

APPENDIX 3A

# LEC Interconnection Facilities Study Agreement

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**To:** Ed Warner

**Subject:** RE: Lodi Energy Center Facilities Study Agreement - Executed -Milestone Dates

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**From:** Fishback, Edward [mailto:EFishback@caiso.com]

**Sent:** Wednesday, August 06, 2008 3:06 PM

**To:** Ed Warner; Madrid, Barbara; RJLz@pge.com; Shah, Nisar; Liu, Nan

**Cc:** Chen,Kaicheng; Wright, Linda

**Subject:** FW: Lodi Energy Center Facilities Study Agreement - Executed - Milestone Dates

The ISO received the executed Lodi Energy Center Interconnection Facilities Study Agreement (IFASA) and required deposit on Tuesday August 5, 2008.

LGIP requires PG&E and CAISO to complete the draft Interconnection Facilities Study (IFS) report and deliver it to NCPA by December 3, 2008

Modified milestone dates:

In order to comply with the recent CAISO Generation Interconnection Process Reform (GIPR) filing with FERC, PG&E will provide a draft IFAS report to CAISO by October 3, 2008. CAISO will review, update, and issue the draft report to NCPA for comments within 7 calendar days (CD) after receipt from PG&E. NCPA is requested to provide comments within 7 CD after receipt of the draft report. The final report will be issued within 7 CD after receiving comments from the IC.

Ed Fishback  
Project Manager  
California ISO  
151 Blue Ravine Road  
Folsom, CA 95630  
Phone (916) 608-5836  
Cell (916) 802-6401  
Fax (916) 351-2264  
X4470



651 Commerce Drive  
Roseville, CA 95678

(916) 781-3636

[www.ncpa.com](http://www.ncpa.com)

VIA FEDERAL EXPRESS

August 4, 2008

Ms. Linda Wright  
Resource Analyst  
California ISO  
151 Blue Ravine Road  
Folsom, CA 95630

SUBJECT: Interconnection Facilities Study Agreement between the Northern California Power Agency and the California Independent System Operator Corporation

Dear Ms. Wright:

Please find enclosed two fully executed copies of the Agreement (including Attachments A and B) between the Northern California Power Agency (NCPA) and the California ISO.

Also enclosed, by your request is check #145553 in the amount of \$100,000 for the study deposit.

NCPA has retained one fully executed copy for our files.

If you have any questions, please contact me at (209) 333-6370, ext. 100 or email at [ed.warner@ncpagen.com](mailto:ed.warner@ncpagen.com).

Sincerely,

ED WARNER  
Project Manager  
Lodi Energy Center

EW/dmg  
Enclosures

VENDOR: 004101 CALIFORNIA ISO

CHECK NO. 145553

UR REF. NO.	YOUR INV. NO.	INVOICE DATE	INVOICE AMOUNT	AMOUNT PAID	DISCOUNT TAKEN	NET CHECK AMOUNT
136232	CHREQ 6698	7/29/2008	\$100,000.00	\$100,000.00	\$0.00	\$100,000.00
			\$100,000.00	\$100,000.00	\$0.00	\$100,000.00

CHECK NO.	CHECK DATE	VENDOR NO.
145553	7/31/2008	004101

CHECK NO. 145553



U.S. BANK  
90-2267/1211

CHECK AMOUNT

\$100,000.00

One Hundred Thousand Dollars and 00 Cents

PAY  
TO THE  
ORDER OF

CALIFORNIA ISO  
P.O. Box 639014  
151 Blue Ravine Road  
Folsom CA 95763-9014

*Walter Linn* NP  
*J. Simpson* NP

⑈ 145553 ⑈ ⑆ 121122676 ⑆ 153402162744 ⑈

Security Features Included Details on back.



July 14, 2008

*Via FedEx delivery*

Mr. Ed Warner  
Northern California Power Agency  
180 Cirby Way  
Roseville, CA 95678

Dear Mr. Warner,

Enclosed are three (3) partially executed originals of the Interconnection Facilities Study Agreement (Agreement) for the Lodi Energy Center project between Northern California Power Agency (NCPA) and the California Independent System Operator Corporation (ISO) for execution by NCPA.

**Please sign, date, and fill in the name and title of the signatory where indicated in the signature block on the signature page of each of the originals and fill in the date of NCPA's execution where indicated on the first line of the Agreement to note the "entered into" date of the Agreement. Please also fill in the required information on Attachments A and B.** You may then return two of the three fully executed and dated originals to my attention at **California ISO, 151 Blue Ravine Road, Folsom, CA 95630**. The third original is for your records. Please submit the executed agreements, including completed Attachments A and B, and the \$100,000 study deposit within 30 calendar days of receipt of this package.

Information necessary to wire transfer the required \$100,000 deposit to the ISO is also attached.

We appreciate your assistance in this matter. If you have any questions about the execution version of the Agreements or the execution process, please feel free to contact me by email at [lwright@caiso.com](mailto:lwright@caiso.com) or by phone at (916) 351-4470.

Sincerely,

Linda Wright  
Resource Analyst

Enclosures (3)  
Attachment (1)

cc: without enclosures  
Ed Fishback, ISO  
Barbara Madrid, PG&E  
Roni Reese, ISO  
Nisar Shah, ISO

## INTERCONNECTION FACILITIES STUDY AGREEMENT

**THIS AGREEMENT** is made and entered into this 29<sup>th</sup> day of July, 2008 by and between Northern California Power Agency, a joint powers agency formed by member public entities under the laws of the State of California, ("Interconnection Customer,") and the California Independent System Operator Corporation, a California nonprofit public benefit corporation existing under the laws of the State of California, ("ISO"). The Interconnection Customer and the ISO each may be referred to as a "Party," or collectively as the "Parties."

### RECITALS

**WHEREAS**, the Interconnection Customer is proposing to develop a Large Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by the Interconnection Customer dated October 22, 2007; and

**WHEREAS**, the Interconnection Customer desires to interconnect the Large Generating Facility with the ISO Controlled Grid;

**WHEREAS**, the ISO has completed an Interconnection System Impact Study (the "System Impact Study") and provided the results of said study to the Interconnection Customer; and

**WHEREAS**, the Interconnection Customer has requested the ISO to conduct or cause to be performed an Interconnection Facilities Study to specify and estimate the cost of the equipment, engineering, procurement and construction work needed on the Participating TO's electric system to implement the conclusions of the Interconnection System Impact Study in accordance with Good Utility Practice to physically and electrically connect the Large Generating Facility to the ISO Controlled Grid.

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the ISO's FERC-approved Standard Large Generation Interconnection Procedures ("LGIP") or the Master Definitions Supplement, Appendix A to the ISO Tariff, as applicable.
- 2.0 The Interconnection Customer elects and the ISO shall conduct or cause to be performed an Interconnection Facilities Study consistent with the LGIP in accordance with the ISO Tariff.

- 3.0 The scope of the Interconnection Facilities Study shall be subject to the assumptions set forth in Attachment A and the data provided in Attachment B to this Agreement.
- 4.0 The Interconnection Facilities Study report (i) shall provide a description, estimated cost, including, if applicable, the cost of remedial measures that address the financial impacts, if any, on Local Furnishing Bonds, of (consistent with Attachment A), and schedule for required facilities or for effecting remedial measures that address the financial impacts, if any, on Local Furnishing Bonds within each Participating TO's electric system to interconnect the Large Generating Facility to the ISO Controlled Grid and (ii) shall address the short circuit, instability, and power flow issues identified in the Interconnection System Impact Study.
- 5.0 The Interconnection Customer shall provide a deposit of the greater of \$100,000 or the Interconnection Customer's portion of the estimated monthly cost for the performance of the Interconnection Facilities Study. The time for completion of the Interconnection Facilities Study is specified in Attachment A. For studies where the estimated cost exceed \$100,000, the ISO may invoice Interconnection Customer on a monthly basis for the work to be conducted on the Interconnection Facilities Study for the remaining balance of the estimated Interconnection Facilities Study cost. The Interconnection Customer shall pay invoiced amounts within thirty (30) Calendar Days of receipt of invoice. The ISO shall continue to hold the amounts on deposit until settlement of the final invoice.

