CAITHNESS – BLYTHE II, LLC.
BLYTHE ENERGY II GENERATION PROJECT

SOUTHERN CALIFORNIA EDISON COMPANY
FACILITIES STUDY

SOUTHERN CALIFORNIA EDISON
An *EDISON INTERNATIONAL* Company

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I. Executive Summary

Caithness Blythe II (BEPII) applied to the California Independent System Operator (CAISO) for interconnection of their 520MW Blythe Energy II Generation Project (Blythe II) to the CAISO Grid under the present Transmission Owner (TO) Tariff.

BEPII proposes to construct the Blythe II Generating Facility in Blythe, California and interconnect the Project to the CAISO Grid at the SCE Midpoint Substation 500kV Bus.

The interconnection would be provided by a new seven mile 500kV Generation Tie Line, from the Blythe II Generating Facility to Midpoint Substation. The 500kV Gen Tie Line will be installed, owned operated and maintained by BEPII and terminated at a dedicated double breaker position at Midpoint Substation.

For the purpose of this Study this line will be called the Blythe – Midpoint 500kV Generation Tie Line.

Midpoint Substation is a proposed SCE 500kV Substation located adjacent to the SCE Devers – Palo Verde (DPV1) and Devers – Harquahala (DPV2) 500 kV Transmission Lines Right of Way. Both the DPV1 and DPV2 500kV T/L's will be looped into Midpoint Substation.

SCE prepared a System Impact Study (SIS) dated March 15, 2006 to analyze the impact of the 520MW Project to the SCE Transmission System.

CAISO reviewed the SIS and transmitted comments and requested SCE to proceed with the Facilities Study in a letter to SCE (Robert Lugo) dated May 17, 2006.

FOR ADDITIONAL DETAIL REFER TO THE FOLLOWING EXHIBITS:

- **EXHIBIT A: SIS – EXECUTIVE SUMMARY & OVERLOAD TABLES**
- **EXHIBIT B: CAISO LETTER TO SCE (ROBERT LUGO) DATED 05/17/06.**

II. System Impact Study Results

The SIS analyzed the SCE System for the following four different alternatives:

Alternative 1: With DPV2 in service and Natural Flow.

Alternative 2: With DPV2 in service and Increased Line Compensation.

Alternative 3: Without DPV2 in service and Natural Flow.

Alternative 4: Without DPV2 in service and Increased Line Compensation.

During discussions conducted with Blythe II prior to the preparation of the Facilities Study it was agreed that the Facilities Study would only address Alternative 1.

This means the Facilities Study addresses:

- **System with DPV2 and associated Devers – Valley No.2 500kV T/L on line**
- **System under Natural Flow**

Alternative 2 may be addressed at a later date.

Alternatives 3 and 4 were addressed on the SIS for information only and will not be addressed on any Facilities Study.

The SIS concluded that the present SCE System is not adequate to support the additional generation and recommended that a Facilities Study be prepared to show the scope and cost

estimate of the new interconnection facilities and system upgrades required to support the proposed interconnection.

The SIS concluded that Blythe II aggravates one pre-existing Base Case overload triggered by an earlier interconnection placed ahead of the Project in the Application Queue and also either triggers new or aggravates pre-existing contingency overloads as follows:

Base Case Overload:

Devers – Valley 500kV T/L **Rated 3000A Loaded to 3340A (111%)**

Pre-existing overload aggravated by Blythe II.

Proposed Solution:
Upgrade line rating to 3950A by upgrading both Line Positions at Devers and Valley Substation to 4000A Rating.

This upgrade requires the following work:

a. Replace all equipment and conductors at Devers Sub. with 4000A Rated elements.
b. Install a new 4000A Outdoor Line Position at Valley Sub.
c. Relocate the existing line termination at Valley Sub. from the GIS Building to the new Outdoor 500kV Line Position Switchyard.

NOTE :
The Devers 500kV Line Position at Valley Substation needs to be relocated from the GIS Switchgear because the existing GIS equipment can't be upgraded to 4000A Rating.

For this reason, the upgrade of the line requires the installation of a new 4000A Rated Line Position at the existing Outdoor 500kV Switchyard.

Contingency Overloads:

1. **Devers – Valley 500kV T/L** **N – 1 Rating: 3000A (100%)**

Loaded from 3120A to 3630A under eleven N – 1 contingencies.

Loaded from 3300A to 3900A under twenty four N – 2 contingencies.

One new N – 1 overload triggered by Blythe II.

Ten pre-existing N – 1 and twenty four pre-existing N – 2 overloads aggravated by Blythe II.

Proposed Solution:
All N – 1 and N – 2 contingency overloads are eliminated by the upgrade of the line to 3950A Rating required to resolve the Base Case overload.

2. **Devers – Midpoint No.2 500kV T/L** **N – 1 Rating: 3650A (135%)**

The N - 1 Line Rating is limited by the California 500kV Line Series Capacitor Bank.

Loaded to 4130A under one N – 1 contingency.

Pre-existing overload aggravated by Blythe II.

Proposed Solution:
Upgrade the 2700A/3650A California 500kV Line Series Capacitor Banks on both the DPV1 and DPV2 500kV T/L's to 4000A/5400A Rating.

NOTE: Although the overload occurs only on the DPV2 500kV T/L, both Capacitor Banks should be upgraded to keep equal ratings on the two lines which parallel each other.

3. **Eldorado – Moenkopi 500kV T/L** **N – 1 Rating: 1900A (100%)**

The N - 1 Line Rating is limited by the 500kV Line Series Capacitor Bank.

Loaded to 2025A under one N – 1 contingency.

Pre-existing overload aggravated by Blythe II.

Proposed Solution:
Install a Special Protection Scheme (SPS - 1) to trip the Blythe II Project under the N – 1 contingency caused by the outage of the Devers – Midpoint No.2 500kV T/L.

This SPS – 1 would also eliminate the N – 2 overload caused by the simultaneous outages of both the Etiwanda – San Bernardino and Devers – Vista 230kV T/L's.

4. **San Bernardino – Vista 230kV T/L** **N – 1 Rating: 2850A (115%) - NOTE**
N – 2 Rating: 3350A (135%) - NOTE

NOTE: N – 1 and N – 2 Rating shown are after the proposed line upgrade to 2-1033KCMIL ACSR Conductor considered under SCE System Upgrades.

Loaded to 3810A under one N – 1 contingency.

Loaded to 4430A under one N – 2 contingency.

New overloads triggered by Blythe II.

Proposed Solutions:
Although the line is planned to be upgraded to N – 1 = 3710A and N - 2 = 4360A by replacing the 2-1033KCMIL ACSR Line Conductor with 2-1590KCMIL ACSR, which is the largest 230kV Conductor presently used in the SCE Transmission System, this upgrade is still not adequate.

There are two alternative proposed solutions as follows:

ALT. 1: Advance the installation of the proposed Devers –Valley No.2 500kV T/L.

ALT. 2: Install a new San Bernardino – Vista No.2 230kV T/L

During internal discussions with Transmission Engineering and Corporate Real Estate conducted during the preparation of the Facilities Study it was agreed that the Facilities Study would only address Alternative 1.

In addition, install a Special Protection Scheme (SPS - 1) to trip the Blythe II Project under the N – 1 contingency caused by the outage of the Etiwanda – San Bernardino 230kV T/L.

This SPS – 1 would also eliminate the N – 2 overload caused by the simultaneous outages of both the Etiwanda – San Bernardino and Devers – Vista 230kV T/L's.

5. **Devers – Vista No.1 230kV T/L** **N – 1 Rating: 2850A (115%) - NOTE**
6. **Devers – Vista No.2 230kV T/L** **N – 1 Rating: 2850A (115%) - NOTE**

NOTE: N – 1 Rating shown are after the proposed line upgrade to 2-1033KCMIL ACSR Conductor considered under SCE System Upgrades.

Loaded to 2900A under one N – 1 contingency.

New overload triggered by Blythe II.

Proposed Solution:
None Required – The installation of the new Devers – Valley No.2 500kV T/L addressed on Case 4 above eliminates these overloads.

7. **Devers Sub. 500/230kV No.1AA Tr. Bk.** **N – 1 Rating: 1230MVA (110%)**
8. **Devers Sub. 500/230kV No.2AA Tr. Bk.** **N – 1 Rating: 1230MVA (110%)**

   Loaded to 1300MVA under one N – 1 contingency.

   Pre-existing overloads aggravated by Blythe II.

   Proposed Solution:
   None Required - There is an existing SPS in place at Devers Substation which opens the banks circuit breakers and gets both transformers out of service under a bank overload situation. The existing SPS eliminates the N – 1 overloads.

9. **Mira Loma – Vista No.2 230kV T/L** **N – 1 Rating: 2650A (115%)**

   NOTE: This line will become the Mira Loma – Vista 230kV T/L after the existing Mira Loma – Vista No.1 is looped into the new Wildlife Substation (Formerly Jurupa Sub.)

   The N - 1 Line Rating is limited to 2650A by the 2-1033KCMIL ACSR Conductors on the Vista Substation Line Drops.

   Loaded to 2800A under one N – 1 contingency.

   Pre-existing overload aggravated by Blythe II.

   Proposed Solution:
   Replace the 2-1033KCMIL ACSR Line Drops at Vista Substation with a new 2-1590KCMIL ACSR with N – 1 Rating of 3450A to restore the Line N – 1 Rating to 3000A (N – 1 Rating limited by existing 3000A Wave Traps at both ends of the line).

10. **Etiwanda – Vista 230kV T/L** **N – 1 Rating: 2000A (100%)**

    The 2-1033KCMIL ACSR Line Conductor is rated N = 2480A and N – 1 = 2850A (115%)

    The N - 1 Line Rating is limited to 2000A by the Wave Trap at Vista Substation.

    Loaded to 2080A under one N – 1 contingency.

    New overload triggered by Blythe II.

    Proposed Solution:
    Replace the 2000A Wave Trap at the Etiwanda Gen. Sta. 230kV Switchyard with a new 3000A Rated to restore the Line N – 1 Rating to 2850A.

FOR ADDITIONAL DETAIL REFER TO THE FOLLOWING EXHIBITS:

- **EXHIBIT C: OVERLOADS MATRIX AND PROPOSED SOLUTIONS**

In addition the SIS identified the following three 500kV, twelve 230kV, one 161kV and two 115kV locations where the new generation causes the Three-Phase and / or the Single Phase to Ground Short Circuit Duties to go up by 0.1kA or more as a result of the Project and recommended that the circuit breakers at these locations be evaluated:

500kV:

Lugo	Serrano	Mira Loma

230kV:

Barre	Chino	Devers	Etiwanda	Lewis	Mirage
Mira Loma	Olinda	San Bernardino	Serrano	Vincent	Vista

161kV:
Blythe

115kV
Devers Valley

The SIS determined that a Facilities Study would be required to determine the scope of work and cost estimates for the Interconnection Facilities and all the required System Upgrades.

III. Facilities Study Assumptions

A. The installation of the new Blythe – Midpoint 500kV Generation Tie Line will be provided by BEPII and is not included in the Facilities Study.

B. All required ISO metering equipment at the Blythe II Generating Facility will be provided by BEPII and is not included in the Facilities Study.

C. The installation of the following Line Protection Relays at The Blythe II Generating Facility termination of the Blythe – Midpoint 500kV Generation Tie Line will be specified by SCE and provided by BEPII and are not included in the Facilities Study.

- One GE D60 Hybrid POTT [Digital Channel]
- One SEL-311L Line Current Differential Relay [Digital Channel]
- One GE L90 Line Current Differential [Digital Channel]
- Two RFL 9745 Tele-protection channel DTT's

D. The installation of the following SPS related relays at the Blythe II Generating Facility will be installed by BEPII and are not included in the Facilities Study:

- Two G.E. N60 Line Monitoring Relays
- One SEL-2407 Satellite Synchronized Clock

E. The installation of one of the two required Telecommunications circuits and corresponding interface equipment to support the Blythe – Midpoint 500kV Generation Tie Line Protection Relays, the SPS – 2 related relays and the Power Management circuit required for the RTU at the Generating Facility will be provided by SCE and it is included in the Facilities Study.

F. The additional Telecommunications circuit, required to provide the diverse path to support the Blythe – Midpoint 500kV Generation Tie Line Protection Relays, will be provided by BEPII by installing Optical Ground Wire (OPGW) on the 500kV Generation Tie Line and is not included in the Facilities Study.

G. The required Remote Terminal Unit (RTU) to be installed at the Blythe II Generating Facility will be provided by SCE and it is included in the Facilities Study.

IV. Facilities Study Scope and Cost Estimate

IV – A Facilities Study Scope

Pursuant to FERC's orders 2006-A (Small Generators) and 2003-A (Large Generators) all Facilities Studies are required to provide the customer with its "maximum possible funding exposure", which shall include the costs of upgrades that are reasonably allocable to the Interconnection Customer at the time the estimate is made, and the costs of any upgrades not yet constructed that were assumed in the interconnection studies for the Interconnection Customer but are, at the time of the estimate, an obligation of an entity other than the Interconnection Customer."

To comply with the FERC orders, the Scope of Work and Cost Estimate for all elements required for the interconnection are presented for the following two cases:

CASE A: All facilities required exclusively by the Project

And

CASE B: All additional facilities that may be required by the Project

The facilities included on Case B are those additional facilities required to remedy situations caused by earlier Projects, placed ahead of the Project in the Application Queue, and are expected to be implemented by them.

