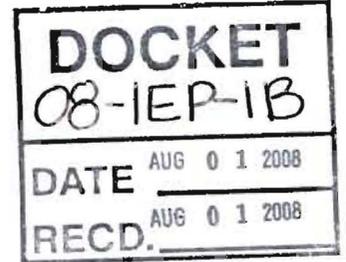




IMPERIAL IRRIGATION DISTRICT

GENERAL COUNSEL'S OFFICE
333 E. BARIONI BOULEVARD • P.O. BOX 937 • IMPERIAL, CA 92251

August 1, 2008



California Energy Commission
Dockets Office, MS-4
Re: Docket No, 08-IEP-1B
1516 Ninth Street
Sacramento, CA 95814-5512

**Re: Post Workshop Comments for the Imperial Irrigation District for the Staff
Workshop on Transmission Issues for 33 Percent Renewables by 2020**

Enclosed please find one original and ten copies of the Post Workshop Comments for the Imperial Irrigation District regarding the Staff Workshop on Transmission Issues for 33 Percent Renewables by 2020.

If you have any questions, please contact me.

Sincerely,

Stephen J. Keene
Assistant Counsel
Imperial Irrigation District
760-339-9550 (office)
760-339-9062 (fax)
760-427-0819 (cell)

**STATE OF CALIFORNIA
BEFORE THE
CALIFORNIA ENERGY COMMISSION**

In the Matter of:

**Preparation of the :
2008 Integrated Energy Policy Report : Docket No. 08-IEP-1B
Update and the 2009 Integrated Energy :
Policy Report :**

**STAFF WORKSHOP ON TRANSMISSION ISSUES FOR 33 PERCENT
RENEWABLES BY 2020**

POST-WORKSHOP COMMENTS OF IMPERIAL IRRIGATION DISTRICT

David L. Barajas
General Superintendent
System Planning and Contracts
Imperial Irrigation District

Stephen J. Keene
Assistant Counsel
Imperial Irrigation District

333 E. Barioni Blvd.
Imperial, CA 92251

August 1, 2008

I. INTRODUCTION

Imperial Irrigation District (IID) appreciates the California Energy Commission's (Commission) efforts to organize the workshop on transmission issues. IID submits that the State of California's efforts to encourage renewable development are an unprecedented effort to address greenhouse gas issues and this effort has the full support of IID. However, despite all of our efforts, transmission remains as one of the main challenges to achieving the California's stated energy goals. IID has made transmission development a key priority. To advance this priority, IID has made significant commitments in financing critical transmission projects that are the pillars of the development and export of renewable energy from the Imperial Valley to the rest of California.

IID submits that streamlining and integrating the various transmission planning efforts to facilitate the transmission of renewable energy in California is essential. IID therefore looks forward to working with its neighboring Balancing Authority Areas (BAs), transmission owners and other stakeholders to meet California's renewable energy goals.

IID's comments are organized as follows:

- A. General Comments.
- B. IID's role in relation to transmission initiatives to accomplish the 33 percent renewable goal.
- C. Whether the existing initiatives are sufficient to remove the major transmission barriers to the achievement of the 33% renewable goal, and if not, what is missing?
- D. Attachment A - Summary of IID's Transmission Development Plan.

- E. Attachment B - Summary Experiences with Joint Transmission-Project Development in the West.

II. COMMENTS

A. General Comments

IID has been an active participant in the Renewable Energy Transmission Initiative (RETI) process and Western Renewable Energy Zones discussions and has been, and will remain, a strong proponent of renewable energy as a means of meeting California's energy needs and preserving our environment. IID's goal is to do its part in enhancing the transmission system in order to facilitate the development and export of renewable energy both to the benefit of its customers and the rest of the region. In order to further this goal, IID has taken aggressive actions towards transmission development over the last 12 months (see Attachment A). IID believes that these aggressive planning actions are foundational to the furtherance of the regional needs for transmission capacity in order to expand access to renewable resources in the Imperial Valley.

Moreover, IID believes its direction for transmission planning is in the best overall interests of the region, both in terms of economics and timing. For example, the CAISO's presentation at the July 23 workshop¹ outlined a proposed 500 kV line via its Location Constrained Resource Interconnection Facilities (LCRIF) policy (*i.e.*, "trunkline"), that initiates at the Devers substation and goes 60 miles south to the Salton Sea region, at an estimated cost of \$800 million. At the same time, IID has proposed new double-circuit 230 kV lines in the same area, with equal capacity, at a cost less than \$200 million. IID has significant concerns regarding actions by the CAISO to establish a

¹ See CAISO Regional Transmission and Market Development and Infrastructure Planning "Report on Preliminary Renewable Transmission Plans" (CAISO Report).

trunkline facility in Imperial County that would duplicate existing and planned IID transmission facilities. This creates a significant risk that renewable generation would bypass the IID system, strand existing and planned transmission investments paid for by IID ratepayers, and cause IID's retail rates to increase. All of this would occur at a higher cost to CAISO ratepayers and regional customers as well. In addition, such plans do not make optimal use of existing corridors that would not only be more cost-effective, but would also have fewer impacts upon the environment. IID submits that utilization of existing transmission corridors and rights-of-way will expedite both the siting and construction of needed transmission to facilitate the development of renewable energy in the Imperial Valley.