Following the issuance of the Interconnection Facilities Study, the ISO shall charge and the Interconnection Customer shall pay the actual costs of the Interconnection Facilities Study, inclusive of any re-studies and amendments to the Interconnection Facilities Study, pursuant to Section 9 of this Agreement.

Any difference between the deposit made toward the Interconnection Facilities Study and the actual cost of the study, inclusive of any re-studies and amendments thereto, shall be paid by or refunded to the Interconnection Customer, as appropriate in accordance with Section 13.3 of the LGIP.

- 6.0 The Interconnection Facilities Study will be based upon the results of the Interconnection System Impact Study and the technical information provided by the Interconnection Customer in the Interconnection Request, subject to any modifications in accordance with Section 4.4 of the LGIP. The ISO reserves the right to request additional technical information from the Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Interconnection Facilities Study.

If the Interconnection Customer modifies its Interconnection Request or the technical information provided therein is modified, the time to complete the Interconnection Facilities Study may be extended.

- 7.0 Pursuant to Section 3.7 of the LGIP, the ISO will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems. The ISO may provide a copy of the Interconnection Facilities Study results to an Affected System Operator and the Western Electricity Coordinating Council. Requests for review and input from Affected System Operators or the Western Electricity Coordinating Council may arrive at any time prior to interconnection, and a revision of the Interconnection Facilities Study or re-study may be required in such event.
- 8.0 Substantial portions of technical data and assumptions used to perform the Interconnection Facilities Study, such as system conditions, existing and planned generation, and unit modeling, may change after the ISO provides the Interconnection Facilities Study results to the Interconnection Customer. Study results will reflect available data at the time the ISO provides the Interconnection Facilities Study to the Interconnection Customer. The ISO shall not be responsible for any additional costs, including, without limitation, costs of new or additional facilities, system upgrades, or schedule changes, that may be incurred by the Interconnection Customer as a result of changes in such data and assumptions.
- 9.0 In the event that a re-study or amendment of the Interconnection Facilities Study is required, the ISO shall provide notification of the need for such re-study or amendment, and the Interconnection Customer shall provide direction as to whether to proceed with the re-study or amendment and any associated deposit payment pursuant to Section 8.5 or Section 12.2.4 of the LGIP, as applicable.
- 10.0 The ISO shall maintain records and accounts of all costs incurred in performing the Interconnection Facilities Study, inclusive of any re-studies or amendments thereto, in sufficient detail to allow verification of all costs incurred, including associated overhead. The Interconnection Customer shall have the right, upon reasonable notice, within a reasonable time at the ISO offices and at its own expense, to audit the ISO's records as necessary and as appropriate in order to verify costs incurred by the ISO. Any audit requested by the Interconnection Customer shall be completed, and written notice of any audit dispute provided to the ISO within one hundred eighty (180) Calendar Days following receipt by the Interconnection Customer of the ISO's notification of the final costs of the

Interconnection Facilities Study, inclusive of any re-study or amendment thereto.

- 11.0 In accordance with Section 3.8 of the LGIP, the Interconnection Customer may withdraw its Interconnection Request at any time by written notice to the ISO. Upon receipt of such notice, this Agreement shall terminate.
- 12.0 Pursuant to Section 8.1 of the LGIP, this Agreement shall become effective upon the date the fully executed Agreement and deposit specified in Section 6 of this Agreement are received by the ISO. If the ISO does not receive the fully executed Agreement and payment pursuant to Section 8.1 of the LGIP, then the Interconnection Request will be deemed withdrawn upon the Interconnection Customer's receipt of written notice by the ISO pursuant to Section 3.8 of the LGIP.
- 13.0 Miscellaneous.
- 13.1 Dispute Resolution. Any dispute, or assertion of a claim, arising out of or in connection with this Interconnection Facilities Study Agreement, shall be resolved in accordance with Section 13.5 of the LGIP.
- 13.2 Confidentiality. Confidential Information shall be treated in accordance with Section 13.1 of the LGIP.
- 13.3 Binding Effect. This Interconnection Facilities Study Agreement and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.
- 13.4 Conflicts. In the event of a conflict between the body of this Interconnection Facilities Study Agreement and any attachment, appendices or exhibits hereto, the terms and provisions of the body of this Interconnection Facilities Study Agreement shall prevail and be deemed the final intent of the Parties.
- 13.5 Rules of Interpretation. This Interconnection Facilities Study Agreement, unless a clear contrary intention appears, shall be construed and interpreted as follows: (1) the singular number includes the plural number and vice versa; (2) reference to any person includes such person's successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this Interconnection Facilities Study Agreement, and reference to a person in a particular capacity excludes such person in any other capacity or individually; (3) reference to any agreement (including this Interconnection Facilities Study Agreement), document, instrument or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time in accordance with the terms thereof and, if applicable, the terms hereof;

(4) reference to any applicable laws and regulations means such applicable laws and regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder; (5) unless expressly stated otherwise, reference to any Article, Section or Appendix means such Article or Section of this Interconnection Facilities Study Agreement or such Appendix to this Interconnection Facilities Study Agreement, or such Section to the LGIP or such Appendix to the LGIP, as the case may be; (6) "hereunder", "hereof", "herein", "hereto" and words of similar import shall be deemed references to this Interconnection Facilities Study Agreement as a whole and not to any particular Article, Section, or other provision hereof or thereof; (7) "including" (and with correlative meaning "include") means including without limiting the generality of any description preceding such term; and (8) relative to the determination of any period of time, "from" means "from and including", "to" means "to but excluding" and "through" means "through and including".

- 13.6 Entire Agreement. This Interconnection Facilities Study Agreement, including all Appendices and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Interconnection Facilities Study Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, any Party's compliance with its obligations under this Interconnection Facilities Study Agreement.
- 13.7 No Third Party Beneficiaries. This Interconnection Facilities Study Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.
- 13.8 Waiver. The failure of a Party to this Interconnection Facilities Study Agreement to insist, on any occasion, upon strict performance of any provision of this Interconnection Facilities Study Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

Any waiver at any time by either Party of its rights with respect to this Interconnection Facilities Study Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Interconnection Facilities Study Agreement. Termination or default of this Interconnection Facilities Study

Agreement for any reason by the Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Participating TO or ISO. Any waiver of this Interconnection Facilities Study Agreement shall, if requested, be provided in writing.

Any waivers at any time by any Party of its rights with respect to any default under this Interconnection Facilities Study Agreement, or with respect to any other matter arising in connection with this Interconnection Facilities Study Agreement, shall not constitute or be deemed a waiver with respect to any subsequent default or other matter arising in connection with this Interconnection Facilities Study Agreement. Any delay, short of the statutory period of limitations, in asserting or enforcing any right under this Interconnection Facilities Study Agreement shall not constitute or be deemed a waiver of such right.

- 13.9 **Headings.** The descriptive headings of the various Articles and Sections of this Interconnection Facilities Study Agreement have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this Interconnection Facilities Study Agreement.
- 13.10 **Multiple Counterparts.** This Interconnection Facilities Study Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.
- 13.11 **Amendment.** The Parties may by mutual agreement amend this Interconnection Facilities Study Agreement by a written instrument duly executed by both of the Parties.
- 13.12 **Modification by the Parties.** The Parties may by mutual agreement amend the Appendices to this Interconnection Facilities Study Agreement by a written instrument duly executed by both of the Parties. Such amendment shall become effective and a part of this Interconnection Facilities Study Agreement upon satisfaction of all applicable laws and regulations.
- 13.13 **Reservation of Rights.** The ISO shall have the right to make a unilateral filing with FERC to modify this Interconnection Facilities Study Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Interconnection Facilities Study Agreement pursuant to section 206 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder; provided that each Party shall have the right to protest any such filing by

another Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Interconnection Facilities Study Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations thereunder, except to the extent that the Parties otherwise mutually agree as provided herein.