However, in the event that any of these earlier Projects withdraws their Application, the Project may become responsible for any or all of these additional facilities.

CASE A Elements:
This case considers that the new Midpoint Substation and all the related transmission and telecommunication facilities required by the earlier interconnection TOT 101 are in place.

1. Blythe – Midpoint 500kV Gen. Tie Line: Install one 500kV Structure inside the Midpoint Substation perimeter fence and all required conductors and OPGW.
2. Midpoint Substation: Install a new 500kV Line Position to terminate the Blythe – Midpoint 500kV Generation Tie Line.
3. Etiwanda Gen. Station: Replace the 2000A Wave Trap on the Vista 230kV line Position with 3000A Rated.
4. Etiwanda Gen. Station: Install SPS – 2 Relays.
5. San Bernardino Gen. Station: Install SPS – 2 Relays.
6. Telecommunications: Install two new fiber optic channels between the Blythe II Generating Facility and the earlier TOT 101 Telecommunications Room to provide one of the two channels required between Midpoint Substation and the Blythe II Generating Facility to support the Blythe – Midpoint 500kV Generation Tie Line Protection Relays. Also install interface terminal equipment at Midpoint Substation, the Blythe II Generating Facility and the TOT 101 Telecommunications Room. This connection would also provide the required telecommunications link for the new RTU at the Blythe II Generating Facility. The remaining channel required for line protection will be provided by BEPII by installing OPGW on the new 500kV Generation Tie Line.

   Also install required interface terminal equipment at Etiwanda and San Bernardino Generating Stations to support the SPS – 2 related relays.
7. Power System Control: Install new Remote Terminal Units (RTU) at the Blythe II Generating Facility and expand existing RTU at Midpoint Sub. to install the additional points required for the new Blythe – Midpoint 500kV Generation Tie Line.

CASE B Elements:
This case considers the possible scenario that the earlier interconnection TOT 101 did not materialize and, therefore, transfers the responsibility of the station and all related transmission and telecommunication facilities to BEPII.

1. DPV1 500kV T/L: Loop line into Midpoint Sub.
2. DPV2 500kV T/L: Loop line into Midpoint Sub.

3. Devers – Valley No.1 500kV T/L: Relocate the Valley Sub. termination from the existing GIS Building to a new Outdoor Line Position.
4. Devers – Valley No.2 500kV T/L: Install approximately 42 Miles of new 500kV line using single lattice structures and 2-2156KCMIIL ACSR Conductors.
5. Midpoint Substation: Install a new 500kV Interconnection Facility to loop the DPV1 and DPV2 500kV T/L's and provide space for an additional 500kV Line Position to terminate the future Blythe – Midpoint 500kV Generation Tie Line.
6. Devers Substation: Upgrade the Valley No.1 500kV Line Position to 4000A Rating and install a new 4000A 500kV Line Position to terminate the new Valley No.2 500kV T/L.
7. Valley Substation: Install two new outdoor 4000A 500kV Line Positions to terminate the relocated Devers No.1 and the new Devers No.2 500kV T/L's.
8. Vista Sub: Replace the 2-1033KCMIL ACSR Line Drops on the Mira Loma 230kV line Position with 2-1590KCMIL ACSR.
9. Devers Substation: Install SPS – 1 Relays.
10. Midpoint Substation: Install SPS – 1 Relays.
11. California DPV1 500kV Series Capacitors: Upgrade to 4000A / 5400A Ratings.
12. California DPV2 500kV Series Capacitors: Upgrade to 4000A / 5400A Ratings.
13. West of Devers Upgrades: Upgrade the West of Devers 230kV T/L's by replacing a total of approximately 176 Circuit - Mile of existing conductors on the Devers – Vista Nos. 1 & 2 and Devers – San Bernardino Nos. 1 & 2 230kV T/L's with new 2-1033KCMIL and upgrading terminal equipment at the Devers, Vista and San Bernardino 230kV Switchyards as required. This work also requires the replacement and upgrades of 230kV circuit breakers at several locations.
14. Telecommunications: Install all required channels and interface terminal equipment to support the Line Protection Relays required after looping the DPV1 and DPV2 500kV T/L's into Midpoint Substation Relays and the interface terminal equipment at Devers and Midpoint Substations to support the SPS – 1 related relays.

Cases A and / or B (See results of CB evaluation below)

- Evaluate circuit breakers (CB's) short circuit capability at all locations where the Three-Phase and/or Single Phase to Ground SCD's were increased by 0.1kA or more as a result of the Project. The evaluation included a total of thirty four 500kV CB's at three locations, one hundred and seventy eight 230kV CB's at twelve locations one 161kV at one location and fifty two 115kV CB's at two locations.

  The circuit breaker evaluation results are as follows:

  CASE A: All circuit breakers are adequate – No replacements or upgrades required.

  CASE B: The following replacements and upgrades are required:

Devers Substation	Replace eight and upgrade two 230kV CB's
Vincent Substation	Upgrade one 230kV CB

  NOTE: **The 230kV CB's identified above are already included in the West of Devers Upgrades.**

FOR ADDITIONAL DETAIL REFER TO THE FOLLOWING EXHIBITS:

- **EXHIBIT D: MIDPOINT SUBSTATION.**
- **EXHIBIT E: TELECOMMUNICATION CHANNELS FOR CASE B.**
- **EXHIBIT F: FACILITIES STUDY SCOPE – ADDITIONAL DETAIL.**

IV – B Facilities Study Cost Estimate

CASE A Identifies the cost of all facilities that are required exclusively by the Project.

CASE B Identifies the cost of all upgrades required that were triggered by earlier Applicants placed ahead of the Project in the Application Queue.

In the event that any Applicant, presently placed ahead of the Project in the Application Queue, withdraws its Application, the system would need to be re-evaluated. The new evaluation may conclude that the Project would now trigger any of these upgrades and would then become responsible for some or all of the upgrades identified on Case B.

The total estimated cost of all elements of the interconnection as identified above in the Facilities Study Scope is as follows:

CASE A:	$ 12,057,000
CASE B (May be added to Case A):	$294,571,000
POSSIBLE MAXIMUM COST EXPOSURE:	$306,628,000

SEE EXHIBIT G: COST SUMMARY.

V. Project Timeline

Considering the following facts:

1. The Devers – Valley No.2 500kV T/L must be in service before the Blythe II Project is interconnected to the CAISO Grid.
2. The estimated completion date for the Devers – Valley No.2 500kV T/L is "Third Quarter of 2009"
3. Assuming the land for Midpoint Substation will be provided by BEPII, the installation of the station and the related looping of the DPV1 and DPV2 500kV T/L's plus the required telecommunications channels would require approximately two years (After execution of the applicable agreements and following SCE's receipt of any permits required to be obtained by SCE). This time frame is subject to final verification of available resources by SCE.

NOTE:
An Operational Study may be required to determine whether any of the upgrades addressed on Case B would be needed prior the Blythe II Project coming on line.

VI. Conclusions

A. The estimated cost for the Interconnection is approximately $12,057,000 for Case A with the potential additional cost of $294,571,000 for Case B for a total Maximum Exposure of $306,628,000.

The costs indicated in Section IV above are shown in 2009 Dollars and are not firm. These are preliminary estimates only based on conceptual engineering and system unit costs, and are subject to change based on the final design and actual material costs. This Facilities Study and cost estimates as presented are valid for a period of 90 days.

B. The estimated Project Cost will be reconciled to actual costs upon closure of the subject work orders. The necessary billing adjustments will be made in accordance with the Interconnection Agreement.

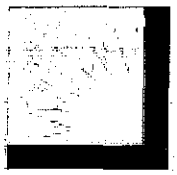
EXHIBIT A

SYSTEM IMPACT STUDY
EXECUTIVE SUMMARY and
LINE OVERLOAD TABLES

CAITHNESS – BLYTHE II, LLC
BLYTHE II GENERATION SYSTEM IMPACT STUDY

SYSTEM PLANNING STUDY

March 15, 2006



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EXECUTIVE SUMMARY

INTRODUCTION

Caithness Blythe II ("BEPII") applied to the California Independent System Operator ("ISO") for interconnection pursuant to the ISO Tariff. BEPII proposes to construct the Blythe Energy Project II located in Blythe, California ("Project") and interconnect the Project to the 500 kV switchrack at a new Southern California Edison Company ("SCE") Substation ("Midpoint Substation") adjacent to SCE's Devers - Palo Verde 500 kV (DPV1) transmission line to transmit 520 MW to the ISO controlled grid.

Southern California Edison Company ("SCE") performed a System Impact Study for the Project as requested by BEPII. The purpose of this study is to assess the Project's impact on SCE's transmission system, and to conduct other analysis to determine if the proposed Project requires transmission system modifications. This is needed in order to maintain system reliability in accordance with CA-ISO Planning Criteria. The study includes assessments of power flow and voltages (steady-state and post-transient), short circuit duties, and transient stability.

Results of the System Impact Study will be used as the basis to determine the Project cost allocation for facility upgrades in the Facilities Study. The study accuracy and results for the assessment of the system adequacy are contingent on the accuracy of the technical data provided by BEPII.

The study was performed with 2009 heavy autumn load forecast with maximum autumn EOR/WOR power flow and includes projects queued ahead of this Project. The autumn case was selected because historically during autumn seasonal conditions the Arizona – California system is most heavily stressed. Several regional generation patterns were modeled, including maximized generation offset in the LA Basin to fully stress DPV1.

The following report provides detailed study assumptions and conditions of the system in which the study was conducted. Furthermore, results of Power Flow (steady state and post-contingency), Post-Transient Voltage Stability, Transient Stability, and Short-Circuit Duty assessments were completed for this study. Complete details of the study scenarios are attached (Attachment 1).

Four scenarios were modeled to simulate the Project with and without the Devers – Palo Verde 500kV #2 transmission line project (DPV2) Power flow studies were conducted under 2009 heavy autumn conditions. Further description of case assumptions follows:

Case 1: 2009 Heavy Autumn Pre-Project case without the DPV2;

Case 2: 2009 Heavy Autumn Pre-Project case with DPV2;

Case3: 2009 Heavy Autumn Post-Project case without DPV2 (Case 1 plus Project interconnection to Midpoint substation, natural flow case);

Case 4: 2009 Heavy Autumn Post-Project case without DPV2 and with increased series compensation on DPV1 to deliver an additional 520MW to the Devers 500kV substation (Case 3 with approximately 64% series compensation on the DPV1 500kV line);

Case 5: 2009 Heavy Autumn Post-Project case with DPV2 (Case 2 plus Project interconnection to Midpoint substation, natural flow case);

Case 6: 2009 Heavy Autumn Post-Project case with DPV2 and with increased series compensation on both DPV1 and DPV2 to deliver an additional 520MW to the Devers 500kV substation (Case 5 with approximately 68% series compensation on the DPV1 500kV line and 70% series compensation on the DPV2 500kV line)

SUMMARY RESULTS:

Without DPV2:

The Project adversely affects SCE's transmission system. The addition of the Project results in new base case overloads on the Devers – Vista #1 and #2 230 kV and Midpoint – Devers 500 kV transmission line series capacitors for both natural flow and compensation level increase, and increases an overload triggered by TOT101 on the Devers – San Bernardino 230 kV transmission line.

Congestion management may be an alternative to mitigate these overloads if the CA-ISO deems the extent and duration of the congestion to be acceptable.

If the DPV2 transmission line project does not materialize, N-1 overloads on the West-of-Devers 230 kV transmission lines were identified on the Devers – Vista #1 & #2 230 kV and the Devers – San Bernardino #1 & #2. The Project compounds N-1 overloads that were previously identified with projects ahead of the TOT101 transmission line project, which are increased for both the natural flow and compensation increase cases.

With DPV2

For base case conditions, the Project results in base case overloads on the Devers – Valley 500kV transmission line GIS riser and wavetrap. The Project compounds an overload triggered by the TOT101 project. The overload is increased for both the natural flow and compensation increase.

For the N-1 loss of Etiwanda – San Bernardino 230 kV transmission line, the Project results in an overload on the San Bernardino – Vista 230 kV transmission line for both natural flow and series compensation increase.

For the loss of either Midpoint – Devers 500 kV #1 or #2 transmission line, the loading on the Midpoint – Devers #1 or #2 series capacitors exceed the emergency thermal limitation of 3645A.

For the N-1 loss of Devers – Valley 500 kV transmission line, the Devers 500/230 kV transformer banks exceed the thermal limitations of 110% of the normal rating.

For the loss of the Devers – Valley 500 kV Transmission Line, the loading on the Etiwanda – Vista 230 kV transmission line exceeds the thermal capabilities of the line riser, disconnects, and wavetrap of 2000A.

For the loss of the Devers – Valley 500 kV Transmission Line, the loading on the Mira Loma – Vista 230 kV transmission line exceeds the thermal capabilities of the line risers and disconnects of 2000A.

For the loss of the Devers – Valley 500 kV transmission line, the loading on the Devers – Vista 230 kV transmission lines exceed its thermal limitation of 2850A.

