

# DPV2-EOR9300 Transmission Projects

## Path 49 Rating Study

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SWAT Oversight Committee

Informational Item

October 18, 2006



# Technical Study Status

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- WECC Three-Phase Rating Process Underway
  - CPR submitted on December 30, 2005
  - Phase 2 status granted on March 16, 2006
  - Phase 2 rating study process:
    - Study scope approved on May 16, 2006
    - Non-Sim base cases approved on May 16, 2006
    - Non-Sim analysis results submitted on June 23, 2006
    - SCIT & Path 26 analysis results submitted in October, 2006



# Study Scope

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- Achieve 2,445 MW EOR Rating Increase
- Analyses
  - Path 49 Non-Simultaneous
  - SCIT
  - Simultaneous Interaction with Other Paths
  - Sensitivities



# Study Scope (Continued)

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- Simultaneous Interaction with Other Paths
  - Path 26
  - Path 42
  - Path 43
  - Path 46
  - Path 61
  - Centennial Path



# Study Scope (Continued)

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- Sensitivities
  - LADWP Green Path
  - Sunrise Powerlink



# Path 49 Non-Simultaneous

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- Reaffirm Plan of Service (POS)
  - For both DPV2 and EOR9300
  - To achieve 2,445 MW EOR Rating Increase
- Identify Voltage Support Requirements
- Verify SPS Requirements



# EOR Non-Simultaneous Results - Summary

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- Combined DPV2 and EOR9300 “Plans of Service” valid to achieve a 2,445 MW rating increase on Path 49 with or without Mohave.
  - Single SVC required at Devers
- Criteria Met for:
  - Thermal
  - Stability
  - Post Transient
- SPS to mitigate DPV1 and DPV2 outage is still required.
- SPS to mitigate Devers-Valley 500 kV No. 1 and 2 outage is still required.



# SCIT Pre-Combo Results - Summary

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- Cases with and without Mohave reached criteria limits
- Thermal limit at 100% on MD-PK 500 kV line
  - Violations on 2 IID low voltage lines (pre-existing)
- Stability voltage duration at 20 cycles for HA-NG outage
- PT voltage deviations at 5.0/5.1% for PVD1 outage

# SCIT Post-Combo Results - Summary



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- DPV2 and EOR9300 Plans of Service are adequate to achieve a 2,445 MW rating increase on Path 49 simultaneously with a 1,200 MW capability increase on the SCIT path.
- No thermal violations due to Combo projects <sup>1,2,3</sup>
- No stability criteria violations
- No post transient violations <sup>4</sup>

- 1 Long-term mitigation being pursued as part of SCE's Expansion Planning process for pre-existing thermal overload exposure on SCE's Devers-San Bernardino 230 kV line for Valley-Serrano 500 kV line outage.
- 2 Criteria is met with SPS that adjusts Perkins Phase Shifters and sheds SOCAL load may still be needed for DPV1 and DPV2 outage.
- 3 Absent long-term mitigation, criteria is met with SPS that sheds SOCAL load needed for Devers-Valley 500 kV Nos. 1 and 2 outage.
- 4 Criteria is met with SPS that sheds SOCAL load needed for DPV1 and DPV2 outage.



# Study Schedule

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## Target Completion Date

- Submit Draft Study Scope for Review May 3, 2006
- Submit Non-simultaneous Basecases for Review May 9, 2006
- PRG Meeting #1 May 10, 2006
- Approve Study Scope and Basecases (conference call) May 16, 2006
- Submit Non-simultaneous Analysis for Review Jun 23, 2006
- PRG Meeting #2 Jun 27, 2006
- Submit SCIT and Path 26 Analysis for Review Oct 6-11, 2006
- Submit SCIT Basecases for Review Oct 16, 2006
- PRG Meeting #3 Oct 17, 2006
- Submit Remaining Simultaneous Analyses for Review Dec 7, 2006
- Submit Sensitivity Analyses for Review Dec 7, 2006
- PRG Meeting #4 Dec 14, 2006
- Submit Draft Final Report for Review Dec 21, 2006
- Approve Final Report (meeting or conference call) Jan 16, 2007
- Submit Final Report to WECC Feb 16, 2007