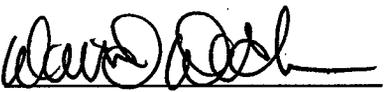
- 13.14 No Partnership. This Interconnection Facilities Study Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon any Party. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, another Party.
- 13.15 Assignment. This Interconnection Facilities Study Agreement may be assigned by a Party only with the written consent of the other Party; provided that a Party may assign this Interconnection Facilities Study Agreement without the consent of the other Party to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Interconnection Facilities Study Agreement; and provided further that the Interconnection Customer shall have the right to assign this Interconnection Facilities Study Agreement, without the consent of the other Party, for collateral security purposes to aid in providing financing for the Large Generating Unit, provided that the Interconnection Customer will require any secured party, trustee or mortgagee to notify the other Party of any such assignment. Any financing arrangement entered into by the Interconnection Customer pursuant to this Article will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify the other Party of the date and particulars of any such exercise of assignment right(s). Any attempted assignment that violates this Article is void and ineffective. Any assignment under this Interconnection Facilities Study Agreement shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

**IN WITNESS WHEREOF**, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

**California Independent System Operator Corporation**

By:   
Title: VICE PRESIDENT - CORPORATE SERVICES  
Date: 7/17/08

**Northern California Power Agency**

By:   
Title: AGM - Power Management  
Date: 7/29/08

**Attachment A**

**Interconnection Facilities  
Study Agreement**

**INTERCONNECTION CUSTOMER SCHEDULE ELECTION FOR CONDUCTING THE  
INTERCONNECTION FACILITIES STUDY**

The ISO shall use Reasonable Efforts to complete the study and issue a draft Interconnection Facilities Study report to the Interconnection Customer. Prior to issuing draft study results to the Interconnection Customer, the Participating TO and ISO shall share results for review and incorporate comments within the following number of days after of receipt of an executed copy of this Interconnection Facilities Study Agreement:

- one hundred twenty (120) Calendar Days with no more than a +/- 20 percent cost estimate contained in the report, or
- two hundred ten (210) Calendar Days with no more than a +/- 10 percent cost estimate contained in the report.

**Attachment B**

**Interconnection Facilities  
Study Agreement**

**DATA FORM TO BE PROVIDED BY THE INTERCONNECTION CUSTOMER  
WITH THE INTERCONNECTION FACILITIES STUDY AGREEMENT**

**Provide two copies of this completed form and other required plans and diagrams in accordance with Section 8.1 of the LGIP.**

Provide location plan and one-line diagram of the plant and station facilities. For staged projects, please indicate future generation, transmission circuits, etc.

One set of metering is required for each generation connection to the new bus or existing ISO Controlled Grid station. Number of generation connections:

On the one line indicate the generation capacity attached at each metering location. (Maximum load on CT/PT)

On the one line indicate the location of auxiliary power. (Minimum load on CT/PT)

Will an alternate source of auxiliary power be available during CT/PT maintenance?  
 Yes     No

Will a transfer bus on the generation side of the metering require that each meter set be designed for the total plant generation?  Yes     No  
(Please indicate on one line).

What type of control system or PLC will be located at the Interconnection Customer's Large Generating Facility?

What protocol does the control system or PLC use?

Please provide a 7.5-minute quadrangle of the site. Sketch the plant, station, transmission line, and property line.

Physical dimensions of the proposed interconnection station:

194' x 411'

Bus length from generation to interconnection station:

1088'

Line length from interconnection station to the Participating TO's transmission line.

0', TO is located on premises

Tower number observed in the field. (Painted on tower leg)\*

Number of third party easements required for transmission lines\*:

\* To be completed in coordination with the Participating TO or ISO.

Is the Large Generating Facility in the Participating TO's service area?

Yes     No

Local service provider for auxiliary and other power: Pacific Gas and Electric

Please provide proposed schedule dates:

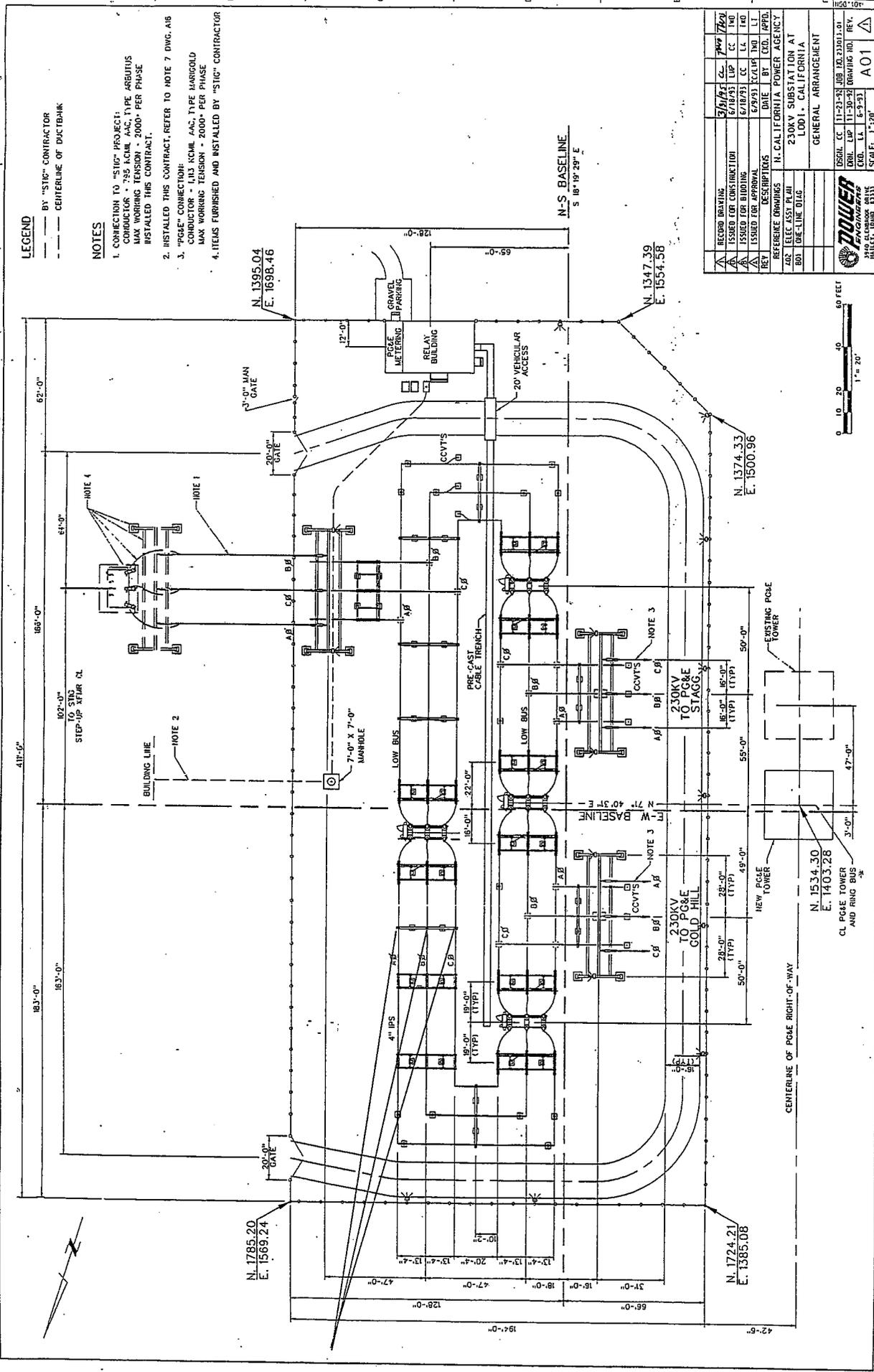
Begin Construction	Date:	Jan 2010
Generator step-up transformer receives back feed power	Date:	Nov 2011
Generation Testing	Date:	Jan 2012
Commercial Operation	Date:	Apr 2012

Level of Deliverability: Choose one of the following:

Deliverability with no Network Upgrades

100% Deliverability

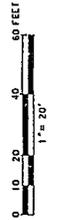




**LEGEND**  
 --- BY "STIG" CONTRACTOR  
 --- CENTERLINE OF DUCTBANK

**NOTES**  
 1. CONNECTION TO "STIG" PROJECT:  
 CONDUCTOR - 795 KCMIL AAC, TYPE ARBUTUS  
 MAX WORKING TENSION - 2000 LBS PER PHASE  
 INSTALLED THIS CONTRACT.  
 2. INSTALLED THIS CONTRACT, REFER TO NOTE 7 DWG. A18  
 3. "PG&E" CONNECTIONS:  
 CONDUCTOR - 1,113 KCMIL AAC, TYPE MARIGOLD  
 MAX WORKING TENSION - 2000 LBS PER PHASE  
 4. ITEMS FURNISHED AND INSTALLED BY "STIG" CONTRACTOR