Series Compensation Increase:

To inject 520MW into the Devers 500kV Substation, via Midpoint – Devers 500 kV transmission line, without DPV2, the series compensation increased to 64% on DPV1.

To inject 520MW into the Devers 500kV Substation, via Midpoint – Devers 500 kV transmission line, with DPV2, the series compensation increased to 68% on DPV1 and 70% on DPV2.

TRANSIENT STABILITY

No problems were identified for transient stability analyses.

POST TRANSIENT STABILITY

The Project does not result in large changes to the voltage stability characteristics of SCE's system. All single contingencies were within the 7% post-transient limit for percent voltage change. All double contingencies were well within the 10% post-transient limit for percent voltage change.

SHORT CIRCUIT DUTY

Three Phase Short Circuit Duty:

Evaluate the need for circuit breaker replacement at 13 bulk power substations.

Single Line to Ground Short Circuit:

Evaluate the need for circuit breaker replacement at 11 bulk power substations.

CONCLUSIONS

The following are recommended upgrades to mitigate the identified overloads:

1. Review feasibility and develop costs associated with upgrades to mitigate base case overloads

Without DPV2

If the DPV2 transmission line project does not materialize, then develop the costs to reconductor the west-of-Devers 230 kV transmission lines; Devers – Vista #1 & #2 and Devers – San Bernardino #1 230 kV transmission lines, and Midpoint – Devers 500 kV transmission lines for both the natural flow and the compensation level increase scenarios. The Project also compounds a base case overload on the Devers – San Bernardino 230 kV transmission line that was triggered by TOT101.

Although upgrading the Midpoint – Devers 500 kV series capacitor to accommodate the additional flow on DPV1 would mitigate thermal overloads, further engineering evaluation during the facility study would need to be performed to determine if there are any clearance limitations for base case.

Develop the cost for the series compensation increase. A study has been performed for series compensation increase up to 70% and confirmed that Thyristor Controlled Series Capacitors could be used to mitigate SSR concerns. Although a SSR study was performed with 70% series compensation on DPV1 and DPV2, further studies are required with the proposed new Midpoint 500 kV Substation. The series capacitors require a 4000A rating.

With DPV2

Develop the cost to upgrade the Devers – Valley 500kV transmission line GIS riser and wavetrap to 4000A

Develop the cost for increasing the series compensation level on DPV1 and DPV2.

2. Review feasibility and develop costs associated with upgrades to mitigate N-1 contingency overloads

Without DPV2

If the DPV2 transmission line project does not materialize, then develop the costs to reconductor the west-of-Devers 230 kV transmission lines; Devers – Vista #1 & #2 230 kV and Devers – San Bernardino #1 & #2. The above base case West-of-Devers 230kV mitigation alternatives would also mitigate the N-1 overloads on the Devers – Vista #1 & #2 and Devers – San Bernardino #1 230kV transmission lines.

The base case overload mitigation plan for the Midpoint – Devers 500kV series capacitors would also mitigate the N-1 overload on this capacitor.

DEVERS	230	33	20.8	42.4	20.8	43.3	0.9
ETIWANDA	230	34	20.3	40	20.2	40.1	0.1
MIRAGE	230	25	9.5	15.1	9.5	15.2	0.1
MRLOMA E	230	63	22.8	53.5	22.7	53.6	0.1
MRLOMA W	230	63	20.6	49.3	20.5	49.4	0.1
OLINDA	230	37.7	14	26.9	13.9	27	0.1
SANBRDNO	230	50	21.9	38	21.8	38.1	0.1
SERRANO	230	63	23.5	51.6	23.5	51.7	0.1
VISTA	230	40	19.8	45.4	19.8	45.6	0.2
BLYTHESC	161	31.5	12.4	19.6	12.6	19.8	0.2
DEVERS	115	23	46	24.1	46.3	24.2	0.1
VALLEY A	115	0	53.4	17.6	53.3	17.7	0.1
VALLEY C	115	0	50.6	17.6	50.5	17.7	0.1

Single Line to Ground Short Circuit

Evaluate the need for circuit breaker replacement at 11 bulk power substations.

		Min	PRE CASE		POST CASE		
Bus Name	Bus KV	Rating	X/R	KA	X/R	KA	DELTA KA
Barre	230	45.6	13.1	42.4	13.1	42.5	0.1
Blythe	161	31.5	12.3	19.7	12.3	20	0.3
Chino	230	50	12.8	38.9	12.7	39	0.1
Devers	230	33	16.2	46	16.3	46.8	0.8
Lewis	230	45.6	15.4	39.1	15.4	39.2	0.1
Mira Loma	525	38.4	14.8	30.1	14.8	30.2	0.1
Mira Loma B	230	63	12.7	55	12.7	55.1	0.1
San Ber'dino	230	50	19.2	40.3	19.2	40.4	0.1
Serrano	525	40	13.9	25.2	13.9	25.3	0.1
Vincent A	230	63	15.8	49.2	15.8	49.3	0.1
Vista	230	40	13.6	39.7	13.6	39.8	0.1

TABLE 1
BYTHE II GENERATION SYSTEM IMPACT STUDIES
WITH DPV2 – NATURAL FLOW
BASE CASE

From Bus Name	To Bus Name	TkV	ID	[redacted]	(Pre-Project Loading %	Post-Project Loading %	Contingency Description	
DEVERS	VALLEYSC	500	1	3000	105.7%	111.3%	Base Case	
MIDPOINT	DEVERS	500	1	2700	83%	91.9%	Base Case	

The percent loadings are on the Normal ratings.

TABLE 2
BYTHE II GENERATION SYSTEM IMPACT STUDIES
WITH DPV2 – NATURAL FLOW
SINGLE CONTINGENCIES – (N - 1)

From Bus Name	To Bus Name	TkV	ID	[redacted]	Pre-Project Loading %	Post-Project Loading %	Contingency Description	
DEVERS	VALLEYSC	500	1	3000/3000	111.5%	118.20%	line DEVERS to VSTA 230 ck 2	
MOENKOPI	ELDORDO	500	1	1900/2600	101.50%	106.50%	line MIDPINTS to DEVERS 500 ck 1	
VSTA	SANBRDNO	230	2	3230/3710	113.41%	117.94%	line ETIWANDA to SANBRDNO 230 ck 1	
MIDPOINT	DEVERS	500	1	2700/3650	118.6%	133.8%	line MIDPINTS to DEVERS 500 ck 2	
MIDPOINT	DEVERS	500	2	2700/3650	138.40%	153.00%	line MIDPINTS to DEVERS 500 ck 1	
DEVERS	DEVERS	500/ 230	1	1120/1230 MVA	108%	116%	line DEVERS to VALLEYSC 500 ck 1	
DEVERS	DEVERS	500/ 230	2	1120/1230 MVA	108%	116%	line DEVERS to VALLEYSC 500 ck 1	
ETIWANDA	VISTA	230	1	2000/2000	98%	103.9%	line DEVERS to VALLEYSC 500 ck 1	
MIRLOMW	VISTA	230	1	2480/2850	107.2%	113.0%	line DEVERS to VALLEYSC 500 ck 1	
DEVERS	VISTA	230	1	2480/2850	110.9%	116.7%	line DEVERS to VALLEYSC 500 ck 1	
DEVERS	VISTA	230	2	2480/2850	110.9%	116.7%	line DEVERS to VALLEYSC 500 ck 1	

TABLE 3
BYTHE II GENERATION SYSTEM IMPACT STUDIES
WITH DPV2 – NATURAL FLOW
DOUBLE CONTINGENCIES – (N - 2)

From Bus Name	To Bus Name	TkV	ID	[redacted]	Pre-Project Loading %	Post-Project Loading %	Contingency Description	
DEVERS	VALLEYSC	500	1	3000/3000	122.2%	130.3%	Etiwanda – San Bdo. & San Bdo – Vista 230kV T/L's	
MOENKOPI	ELDORDO	500	1	1900/2600	101.5%	106.5%	Devers – Midpoint 500kV T/L & Devers 500/230kV Tr. Bk. #1 or #2	
VSTA	SANBRDNO	230	2	3230/3710	131.52%	137.1%	Devers – Vista & Etiwanda – San Bdo. 230kV T/L's	

EXHIBIT B

CAISO LETTER TO SCE (ROBERT LUGO) DATED 05/17/06

California ISO
Your Link to Power

May 17, 2006

Dariush Shirmohammadi
Director of Regional Transmission – South
(916) 608-1113

Mr. Robert J. Lugo
Manager of Grid Interconnections & Contract Development
Southern California Edison
P. O. Box 800,
Rosemead, CA 91770

Subject: Blythe II Generation – System Impact Study

Dear Mr. Lugo:

The California ISO (CAISO) has reviewed the System Impact Study (SIS) for the Caithness – Blythe II Project ("the Project" or "BEPII"), dated March 15, 2006. The SIS was performed by Southern California Edison Company (SCE) based on the BEPII application to the California Independent System Operator ("CAISO") for interconnection. The maximum net output of the Project to the grid will be 520 MW; and the proposed commercial operation date (COD) is June 2008. The Project is proposed to connect to the 500 kV switch rack at a new SCE Substation ("Midpoint Substation") adjacent to SCE's Devers - Palo Verde 500 kV (DPV1) transmission line to transmit 520 MW to the ISO controlled grid. For more details about the project, see Attachment A to this letter.

The SIS was performed with the planned and approved second Devers - Palo Verde 500 kV (DPV2) transmission line in service - DPV2 has been approved by the CASIO board and its development is moving forward. A study without DPV2 was also performed for informational purposes only.

The CAISO concurs with SCE's SIS findings that are based on completion of upgrades required for higher queued projects. If these Projects and associated upgrades do not develop as anticipated, requirements for this Project may be re-evaluated. Please incorporate the comments and recommendations of Attachment A when performing the required Facility Study and any additional analyses that may be required. Approval for interconnection of the Project will be granted upon satisfactory completion of the Facility Study report and a final mitigation plan for resolving the identified transmission facility overloads due to this Project and all higher queued projects.

Please note that an approval of the interconnection of the project allows the project to connect to the CAISO Controlled Grid and to be eligible to deliver the project's output using available transmission. However, it does not establish the generation project's level of deliverability for purposes of determining its Net Qualifying Capacity under the CAISO Tariff and in accordance with CPUC-adopted Resource Adequacy Rules. Therefore, this letter makes no representation, and the Project cannot rely on any statements herein, regarding the ability, or amount, of the output of the project to be eligible to sell Resource Adequacy Capacity. We encourage you to follow the baseline deliverability studies ongoing at the CAISO. For more information on generation deliverability, please reference the web links provided in the attachment to this letter.

If you have questions about the CAISO review of this study, please contact Paul Steckley at (916) 608-5889 (PSteckley@caiso.com) or myself at (916) 608-1113 (DShirmohammadi@caiso.com).

Sincerely,

(Original signed by Dariush Shirmohammadi)

Dariush Shirmohammadi
Director of Regional Transmission - South

cc:	Robert Looper	(BEPII via e-mail, rlooper@spellc.com)
	Patricia L. Arons	(SCE via e-mail, Patricia.Arons@sce.com)
	John Tucker	(SCE via e-mail, John.Tucker@sce.com)
	David Franklin	(SCE via e-mail, David.Franklin @sce.com)
	Armando Perez	(CAISO via e-mail, APerez@caiso.com)
	Tom French	(CAISO via e-mail, TFrench@caiso.com)
	Gary L. Brown	(CAISO via e-mail, GLBrown@caiso.com)
	Judy Nickel	(CAISO via e-mail, JNickel@caiso.com)
	Paul Steckley	(CAISO via e-mail, PSteckley@caiso.com)
	Regional Transmission – South	(CAISO via e-mail)

Attachment A – System Impact Study Review

This attachment provides a summary of the project, along with CAISO comments.

Background of the Project:

Caithness Blythe II ("BEPII") applied to the California Independent System Operator ("CAISO") for interconnection pursuant to the ISO Tariff. The System Impact Study (SIS) for BEPII dated March 15, 2006, was performed by Southern California Edison Company (SCE) based on the Caithness Blythe II application submitted to the CAISO. BEPII proposes to construct the Blythe Energy Project II located in Blythe, California ("Project") and interconnect the Project to the 500 kV switch rack at a new SCE Substation ("Midpoint Substation")[1] adjacent to SCE's Devers - Palo Verde 500 kV (DPV1) transmission line to transmit 520 MW to the ISO controlled grid. The proposed commercial operation date (COD) is June 2008.

