32 miles long and would extend from the proposed LEAPS facility near the City of Lake Elsinore, southward to SDG&E's existing 230 kV Talega-Escondido transmission line in San Diego County, and northward to SCE's existing 500 kV Valley-Serrano transmission line in Riverside County. The interconnection with SDG&E would be between SDG&E's existing Talega and Escondido substations at a new substation adjacent to Camp Pendleton. The interconnection with SCE's network would be at a point between SCE's Valley and Serrano Substations,

at a new switchyard in the vicinity of Lee Lake. In addition to the improvements described above, TNHC's TE/VS Interconnect Project would require numerous upgrades to the SDG&E and SCE systems

6.1.3 *Devers – Midway (IID) 500kV Line*

This option proposes to construct a new 500kV AC line from Devers to IID's Midway substation. The proposal would utilize existing right-of-way and is expected to have a reduced cost compared to other options due to its shorter line length. Given its location this project is projected to increase system transfer capability beyond the current Path 42 upgrade capability while adding up to 1200 MW of transfer capability. This project would also take advantage of some latent capacity which results from the current development of the West of Devers project.

6.1.4 *Northeast San Diego Area to Imperial Valley*

This option proposes to construct a new line from the northeast area of San Diego to the Imperial Valley area. While specific end points were not identified, it is presumed this option would be a 500kV AC line that would connect at or near existing 500kV facilities. The suggested route travels north on the west side of the Salton Sea and then turns west just north of the Anza-Borrego Desert State Park(ABDSP), avoiding ABDSP altogether. This route was presented to Aspen, however, Aspen did not study this particular route.

6.2 Considering the information documented in the existing Aspen environmental feasibility analysis of potential corridor designations in southern California, what additional information could be provided to the Aspen to supplement their study?

One of the key objectives of the consultation effort was to introduce environmental consideration into the discussion of import deliverability alternatives from Imperial County to the CAISO's transmission network, in particular the LA Basin/San Diego areas to ensure a broader set of issues and alternatives could be considered. While many entities positively embraced the inclusion of Aspen's environmental information, a few others were confused by the inclusion of this information as more current information had not been included. Based on comments received, the CAISO recognized that a certain amount of "modernization" of alternatives was needed to facilitate the consultation process. As such, the CAISO has worked with the CEC and Aspen to prepare an addendum to their report for which results were presented at the July 14 meeting. The result of Aspen's more recent work is discussed in Section 5.

Several comment also suggested that Aspen's environmental assessment of some "large-scale" projects could benefit from looking at an "openly developed collection of segments drawn from the various aspects of large-scale project proposals." Such an approach might resolve the reliability issues for the long term by informing stakeholders of "avenues to solutions that can be assembled successfully while helping address critical reliability issues segment–by–segment." Given such an approach necessarily concluded that additional work and consideration of all current proposals would be needed for the CAISO could make any kind of decision related to import deliverability from the Imperial County area.

6.3 Is the reallocation of Maximum Import Capability from the transmission path from Arizona to the transmission paths from Imperial County a viable option? If so, what approaches should be considered by the CAISO to implement this proposal?

Overall, a large percentage of comments received addressed the CAISO's proposal to consider an option to reallocate some amount of MIC from the Arizona import tie at Palo Verde to the Imperial County import tie. The ISO had verified that providing the amount of MIC needed at the Imperial County import tie was small (in the 200 MW to 500 MW range) and there was a similar amount of unused MIC available at the Palo Verde import tie, then reallocating some of the unused Arizona MIC to the Imperial County import tie could meet the import deliverability needs from Imperial County and potentially defer the need to construct new, expensive transmission facilities thereby achieving a significant cost savings to CAISO ratepayers.

On balance, many comments suggested that consideration of a methodology to reallocate MIC from the Arizona import tie to the Imperial County import tie was an appropriate alternative to building new, high cost transmission facilities.

At the same time comments also posited that there is no state policy to drive deliverability and as such, new transmission should not be built at ratepayer expense if it is needed to increase import capability from Imperial County.

Comments were also focused along two other lines of thought; first, there being a need to reconsider the existing methodology that is used to determine MIC and second, if a methodology to reallocate MIC is pursued, the CAISO must ensure any changes in MIC and/or the methodology to determine MIC should result in all CAISO import ties being treated in a comparable manner which suggested that there would be numerous issues that would need to be considered within the development of a reallocation methodology.