RECORD DRAWING	3/1/93	CC	744	7/6/93
ISSUED FOR CONSTRUCTION	6/18/93	LUP	CC	140
ISSUED FOR BIDDING	6/18/93	CC	LA	140
ISSUED FOR APPROVAL	6/29/93	CC/LUP	LTD	LT
REV	DESCRIPTIONS	DATE	BY	CODE
REFERENCE DRAWINGS				
230KV SUBSTATION AT L001, CALIFORNIA				
GENERAL ARRANGEMENT				
ESSEL	CC	11-23-93	DR. 103 230KV 01	
LOU	LUP	11-30-93	BRACING 100	REV.
CKR	LA	8-5-93		
SCALE: 1" = 20'				A01



N. 1785.20  
E. 1569.24

N. 1724.21  
E. 1385.08

N. 1347.39  
E. 1554.58

N. 1374.33  
E. 1500.96

N. 1534.30  
E. 1403.28

N-S BASELINE  
S 18° 19' 29" E

CENTERLINE OF PG&E RIGHT-OF-WAY

EXISTING TOWER

NEW TOWER

CL PG&E TOWER AND RING BUS

230KV TO PG&E STAGG

230KV TO PG&E GOLD HILL

PRE-CAST CABLE TRENCH

LOW BUS

CCVTS

RELAY BUILDING

PG&E METERING

GRAVEL PAVING

20' VEHICULAR ACCESS

3'-0" MAN GATE

20'-0" GATE

7'-0" X 7'-0" MANHOLE

102'-0" TO STG STEP-UP XFMR CL

62'-0"

163'-0"

41P'-0"

183'-0"

157'-0"

42'-6"

66'-0"

31'-0"

15'-0"

18'-0"

13'-4"

13'-4"

20'-4"

13'-4"

13'-4"

47'-0"

128'-0"

19'-0" (TYP)

4"-1" IPS

18'-0"

22'-0"

15'-0"

18'-0"

55'-0"

18'-0" (TYP)

18'-0" (TYP)

50'-0"

50'-0"

49'-0"

28'-0" (TYP)

28'-0" (TYP)

49'-0"

3'-0"

47'-0"

50'-0"

50'-0"

50'-0"

LEGEND: (cont.)

- (17) GEN. CIRCUIT BREAKER
- (18) PRE/ RAW WATER TANK
- (19) STG PDC
- (20) CTO PDC
- (21) HRSG PDC
- (22) STACK
- (23) MAIN AUX. TRANSFORMER
- (24) EXCITATION TRANSFORMER
- (25) COOLING WATER PUMP STRUCTURE
- (26) COOLING WATER PIPING
- (27) INJECTION WELL
- (28) NCPA WAREHOUSE
- (29) BOILER BLOWDOWN TANK
- (30) COOLING TOWER PDC

NOTES

- 1. COORDINATES DEPICTED REFLECT STACK CENTERLINE.

NO.	ISSUED FOR REVIEW	DATE	DESCRIPTION
1	AS SHOWN	11/17/11	ISSUED FOR REVIEW
2	AS SHOWN	11/17/11	ISSUED FOR REVIEW
3	AS SHOWN	11/17/11	ISSUED FOR REVIEW
4	AS SHOWN	11/17/11	ISSUED FOR REVIEW
5	AS SHOWN	11/17/11	ISSUED FOR REVIEW
6	AS SHOWN	11/17/11	ISSUED FOR REVIEW
7	AS SHOWN	11/17/11	ISSUED FOR REVIEW
8	AS SHOWN	11/17/11	ISSUED FOR REVIEW
9	AS SHOWN	11/17/11	ISSUED FOR REVIEW
10	AS SHOWN	11/17/11	ISSUED FOR REVIEW
11	AS SHOWN	11/17/11	ISSUED FOR REVIEW
12	AS SHOWN	11/17/11	ISSUED FOR REVIEW
13	AS SHOWN	11/17/11	ISSUED FOR REVIEW
14	AS SHOWN	11/17/11	ISSUED FOR REVIEW
15	AS SHOWN	11/17/11	ISSUED FOR REVIEW
16	AS SHOWN	11/17/11	ISSUED FOR REVIEW
17	AS SHOWN	11/17/11	ISSUED FOR REVIEW
18	AS SHOWN	11/17/11	ISSUED FOR REVIEW
19	AS SHOWN	11/17/11	ISSUED FOR REVIEW
20	AS SHOWN	11/17/11	ISSUED FOR REVIEW
21	AS SHOWN	11/17/11	ISSUED FOR REVIEW
22	AS SHOWN	11/17/11	ISSUED FOR REVIEW
23	AS SHOWN	11/17/11	ISSUED FOR REVIEW
24	AS SHOWN	11/17/11	ISSUED FOR REVIEW
25	AS SHOWN	11/17/11	ISSUED FOR REVIEW
26	AS SHOWN	11/17/11	ISSUED FOR REVIEW
27	AS SHOWN	11/17/11	ISSUED FOR REVIEW
28	AS SHOWN	11/17/11	ISSUED FOR REVIEW
29	AS SHOWN	11/17/11	ISSUED FOR REVIEW
30	AS SHOWN	11/17/11	ISSUED FOR REVIEW

REVISION	DATE	DESCRIPTION
1	11/17/11	ISSUED FOR REVIEW
2	11/17/11	ISSUED FOR REVIEW
3	11/17/11	ISSUED FOR REVIEW
4	11/17/11	ISSUED FOR REVIEW
5	11/17/11	ISSUED FOR REVIEW
6	11/17/11	ISSUED FOR REVIEW
7	11/17/11	ISSUED FOR REVIEW
8	11/17/11	ISSUED FOR REVIEW
9	11/17/11	ISSUED FOR REVIEW
10	11/17/11	ISSUED FOR REVIEW
11	11/17/11	ISSUED FOR REVIEW
12	11/17/11	ISSUED FOR REVIEW
13	11/17/11	ISSUED FOR REVIEW
14	11/17/11	ISSUED FOR REVIEW
15	11/17/11	ISSUED FOR REVIEW
16	11/17/11	ISSUED FOR REVIEW
17	11/17/11	ISSUED FOR REVIEW
18	11/17/11	ISSUED FOR REVIEW
19	11/17/11	ISSUED FOR REVIEW
20	11/17/11	ISSUED FOR REVIEW
21	11/17/11	ISSUED FOR REVIEW
22	11/17/11	ISSUED FOR REVIEW
23	11/17/11	ISSUED FOR REVIEW
24	11/17/11	ISSUED FOR REVIEW
25	11/17/11	ISSUED FOR REVIEW
26	11/17/11	ISSUED FOR REVIEW
27	11/17/11	ISSUED FOR REVIEW
28	11/17/11	ISSUED FOR REVIEW
29	11/17/11	ISSUED FOR REVIEW
30	11/17/11	ISSUED FOR REVIEW

APPROVED FOR CONSTRUCTION BY: [Signature]  
 DATE: 11/17/11  
 PROJECT: Lodi Energy Center  
 SHEET: 001 OF 001



