



# Draft CTPG Phase 3 Report

RETI Stakeholder Steering Committee Meeting  
8/12/10

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## Outline

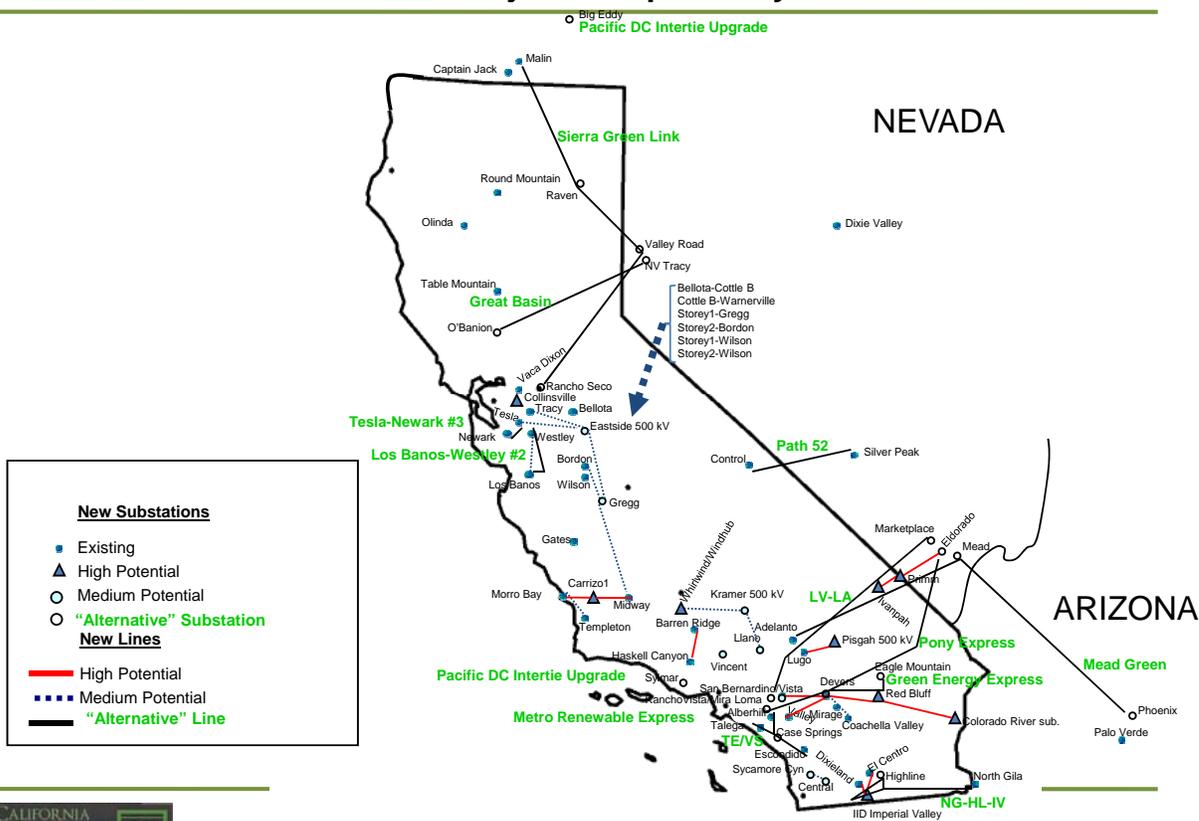
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- Introduction – Mike Deis
- Stakeholder Alternatives – Jan Strack
- Scenario Study Results – Mike Deis
- High and Medium Potential Transmission – Gary DeShazo
- Conclusions and Recommendations – Mike Deis
- Next Steps – Mike Deis
- Questions

## **ALTERNATIVE PROJECTS BACKGROUND**

- CTPG solicited proposed transmission projects for consideration as “alternatives” that would:
    - Eliminate a reliability criteria violation identified by CTPG, and
    - Not result in any new reliability criteria violations
  
  - Received 13 proposed transmission alternatives
  
  - The initial draft Phase 3 study report included preliminary analyses of these alternatives
  
  - CTPG has received comments from the alternative project proponents that have resulted in correction of some data and modeling information, and some further studies
  
  - The CTPG has distributed the study cases to project proponents that have completed the necessary NDAs
  
