



California ISO  
Shaping a Renewed Future

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Technical Bulletin

# Clarification of certain Generator Interconnection and Deliverability Allocation Procedures (GIDAP) Study Assumptions for Cluster 7

April 30, 2014

 <b>California ISO</b> <small>Shaping a Renewed Future</small>	<b>Market &amp; Infrastructure Development (M&amp;ID)</b>	<b>ISO Version:</b>	<b>1.0</b>
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## REVISION HISTORY

<b>VERSION NO.</b> <small>(Must match header)</small>	<b>DATE</b>	<b>REVISED BY</b>	<b>DESCRIPTION</b>
1.0	4/30/2014	T. Flynn	Date the document was created.

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## TABLE OF CONTENTS

Purpose.....	4
Background.....	4
Clarification of certain GIDAP study assumptions for Cluster 7.....	6
LA Basin and San Diego areas.....	6
Moorpark sub-area .....	7

	<b>Market &amp; Infrastructure Development (M&amp;ID)</b>	<b>ISO Version:</b>	<b>1.0</b>
Technical Bulletin: Clarification of certain GIDAP Study Assumptions for Cluster 7		<b>Effective Date:</b>	<b>4/30/14</b>

## Purpose

*This bulletin clarifies the amount of new or repowered generation and preferred resources that the California ISO believes is reasonable to assume will be developed in Southern California to meet local capacity needs through 2023 without requiring major new network upgrades for use in the upcoming Generation Interconnection and Deliverability Allocation Procedures (GIDAP) study process. The ISO believes that an approach which considers the amount of authorized procurement plus residual need provides a rational basis on which to establish these assumptions. The ISO further believes it is important to provide clarification on these assumptions because to otherwise assume amounts greater than the sum of authorized procurement plus residual need could have the undesirable effect of identifying network upgrades that are unlikely to be needed. Such an unrealistic outcome could, in turn, inappropriately disadvantage projects in utility solicitations underway to fulfill the authorized procurement.*

## Background

The interconnection of resources to the ISO controlled transmission grid requires an interconnection study to evaluate the reliability and deliverability effects. Conducting an appropriate study requires a set of reasonable input assumptions; including the expected amount of existing generation. In southern California, sufficient transmission exists to support 5,086 MW of power plants that are required to meet the State’s regulation limiting the use of once through cooling (OTC) and, further, supported the needs of the San Onofre Nuclear Generating Station (San Onofre) until that facility retired. Beyond the retirement of San Onofre, meeting the OTC compliance timeline without a long-term contract will likely cause some resources to exit the system and free up additional available transmission capacity. Therefore, it is critical to establish an appropriate assumption on the quantity to be used in interconnection studies without regard to the specific generation projects that will ultimately be developed.

Electric grid reliability in the LA Basin and San Diego is challenged by the retirement of San Onofre announced by SCE on June 7, 2013 and the enforcement timeline of OTC regulations for power plants using ocean or estuarine water for cooling. In total, approximately 7,332 MW of generation (5,086 MW of gas-fired OTC generation and 2,246 MW for San Onofre) in the region are affected. Due to the interactions between the LA Basin and San Diego needs, the two have been aggregated into the San Diego and LA Basin Study area for ISO bulk system analysis in the ISO’s recent 2013-2014 transmission plan.

	<b>Market &amp; Infrastructure Development (M&amp;ID)</b>	<b>ISO Version:</b>	<b>1.0</b>
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The 2013-2014 transmission plan was based in part on the thinking set out in the August 2013 “Preliminary Reliability Plan for LA Basin and San Diego”<sup>1</sup>, and the decisions made to that point and the study assumptions set out in the CPUC’s 2012-2013 LTPP Track 4 scoping memo<sup>2</sup>. The ISO considers those study assumptions to reflect the evolution of the consideration of the array and blend of options for Southern California to maintain electric reliability, minimize carbon in the resource mix and avoid delaying the retirement of OTC units.

In the 2013-2014 transmission plan the ISO recommended and the Board approved transmission solutions to help reduce local resource needs by about 800 MW to 1,680 MW for 2023 summer peak load conditions. The approved solutions do not completely address all of the requirements identified for the San Diego and LA Basin area. The approved solutions result in a residual need of up to 900 MW overall for these areas, assuming optimistic estimates for their overall effectiveness and based on the resource assumptions discussed in the transmission plan.

Following release of the ISO’s 2013-2014 draft transmission plan, the CPUC issued its Track 4 decision in the 2012 long-term procurement proceeding (D.14-03-004)<sup>3</sup>. This decision authorized SCE to procure up to 700 MW, and SDG&E to procure up to 800 MW, by 2022 to meet local capacity needs stemming from the retirement of SONGS. Combining Track 1 and Track 4 procurement authority, SCE is authorized to procure up to 2,500 MW in the LA Basin and SDG&E is authorized to procure up to 1,100 MW. For SCE, up to 1,500 MW of this may be gas-fired generation, and for SDG&E up to 900 MW may be gas-fired generation (the latter includes 300 MW for Pio Pico). In addition, SCE and SDG&E are authorized to procure 1,000 MW and 200 MW, respectively, of preferred resources.