NCPA  
 LODI ENERGY CENTER

OVERALL SITE PLAN  
 GENERAL ARRANGEMENT

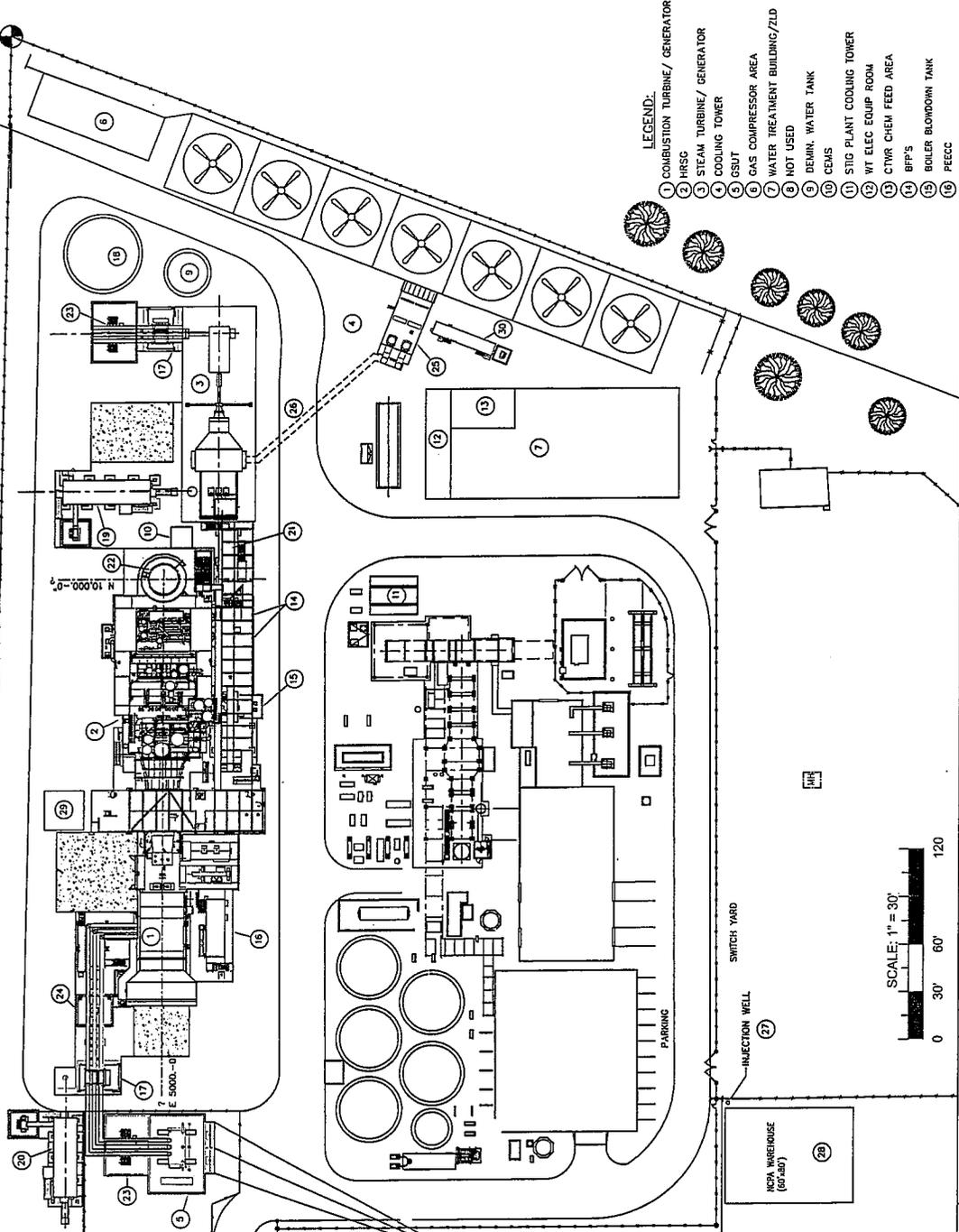
SCALE: SEE GRAPHIC SCALE  
 DRAWING SIZE: 11" x 17" (A)  
 WORKSHEET DATE: 11/17/11

LODI-0-SK-111-007-001

LEGEND:

- (1) COMBUSTION TURBINE/ GENERATOR
- (2) HRSG
- (3) STEAM TURBINE/ GENERATOR
- (4) COOLING TOWER
- (5) GSUT
- (6) GAS COMPRESSOR AREA
- (7) WATER TREATMENT BUILDING/ZLD
- (8) NOT USED
- (9) DEMIN. WATER TANK
- (10) CEAS
- (11) STIG PLANT COOLING TOWER
- (12) WT ELEC EQUIP ROOM
- (13) CYMR CHEM FEED AREA
- (14) BFP'S
- (15) BOILER BLOWDOWN TANK
- (16) PECC

N 5326-5.625"  
 E 5097-10.125"  
 (NOTE 1)



SWITCH YARD

INJECTION WELL (27)

NCPA WAREHOUSE (60'x80')

PARKING

**Attachment C**

**Interconnection Facilities  
Study Agreement**

**INTERCONNECTION FACILITIES STUDY PLAN**

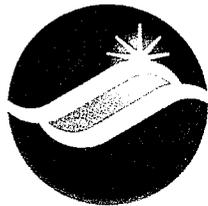
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# **Interconnection Facilities Study Plan**

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**Northern California Power Agency**

**Lodi Energy Center**



**California ISO**  
Your Link to Power

July 14, 2008

**Table of Contents**

1. Project Summary ..... 1

2. Study Fee ..... 2

3. Schedule ..... 2

4. Project and Interconnection Information ..... 3

5. Study Assumptions ..... 5

6. Power Flow Study Base Cases ..... 6

7. Detailed Interconnection System Impact Study Scope ..... 6

    7.1 Steady State Power Flow Analysis ..... 7

    7.2 Short Circuit Duty Analysis ..... 7

    7.3 System Protection Analysis ..... 8

    7.4 Reactive Power Deficiency Analysis ..... 8

    7.5 Dynamic Stability Analysis ..... 8

    7.6 Deliverability Assessment ..... 9

    7.7 Substation Evaluation ..... 9

    7.8 Transmission Line Evaluation ..... 9

8. Interconnection System Impact Study Results ..... 9

9. Interconnection Facilities Study Detailed Scope ..... 9

    9.1 Transmission Line Evaluation ..... 10

    9.2 Substation Evaluation ..... 10

    9.3 Land Evaluation ..... 11

10. Costs and Construction Schedule Estimates ..... 11

    10.1 Interconnection Facilities Cost ..... 11

    10.2 Network Upgrade Cost ..... 11

11. Environmental Evaluation/Permitting ..... 11

    11.1 CPUC General Order 131-D ..... 11

    11.2 CPUC Section 851 ..... 12

12. Standby Power ..... 13

13. Re-study ..... 13

ATTACHMENT 1 – GENERATION PROJECTS ..... 14

## 1. Project Summary

Northern California Power Agency (NCPA), an Interconnection Customer (IC), has submitted a completed Interconnection Request (IR) to the California Independent System Operator Corporation (CAISO) for their proposed Lodi Energy Center project (Project). The proposed Project consists of a 1x1 combined cycle generation plant with net output of 280 MW to the CAISO Controlled Grid. The proposed Commercial Operation Date of the Project is April 16, 2012. The Project will interconnect to Pacific Gas and Electric Company's (PG&E's) Gold Hill – Lodi Stig and Lodi Stig – Eight Mile Road 230 kV Lines via the existing NCPA Lodi switching station. The alternate point of interconnection will be to loop into Gold Hill – Eight Mile Road 230 kV line.

In accordance with the Federal Energy Regulatory Commission's (FERC) Large Generation Interconnection Procedures (LGIP), the CAISO and PG&E agreed to waive the Interconnection Feasibility Study for the Project and allow the IC to move directly into the Interconnection System Impact Study (ISIS) phase. Then, in the interest of expediting study efforts to comply with the CAISO's Generator Interconnection Process Reform (GIPR) filed for FERC approval, the IC, the CAISO and PG&E agreed to include elements of the ISIS into the Interconnection Facilities Study (IFAS) to produce a final IFAS report before November 1, 2008. The purpose of this study will be to:

1. Identify transmission system impacts caused solely by the addition of the proposed Project
2. Identify system reinforcements necessary to mitigate adverse impacts of the Project, if any, under various system conditions
3. Identify the level of deliverability of the Project by means of a Deliverability Assessment, conducted by CAISO per section 3.3.3 of the LGIP
4. Provide cost estimates and work scope for the Interconnection Facilities necessary to interconnect the Project to the CAISO Controlled Grid
5. Provide cost estimates and work scope for the Network Upgrades necessary to mitigate adverse impacts of the Project, if any, under various system conditions.

This study plan will form the basis for the Interconnection Facilities Study Agreement (IFASA) by defining the scope, content, assumptions, and terms of reference of the IFASA.

## **2. Study Fee**

The estimated study fee is \$150,000 for performing the IFAS. The final cost to complete the IFAS will be based on actual cost. A \$100,000 deposit will be needed when the Interconnection Customer returns the signed IFASA to CAISO.

CAISO will provide the IC a record of actual costs for performing the IFAS. CAISO will invoice the IC the remaining balance if the actual cost is higher than the collected deposit. If the actual cost is less than the collected deposit, CAISO will refund the balance to the IC.