The study was performed by SCE with a 2009 heavy autumn load forecast and with maximum autumn EOR/WOR power flow and includes projects queued ahead of this Project. The autumn case was selected because historically during autumn seasonal conditions the Arizona – California system is most heavily stressed. Several regional generation patterns were modeled, including maximized generation offset in the LA Basin to fully stress Devers – Palo Verde 500 kV #1 transmission line (DPV1) and with and without the planned and approved second Devers - Palo Verde 500 kV (DPV2) transmission line. The following is a description of the powerflow case assumptions:

Case 1: 2009 Heavy Autumn Pre-Project case without the DPV2;

Case 2: 2009 Heavy Autumn Pre-Project case with DPV2;

Case 3: 2009 Heavy Autumn Post-Project case without DPV2 (Case 1 plus Project interconnection to Midpoint substation, natural flow case);

Case 4: 2009 Heavy Autumn Post-Project case without DPV2 and with increased series compensation on DPV1 to deliver an additional 520MW to the Devers 500kV substation (Case 3 with approximately 64% series compensation on the DPV1 500kV line);

Case 5: 2009 Heavy Autumn Post-Project case with DPV2 (Case 2 plus Project interconnection to Midpoint substation, natural flow case);

Case 6: 2009 Heavy Autumn Post-Project case with DPV2 and with increased series compensation on both DPV1 and DPV2 to deliver an additional 520 MW to the Devers 500kV substation (Case 5 with approximately 68% series compensation on the DPV1 500kV line and 70% series compensation on the DPV2 500kV line)

Since DPV2 has been approved by the CASIO board and is moving ahead, and with consideration of the Blythe II position in the CAISO Interconnection queue[2], the analyses with DPV2 was considered as the basis for determining the incremental impacts and interconnection requirements of Blythe II (Cases 2, 5 and 6). Analyses without DPV2 are considered only for informational purposes (Cases 1, 3 and 4). Figure 1 shows the local area system. Figure 2 has been assumed by CAISO as a

[1] The new Midpoint 500 kV Substation may be required by a higher queued project. The SIS performed assumes this substation will be available for BEPII to interconnect with. If the higher queued project does not develop as anticipated, or does not require the Midpoint Substation, then BEPII would be responsible for the Midpoint Substation or require new study under a separate application with an alternative interconnection method/point.

[2] While the proposed commercial operation date may precede the study period, the requirements and responsibility of the Project are determined based on the Project queue position and approved projects.

potential configuration for the proposed Midpoint 500 kV Substation since no configuration was provided in SIS report.

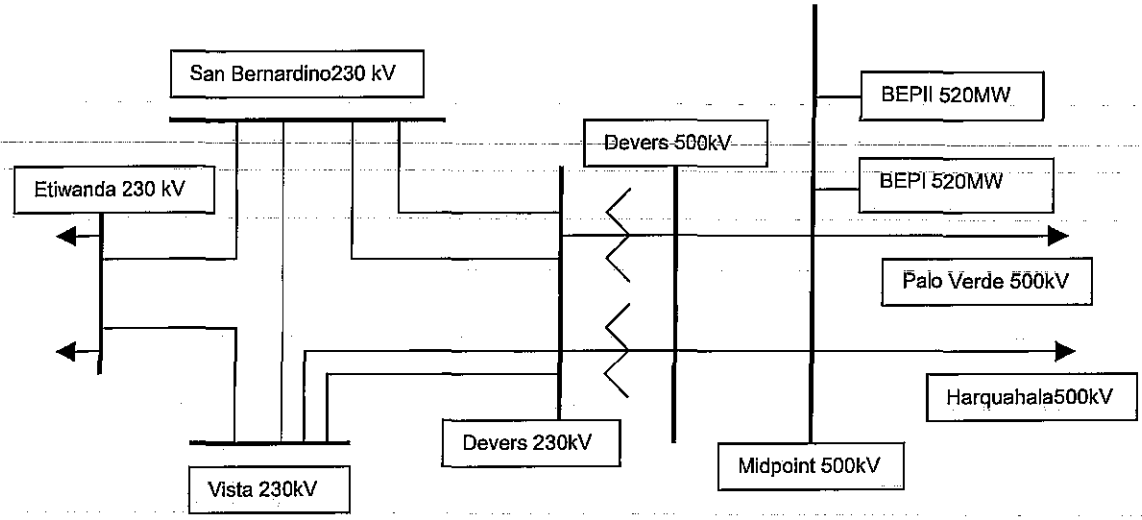
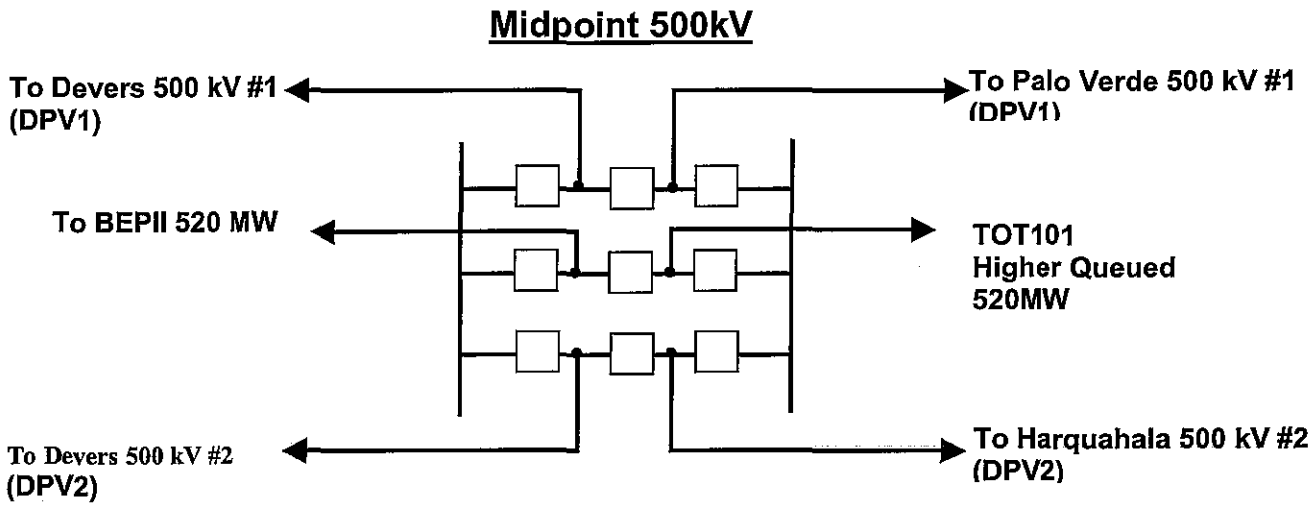


Figure 1 – Blythe II Radial Connection to Midpoint 500 kV Substation



Assumed Configuration – For Discussion Purposes Only

Figure 2 - Proposed Midpoint 500 kV Substation

SIS Conclusions

The following summarizes the results and conclusions of the report. See the SIS Report for complete details.

Transient Stability – No problems identified

Post Transient – No problems identified with post transient/voltage

Short Circuit – Need for replacement of breakers at 13 substations identified (Pre-Project condition)

Steady State - summarized below

Upgrades Necessary to Support Higher Projects (Pre-Project System)

Table A-1 identifies conditions and resulting transmission upgrades from the SIS that are required to eliminate pre-project overloads caused by earlier projects placed ahead of BEPII in the application queue. These are summarized as follows:

- **Devers – Valley 500 kV line** - Replace the GIS Riser and wave trap on the Devers – Valley 500 kV line with a minimum 4000 A rating to mitigate overload following several N-1 or N-2 contingencies
- **San Bernardino – Vista 230 Line 2nd Devers – Valley 500 kV Line** - Construct a 2nd San Bernardino – Vista 230 line or advance the 2nd Devers – Valley 500 kV line to mitigate overload of the San Bernardino – Vista 230 kV # 2 line
- **Moenkopi – Eldorado 500 kV Series Capacitors** - SIS report indicates that 30 minute emergency rating of the Moenkopi – Eldorado 500 kV series capacitors is not exceeded, but may need to be replaced

Upgrades Necessary to Support the BEPII Project

Table A-1 identifies transmission upgrades from the SIS that are required to eliminate overloads caused by the BEPII Project. These upgrades apply to both the Natural Flow (Case 5) or Compensated Flow (Case 6) condition unless noted and are summarized as follows:

- **Devers – Palo Verde # 1 and #2 500 kV Lines** - Replace series capacitors on the Devers – Palo Verde # 1 and #2 500 kV Lines (new Devers - Mid Point sections) with a 4500 A rating to mitigate for overload of one line following loss of the companion line. An SPS to reduce Blythe II output is proposed as an alternative mitigation method. A base case (N-0) overload conditions was identified with the Compensated Flow configuration (Case 6) that would require higher rated facilities.
- **Devers 500/230 kV Transformation** - Install a new 3rd 500/230 kV transformer at Devers to mitigate overload of either the #1 or #2 transformer following loss of the companion transformer.
- **Devers – Vista #1 and #2 230 kV Lines** - Reconductor the Devers – Vista #1 and #2 230 kV lines with bundled 1590 ACSR conductor to mitigate overload following loss of Devers – Valley 500 kV line. This reconductor is currently required by a higher queued project, but with 2 – 1033 ACSR conductor. BEPII incremental impacts require an increase in the conductor size than planned for the higher queued project.
- **Etiwanda – Vista #1 230 kV Line** - Replace the GIS Riser and wave trap on the Etiwanda – Vista #1 230 kV line with a minimum 3000 A rating to mitigate overload following loss of Devers – Valley 500 kV line
- **Mira Loma – Vista #1 230 kV Line** - Replace the GIS Riser and wave trap on the Mira Loma – Vista #1 230 kV line with a minimum 3000 A rating to mitigate overload following loss of Devers – Valley 500 kV line. This upgrade is only required with the Compensated Flow (Case 6) condition.

CAISO Comments

The CAISO provides the following comments in regards the study and analyses provided. If conditions and assumptions considered in the study change, additional review and analyses may be required.

- The CAISO concurs with SCE's System Impact Study findings
- As noted, only DPV2 is considered as the basis for determining the incremental impacts and interconnection requirements of Blythe II
- All West of Devers pre-project upgrades required must be completed. In addition, other West-of-Devers upgrades not listed in the SIS, but previously identified through other study such as mitigation of potential overload the Etiwanda - San Bernardino 230 kV line and Valley – Serrano 500 kV line will be required. If the higher queued projects do not materialize as expected, the Project may need to assume responsibility for these upgrades.
- Series capacitor rating and design of Devers – Palo Verde # 2 500 kV Line (new Devers - Mid Point section) should be coordinated with this Project and higher queued projects to provide for a 4500 A rating. Incremental costs to upgrade these facilities should be allocated where appropriate.
- An SPS is not desirable to mitigate N-1 conditions for this Project and its location as it poses serious restrictions during scheduled outages. New or higher rated facilities would be preferred.
- Short circuit analyses identified concern at Lugo 500 kV, the 230 kV substations of Devers, Etiwanda and Vista, and the 115 kV substations at Devers and possibly Valley. CAISO concurs on SCE-proposed detailed evaluation of the short-circuit study determine the required circuit breaker replacements. These concerns have been identified as pre-Project.
- The proposed increased series compensation on DPV1 500 kV line to 64 % and DPV2 500 kV line to 70% is based on the overall compensation between Devers and Palo Verde. However, as modeled in the powerflow with the Midpoints Substation, the series compensation is about 85 to 90% for the Devers-Midpoint section. CAISO concurs with SCE's conclusion that further sub-synchronous resonance (SSR) study is required. SCE should confirm potential SSR impacts on local generation and operation under all lines in-service and maintenance conditions.
- CAISO prefers the Compensated Flow configuration (Case 6) to the Natural Flow configuration. If technically feasible, providing higher series compensation and ratings on the Devers – Midpoints 500 kV transmission under this configuration allows for higher transfers of the Blythe II project towards Devers and less potential of congestion by the Project over the SWPL/Miguel path.
- The SIS did not provide a single line diagram of the interconnection with proposed line and breaker configurations for the new Midpoint 500 kV Substation. The CAISO review assumed the configuration in Figure 2 based conclusions drawn from the SIS Report and our understanding of the Project. For this Project and in the future, no interconnection approval will be considered without a single line diagram indicating line and breaker configuration being submitted for review and approval. Additional analyses may be required upon review.
- The Facility Study should develop costs for the identified upgrades, if not already developed for other projects, and SCE determine a recommended plan of service for BEPII. The study should also indicate the costs for new facilities at the Midpoint 500 kV Substation for this Project.

Please note that an approval of the interconnection of the project allows the project to connect to the CAISO Controlled Grid and to be eligible to deliver the project's output using available transmission. However, it does not establish the generation project's level of deliverability for purposes of determining its Net Qualifying Capacity under the CAISO Tariff and in accordance with CPUC-adopted Resource Adequacy Rules. Therefore, this letter makes no representation, and the Project cannot rely on any statements herein, regarding the ability, or amount, of the output of the project to be eligible to sell Resource Adequacy Capacity.