B. IID's Role in Relation to Transmission Initiatives to Accomplish the 33 Percent Renewable Portfolio Standard Goal.

IID submits that it plays a crucial role in providing the needed transmission infrastructure to facilitate the export of renewable energy from the Imperial Valley to the rest of California. IID has an existing transmission and collector system situated throughout Imperial Valley's renewable resource areas. IID has taken an active role in reinforcing its transmission system to facilitate the export of renewable energy from Imperial Valley. IID's commitment to this role is summarized below:

1. The IID Board of Directors has expressed its strong commitment to assist California in meeting its renewable energy goals and in prioritizing renewable energy development to the Imperial Valley by approving the first phase of approximately \$100 million in new transmission development to facilitate the export of renewable energy from Imperial.
2. IID currently provides transmission services to approximately 550 MW of geothermal energy from Imperial Valley into the CAISO Balancing Authority

Area (BA). In addition, IID has approximately 2000 MW of new renewable energy currently in its interconnection queue for the purpose of export.

3. The IID proposed transmission expansion projects outlined in attachment A will increase the net export capability of renewable resources from IID by approximately 3200 MW, which will be critical in order to meet the 33 percent goal.

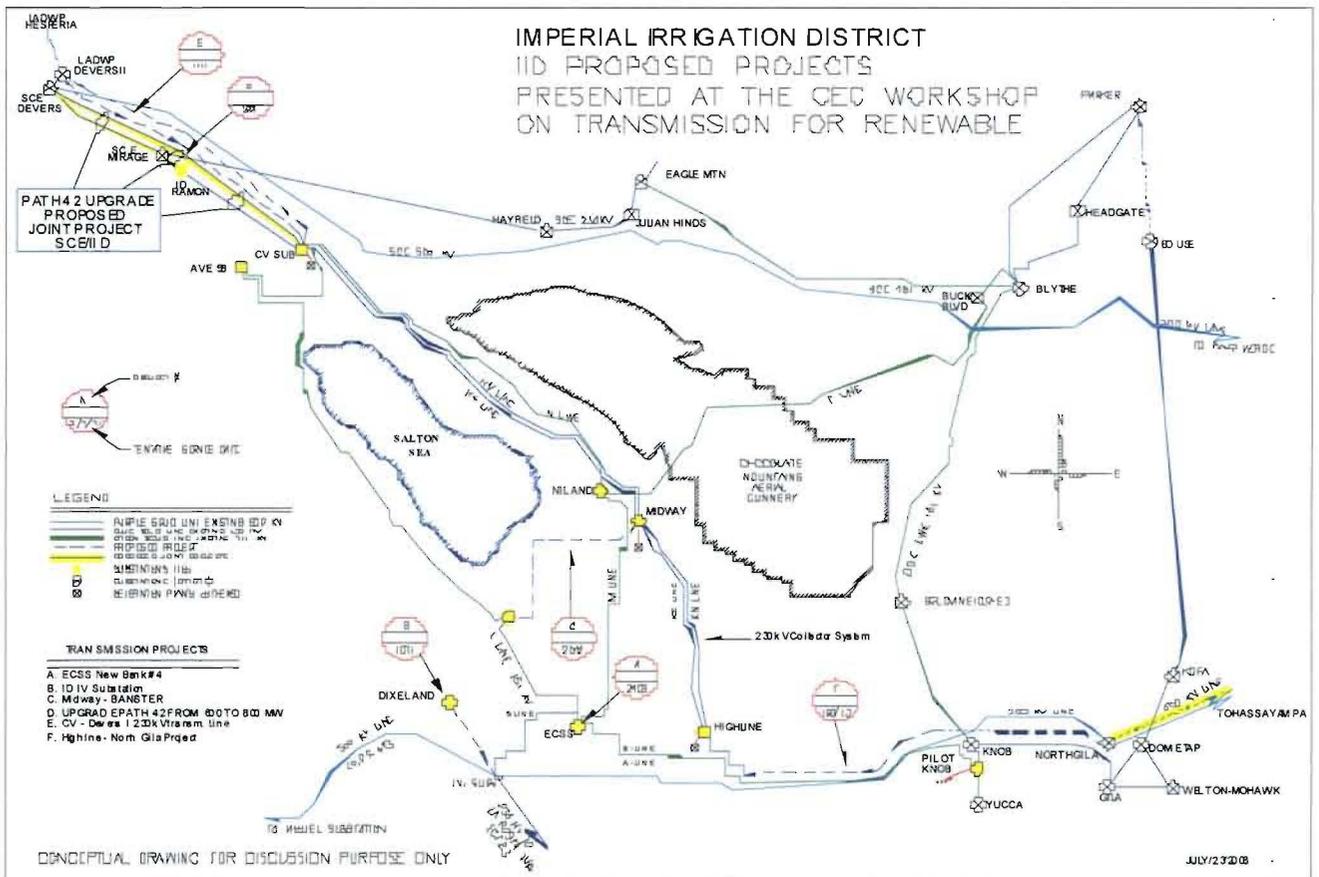
Currently, IID has six internal transmission initiatives proposed *along existing transmission corridors* that promote the export of renewable resources interconnected to IID transmission system. These six initiatives include:

- a) The addition of a 230kV/92 kV transformer bank at the El Centro substation. This will increase exports to the CAISO BA by 75 MW. The bank will be operational in early 2009.
- b) The Imperial Valley to Dixieland 230 kV line which will increase the export capacity to IV Substation (CAISO) by 400 MW by 2010. This project has been approved by IID Board.
- c) The Midway to Bannister 230 kV line, aimed at initially collecting 600 MW of new renewable energy from the southern Salton Sea area. This project will be prepared for double-circuit 230 kV lines with an ultimate capacity of 1200 MW. The first phase of this project was approved by the IID Board and the planned in-service date is 2012.
- d) The increase of the Path 42 rating from 600 to 800 MW at Devers. This joint effort with Southern California Edison (SCE) will increase exports to CAISO by 200 MW and is planned to be in service by 2009.
- e) The Coachella Valley to Devers II double-circuit 230 kV line. IID has secured a permit for most of this line to be constructed on federal land and has completed the CEQA/NEPA process for the portion of the line that will be on these federal lands. The line will interconnect to the Los Angeles Department of Water and Power's (LADWP) Devers II substation. The Devers II substation will interconnect to LADWP's Hesperia station (Green Path North) and to SCE's Devers station. The project will increase IID's export capacity to other California utilities by 1600 MW. The Coachella Valley to Devers II line is planned to be in service by 2013.
- f) The PV to North Gila to Highline Transmission Project. This is a joint transmission project between public power entities (IID, Salt River Project, Welton-Mohawk) and investor owned utilities (APS). It will provide 600 MW of

renewable export capability from IID into Arizona and will also help reduce congestion into California from the Palo Verde Hub.

In addition, IID strongly supports initiating a joint transmission project with SCE to re-conductor the existing Path 42 and associated facilities. This will provide an additional 800 MW of export capability from IID into the CAISO.

The following figure depicts the projects listed above:



C. Whether the existing initiatives are sufficient to remove the major transmission barriers to the achievement of the 33% renewable goal, and if not, what is missing?

IID submits that there are two primary issues that must be addressed in order to achieve the 33 percent renewable portfolio standard goal by 2020:

1. Transmission projects across multiple Balancing Authorities must be integrated to ensure lowest cost to all California consumers. To do so, we must minimize the duplication of facilities and maximize the utilization of existing infrastructure and rights-of-ways. This will reduce the overall cost of transmission development and minimize impacts upon the environment. The newly formed Pacific Southwest Planning Association is a positive step towards the integration of the various planning efforts.
2. Transmission policies across California and neighboring BAs must be addressed where inherent conflicts exist between the bilateral and tariff-based business models that create barriers to joint transmission projects between CAISO Participating Transmission Owners (PTOs) and non-PTOs. In order to achieve the 33% goal, we must address these existing barriers to joint transmission development.

There have been serious concerns raised in the development of California's transmission infrastructure in response to the increasing demand and the urgency of integrating renewable development into the grid. These growing concerns have arisen specifically with the joint transmission development between California public power (CPP) entities and the investor owned utilities (IOUs) subject to the CAISO tariff. Recently, two significant joint transmission projects have stalled. This is not due to the difference between public power and IOU needs or operational requirements but rather to the CAISO's ever-shifting business modalities. The key consideration is the CAISO tariff design vis-à-vis the other 33 western balancing authorities that conduct their business based upon bilateral contracts.

There can be successful joint transmission projects between public power and IOUs. One example is the recently announced large joint transmission project linking Arizona and California. However, this project involves an IOU – APS – that is not a PTO in the CAISO. Recently, joint transmission projects between a CAISO PTO and non-PTO's have been frustrated by the incompatibility between the CAISO's tariff design and other transmission owners that operate pursuant to a bilateral contract scheme.