## **3. Schedule**

In order to comply with the recent CAISO GIPR filing with FERC, PG&E will provide a draft IFAS report to CAISO by September 15, 2008. CAISO will review, update if necessary, and issue the draft report to the IC for comments within 15 calendar days (CD) after receipt from PG&E. The final report will be issued within 7 CD after receiving comments from the IC.

Per the LGIP, the IC must execute and return the attached IFASA along with the study deposit of \$100,000 within thirty calendar days (CD) from the receipt of this IFASA. If the IC fails to return an executed IFASA with the study deposit within 30 CD of receipt, the Project will be deemed withdrawn and will be processed pursuant to Section 3.8 of the LGIP.

**4. Project and Interconnection Information**

Table 5-1: The Lodi Energy Center General Information

Project Location	San Joaquin County, California
PG&E Planning Area	Stockton Division
Number and Type of Generators	1x1 Frame Gas Turbines, 1 GE7FA, 1 HRSG
Maximum Generator Output	286 MW
Generator Auxiliary Load	6 MW
Maximum Net Output to Grid	280 MW
Power Factor	0.85
Step-up Transformer(s)	One 230/18 kV rated 172 MVA Transformer with 8.67% impedance at 129 MVA Base and one 230/13.8 kV rated 120 MVA Transformer with 12% impedance at 120 MVA Base
Description Of Interconnection Configuration	Loop into Gold Hill – Lodi Stig 230 kV Line and the Lodi Stig – Eight Mile Road 230 kV Line via existing NCPA Lodi Switching Station
Connection Voltage	230 kV
Description Of Alternate Interconnection Configuration	Loop into the Gold Hill – Eight Mile Road 230 kV Line
Alternate Connection Voltage	230 kV

Figure 5-1 provides the map for the Project and the transmission facilities in the vicinity. Figure 5-2 shows the single line diagram of the Project.

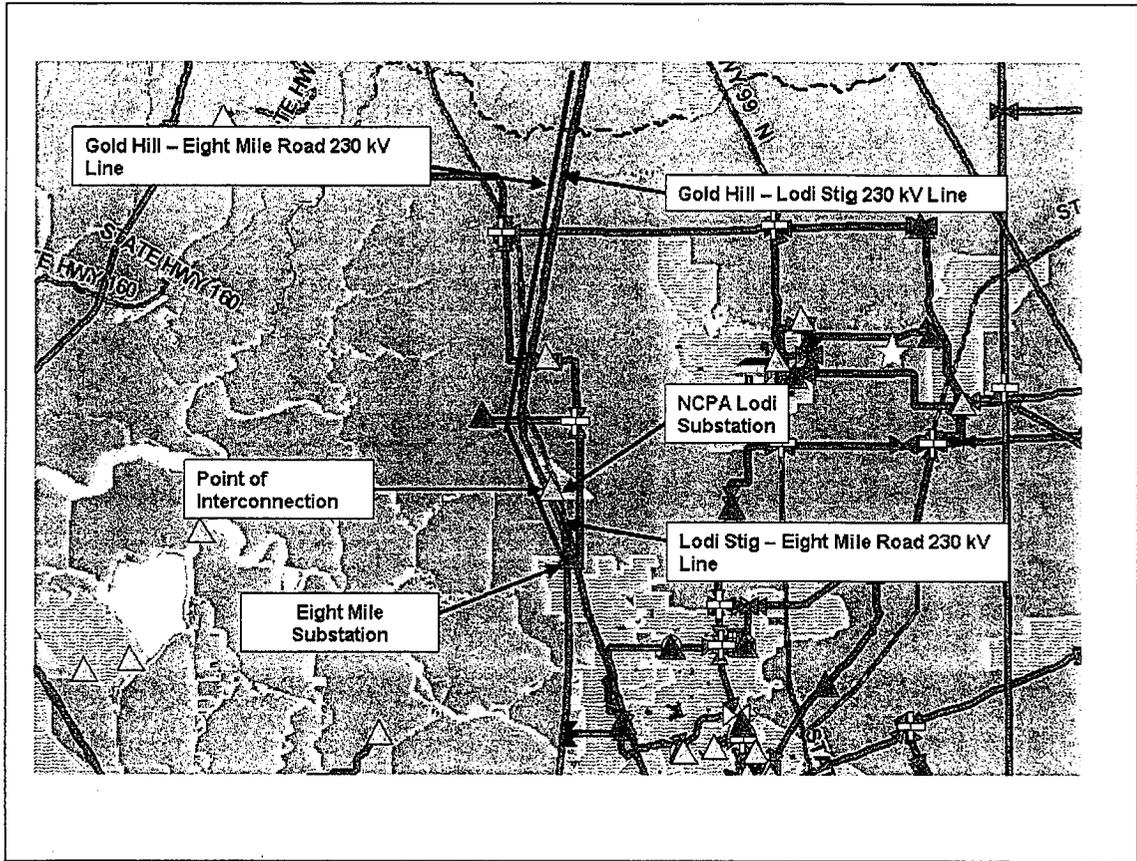


Figure 5-1: Location Map

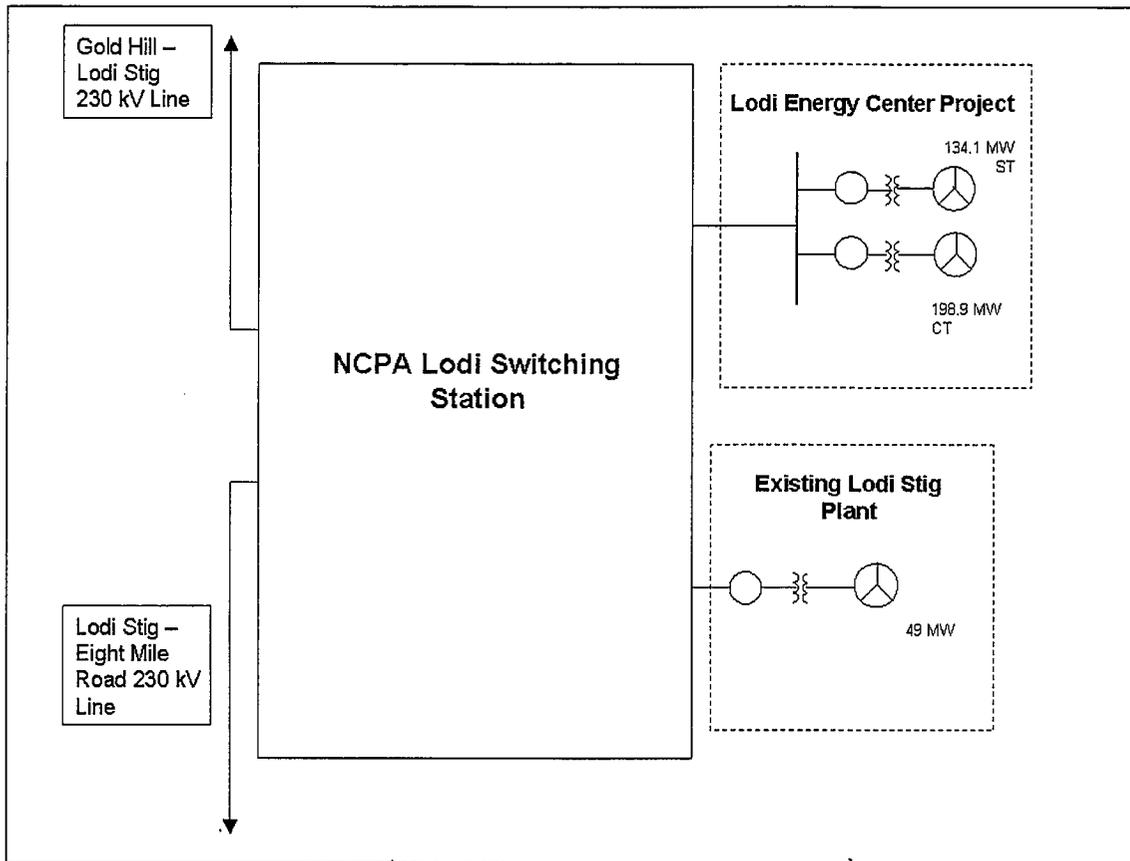


Figure 5-2: Conceptual one-line Diagram

## 5. Study Assumptions

Under the direction from the CAISO, PG&E will conduct the IFAS using the following assumptions:

- 1) The Project's maximum rated output is 286 MW. With 6 MW of auxiliary load, the net output to the CAISO Controlled Grid is 280 MW.
- 2) The expected Commercial Operation Date is April 2012.
- 3) The Project has one three phase 230/18 kV rated 172 MVA Transformer with 8.67% impedance at 129 MVA Base and one three phase 230/13.8 kV rated 120 MVA Transformer with 12% impedance at 120 MVA Base
- 4) The IC will engineer, procure, construct, own, and maintain its project facility.
- 5) The IC will engineer, procure, construct, own, and maintain the generator tie line.
- 6) This study will evaluate year 2012 system conditions which will take into account the planned generating facilities with higher position in

the Generation Queue in PG&E's service territory whose schedules are concurrent with or precede the Project's schedule.