We encourage you to follow the baseline deliverability studies ongoing at the CAISO. For more information on generation deliverability, please reference the following web links:

http://www.caiso.com/1796/17969a066d030.pdf
http://www.caiso.com/docs/2005/05/03/20050531708566410.pdf
http://www.caiso.com/docs/2005/05/03/20050531704315525.pdf

TABLE A-1
BLYTHE II GENERATION SYSTEM IMPACT STUDIES
WITH DPV2 and 2 DPV LINES LOOP INTO THE NEW MIDPOINT 500 KV SUBSTATION

	From Bus Name	To Bus Name	TkV	ID	Amp/MVA Rating Normal/Emerg	Pre-Project (Case 2) Loading %	Natural Flow (Case 5) Loading%	Compensation Increase (Case 6) Loading%	Contingency Description	Comments - Mitigation Plan and responsibility
						Upgrades Required by Higher Queued Projects				
1	DEVERS	VALLEYSC	500	1	3000/3000	**106%**	111%	115%	**Base Case (Normal Overload)**	**Mitigation Plan:** CIS Riser and wavetrap replacement with 4000 A rationg.
						110%	117%	121%	line DEVERS to VSTA 230 ck 2	**Responsibility:** Higher queued Project
						110%	117%	121%	line VSTA to DEVERS 230 ck 1	
						108%	115%	119%	line SAN BERNARDINO - VISTA 230 ck 1	
						108%	115%	119%	line SANBRDNO to DEVERS 230 ck 1	
						108%	115%	119%	line DEVERS to SANBRDNO 230 ck 2	
						107%	114%	118%	line ETIWANDA to SANBRDNO 230 ck 1	
						109%	116%	121%	line MOENKOPI to ELDORDO 500 ck 1	
						103%	110%	114%	tran BUCK161 161 to BLY2CT2 16 ck 1	
						103%	110%	114%	tran BUCK161 161 to BLY2CT1 16 ck 1	
						103%	110%	114%	tran BUCK161 161 to BLY2ST1 16 ck 1	
						91%	100%	104%	line PALOVRDE to MIDPINTS 500 ck 1	
						122%	130%	134%	line outage 36 (N-2)	Note: 134 % for Case 6 in Report. 140% obtained with Case provided (4135 Amps)
2	VISTA	SANBRDNO	230	2	3230/3710	98%	103%	107%	line ETIWANDA to SANBRDNO 230 ck 1	**Mitigation Plan:** Construct 2nd San Bernardino - Vista 230 kV line or
						115%	119%	122%	line outage 2 (N-2)	advance 2nd Dever - Valley 500 kV line (if needed under SCE expansion plan).
						88%	92%	94%	line outage 5 (N-2)	**Responsibility:** Higher queued Project
3	MOENKOPI	ELDORDO	500	1	1900/2600	74%	78%	74%	line MIDPINTS to DEVERS 500 ck 1	30 minute emergency rating of series capcitors not exceeded
						74%	78%	74%	line outage 26 (N-2)	SCE report indicated the facility may need upgrade - TBD
						Upgrades Required by Blythe II				
4	MIDPOINT	DEVERS	500	1	2700/3650	83%	92%	106%	**Base Case (Normal Overload)**	**Mitigation Plan:** Series capacitors replacement with 4500 A rationg
				1		88%	98%	109%	line MIDPINTS to DEVERS 500 ck 2	for both Midpoint - Devers 500 kV line or SPS to reduce Blythe II output
				2		**102%**	113%	122%	line MIDPINTS to DEVERS 500 ck 1	following loss of either Midpoint - Devers 500 kV line.
										Responsibility: Bythe II Generation Project.
5	DEVERS	VISTA	230	1 or 2	2480/2850	97%	102%	103%	line DEVERS to VALLEYSC 500 ck 1	**Mitigation Plan:** increasing conductor size to 2B-1590 ASCR while upgrade this line for the PVD2 Project or advance 2nd Devers - Valley 500 kV line (if needed under SCE transmission expansion plans.(Incremental upgrade) **Responsibility: Bythe II Generation Project**
6	DEVERS	DEVERS	500/230	1 or 2	1120/1230 MVA	98%	106%	108%	line DEVERS to VALLEYSC 500 ck 1	**Mitigation Plan:** Install 3rd Devers 500/230 kV transformer Bank. **Responsibility: Bythe II Generation Project.**
7	ETIWANDA	VISTA	230	1	2000/2000	98%	104%	105%	line DEVERS to VALLEYSC 500 ck 1	**Mitigation Plan:** Riser and wavetrap replacement with 3000 A rationg. **Responsibity: Bythe II Generation Project**
8	MIRA LOMA	VISTA	230	1	2480/2850	93%	98%	100%	line DEVERS to VALLEYSC 500 ck 1	**Mitigation Plan:** Riser and wavetrap replacement with 3000 A rationg. **Responsibity: Bythe II Generation Project**

Overload based on applicable rating - Normal for Base case, emergency for contingency. Red Indicates overload above applicable rating. **Bold Red** indicates pre-project overload.

Line Outage 2 DEVERS 230.00 to VSTA 230.00 & from ETIWANDA 230.00 to SANBRDNO 230.00
Line Outage 10 DEVERS 230.00 to SANBRDNO 230.00 & from DEVERS 230.00 to VSTA 230.00
Line Outage 13 DEVERS 230.00 to VSTA 230.00 & from SANBRDNO 230.00 to DEVERS 230.00
Line Outage 26 MIDPINTS 500.00 to DEVERS 500.00 & from DEVERS 500.00 to DEVERS 230.00
Line Outage 36 ETIWANDA 230.00 to SANBRDNO 230.00 & from VSTA 230.00 to SANBRDNO 230.00

PO Box 639014 Folsom, California 95763-9014 Telephone: 916 351-4400

EXHIBIT C

OVERLOADS MATRIX AND PROPOSED SOLUTIONS

CAITHNESS - BLYTHE II
SYSTEM PLANNING STUDY - March 15, 2006
SUMMARY OF OVERLOADS and PROPOSED SOLUTIONS for "NATURAL FLOW - WITH DPV2"

Case	Element Overloaded	Base Case or Contingency	Triggered or Pre-Existing	RATING	Natural Flow (With DPV2)	Proposed Solution
1	Devers - Valley 500kV T/L	Base Case	Pre-Existing	3000A	3340A	Upgrade Line Terminations at Devers and Valley Substations to 4000A
		N-1 (12 Cases)	Pre-Existing	3000A	3545A (Max of 12 N-1 loadings)	None Required - Base Case upgrades eliminate N - 1 overloads
		N-2 (24 Cases)	Pre-Existing	3000A	3910A (Max of 24 N-2 loadings)	None Required - Base Case upgrades eliminate N - 2 overloads
2	Midpoint - Devers No.2 500kV T/L	N-1 (1 Case)	Pre-Existing	2700A / 3650A	3740A	Upgrade 2700A/3650A 500kV Line Series Capacitors in California to 4000A/5400A This upgrade is required on both DPV1 and DPV2 500kV T/L's SEE NOTE 1 BELOW
3	Eldorado - Moenkopi 500kV T/L	N-1	Pre-Existing	1900A / 2460A	2025A	No Upgrade - Based on Capacitors Short Term Emergency Rating (STER = 2460A for 30 minutes) Or: Upgrade Capacitors Or: Install SPS - 1 to trip generation under the loss of the Devers - Midpoint No.1 or No.2 500kV T/L's SEE NOTE 2 BELOW
4	San Bernardino - Vista 230kV T/L	N-1 (1 Case)	Triggered by Project	3230A / 3710A / 4360A	3810A	Install either a new Devers - Valley No.2 500kV T/L or a new San Bernardino - Vista No.2 230kV T/L In addition - Install SPS - 2 to trip-off Generation under the loss of the Etiwanda - San Bernardino 230kV T/L SEE NOTE 3 BELOW
		N-2 (2 Cases)	Triggered by Project	3230A / 3710A / 4360A	4428A (Max of 2 N-2 loadings)	None Required - SPS - 2 for N - 1 elminates N - 2 overload
5 6	Devers - Vista No.1 230kV T/L Devers - Vista No.2 230kV T/L	N-1 (1 Case)	Triggered by Project	2480A / 2850A	2900A	None Required - The installation of the new Devers - Valley No.2 500kV T/L for Case 4 above eliminates these overloads
7 8	Devers 500/230kV No.1AA Tr. Bk. Devers 500/230kV No.1AA Tr. Bk.	N-1 (1 Case)	Pre-Existing	1120MVA / 1230MVA	1300MVA	None Required - There is an existing SPS at Devers which opens all bank breakers under overload consditions
9	Mira Loma - Vista No.2 230kV T/L (Will become Mira Loma - Vista 220kV T/L after No.1 Line is looped into Jurupa Substation	N-1	Pre-Existing	2300A / 2650A	2802A	Replace 2-1033KCMIL ACSR Line Drops at Vista Substation with 2-1590KCMIL ACSR
10	Etiwanda - Vista 230kV T/L	N-1 (1 Case)	Triggered by Project	2000A / 2000A	2080A	Replace 2000A Wave Trap at Etiwanda Gen. Sta. with 3000A Rated

NOTE 1 Although the overload occurs only on the DPV2 500kV T/L, both Capacitor Banks should be upgraded to keep equal ratings on the two lines which parallel each other.

NOTE 2 At this time it is assumed that SPS - 1 would be the best option

NOTE 3 The Facilities Study addresses the new Devers - Valley No.2 500kV T/L and not the San Bdo. - Vista No.2 230kV T/L If the Devers - Valley No.2 500kV T/L was not in service the upgrade would need to be re-evaluated.

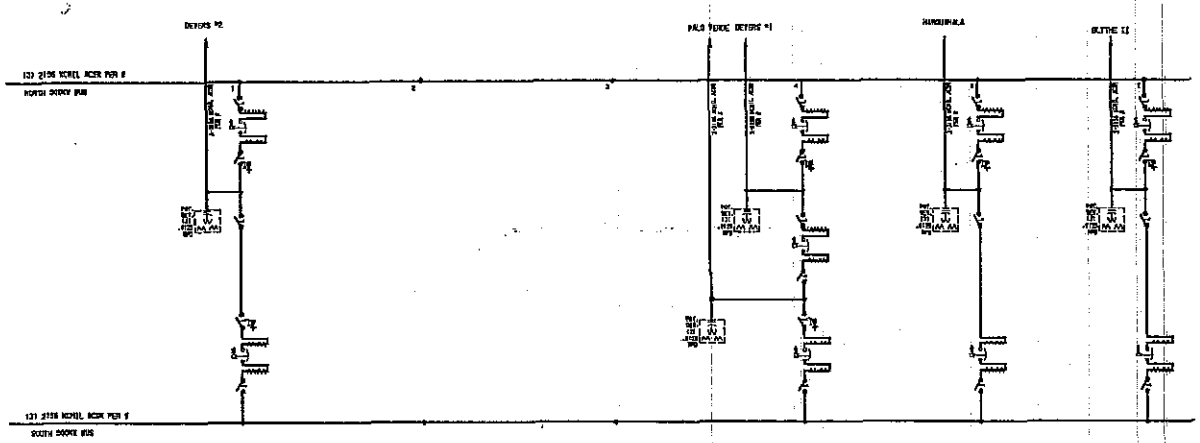
SPS's REQUIRED

SPS - 1: Trip Blythe II generation under the N - 1 outage of either Devers - Midpoint No.1 or No.2 500kV T/L
SPS - 2: Trip Blythe II generation under the N - 1 outage of Etiwanda - San Bernardino 230kV T/L

E. A. ROMERO
01/19/07

EXHIBIT D

MIDPOINT SUBSTATION



ORSA Consulting Engineers, Inc. Fullerton, California

LOCATION: MIDPOINT SUBSTATION

ONE LINE FOR FACILITIES STUDY.