Below is a summary of some significant barriers that have caused the termination of at least one joint transmission project:

- The CAISO's tariff has been interpreted by the CAISO to require not only that a proposed joint-ownership line be operated by the CAISO in its balancing authority area (rather than in a co-owners' balancing authority area), but also that all individual owner capacity and associated usage be subject to the CAISO tariff. The rates for the neighboring joint BA owner defined and owned capacity would no longer be under local control but would always be subject to the CAISO tariff cost design changes in perpetuity. This is neither practical nor legally feasible for these entities.
- In addition, the CAISO's tariff has been interpreted by the CAISO to require that all interconnections to, and expansions of, a line co-owned with a PTO be done under its direction. This prevents the local balancing authority from performing cost-effective integrated transmission planning – for its ratepayers, its merchant customers and its neighboring balancing authorities. Generator interconnection(s) and/or expansion of a transmission line jointly owned by a PTO and a public non-PTO conducted under the CAISO tariff may not be in the best interests of ratepayers within the western grid. To promote efficiencies and minimize environmental impacts the public non-PTO, as an owner of the joint transmission line and other transmission lines within its service area, should process all interconnection requests, optimizing all of its assets, in performance of its obligation and responsibilities as a balancing authority.

Solutions need to be found for the current deadlock on joint-transmission projects between the CAISO and other balancing authorities in order to facilitate and accelerate California RPS and greenhouse gas emission goals. The main item to overcome is the

barrier between the CAISO *tariff* approach and the *bilateral* contracts utilized by the other balancing authorities in the Western Interconnection.

In order to bridge the differences between the CAISO tariff and a contract-based arrangement, a new framework needs to be adopted to facilitate transmission development. What is lacking are proper incentives for various parties to work together and to leverage their existing infrastructure into new transmission projects. The obstacles that exist today continue to balkanize the grid and damage ratepayers and consumers by way of lost opportunity. Operational and cost certainty are paramount to a successful joint-transmission development. Therefore, IID has joined in with other California Public Power (CPP) entities to propose the adoption of a hybrid transmission development model with the following guiding principles:

1. **Operational and cost certainty:** Currently the CAISO tariff requires that all assets under CAISO control be subject to its planning, expansion, and associated costs. For purposes of joint transmission development with another balancing authority or a non-PTO entity, it is proposed that a tariff amendment be designed such that consideration is given to the other entities concerning commercial issues, generation interconnection, transmission planning and expansion, especially when the assets involved are in the service areas outside of the CAISO footprint. This would provide the same level of price certainty and asset optimization as exists in other bilateral transmission contracts outside of the CAISO. The CAISO tariff needs to recognize the sanctity of bilateral transmission contracts: Additionally an approved, negotiated agreement, between PTO and non-PTO entities when included in the CAISO tariff should NOT be subject to changes by CAISO or other non-parties without the mutual agreement of the joint-development parties. Again this promotes the financial certainty that transmission providers are currently seeking.
2. **Costs and liabilities:** All costs and liabilities are shared by the participants in proportion to their ownership percentages.
3. **Operational control:** Day-to-day control should be negotiated by the various parties without any contractual barriers that apply to certain entities based on whether the entity is a CAISO PTO or not.

4. **Ratepayers' benefits:** Any transmission project must be economically justified taking into account ALL existing planned transmission projects proposed by neighboring balancing authorities, whether the neighboring entity is a CAISO PTO or not. Minimization of costs to California ratepayers should be a significant element of joint transmission development.

5. **Reciprocity:** There is a need to consider waiving operational charges on joint transmission projects. Currently joint-transmission projects share the terms and conditions specified in the contractual agreement between parties. Western balancing authorities typically do not levy day-to-day charges upon each other for any operational fees, since the benefits and the burdens are specified in the bilateral contracts. Instead, they mutually forgo charges and/or agree that energy imbalances or losses can be made up by each other in kind. However, this is not the case when non-PTOs engage with the CAISO. The CAISO is the only BA in the West that unilaterally assesses transmission-related charges on neighboring BAs whenever a co-owned line is placed in the CAISO BA.

IID submits that a collaborative process is crucial to developing consensus and resolution to these issues in order to focus our energy on achieving the state energy objectives. IID and other CPPs look forward to working with the CAISO to address these important issues affecting joint transmission projects and would appreciate any assistance and guidance the Commission may provide in our efforts to address these issues.

ATTACHMENT A

SUMMARY OF IID TRANSMISSION DEVELOPMENT

For nearly two decades, IID has been at the forefront of promoting renewable energy in the Imperial Valley. Nearly twenty years ago, IID upgraded its transmission system by building a collector system to accommodate the interconnection of new geothermal generation and export this renewable energy to Southern California Edison (SCE). Today, IID wheels approximately 550 MW of geothermal energy from Imperial Valley into the California Independent System Operator (CAISO) balancing authority area.

IID remains committed to the development and export of renewable energy from the Imperial Valley to other parts of California. IID recognizes the importance of renewable energy development to the Imperial Valley to assist California meeting its renewable energy goals. IID has been and will remain a strong proponent of renewable energy as a means of meeting California's energy needs and preserving our environment. It looks forward to working with its neighbors in California to enhance the transmission system in order to facilitate the export of renewable energy to the rest of California.

IID recognizes that promotion of renewable energy projects in the Imperial Valley boosts local economic development and brings much-needed, good-paying jobs to a region of California that desperately needs them. IID looks forward to continuing to work with the State of California and other stakeholders to promote renewable energy goals in the Imperial Valley.