## **6. Power Flow Study Base Cases**

Two power flow base cases will be used to evaluate the feasibility of the proposed interconnection and the transmission system impacts on the CAISO Controlled Grid. While it is impractical to study all combinations of system load and generation levels during all seasons and at all times of the day, these two base cases represent extreme loading and generation conditions for the study area.

The CAISO and PG&E cannot guarantee that the Project can operate at maximum rated output 24 hours a day, year round, without system impacts, nor can the CAISO and PG&E guarantee that the Project will not have system impacts during the times and seasons not studied in the IFAS.

### **2012 Summer Peak Full Loop Base Case**

Power flow analysis will be performed using PG&E's 2012 Summer Peak Full-Loop Base Case (in General Electric Power Flow format). This base case was developed from PG&E's 2007 base case series and has a 1-in-10 year extreme weather load level for PG&E's Stockton Division.

### **2012 Summer Off-Peak Full Loop Base Case**

Power flow analysis will also be performed using the 2012 Summer Off-Peak base case to evaluate potential congestion on transmission facilities during the Off-Peak system conditions.

These two base cases will model all approved PG&E transmission reliability projects that will be operational by 2012. These base cases will also model all proposed generation projects that will be operational by 2012. However, some generation projects that are electrically far from the proposed Project will be either turned off or modeled with reduced generation to balance the loads and resources in the power flow model. The major generation projects included are shown in Attachment 1.

## **7. Detailed Interconnection System Impact Study Scope**

This IFAS will determine the impact of the Project on the CAISO Controlled Grid. Specific studies are outlined below:

## **7.1 Steady State Power Flow Analysis**

Power Flow analysis will be performed using the two base cases described in Section 6. These base cases will be used to simulate the impact of the Project during normal operating conditions as well as during single (CAISO Category "B") and selected multiple (CAISO Category "C") contingency conditions. The study will cover the transmission facilities within PG&E's Sacramento, Sierra, Stockton, and Stanislaus planning areas.

The single (CAISO Category "B") and selected multiple (CAISO Category "C") contingencies include the following outages:

### **7.1.1 CAISO Category "B"**

- All single generator outages within the study area.
- All single (60 - 230 kV) transmission circuit outages within the study area.
- All single (60 - 230 kV) transformer outages within the study area.
- Overlapping single generator and transmission circuit outages for the transmission lines and generators within the study area.

### **7.1.2 CAISO Category "C"**

- Selected bus (60-230 kV) outages within the study area.
- Selected outages caused by selected breaker failures (excluding bus tie and sectionalizing breakers) at the same above bus section.
- Selected combination of any two-generator/transmission line/transformer outages (except ones included above in Category "B") within the study area.
- Selected outages of double circuit tower lines (60-230 kV) within the study area.

## **7.2 Short Circuit Duty Analysis**

Short circuit studies will be performed to determine the maximum fault currents on various buses in the vicinity of the Project. This ISIS will assess the impact of increased fault duty resulting from the added generation. Equipment that may become overstressed as a result of increased fault duty will be identified.

### **7.3 System Protection Analysis**

Preliminary system protection requirements will be provided based on the scope and assumptions outlined in this study plan and technical information provided by the IC.

### **7.4 Reactive Power Deficiency Analysis**

With the proposed project included in the system model, CAISO Category "B" and "C" contingencies will be analyzed to identify any reactive power deficiency:

- Whether the results show voltage drops of 5% or more from the pre-project levels, or
- Whether the results fail to meet applicable voltage criteria.

A post-transient power flow analysis will be performed, if deemed necessary, after considering the network topology or power transfer paths involved when a significant amount of power transfer occurs.

### **7.5 Dynamic Stability Analysis**

Dynamic stability studies will be conducted using the 2012 Summer Peak Full Loop Base Case to ensure that the transmission system remains in operating equilibrium through abnormal operating conditions after the new facility begins operation.

Disturbance simulations will be performed for a study period of up to 20 seconds to determine whether the new facility will create any system instability during the following line and generator outages:

#### **7.5.1 CAISO Category "B"**

- Full load rejection of 280 MW of the Project.
- Three phase fault with normal clearing time at Eight Mile Road 230 kV bus, Section E, followed by the loss of the Lodi Stig – Eight Mile Road 230 kV line.
- Three phase fault with normal clearing time at Gold Hill 230 kV Bus #1, followed by the loss of the Gold Hill – Lodi Stig 230 kV line.

#### **7.5.2 CAISO Category "C"**

- Three phase fault at Eight Mile Road Substation 230 kV bus, Section E, with normal clearing time

- Three phase fault at Gold Hill Substation 230 kV bus, with normal clearing time.
- Three phase fault at Eight Mile Road 230 kV bus, Section E, with normal clearing time followed by the loss of Eight Mile Road – Stagg 230 kV and Eight Mile Road – Tesla 230 kV Line.

### **7.6 Deliverability Assessment**

A Deliverability Assessment will be performed to determine the Project's ability to deliver its energy to the CAISO Controlled Grid under peak load conditions. The Deliverability Assessment will provide the IC with information as to the level of deliverability without Network Upgrades, and the required Network Upgrades for delivering the full output of the Project. The Deliverability Assessment will provide:

- Deliverability level with no Network Upgrades
- Required Network Upgrades to support 100% deliverability

CAISO will conduct the Deliverability Assessment in accordance with Section 3.3.3 of the LGIP.

### **7.7 Substation Evaluation**

The substation evaluation will identify any existing equipment requiring upgrades to mitigate overstress or overload caused by the Project.

### **7.8 Transmission Line Evaluation**

PG&E's transmission line evaluation will identify any existing transmission lines or equipment requiring upgrades to mitigate overload or overstress caused by the Project.

## **8. Interconnection System Impact Study Results**

*Based on the results from this System Impact Study, mitigation will be provided.*

## **9. Interconnection Facilities Study Detailed Scope**

The IFAS will provide the cost estimates and work scope for: (1) Interconnection Facilities required to interconnect the Project to the CAISO Controlled Grid and (2) Network Upgrades required to mitigate the system impacts caused by the Project. The specific studies conducted in the IFAS are:

## **9.1 Transmission Line Evaluation**

### **9.1.1 Interconnection Facilities**

The transmission line evaluation provides the work scope and cost estimate for any required transmission line work from the project to the Point of Interconnection (POI). Since the IC will design and construct the generator tie line, there will be no transmission line Interconnection Facilities.

### **9.1.2 Network Upgrades**

The transmission line evaluation will provide the work scope and cost estimates for any required transmission line work that is beyond the POI. This includes but is not limited to:

- Mitigation for any transmission lines overloaded by the Project

## **9.2 Substation Evaluation**

### **9.2.1 Interconnection Facilities**

The substation evaluation will provide the work scope and cost estimate for any required substation work from the project to the POI.

The interconnection shall incorporate the required relaying as specified in the PG&E interconnection handbook per Section G2.1. Note that there is a redundancy requirement for the application of multifunction relays. This includes but is not limited to:

- Perform pre-parallel inspection, testing, SCADA, EMS setup, Maintenance, etc.

### **9.2.2 Network Upgrades**

The substation evaluation will provide the work scope and cost estimates for any required substation work that is beyond the POI of the Project. This includes but is not limited to:

- Complying with System Protection Requirements
- Install SPSs if allowed under CAISO Planning Standards to mitigate any Category "C" emergency overloads

### **9.3 Land Evaluation**

#### **9.3.1 Interconnection Facilities**

PG&E's Corporate Real Estate Department will assist the IC to determine if any new land rights and/or easements are required for the interconnection of the Project.