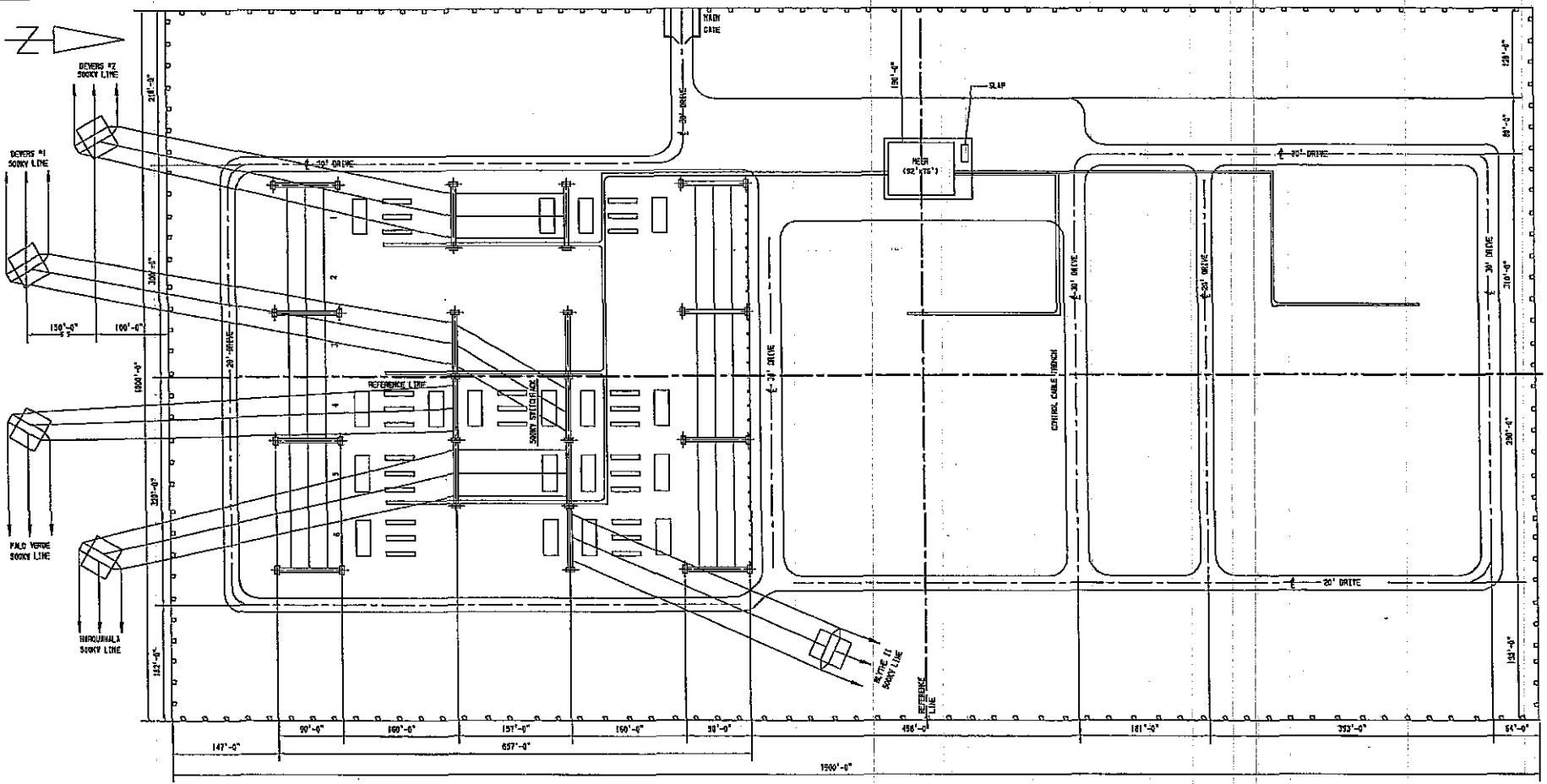
SOUTHERN CALIFORNIA EDISON

SHEET NO. E

SCALE: NONE

1 OF 1 SHTS.

BLYTHE II PROJECT



ORSA Consulting Engineers, Inc. Fullerton, California

REFERENCE DRAWINGS	REFERENCE DRAWINGS	NO.	REVISIONS	DATE	P.E.	ENG	SURV	APPROVED	KNOW	CK'D	RADC	I.D.
		0	FOR STUDY									

LOCATION: RIDPOINT SUBSTATION

PLOT PLAN
FOR FACILITIES STUDY

SOUTHERN CALIFORNIA EDISON An EDISON INTERNATIONAL Company

SCALE: 1"=40'-0"

SHEET NO.

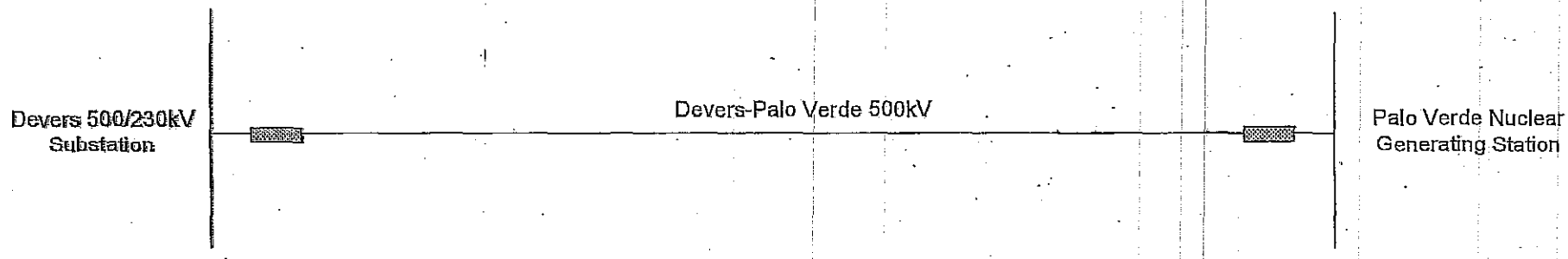
DRS. LIST H-__ SH.
* REVISED ON ASBUILT SECTION ONLY *

BLYTHE II PROJECT

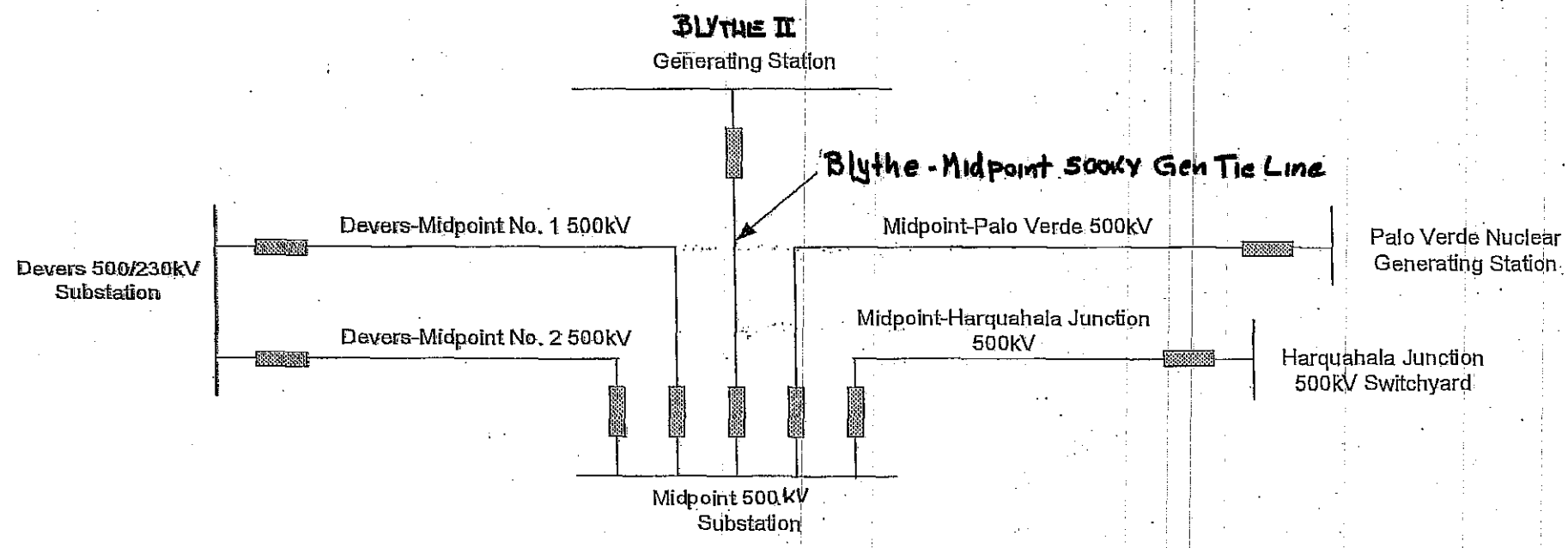
EXHIBIT E

TELECOMMUNICATION CHANNELS FOR CASE B

Line Arrangements for
Blythe - Midpoint 500kV Gen. Tie Line
Devers-Palo Verde and Dever-Harquahala 500kV
Loop into Midpoint Substation

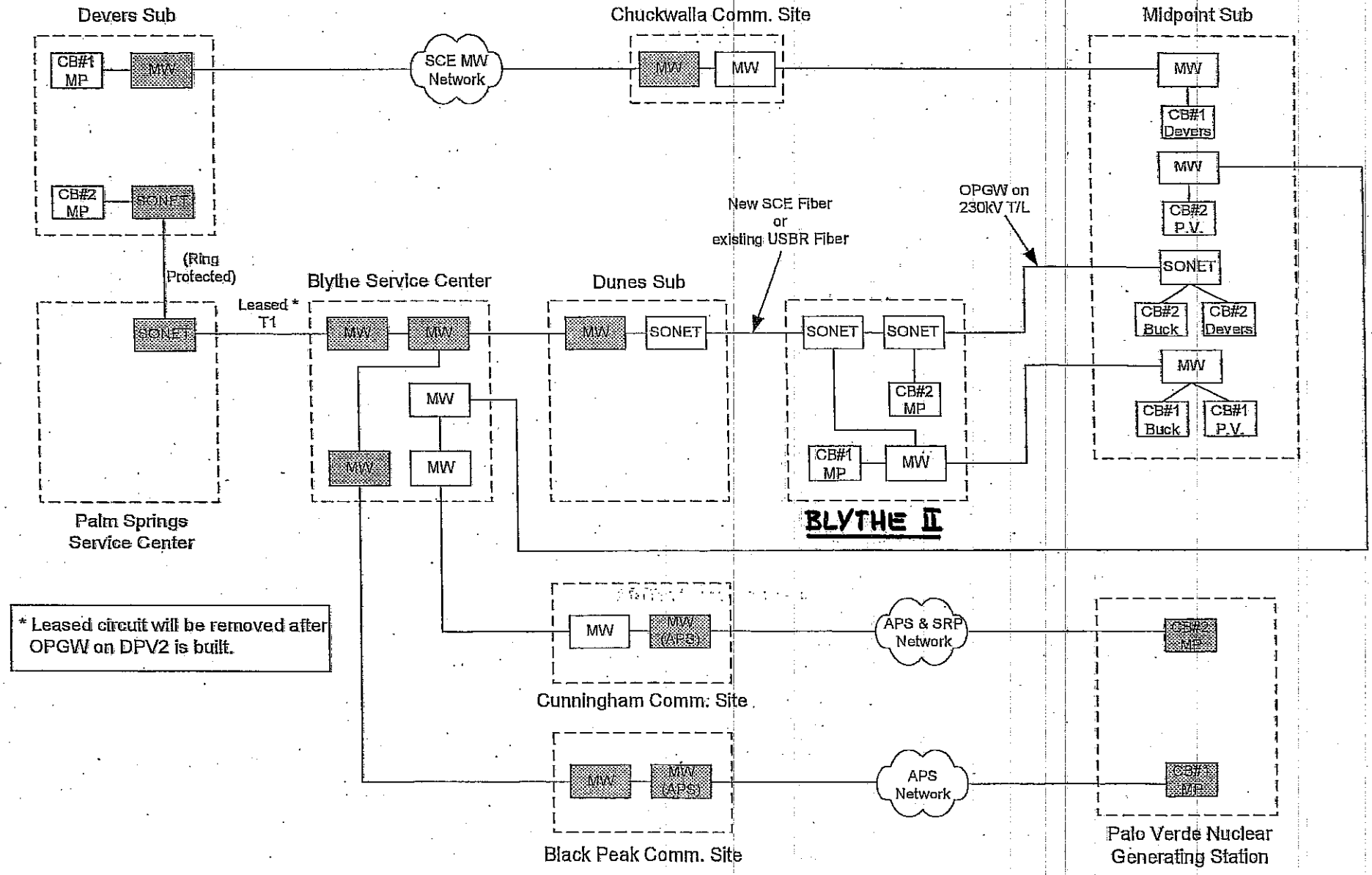


BEFORE



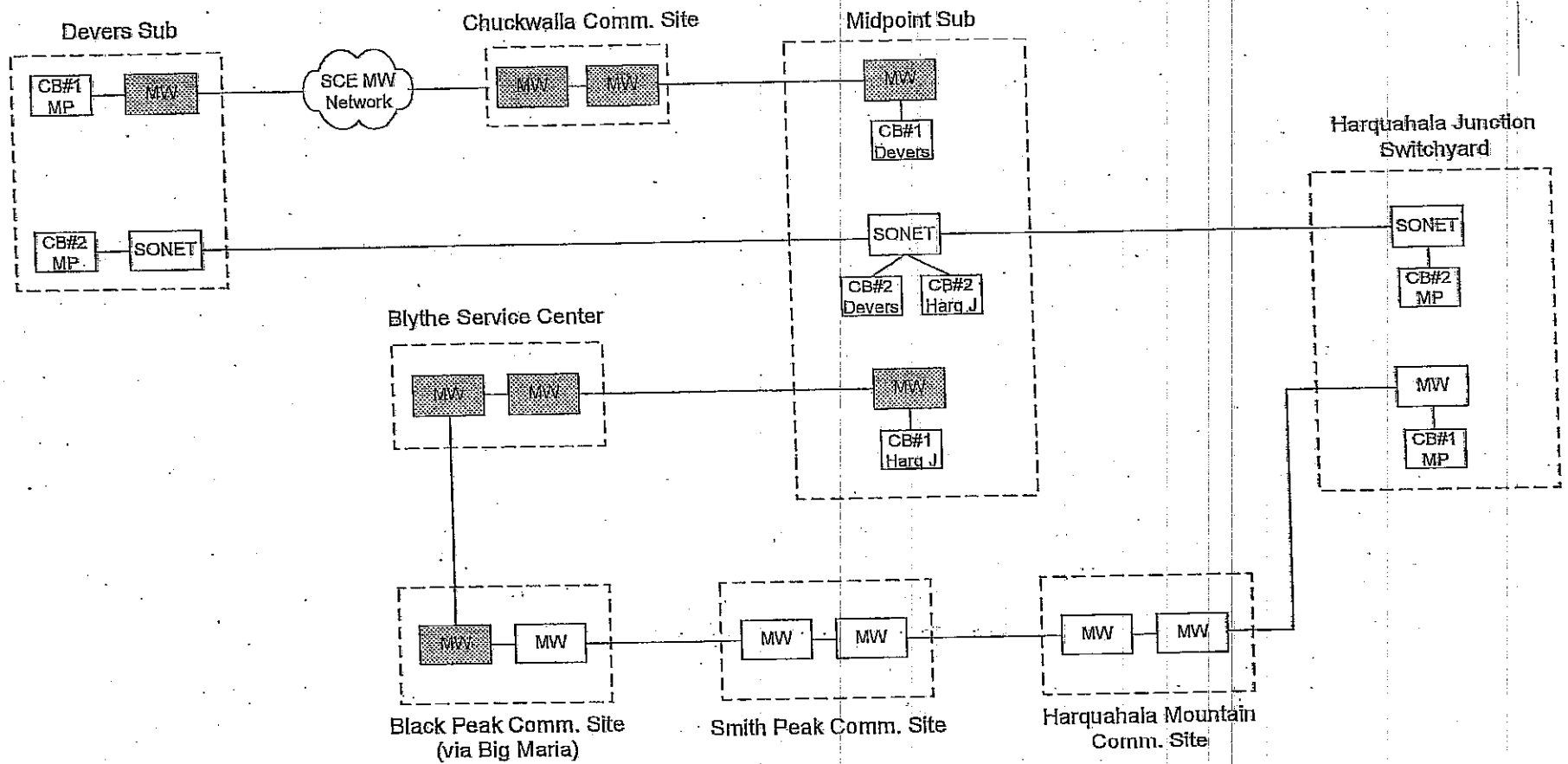
AFTER

Telecommunications for
Blythe II Interconnection and Devers-Palo Verde 500kV
Loop into Midpoint Substation



Existing equipment shown in gray

Telecommunications for Devers-Harquahala (DPV2) 500kV Loop into Midpoint Substation



Existing equipment shown in gray

EXHIBIT F

FACILITIES STUDY SCOPE – ADDITIONAL DETAIL

CAITHNESS BLYTHE II INTERCONNECTION PROJECT – NATURAL FLOW CASE

FACILITIES STUDY SCOPE – DETAILS

CASE A – ELEMENTS REQUIRED FOR THE PROJECT

A. Transmission:

Blythe – Midpoint 500kV Generation Tie Line

Install one Dead – End Lattice Structure inside Midpoint Substation and two spans of conductors and ground wire. One span to the first structure outside the substation perimeter fence and one span to the 500kV Switchyard Dead – End Structure.