A. Update on IID's Transmission Expansion Plan

1. Background

IID has been at the forefront of promoting renewable energy transmission for many years. The Salton Sea geothermal resource area lies right in the heart of Imperial Valley. This is one of the largest geothermal resources in North America. Approximately fifteen years ago, IID upgraded its transmission system in order to interconnect new geothermal generation that was being developed in the Imperial Valley and export these renewable energy resources to Southern California Edison (SCE). At that time, IID upgraded its transmission system by constructing a double-circuit 230 kV "collector system" across the entire span of the IID service area – called the KN/KS lines – to interconnect new geothermal generation that was being developed in the Imperial Valley. The KN/KS lines were built in excess of the needed capacity since IID anticipated additional renewable generation development. Therefore, IID has excess capacity on its collector system today that can be used to wheel renewable generation. At present, IID wheels

approximately 550 MW of geothermal generation into the California Independent System Operator (CAISO) Balancing Authority

2. The Imperial Valley Study Group

IID was a major participant in regional transmission planning effort known as the Imperial Valley Study Group (IVSG). The IVSG was a voluntary planning collaborative made up of regional stakeholders that met to develop a phased plan for the development of the necessary transmission to export up to 2,200 MW of renewable generation from the Imperial Valley region. The IVSG identified various transmission reinforcements that needed to be made to IID's transmission system in order to facilitate the export of renewable energy out of the Imperial Valley. These reinforcements have been included in IID's transmission planning and incorporated into IID's Transmission Expansion Plan (TEP). IID developed its TEP to accommodate IID's expected load growth and to provide for transmission of Imperial Valley renewable generation to neighboring transmission systems. IID continues to facilitate the development and transmission of renewable energy in Imperial Valley. As of July 2008 there are approximately 2262 MW of generation from 23 proposed generation projects in the IID queue. Most of this is from renewable generation projects (1871.1 MW). IID is currently processing these interconnection requests and will continue to be one of the nation's leaders in the transmission of renewable energy.

3. IID's Recently Approved Transmission Projects.

IID continues to demonstrate its commitment to the development and export of renewable energy in the Imperial Valley. IID is working closely with its neighboring balancing authorities to develop new transmission projects to enhance the export of renewable to other parts of Southern California and Arizona.

IID is moving forward with three transmission projects that have been approved by the IID Board of Directors. Those three projects are:

- a 230 kV transmission line from the Midway substation to a new Bannister substation;
- a 230 kV transmission line from the Imperial Valley (IV) substation to Dixieland substation; and
- A joint transmission project proposed by Arizona Public Service, Salt River Project, Wellton Mohawk Irrigation District and IID for a 500 kV transmission line from the Palo Verde Hub to the North Gila substation near Yuma, Arizona.

These three projects will significantly increase the capability of IID to export renewable energy to its neighbors in Southern California and Arizona.

In addition, IID is also a partner in the Greenpath North transmission project which is a 500 kV transmission line interconnecting IID's system and Los Angeles Department of Water and Power's system. IID is also working with SCE to increase the rating of WECC Path 42 to provide an additional 200 MW of export capability from IID's system into SCE's system.

a. Midway to Bannister Transmission Project

On February 19, 2008, the IID Board of Directors approved the construction of a 35-mile transmission project to connect IID's Midway substation to a new Bannister substation. The 230 kV Midway-Bannister line will run right through the heart of the Salton Sea geothermal resource area and provide easy access to IID's transmission system for renewable generation being developed in this area. The line will connect IID's KN/KS line that runs on the east side of the Salton Sea to IID's 161 kV L-line that runs on the west side of the Salton Sea. It will provide a low-cost, reliable 1200 MW transmission path for renewable energy to flow to the north into SCE or to the west into San Diego Gas and Electric (SDGE).

The IID Board of Directors has already approved the right-of-way acquisition on the 35-mile Midway to Bannister line. IID has already completed the environmental studies and met all CEQA requirements for this project.

The estimated cost of this project is \$74 million and it has an expected in-service date of second quarter 2011.

b. Dixieland-IV Transmission Project

The Dixieland-IV project was approved by the IID Board of Directors in November 2006. This is an eight-mile line that will connect the Dixieland substation to the IV substation. It will increase the export capability from IID to SDGE by approximately 400 MW. The Dixieland-IV transmission project is a prime example on how a low-cost alternative can bring substantial new transmission capacities for the export of renewable resources from the Imperial Valley. IID believes that entities such as San Diego Gas & Electric (SDGE) can utilize these capabilities to export renewable to meet their needs.