Table 1 below summarizes these data points. The sum of the authorized procurement plus residual need for the LA Basin and San Diego is 4,500 MW. This quantity may need to be adjusted as the specific projects and their locations can be studied for their combined effect on local and system reliability. This sum represents the amount of new resources that can reasonably be anticipated to develop and help meet local capacity needs in the LA Basin and San Diego through 2023. At this point in time, the ISO does not believe that there is a reasonable basis on which to assume an amount greater than 4,500 MW will be developed.

<sup>1</sup> [http://www.energy.ca.gov/2013\\_energypolicy/documents/2013-09-09\\_workshop/2013-08-30\\_prelim\\_plan.pdf](http://www.energy.ca.gov/2013_energypolicy/documents/2013-09-09_workshop/2013-08-30_prelim_plan.pdf)

<sup>2</sup> CPUC Long Term Procurement Plan Track 4 Scoping Ruling was filed on May 21, 2013 (<http://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=65202525>)

<sup>3</sup> <http://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=89008104>

	<b>Market &amp; Infrastructure Development (M&amp;ID)</b>	<b>ISO Version:</b>	<b>1.0</b>
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<b>Table 1</b>					
	<b>Procurement Authorization</b>		<b>Residual Need (MW)</b>	<b>Total (MW)</b>	<b>Existing OTC Generation (MW)</b>
	<b>Maximum Gas-Fired Generation (MW)</b>	<b>Preferred Resources (MW)</b>			
SCE	1500	1000			4140
SDG&E	900	200			946
<b>Total</b>	<b>2400</b>	<b>1200</b>	<b>900</b>	<b>4500</b>	<b>5086</b>

## Clarification of certain GIDAP study assumptions for Cluster 7

In the following sections, the ISO clarifies the amount of new or repowered generation and preferred resources that the California ISO believes is reasonable to assume will be developed in Southern California to meet local capacity needs by 2023 without requiring major new network upgrades.

### LA Basin and San Diego areas

After taking into consideration the combination of data points discussed in the previous section and summarized in Table 1, the ISO has concluded that there is a rational basis on which to establish the planning assumption that no more than 4,500 MW will be developed to meet local capacity needs in the LA Basin and San Diego by 2023.

For deliverability purposes, the ISO notes that a greater amount – up to 5,086 MW (i.e., the full amount of existing OTC generation in these areas) – could be repowered without requiring new network upgrades because these OTC plants have full capacity deliverability status (FCDS). However, it is not reasonable to assume that this amount of existing OTC generation in these areas will repower as this would surpass the amount of authorized procurement plus residual need.

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Thus, for the upcoming GIDAP interconnection studies for Cluster 7, the ISO will assume that no more than 4,500 MW of new resources will be developed to meet local capacity needs in the LA Basin and San Diego through 2023.

The proportion of the 4,500 MW that could be made up of new supply-side resources other than repowered OTC generation without requiring new network upgrades will depend on the locations in the LA Basin and San Diego of repowered OTC plants, the requested points of interconnection of new generating facilities requesting FCDS, and the locations of the preferred resources.<sup>4</sup>

While it is unlikely that new area deliverability network upgrades (ADNUs) would be required, it is possible that reliability network upgrades (RNUs) and/or local deliverability network upgrades (LDNUs) may be required depending on where the 4,500 MW is located within the study area. To address this, the ISO will need to study the most conservative scenarios within the 4500 MW limit in assessing the local impacts of any new Cluster 7 resources. This consists of conservatively assuming that the subset of existing generation that will repower and Cluster 7 generation that will proceed are those which cause the highest impact on local facilities – leading to the highest local reinforcement requirement. This study methodology will utilize deliverability study tools to perform a worst case scenario analysis to determine the resource mix that leads to the new resources having the highest local impact expected in the LA Basin and San Diego respectively. The ISO will split the residual need amount of 900 MW between the LA Basin and San Diego (450 MW and 450 MW, respectively). Thus, the maximum in the LA Basin will be assumed to be 2,500 MW plus 450 MW (2,950 MW) and the maximum in the San Diego area will be assumed to be 1,100 MW plus 450 MW (1,550 MW).

### **Moorpark sub-area**

The methodology generally described above will also be applied to the Moorpark sub-area. For the Moorpark sub-area, the upper limit of procurement authorization for gas-fired generation is 320 MW and the residual need is 400 MW. Preferred resources are assumed to be included in meeting the 400 MW residual need. The sum of these two values, or 720 MW, represents the maximum amount of new resources needed to meet local capacity needs by 2023 in the Moorpark sub-area. Thus, this sum reasonably represents the amount of new resources that will be developed to meet local capacity needs in the Moorpark sub-area through 2023. At this point in time, the ISO does not believe that there is a reasonable basis on which to assume an amount greater than 720 MW will be developed.

<sup>4</sup> The existing OTC plants have FCDS and thus can be repowered without requiring new network upgrades; however, other new supply side resources (whether gas-fired or preferred) could trigger new network upgrades.

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Similar to the LA Basin and San Diego areas, the amount of existing OTC plants in the Moorpark sub-area (1,946 MW) exceeds the amount of new resources needed (720 MW). However, different from the LA Basin and San Diego areas is the situation that the Moorpark sub-area marginally contributes to the desert area constraint which includes the Victorville-Lugo 500 kV line as a limiting facility. However, because the net change in resources in the Moorpark sub-area is expected to be a substantial reduction, all of the resources within the 720 MW will be excluded from being responsible from any further mitigation of the desert area constraint.