This work also requires the installation of 1,000 Circuit Ft. of 2-2156KCMIL ACSR Conductors (6,000 Ft.) and Optical Ground Wire (2,000 Ft.) and nine Insulators & Hardware Dead – End Assemblies

B. Substations:

1. **Midpoint Substation**

   Equip the existing 500kV Position 6 as a Double Breaker Line Position on a Breaker-and-a-Half Configuration to terminate the new Blythe – Midpoint 500kV Generation Tie Line. This work requires the installation of the following equipment:

   - One Dead-End Structure (108 Ft High x 90 Ft Wide)
   - Two 500kV – 3000A – 40kA Circuit Breakers
   - Four 500kV Horizontal-Mounted Group-Operated Disconnect Switches – One of them equipped with Grounding Attachments.
   - Fifteen 500kV Bus Supports
   - Three 500kV CCVT Potential Devices
   - Three 500kV Surge Arresters
   - Three 500kV 4000A Wave Traps and Line Tuners
   - Three Line Tie-Downs with 2-2156KCMIL ACSR Conductors
   - Three 660 Ft. sections of 2-2156KCMIL ACSR Bus Conductors (Approximately 4000Ft. of Conductor)

   Also install the following Line Protection Relays in the existing Mechanical – Electrical Equipment Room (MEER):

   - Two GE C60 Breaker Management Relays
   - One GE D60 Hybrid POTT [Digital Channel]
   - One SEL-311L Line Current Differential Relay [Digital Channel]
   - One GE L90 Line Current Differential [Digital Channel]
   - Two RFL 9745 Tele-protection channel DTT's

2. **Etiwanda Gen. Sta.**

   Replace the existing 2000A 230kV Wave Trap on the Vista 230kV line Position with new 3000A Rated unit to restore the N – 1 Line Rating to 2850A.

3. **Etiwanda Gen. Sta.**

   Install two G.E. N60 Relays and one SEL-2407 Satellite Synchronized Clock to support the required SPS – 2.

4. **San Bernardino Gen. Sta.**

   Install two G.E. N60 Relays and one SEL-2407 Satellite Synchronized Clock to support the required SPS – 2.

C. Telecommunications:

1. Install two new fiber optic channels between the Blythe II Generating Facility and the earlier TOT 101 Telecommunications Room to provide one of the two channels required between Midpoint Substation and the Blythe II Generating Facility to support the Blythe – Midpoint 500kV Generation Tie Line Protection Relays. The remaining channel required for line protection will be provided by BEPII by installing OPGW on the new 500kV Generation Tie Line.
2. The installation described above also provides the channels between the Blythe II Generating Facility and Devers Substation which are required for the new RTU.
3. Also install required interface terminal equipment at Etiwanda and San Bernardino Generating Stations to support the SPS – 2 related relays.

D. Power System Control

1. Install one Remote Terminal Unit (RTU) at the Blythe II Generating Facility to monitor the typical Bulk Power elements such as MW, MVAR, and Phase Amps at each line and also kV at lines and buses and all generator circuit breaker status.

   The RTU will transmit information to the SCE Grid Control Center via the existing Devers remote Data Acquisition Controller node of the Mira Loma Regional Control Center System.
2. Install additional points to the existing RTU at Midpoint Substation to monitor MW, MVAR, and Phase Amps and monitor / control circuit breakers at the new 500kV Generation Tie Line Position 6.

CAITHNESS BLYTHE II INTERCONNECTION PROJECT – NATURAL FLOW CASE

FACILITIES STUDY SCOPE – DETAILS

CASE B – ELEMENTS REQUIRED FOR EARLIER INTERCONNECTION

A. Transmission:

1. Devers – Palo Verde 500kV T/L

Loop the existing line in and out of Midpoint Substation and form the two new Devers – Midpoint No.1 and Midpoint – Palo Verde 500kV T/L's.

This work requires the installation of two interset ELD Type 500kV Towers (Single Circuit Dead – End Lattice Structure) to break tension in each direction and turn the line to the north.

It also requires the installation of one DHA Type 500kV Tower (Double Circuit Dead – End Lattice Structure) to provide the vertical configuration required to rotate the phase conductors to match the line and station phasing arrangements.

The installation also requires approximately 2000 Circuit Ft. of 2-2156KCMiL ACSR Conductor (12,000 Ft.) and 2000 Ft. of ½" EHS Steel Overhead Ground Wire and thirty Dead – End insulator / hardware assemblies with polymer insulators.

2. Devers – Harquahala 500kV T/L

Loop the line in and out of Midpoint Substation and form the two new Devers – Midpoint No.2 and Harquahala – Midpoint 500kV T/L's.

Same installation as Item 2 above.

3. Devers – Valley No.1 500kV T/L (Existing Line)

Relocate the line termination at Devers Substation from the GIS Building to a new Line Position to be installed at the Outdoor 500kV Switchyard.

This work requires the installation of three 145 Ft. TSP's with a Common Rectangular Tube Crossarm.

It also requires the installation of approximately 1000 Circuit Ft. of new 2-2156KCMiL ACSR Conductor (6,000 Ft.) and 1000 Ft. of new ½" EHS Steel Overhead Ground Wire and thirty Dead – End insulator / hardware assemblies with polymer insulators.

This line relocation is required because the existing GIS equipment can't be upgraded to 4000A Rating.

4. Devers – Valley No.2 500kV T/L (New Proposed Line)

Install approximately 42 Miles of new 500kV Transmission Line using single circuit lattice structures, 2-2156KCMIL ACSR Conductors per phase, one ½-In. High Strength Steel Overhead Ground Wire and one single 48-fiber Optical Ground Wire.

This work requires the installation of approximately 145 structures as follows:

116	Suspension Lattice Towers
11	Suspension "Tetra" Towers
28	Dead – End Lattice Towers
1	Dead – End "Tetra" Towers

It also requires the installation of the following additional equipment:

381	Insulators & Hardware Suspension Assemblies
174	Insulators & Hardware Dead – End Assemblies

B. Substations:

1. Midpoint Substation

Engineer and construct a 500kV Interconnection Facility to loop the Devers – Palo Verde and Devers – Harquahala 500kV Transmission Lines with provisions to install an additional 500kV Line Position to terminate the forthcoming Blythe – Midpoit 500kV Generation Tie Line.

NOTE: The facility will be laid out to allow for future expansion to a 2240MVA 500/230kV Substation with an ultimate configuration of five 500kV and four 230kV Lines and two 500/230kV Transformer Banks.

This work requires the installation of the following equipment:

- Two 500KV Operating Buses covering six positions
- One 500kV Position to terminate the Devers No.2 500kV T/L
- One 500kV Position to connect the No.1AA Tr. Bk.
- One 500kV Position to terminate both the Devers No.1 & Palo Verde 500kV T/L's
- One 500kV Position to terminate the Harquahala 500kV T/L
- Two 500kV Positions left vacant for future use

500kV Switchyard:

Operating Buses:

Install 500kV North and South Buses as follows:

- Install eight Bus Dead End Structures (60 Ft High x 90 Ft Wide)
- Install thirty six Bus Dead-End Insulator Assemblies
- Six 500kV Potential Devices
- Install six 180 Ft. sections of 3-2156KCMIL ACSR Bus Conductors (Approximately 9700Ft. of Conductor)

Position 1:

Install one Double Breaker Line Position on a Breaker-and-a-Half Configuration to terminate the Devers No.2 500kV T/L as follows:

- One Dead-End Structure (108 Ft High x 90 Ft Wide)
- Two 500kV – 3000A – 40kA Circuit Breakers
- Four 500kV Horizontal-Mounted Group-Operated Disconnect Switches – One of them equipped with Grounding Attachments.
- Fifteen 500kV Bus Supports
- Three 500kV CCVT Potential Devices
- Three 500kV Surge Arresters
- Three 500kV 4000A Wave Traps and Line Tuners
- Three Line Tie-Downs with 2-2156KCMIL ACSR Conductors
- Three 660 Ft. sections of 2-2156KCMIL ACSR Bus Conductors (Approximately 4000Ft. of Conductor)

Position 2:

Position left vacant for future use.

Position 3:

Position left vacant for future use.

Position 4:

Install one Three-Breaker Line Position on a Breaker-and-a-Half Configuration to terminate both the Devers No.1 and the Palo Verde 500kV T/L's as follows:

- Two Dead-End Structures (108 Ft High x 90 Ft Wide)
- Three 500kV – 3000A – 40kA Circuit Breakers
- Six 500kV Horizontal-Mounted Group-Operated Disconnect Switches – Two of them equipped with Grounding Attachments.
- Six 500kV Bus Supports
- Six 500kV CCVT Potential Devices
- Six 500kV Surge Arresters
- Six 500kV 4000A Wave Traps and Line Tuners
- Six Line Tie-Downs with 2-2156KCMIL ACSR Conductors
- Three 660 Ft. sections of 2-2156KCMIL ACSR Bus Conductors (Approximately 4000Ft. of Conductor)

Position 5:
Install one Double Breaker Line Position on a Breaker-and-a-Half Configuration to terminate the Harquahala 500kV T/L as follows:

- One Dead-End Structure (108 Ft High x 90 Ft Wide)
- Two 500kV – 3000A – 40kA Circuit Breakers
- Four 500kV Horizontal-Mounted Group-Operated Disconnect Switches – One of them equipped with Grounding Attachments.
- Fifteen 500kV Bus Supports
- Three 500kV CCVT Potential Devices
- Three 500kV Surge Arresters
- Three 500kV 4000A Wave Traps and Line Tuners
- Three Line Tie-Downs with 2-2156KCMIL ACSR Conductors
- Three 660 Ft. sections of 2-2156KCMIL ACSR Bus Conductors (Approximately 4000Ft. of Conductor)

Position 6:
Position left vacant for future use.

Mechanical - Electrical Equipment Room (MEER):
Install a new 30 Ft. x 20 Ft. MEER Building to house the following equipment:

- Batteries and Battery Charger
- Light & Power Selector Switch
- Light & Power Panel
- A.C. Distribution Panel
- D.C. Distribution Panel

Protection Relays
500 kV Buses:

- Twelve GE SBD11B Bus Differential Relays

500kV T/L's:
Install the following relays at each one of the four T/L's:

- Two GE C60 Breaker Management Relays
- One SEL-421/RFL 9780 Power Line Carrier POTT.
- One GE L90 Line Current Differential (Digital F. O. Channel)
- One GE D60 Directional Comparison Pilot Relaying (Digital F.O./MW Channel)
- One RFL 9745 Tele-protection Channel DTT (Digital F.O. Channel)
- One RFL 9780 FSK Power Line Carrier DTT.

Also install one Digital Fault Recorder

Other Station Elements to be installed:

- 5800 Linear Feet of 8 Ft. perimeter fence with double barbed wire to cover a 1900 Ft. by 1000 Ft. area.
- One 20 Ft. Double Door driveway gates
- Grounding Grid to cover a 1906 Ft. by 1006 Ft area (3 Ft. outside the perimeter fence)
- Approximately 8000 Linear Feet of 25 Ft. paved driveway
- Approximately 3000 Linear Feet of control cable trench

Site Preparation:

Earthwork:

- Strip 24 Inch deep over entire site. Remove vegetation, and screen loose soil Approximately 150,000 Cubic Yards
- Estimated 30% waste. Haul to green waste site = 45,000 Cubic Yards
- Stockpile remaining 105,000 Cubic Yards
- Over-excavate 1 ft. deep. = 75,000 Cubic Yards, and stockpile
- Replace and re-compact to 90% relative compaction.
- Shrinkage allowance, 25% or 15,000 Cubic Yards, take from stockpile.
- Construct Berm: 4Ft. High by 6Ft. Wide at Base – Approximately = 16 Square Ft. by 6000 Linear Ft. = 4000 Cubic Yards
- Remaining 90,000 Cubic Yards use as fill, about 16 inches of fill over the site.
- Import remaining 70,000 Cubic Yards to bring back to the existing grade.