The estimated cost of the project is \$15 million. The IID Board approved the project and it has an expected in-service date of second quarter 2010.

c. PV-North Gila Transmission Project

On January 14, 2008, the Arizona Corporation Commission (ACC) approved a new 500 kV transmission line from the Palo Verde Hub to the North Gila substation near Yuma, Arizona. This 117-mile transmission line is a joint project between IID, Arizona Public Service, Salt River Project and Wellton Mohawk Irrigation and Drainage District and will be capable of transporting up to 1200 MW of energy. The line will be extended to

Highline sub with IID's estimated investment in this project will be \$70 million and it has an expected in-service date of 2013

4. Rating Upgrade to Path 42.

WECC Path 42 includes two transmission lines from IID's Coachella Valley substation to SCE's Devers substation and IID's Ramon substation to SCE's Mirage substation. IID and SCE are in the process of re-rating Path 42. It is anticipated that the re-rating will increase the rating of Path 42 from 600 MW to approximately 800 MW. The Path 42 re-rating does not require transmission upgrades. The increased rating is based upon bringing the rating of Path 42 up to the thermal rating of the transmission lines. The current Path 42 rating is 600 MW but the transmission lines can accommodate a rating of up to 800 MW. IID and SCE are in the process of completing the re-rating studies and will submit it to WECC for approval. It is anticipated that the increase in Path 42 rating to 800 MW can be completed in the 2nd quarter 2009. This will provide an additional 200 MW of export capability from IID's system into SCE's system.

In addition, IID submits that with additional upgrades, the export capability of Path 42 could be increased by an additional 800 MW. Therefore, the total additional increase in export capability on Path 42 would be approximately 1000 MW – from 800 MW to 1800 MW.

5. Greenpath North Projects

a. Greenpath North Project

The Greenpath North (GPN) project is a proposed 500 kV transmission line that will carry between 1200-1600 MWs of energy between a new switching station in Hesperia near the Southern California Edison (SCE) Lugo Substation to a new switching station near Palm Springs and SCE's existing Devers Substation. GPN will provide a transmission path for Imperial County renewable energy to reach the Los Angeles load centers with an estimated in service date of October 2013

b. Coachella Valley-Devers II Project

IID is also planning to build a thirty-five mile transmission line that will connect the IID system in the Coachella Valley area to the LADWP and California Independent System Operator (CAISO) balancing authority areas near Palm Springs. The new line known as the Coachella Valley-Devers II project (CV-Devers II) will carry up to 1600 MWs of energy from IID's Coachella Valley substation to the proposed Devers II substation near SCE's existing Devers substation. The CV-Devers II project will be either a double-circuit 230 kV or single-circuit 500 kV line with an anticipated commercial operation date of 2013.

The majority of the right-of-way has been secured and the environmental analysis is under way.

B. Generator Transmission Interconnection

Below is a summary of the renewable and non-renewable resources that have requested transmission services from IID. IID is diligently working to process these interconnection requests for these projects, nearly all of which will be exported from the IID area.

