

# **EOR 9000+ UPGRADE PROJECT**

## **STEP MEETING**

June 29 , 2005

San Diego, California

James Hsu



Delivering more than power.™

# **OVERVIEW**

**I. PROJECT STATUS**

**II. SYSTEM STUDIES**

**A. RESULTS**

**B. DRAFT REPORT**

**III. SCHEDULES**



Delivering more than power.™

# I. PROJECT STATUS

- ❖ Project Management Team Is Currently Working With CAISO, SCE and SDG&E On Transmission Capacity Allocation Methodology



Delivering more than power.™

## II. A Simultaneous SCIT Baseline Requirements-

### SCIT(+645MW)/EOR (+1,245MW) NOMOGRAM LIMITS

❖ No major power flow overload problems.

❖ Reactive Support requirements to meet the stability criteria:

	<u>Mohave Off Line</u>	<u>Mohave On Line</u>
Devers 500kV SVCs	500 Mvars	450 Mvars
Devers 500kV Capacitors	300 Mvars	300 Mvars

❖ Reactive support requirements to meet post-transient criteria:

	<u>Mohave Off Line</u>	<u>Mohave On Line</u>
Miguel 500kV Capacitors	150 Mvars	150 Mvars
Eagle Mt230kV Capacitors	36 Mvars	36 Mvars
El Cent 230kV Capacitors	60 Mvars	60 Mvars



Delivering more than power.™

TABLE I.A

EOR 9000+ Plan of Service Summary for Mohave Off Line Scenario <sup>A</sup>

<u>Analysis</u>	<u>Total Reactive Support (MVar)</u>	<u>Nomogram</u>	<u>Operating Procedure</u>	<u>SPS</u>
Non-Simultaneous	0	No	Yes <sup>C</sup>	No
SCIT Nomogram	500 <sup>B</sup>	No	No	No
Path 26	500	No	No	No
Path 27	500	No	No	No
Path 41 (Option 1)	800	No	No	No
(Option 2)	500	Yes <sup>D</sup>	No	No
Path 42	500	No	No	No
Path 61 (Option 1)	700	No	No	No
(Option 2)	500	Yes <sup>E</sup>	No	No
Path 64	500	No	No	No
Path 65	500	No	No	No
Centennial (Option 1)	950	No	No	No
(Option 2)	500	Yes <sup>F</sup>	No	No
Path 66	500	No	No	No
Palo Verde Hub	500	No	No	No

**TABLE I.B****EOR 9000+ Plan of Service Summary for Mohave On Line Scenario <sup>A</sup>**

<b><u>Analysis</u></b>	<b><u>Total Reactive Support (MVar)</u></b>	<b><u>Nomogram</u></b>	<b><u>Operating Procedure</u></b>	<b><u>SPS</u></b>
<b>Non-Simultaneous</b>	<b>350</b>	<b>No</b>	<b>Yes <sup>C</sup></b>	<b>No</b>
<b>SCIT Nomogram</b>	<b>450 <sup>B</sup></b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Path 26</b>	<b>450</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Path 27</b>	<b>450</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Path 41 (Option 1)</b>	<b>600</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>(Option 2)</b>	<b>450</b>	<b>Yes <sup>D</sup></b>	<b>No</b>	<b>No</b>
<b>Path 42</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<b>Path 61 (Option 1)</b>	<b>700</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>(Option 2)</b>	<b>450</b>	<b>Yes <sup>E</sup></b>	<b>No</b>	<b>No</b>
<b>Path 64</b>	<b>500</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Path 65</b>	<b>500</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Centennial (Option 1)</b>	<b>850</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>(Option 2)</b>	<b>450</b>	<b>Yes <sup>F</sup></b>	<b>No</b>	<b>No</b>
<b>Path 66</b>	<b>450</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Palo Verde Hub</b>	<b>450</b>	<b>No</b>	<b>No</b>	<b>No</b>

## II.A Sensitivity Study Results (Cont'd)-

### With PVD#2 Line Addition and 1,200 MW Schedule

### SCIT (+1,845MW)/EOR(+2,445 MW) Nomogram Limits

❖ No major power flow overload problems.

❖ Reactive support to meet the transient stability criteria:

	<u>Mohave Off Line</u>	<u>Mohave On Line</u>
Devers 500kV SVCs	1,000 Mvars	850 Mvars
Devers 500kV Capacitors	300 Mvars	300 Mvars

❖ Reactive support to meet post-transient stability criteria:

	<u>Mohave Off Line</u>	<u>Mohave On Line</u>
Miguel 500kV Capacitors *	150 Mvars	150 Mvars
Eagle Mt230kV Capacitors*	36 Mvars	36 Mvars
El Cent 230kV Capacitors	60 Mvars	60 Mvars

**\* May possibly not be required but will be evaluated.**



Delivering more than power.™

# **II.B & III. Draft Report and Schedules**

- ❖ **Begin to Draft EOR 9000+ Accepted Rating Report**
- ❖ **Complete First Draft for PRG Review & Comment**
  - : July 15, 2005
- ❖ **Finalize and Approve the Report by the PRG**
  - : July 30, 2005
- ❖ **Final Report to WECC for the 30-day Review**
  - : Immediately after obtaining PRG Approval
- ❖ **Project Implementation**
  - : 2007-2008 Time Frame



Delivering more than power.™