Utilities:

- Deep water well. 1000 ft.
- Septic tank w/leaching field

Interior driveways:

8000 ft. of avg. 25 ft. wide

- Over-excavate 2 ft. and re-compact to 95% = 15,000 Cubic Yards
- Import Class II base at 6 inch thick = 4,000 Cubic Yards
- Asphalt concrete paving at 4 inch thick = 2,500 Cubic Yards

Concrete drainage structures:

- 2000Ft. concrete swale 4 ft. wide, 6 inches thick, with welded wire fabric at center.
- Concrete = 150 Cubic Yards
- Welded Wire Fabric = 7000 Square Ft.

Rock surfacing:

- 2,000,000 Square Ft. less roads and structures at 220000 Square Ft.
- Approximately 1,780,000 Square Ft. by 4 In. = 22,000 Cubic Yards.

2. **Devers Substation**

Upgrade the Valley No.1 500kV Line Position to 4000A Rating to support the required line upgrade to 3950A Rating.

This upgrade requires the following work:

- Replace three 2-2156KCMIL ACSR Line Drops with new 4-In. Dia. IPS E.H. Tubular Aluminum Conductor.
- Replace four Disconnect Switches with new 4000A Rated.
- Replace two Circuit Breakers with new 4000A Rated.
- Replace all 2-2156KCMIL ACSR conductors with new 3-2000KCMIL AAC.

Also:
Install one Double Breaker Line Position on a Breaker-and-a-Half Configuration to terminate the new Valley No.2 500kV T/L as follows:

- One Dead-End Structure (108 Ft High x 90 Ft Wide)
- Two 500kV – 3000A – 40kA Circuit Breakers
- Four 500kV Horizontal-Mounted Group-Operated Disconnect Switches – One of them equipped with Grounding Attachments.
- Fifteen 500kV Bus Supports
- Three 500kV CCVT Potential Devices
- Three 500kV Surge Arresters
- Three 500kV 4000A Wave Traps and Line Tuners
- Three Line Tie-Downs with 2-2156KCMIL ACSR Conductors
- Three 660 Ft. sections of 2-2156KCMIL ACSR Bus Conductors (Approximately 4000Ft. of Conductor)

3. **Valley Substation**
Install a new 4000A Rated Line Position in the existing Outdoor 500kV Switchyard to terminate the relocated Devers 500kV T/L.

This work requires the installation of the following equipment:

- One 108Ft. high x 90Ft. wide line dead end structure and foundations
- Three 108 Ft. tie-downs with 4-In. Dia. IPS E.H. Tubular Aluminum Conductor.
- Three CCVT's with support pedestals and foundations
- Two 500kV 4000A 50kA circuit breakers and foundations
- Four 500kV group operated - horizontally mounted disconnect switches with support structures and foundations - One of them with grounding attachments
- Twenty-four bus support insulators with support pedestals and foundations
- Three 680Ft segments of 3-2000KCMIL AAC conductors (Approximately 6,000Ft. of conductors)
- Three 500kV Lightning Arresters with support pedestals and foundations

Also:
Install one Double Breaker Line Position on a Breaker-and-a-Half Configuration to terminate the new Devers No.2 500kV T/L as follows:

- One Dead-End Structure (108 Ft High x 90 Ft Wide)
- Two 500kV – 3000A – 40kA Circuit Breakers
- Four 500kV Horizontal-Mounted Group-Operated Disconnect Switches – One of them equipped with Grounding Attachments.
- Fifteen 500kV Bus Supports
- Three 500kV CCVT Potential Devices
- Three 500kV Surge Arresters
- Three 500kV 4000A Wave Traps and Line Tuners
- Three Line Tie-Downs with 2-2156KCMIL ACSR Conductors
- Three 660 Ft. sections of 2-2156KCMIL ACSR Bus Conductors (Approximately 4000Ft. of Conductor)

4. **Vista Substation**
Replace the 2-1033KCMIL ACSR Line Drops on the Mira Loma 230kV line Position with new 2-1590KCMIL ACSR to restore the N – 1 Line Rating to 3000A.

5. **Devers Substation**
   Install two G.E. N60 Relays and one SEL-2407 Satellite Synchronized Clock to support the required SPS – 1.
6. **Midpoint Substation**
   Install two G.E. N60 Relays and one SEL-2407 Satellite Synchronized Clock to support the required SPS – 1.

C. **500kV Series Capacitor Banks:**

1. **California Series Capacitors – DPV1**
2. **California Series Capacitors – DPV2**

   Upgrade the existing California 500kV Series Capacitor Banks on both the DPV1 and DPV2 500kV T/L's presently rated 2700A Normal and 3650A Emergency to new ratings of 4000A Normal and 5400A Emergency

D. **West of Devers Upgrades:**

1. **Devers – Vista No.1 230kV T/L**
2. **Devers – Vista No.1 230kV T/L**
3. **Devers – San Bernardino No.1 230kV T/L**
4. **Devers – San Bernardino No.1 230kV T/L**

Upgrade approximately 176 Circuit Mile of existing four lines by replacing existing conductors with new 2-1033KCMIL ACSR, installing all new insulators and hardware assemblies and replace or modify structures as required.

Also upgrade terminal equipment at Devers, San Bernardino and Vista as required to support the new line ratings.

These upgrades also require the following replacements and upgrades of 230kV Circuit Breakers throughout the SCE System:

- Devers Sub. Replace eight and upgrade three 230kV CB's
- Etiwanda Gen. Sta. Upgrade three 230kV CB's
- Lewis Sub. Replace two 230kV CB's
- Vincent Sub. Upgrade one 230kV CB

E. **Telecommunications:**

1. Install all required communication channels and interface terminal equipment to support the Line Protection Relays required after looping the DPV1 and DPV2 500kV T/L's into Midpoint Substation.
2. Install additional interface terminal equipment at Devers and Mipoint Substations to support the SPS – 2.

The work described above requires the installation of the following I.T. channels:

- Four Digital Fiber Optic Channels between Devers and Midpoint
- Two Digital Microwave Channels between Devers and Midpoint
- Two Digital Fiber Optic channels between Midpoint and Palo Verde
- One Digital Microwave channels between Midpoint and Palo Verde
- Two Digital Fiber Optic channels between Midpoint and Harquahala
- One Digital Microwave channels between Midpoint and Harquahala

The Devers – Midpoint No.1 500kV T/L Protection requires construction of a new Microwave Path from Midpoint Sub. to the existing Chuckwalla Communications Site.

The diverse route for the Devers – Midpoint No.1 500kV T/L Protection requires a leased T1 circuit from the phone company between Palm Springs and Blythe Service Centers and a new fiber cable from SCE Dunes Sub. to the TOT 1 Telecommunications Room.

The Midpoint – Palo Verde 500kV T/L Protection requires the construction of new Microwave Paths from Midpoint Sub. to the Blythe Service Center and from the Blythe Service Center to the Arizona Power Service Cunningham Communications Site.

The requirements for the Devers – Harquahala 500kV Line Protection, assumes that all I.T. facilities will be constructed as part of DPV2 project and only considers the incremental channel equipment required to provide protective relaying support.

Install Telecommunications equipment at each location as follows:

Devers Substation:

- Two channel banks and associated C37.94 channel modules.
- One Ethernet drop for SEL-2030 remote access.

Chuckwalla Comm. Site:

- Install digital microwave terminal and associated antenna to Midpoint Substation.

Midpoint Substation:

- Install antenna tower, data, alarm, and channel equipment.
- Install digital microwave terminal and associated antenna to Chuckwalla Comm. Site.
- Install digital microwave terminal and associated antenna to Blythe Service Center.
- Install six channel banks and associated C37.94 channel modules.
- Install one Ethernet drop for SEL-2030 remote access.

Blythe Service Center:

- Install digital microwave terminal and associated antenna to Midpoint Substation.
- Install digital microwave terminal and associated antenna to Cunningham Comm. Site.

Cunningham Comm. Site:

- Install digital microwave terminal and associated antenna to Blythe Service Center.
- Install channel and alarm equipment.

Dunes Substation:

- Install SONET terminal and digital cross-connect equipment.

Harquahala 500kV Switchyard:

- Install two channel banks and associated C37.94 channel modules.

Palm Springs Service Center:

- Install T1 cross-connects.

E. A. Romero
01/29/07

EXHIBIT G

COST SUMMARY

CAITHNESS BLYTHE II INTERCONNECTION PROJECT - NATURAL FLOW CASE

Cost Estimate Summary (2009 Dollars)

Scope: Iterconnect 520MW of Blythe II Generation to Midpoint Sub. 500kV Bus via a BEPII owned Blythe - Midpoint 500kV Generation Tie Line.

CASE A - ELEMENTS REQUIRED EXCLUSIVELY FOR THE PROJECT

ELEMENT	INTERCONNECTION FACILITIES	RELIABILITY UPGRADES	Income Tax Component of Contribution *	ONE TIME PAYMENT
Transmission				
Blythe - Midpoint 500kV Gen. Tie Line: Segment inside Midpoint Sub.	$ 750,000	$ -	$ 263,000	$ 1,013,000
Substations				
Midpoint Substation: New 500kV Line Position for 500kV Gen. Tie Line	$ 1,279,000	$ 6,227,000	$ 448,000	$ 7,954,000
Etiwanda Gen. Station: Replace Wave Trap at Vista 230kV Line Position		$ 92,000		$ 92,000
Etiwanda Gen. Station: SPS-2 Relays		$ 200,000		$ 200,000
San Bernardino Gen. Station: SPS-2 Relays		$ 200,000		$ 200,000
Telecommunications				
Line Protection and RTU	$ 1,678,000	$ -	$ 587,000	$ 2,265,000
SPS-2		$ 200,000		$ 200,000
Power System Control				
New RTU at Blythe II Generating Facility	$ 80,000	$ -	$ 28,000	$ 108,000
Upgrade RTU at Midpoint Sub.		$ 25,000		$ 25,000
TOTAL	**$ 3,787,000**	**$ 6,944,000**	**$ 1,326,000**	**$ 12,057,000**

CASE B - ELEMENTS REQUIRED BY EARLIER INTERCONNECTIONS (May become the Responsibility of the Project)

Transmission				
Devers - Palo Verde (DPV1) 500kV T/L: Loop into Midpoint Substation	$ -	$ 3,506,000		$ 3,506,000
Devers - Harquahala(DPV2) 500kV T/L: Loop into Midpoint Substation	$ -	$ 3,506,000		$ 3,506,000
Devers - Valley No.1 500kV T/L: Relocate to Outdoor Switchyard at Valley Sub.	$ -	$ 1,725,000		$ 1,725,000
Devers - Valley No.2 500kV T/L: New 42-Mile Line	$ -	$ 94,600,000		$ 94,600,000
Substations				
Midpoint Substation: 500kV Interconnection Facility (Prior to Caithness Blythe II)	$ -	$ 32,545,000		$ 32,545,000
Devers Substation: Upgrade Existing Valley No.1 500kV Line Position to 4000A	$ -	$ 8,889,000		$ 8,889,000
Devers Substation: New Line Position for Devers - Valley No.2 500kV T/L	$ -	$ 6,227,000		$ 6,227,000
Valley Substation: New Outdoor Line Position for the relocated Devers - Valley No.1 500kV T/L	$ -	$ 6,227,000		$ 6,227,000
Valley Substation: New Line Position for Devers - Valley No.2 500kV T/L	$ -	$ 6,227,000		$ 6,227,000
Vista Substation: Replace Line Drops at Mira Loma 220kV Line Position	$ -	$ 69,000		$ 69,000
Devers Substation: SPS-1 Relays	$ -	$ 200,000		$ 200,000
Midpoint Substation: SPS-1 Relays	$ -	$ 200,000		$ 200,000
California Capacitors on DPV1 - Upgrade to 4000A / 5400A	$ -	$ 10,000,000		$ 10,000,000
California Capacitors on DPV2 - Upgrade to 4000A / 5400A	$ -	$ 10,000,000		$ 10,000,000
West of Devers Upgrades	$ -	$ 101,189,000		$ 101,189,000
CB Replacements & Upgrades related to the West of Devers Upgrades	$ -	$ 6,261,000		$ 6,261,000
Telecommunications				
Line Protection (prior to Caithness Blythe II)	$ -	$ 3,000,000		$ 3,000,000
SPS-1	$ -	$ 200,000		$ 200,000
TOTAL	**$ -**	**$ 294,571,000**	**$ -**	**$ 294,571,000**

* ITCC tax (calculated at 35%) is collected via Letter of Credit.

2009 Dollars were estimated based on Present Day Costs (2007) escalated at a rete of 3.5% per year compounded annually.

E. A. ROMERO
UPDATED 02/01/07