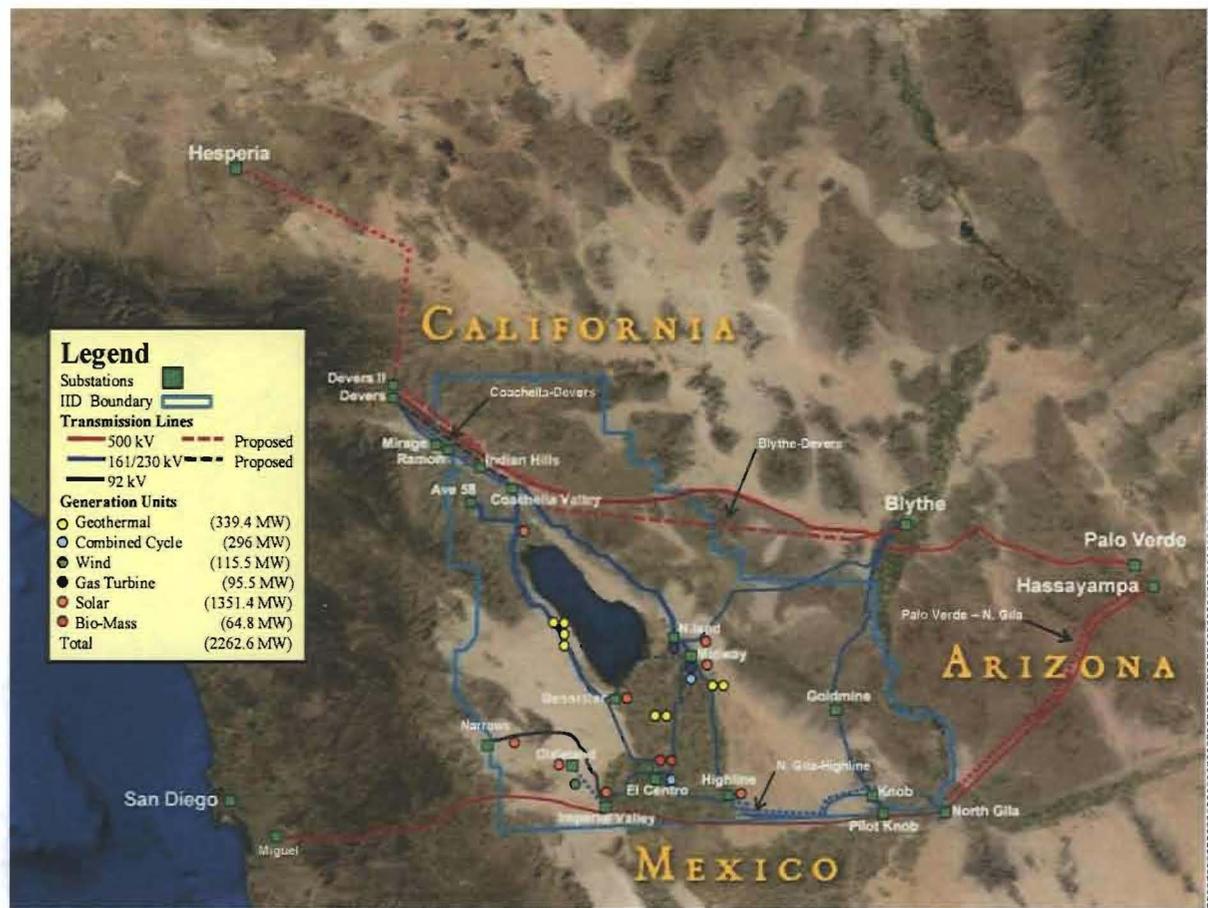
IID Generation Interconnection Queue

Queue Position	Request Date	Request Process	Service Type	Max MW Output	Location	Interconnection Facility	In-Service Date	Facility Type
1	May 5, 2005	GIP	ER	25	Imperial County	"L" 161 kV Line	Jun-10	Geothermal
2	July 21, 2005	GIP	NR	80	Imperial County	El Centro Swithcing Station	Jun-09	Combined Cycle Unit
3	January 31, 2006	GIP	ER	49.9	Imperial County	Midway Substaion	Sep-09	Geothermal
4	January 31, 2006	GIP	ER	49.9	Imperial County	Midway Substaion	Sep-10	Geothermal
5	February 10, 2006	GIP	ER	45	Imperial County	"L" 161 kV Line	Jul-10	Geothermal
6	May 5, 2006	GIP	ER	115.5	Imperial County	Plaster City Substation	Dec-08	Wind
7	May 17, 2006	GIP	ER	15.5	Imperial County	"J" 92 kV Line	Jan-09	Bio-Mass
8	December 13, 2006	GIP	ER	50	Imperial County	"CO" 92 kV Line	Oct-08	Geothermal
9	December 13, 2006	GIP	ER	50	Imperial County	"CO" 92 kV Line	Oct-09	Geothermal
10	March 2, 2007	GIP	ER	46	Imperial County	"J" 92 kV Line	Apr-09	Gas Turbine
11	April 20, 2007	GIP	ER	49.4	Imperial County	Imperial Valley Substation	Mar-10	Solar
12	May 4, 2007	GIP	ER	225	Imperial County	Midway Substaion	Sep-09	Solar
13	August 2, 2007	GIP	ER	77	Imperial County	Midway Substaion	Jan-10	Solar
14	August 13, 2007	GIP	ER	20	Imperial County	"L" 161 kV Line	Dec-10	Geothermal
15	August 14, 2007	GIP	ER	49.6	Imperial County	"L" 161 kV Line	Jun-10	Geothermal
16	September 11, 2007	GIP	ER	50	Imperial County	"B" 92 kV Line	Dec-08	Solar
17	September 26, 2007	GIP	NR	49.5	Imperial County	Midway Substaion	Jul-09	Gas Turbine
18	September 26, 2007	GIP	NR	216	Imperial County	Midway Substaion	Dec-10	Combined Cycle Unit
19	January 3, 2008	GIP	ER	500	Imperial County	"L" 161 kV Line	Dec-09	Solar
20	March 24, 2008	GIP	ER	250	Imperial County	Highline Substation	Sep-12	Solar
21	April 25, 2008	GIP	ER	49.3	Imperial County	"EO" 92 kV Line	Feb-11	Bio-Mass
22	May 5, 2008	GIP	ER	100	Riverside County	Mecca Substation	May-11	Solar
23	May 5, 2008	GIP	ER	100	Imperial County	Dixieland Substation	May-11	Solar

Summary of current renewable project in IID Generation Queue:

1	Geothermal	339.4
2	Solar	1351.4
3	Wind	115.5
4	Biomass	64.8
5	Total Renewable	1871.1
6	CT/CC	391.5
7	Total	2262.6

The figure below shows the approximate location of the new renewable projects that requested transmission services from IID:



ATTACHMENT B

SUMMARY OF EXPERIENCES WITH JOINT TRANSMISSION PROJECT DEVELOPMENT IN THE WEST

There are several examples of jointly owned transmission projects that have played a vital role in the ability of many utilities in the western grid to serve rapidly growing customer loads for over 50 years. The result is a highly integrated transmission system that has fostered cooperation and economic coordination among the owners. Jointly owned transmission facilities are viable solutions for multiple utilities to deliver power to their native load customers.