#### **9.3.2 Network Upgrades**

PG&E's Corporate Real Estate Department will determine if any new land rights and/or easements are required for the Network Upgrades necessitated by the Project. This includes but is not limited to all transmission and substation Network Upgrades as determined by the ISIS.

## **10. Costs and Construction Schedule Estimates**

All costs provided will be estimates only. Charges for implementing the interconnection of the Project will be made based upon the actual costs incurred.

### **10.1 Interconnection Facilities Cost**

A cost estimate (+/- 20%) will be provided based upon a commercial operation date of April 2012. This cost estimate will include any substation and transmission line facilities required to interconnect the Project. The estimate will not include any facilities constructed, owned, and operated by NCPA.

### **10.2 Network Upgrade Cost**

A cost estimate (+/- 20%) will be provided for any transmission facility additions or upgrades for mitigating any adverse impacts on the CAISO Controlled Grid beyond the Point of Interconnection.

## **11. Environmental Evaluation/Permitting**

### **11.1 CPUC General Order 131-D**

Pacific Gas and Electric Company (PG&E) is subject to the jurisdiction of the California Public Utilities Commission (CPUC) and must comply with CPUC General Order 131-D (Order) on the construction, modification, alteration, or addition of all electric transmission facilities (i.e., lines, substations, etc.). This includes facilities to be constructed by others and deeded to PG&E. The Order exempts PG&E from obtaining a formal

permit from the CPUC on facilities over 200 kV provided the planned facilities involve the replacement of existing facilities or supporting structures with equivalent facilities or structures, the minor relocation of existing facilities, the conversion of existing facilities to underground or the placing of new or additional conductors, insulators, or their accessories on or replacement of structures already built. These exemptions do not apply under certain circumstances when significant environmental impacts may be caused by the work. If the project does not qualify for an exemption, PG&E will need to seek formal approval from the CPUC (i.e., Certificate of Public Convenience and Necessity) taking as much as 18 months or more since the CPUC may decide to conduct its own environmental evaluation (i.e., Negative Declaration or Environmental Impact Report).

For cases where PG&E can claim a valid exemption, PG&E would file an Advice Letter with the CPUC and publish public notice of the proposed construction of the facilities. The noticing process takes about 90 days if no protests are filed, but should be done as early as possible so that a protest does not delay construction. PG&E has no control over the time it takes the CPUC to respond when issues arise. If the protest is granted, PG&E will then need to apply for a formal permit to construct the project (i.e., Certificate of Public Convenience and Necessity).

Facilities built or modified under this procedure must also be designed to include electric and magnetic field (EMF) mitigation measures pursuant to PG&E "EMF Design Guidelines of New Electrical Facilities: Transmission, Substation and Distribution".

Please see Section III, B.1(f) in General Order 131-D. This document can be found in the CPUC's web page at:

[http://www.cpuc.ca.gov/PUBLISHED/GENERAL\\_ORDER/589.htm](http://www.cpuc.ca.gov/PUBLISHED/GENERAL_ORDER/589.htm)

## **11.2 CPUC Section 851**

Pacific Gas and Electric Company (PG&E) is subject to the jurisdiction of the California Public Utilities Commission (CPUC) and must comply with Public Utilities Code Section 851, which among other things requires CPUC approval of leases and licenses to use PG&E property. This includes rights-of-way granted to third parties for interconnection facilities. Obtaining CPUC approval for a Section 851 application can take several months, and requires compliance with the California Environmental Quality Act (CEQA). PG&E recommends that Section 851 issues be identified as early as possible so that the necessary application can be prepared and processed.

## **12. Standby Power**

The IFAS will not address any requirements for standby power that the Project may require. The IC should contact their PG&E Generation Interconnection Services representative regarding this service.

**Note:** The IC is urged to contact their PG&E Generation Interconnection Services representative promptly regarding stand-by service in order to ensure its availability for the Project start-up date.

## **13. Re-study**

The IFAS will be performed according to the assumptions shown in Section 5. If these assumptions are changed, a re-study may be required to re-evaluate the Project's impact on the CAISO Controlled Grid. The Interconnection Customer would be responsible for paying for any such re-study. Examples of changes that might prompt such a study are:

- Higher queued project dropping out
- Modifications to a higher queued project
- Change in the IFAS assumptions
- Withdrawal of a higher queued project in the vicinity of this Project

## ATTACHMENT 1 – GENERATION PROJECTS

PG&E Generation Projects - ISO Generation Interconnection Queue						
CAISO Queue Number	Project ID #	Project Name	Nearest Facility	Capacity (MW)	Latest Expected On-Line Date	Modeled In Study Cases
2	1	Confidential	Contra Costa	590	11/1/2009	YES
6	2	Confidential	Tesla	1156	12/31/2010	YES
9	3	Confidential	Morro Bay	1200	1/1/2008	YES
16	P0302	Confidential	Cabrillo	120	10/1/2008	YES
22	P0304	Confidential	New Birds Landing SW STA	38	12/31/2011	YES
24	P0401	Confidential	Birds' Landing Switchyard	150	11/28/2008	YES
28	P0402	Confidential	Potrero	145.1	6/1/2008	YES
29	P0403	Confidential	Collector Station at Geysers #17 & Fulton Line	201	7/1/2009	YES
30	P0404	Confidential	San Francisco Airport	48.7	6/1/2008	YES
37	P0409	Confidential	Tesla	74.9	1/1/2010	YES
38	P0411	Confidential	Humboldt Power Plant Substation	146.4	7/1/2008	YES
39	P0412	Confidential	Birds' Landing Switchyard	200	12/31/2008	YES
40	P0413	Confidential	East Shore	118	3/1/2007	YES
42	P0418	Confidential	McCall 115 kV Bus	300	3/31/2013	NO
45	P0424	Confidential	East Shore	361	6/1/2010	YES
52	P0435	Confidential	Panoche Substation	401	9/30/2009	YES
54	P0504	Confidential	Panoche Substation	119.9	1/1/2009	YES
57	P0506	Confidential	Cottonwood-Vaca Dixon 230 kV lines	715	1/1/2010	YES
60	P0513	Confidential	Kern Oil Substation (115 kV)	94	1/31/2009	YES
67	P0526	Confidential	Eastshore 230 kV Bus	245	7/31/2008	YES
74	P0528L	Confidential	Pit 3-Round Mountain 230 kV	102	12/15/2007	YES
75	P0529	Confidential	Le Grand- Chowchilla 115 kV	10.5	10/5/2007	YES
76	P0530	Confidential	Merced #1 70 kV	10.5	10/5/2007	YES
108	P0609L	Confidential	Lambie-Contra Costa 230 kV	128	3/1/2011	YES
111	P0610L	Confidential	Chevron 70 kV Tap	20	8/31/2009	YES
113	P0611L	Confidential	Birds' Landing Switchyard	30	4/1/2009	YES
128	P0615L	Confidential	Mc Call 230 kV Bus	565/600	12/1/2010	YES
152	P0616L	Confidential	Mesa-Divide #1 & #2 115 kV Lines	105	12/31/2009	YES

<b>PG&amp;E Generation Projects - ISO Generation Interconnection Queue</b>						
155	P0617L	Confidential	Oakland C Substation 115 kV Bus	300	12/1/2010	YES
166	P0701L	Confidential	Morro Bay – Midway 230 kV Line	210	12/31/2010	YES
171	P0702L	Confidential	Vaca – Tesla 500 kV Line	500	12/31/2011	YES
172	P0703L	Confidential	Tesla – Bellota 230 kV Line	508	5/15/2011	YES
177	P0704L	Confidential	Bahia-Moraga 230 kV Line	100	12/31/2011	YES
184	P0706	Confidential	Geysers #3 – Cloverdale 115 kV Line	35	1/1/2010	YES
194	P0709	Confidential	Loop 230kV Lines near Carrizo Plain Sub	190	12/31/2011	YES
212	Q212	Confidential	Bridgeville Substation	50	10/30/2010	YES
248	Q248	Confidential	Tesla - Bellota 230 kV line	67	5/15/2011	YES
261A	Q261A	Confidential	Mendota – San Joaquin – Helm 70 kV Line	5	4/15/2009	YES
267	Q267	Confidential	Gold Hill – Eight Mile Road 230 kV Line	280	4/16/2012	YES