Regarding the first line of thought, the current MIC methodology is based on historical information, or a look back, approach (see Section 5). Comments suggest that in the long-run a better approach to accommodate MIC needs at different import tie points between the CAISO balancing authority and neighboring balancing authorities would be to replace the historically-based method with a forward-looking study-based approach. Further, one comment noted while reallocation might address short-term needs at Imperial County, it was not clear that there is a logical way to determine how much one could determine how much MIC was available to move from Arizona to Imperial County; and that such a reallocation certainly could not be achieved without considering any opportunity costs that might be associated with such an exchange. This sentiment was generally aired throughout most of the comments which recommended that the CAISO should consider a broader stakeholder effort and rigorous testing to address any and all concerns related to current MIC methodology as well as the reallocation option.

In general, comments that addressed the need to develop a forward-looking MIC methodology also noted the CAISO must ensure any changes in MIC result in all CAISO import ties being treated in a

comparable manner. The more relevant concerns were associated with the "constraint of simultaneity", the preservation of Existing Transmission Contracts (ETC), Transmission Ownership Rights (TOR), and old contracts (Pre-RA Import commitments) across all import ties, and the caveat that whatever arrangement is made for the Arizona and Imperial County import ties should also apply to all of the CAISO's import ties.

Regarding the "constraint of simultaneity", the CAISO notes that the current MIC process was designed to ensure that the level of imports "counted" as RA be limited to an amount that can be simultaneously delivered at peak conditions. This constraint is necessary because the non-simultaneous import capacity is significantly larger than that which can flow instantaneously. Since this simultaneous limit is very difficult to model prospectively, the stakeholders, through mediated FERC technical conference calls, created a mechanism which uses historic flows to establish the maximum simultaneous import capability, later codified in the CAISO Tariff and BPMs. As such, any changes to the current MIC methodology should clearly specify how the simultaneity constraint will be satisfied. Correspondingly, comments also addressed the need to ensure that all ETCs, TORs, and older pre-RA commitments continue to be honored within the import counting structure of any new MIC methodology that is developed.

7. Conclusions

As noted earlier, the purpose of this second discussion paper is to clarify a number of issues identified in earlier stakeholder discussions and to document information which the CAISO received from the July 14 stakeholder meeting; the extensive written comments that were provided by participants in the consultation effort; and to present conclusions based on the information received. This information, in conjunction with the information from studies being conducted as sensitivities in the 2014-2015 planning process, will enable a more complete presentation of the issues for consideration by the state agencies in developing future renewable generation portfolios to respond to state policy objectives at that time.

Based on the stakeholder comments received and the information presented in this second discussion paper, the following is concluded:

1. There is a robust interest in the consultation effort and the opportunity to inform the 2014-2015 CAISO's regional planning process on issues and concerns related to import deliverability from the Imperial County area;
2. On balance, consideration of a methodology to reallocate MIC from the Arizona import tie to the Imperial County import tie could be an appropriate alternative to building new, high cost transmission facilities if it is found necessary to do so in the transmission planning process; however;
    a. There are numerous issues and concerns which would need to be addressed through extensive stakeholder discussion before such a concept could be advanced;

b. CAISO must ensure any changes in MIC and/or the methodology to determine MIC should result in all CAISO import ties being treated in a comparable manner;

3. There is considerable interest in the CAISO replacing the current MIC methodology from a historically-based method with a forward-looking study-based approach which engendered the CAISO to consider a broader stakeholder effort and rigorous testing to address any and all concerns related to current MIC methodology;
4. The "constraint of simultaneity", the preservation of Existing Transmission Contracts (ETC), Transmission Ownership Rights (TOR), and old contracts (Pre-RA Import commitments) across all import ties are considered important legacy rights within the existing MIC methodology that should be in a new MIC methodology, if developed;
5. Recognizing the scope and resource commitment entailed in a complete MIC methodology review, it is reasonable to move the overall MIC methodology review into the stakeholder initiative catalogue as a means to assess stakeholder interest in this initiative.
6. A more limited scope focusing on reallocation will also be summarized and included in the stakeholder initiative catalogue and could be considered and advanced through a separate stakeholder initiative if necessary. The need to launch this initiative will be determined through the transmission planning process.