A. Southwest Power Link (SWPL)

A prime example of joint ownership is the 500 kV transmission lines from Phoenix to San Diego known as the South West Power Link (SWPL) where APS, IID and SDGE own the line and all arrangements are addressed in a bilateral contract between the parties. CAISO has grandfathered the IID and APS rights on the line. Over the last 20 years the parties have shared the cost of significant capacity upgrades for purposes of mutually beneficial load growth.

B. The Navajo South Transmission Line

Another prime example is the Navajo South transmission line that runs from the Navajo plant to the Moenkopi switching station,² which is owned by the six owners of the plant: SRP, APS, LADWP, the U.S. Bureau of Reclamation ("USBR"), Tucson Electric Power Co. and Nevada Power Co. Three of these utilities (Nevada Power, USBR and LADWP) built the Navajo West system that runs west from the plant.

C. Path 15 Upgrade

Path 15 is located in the southern portion of Pacific Gas and Electric Company's service area and in the middle of the CAISO's balancing authority. The project was financed substantially with non-federal funds. Project participants under this public-private partnership were Western Area Power Administration (a federal agency), Pacific Gas and Electric Company and Trans-Elect New Transmission Development. The upgrade has relieved a significant transmission constraint on Path 15 in the south to north direction. This project was a model for how effective joint transmission projects can be beneficial to all ratepayers and relieve a major reliability problem.

The process under which the line was built was a bit unusual but it worked very well. Due to excessive congestion on Path 15, on May 17, 2001, the National Energy Policy

² Both Palo Verde and Moenkopi are scheduling points with multiple entities, including the CAISO, SDGE and SCE as CAISO participating transmission owners (PTO).

Report recommended that President George W. Bush direct the secretary of energy to authorize WAPA to explore ways to relieve the Path 15 bottleneck through transmission expansion.³ Through a public process, WAPA solicited proposals from non-federal entities to participate in the construction and ownership of Path 15 upgrades. WAPA ultimately selected Trans-Elect and PG&E. The Path 15 participants agreed to build a new 500 kV transmission line increasing Path 15 transfer capability from 3900 MW to 5400 MW for northbound power deliveries. The project increased transfer capability for southbound deliveries as well.

WAPA owns the most significant part of the new 500 kV transmission line and land associated with the transmission upgrade, while PG&E performed upgrades to preexisting substations and 230 kV transmission facilities. The letter agreement also provided that Trans-Elect, PG&E and WAPA each received an entitlement to the transmission system rights (TSRs). Initially, Trans-Elect received 72 percent, PG&E received 18 percent and WAPA received 10 percent of these TSRs. The final allocation of TSRs was based on the ratio of the contribution⁴ made by a participant to the project, either in terms of funding or actual work performed. However, in no event will WAPA's share drop below 10 percent. The cost of the project was \$306 million.

This bilateral agreement was adopted in the CAISO tariff without modification. CAISO indicated that the Path 15 situation was done under very unique circumstances and should not be seen as the model that CAISO would use for future joint transmission projects.

The Path 15 upgrade was completed in record time and placed into operation by the end of 2004.

D. California-Oregon Transmission Project (COTP)

The COTP is a project that is jointly owned by the Transmission Agency of Northern California (TANC), Western and PG&E. This is a 500 kV line that serves as one of the three California-Oregon interties and connects Captain Jack Substation in Oregon and Olinda Substation in California. This is managed under the historical contract principles with the SMUD/Western balancing authority operating the line, the PG&E portion scheduled under the CAISO tariff and the remaining portion scheduled under a bilateral contract arrangement.

E. Pacific DC Intertie (PDCI)

The PDCI is another good example of a transmission system jointly owned by the CPP and entities controlled by CAISO. It is a 3100 MW high voltage direct current (HVDC) transmission system with converter stations at both ends, the northern terminal called the Celilo Converter Station is located in the Bonneville Power Administration (BPA) system in Oregon and the southern terminal called the Sylmar Converter Station is located in the LADWP system. The PDCI transmits DC power at +/- 500 kV DC over an 871-mile transmission line from the Pacific Northwest to Southern California. The original station

³ <http://www.wapa.gov/sn/ops/transmission/path15/FERCapproval/Path15FERCAccept.pdf>

⁴ Contributions are not always in the form of financial contributions.

was commissioned in 1970 with an initial capacity of 1600 MW, and was later expanded in various phases to the present capacity of 3100 MW.

The PDCI is a jointly owned transmission system by BPA, SCE, LADWP, Pasadena, Glendale and Burbank. Currently only SCE and Pasadena are CAISO PTOs. The line's operational control is divided between the BPA balancing authority in the north and LADWP balancing authority in the south at the Nevada Oregon Border (NOB). LADWP is the operating and maintaining agent and the manager for all work at the Sylmar Converter Station and on the DC line up to the NOB.