  - Project proponents are reviewing the cases and will continue to provide input to the CTPG
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## “Alternative” Transmission Projects Proposed by Stakeholders



8/5/10

Slide 4

## **STAKEHOLDER ALTERNATIVES: Summary of Results**

### **Mitigates some CTPG-identified violations**

- TE/VS, Los Banos-Westley #2, Sierra Green Link,
- Metro Renewable Express

### **Does not mitigate any CTPG-identified violations**

- Tesla-Newark #3, DC Pacific Intertie Upgrade, Green Energy Express

### **Results in violations not previously found by CTPG**

- TE/VS, Sierra Green Link

### **Same function as certain CTPG-identified upgrades**

- NG-HL-IV, Path 52 upgrade, Los Banos-Westley #2, Sierra Green Link
- Marketplace-Rancho Vista, Pony Express Project, Mead Green Upgrade

### **Currently under study**

- Great Basin

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## SCENARIO STUDY RESULTS – MIKE DEIS

## SCENARIO BASED ANALYSIS

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- Phase 1, 2 & 3 Results (Appendix B)
  - 24 Scenarios Studied
  - 180 Identified Transmission UpgradesEfforts yielded significant info regarding transmission required for each scenario
- Expectation - diverse set of scenarios would suggest common set of conceptual transmission as “least regrets”
- Significant divergence of results across scenarios require further evaluation to support a recommendation

## SCENARIO BASED ANALYSIS

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- Scenarios were designed to cover a wide-range of system conditions that represent 2020 33% RPS considering important variables:
  - Location and technology mix of 33% RPS renewable resources
  - Viability of out-of-state resources and associated transmission
  - Southern California One-Through-Cooling plants (repower or other mitigation)
  - Redispatch of fossil resources in the West
  - Future state and federal carbon emission regulations
- CTPG is taking an incremental approach to develop the statewide transmission plan, based on studies performed in Phases 1-3 , as a first step:
  - Rank CREZs using commercial interest and environmental assessment
  - Use shift factors to evaluate relationship between pool of 180 identified transmission elements and high ranked CREZs
  - Selected elements characterized as “high potential” or “medium potential”

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# **HIGH AND MEDIUM POTENTIAL TRANSMISSION – GARY DESHAZO**

## Overview of Evaluation Methodology

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- Evaluation of transmission elements identified in Appendix B of CTPG Phase 3 report
- Identified high ranking CREZs and transmission elements associated with them
- Performed shift factor analysis of these elements and CREZs
- Compiled list of high and medium potential transmission

## Determination of High Commercial Interest CREZs

### CPUC Discounted Core

- PPA under CPUC review by 6/1/2010
- Permit application data adequate by 3/1/2010
- POU contracts not included

### CTPG Queue Portfolio

- In process of signing IA by March 2010
- Posted financial security in ISO Cluster process
- 3000 MW of non-ISO Queue generation
- This approach uses in-state queues

## High Ranking CREZs

CREZ	Core in Queue by Technology	Discounted Core (GWh)	Gen Queue (GWh)	RETI Environmental Score
Mountain Pass	81%	1086	1518	3.5
Pisgah	100%	1047	1867	4
Tehachapi	100%	5887	13934	4.6
Riverside East	100%	560	5615	5.1
San Diego South	0%	149	939	5.5
Kramer	0%	617	652	5.9
Carrizo South	86%	1562	1789	6.6
Nevada C	0%	1239	2209	n/a
Oregon	0%	1362	0	n/a
Solano	100%	102	1452	7.6
San Bernardino – Lucern	0%	96	0	7.7
Imperial South	70%	1095	4691	7.8
Palm Springs	100%	241	624	8
Round Mountain - B	100%	227	253	8.4

## High Ranking CREZ Transmission Elements

- Initial subset of high potential transmission elements --directly driven by high ranking CREZ
- Secondary subset of transmission elements – expected to deliver significant amount of high ranking CREZ output

## Shift Factor Analysis

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- Shift factors were calculated on initially identified elements
- Validated selection of high potential elements
- Refined selection of medium potential elements using shift factors to eliminate initially identified elements

# High and Medium Potential Transmission Upgrades

**Note:** Additional High and Medium Potential Transmission Upgrades may be added as a result of planned studies of increased renewable resource development in northern California and the Pacific Northwest.

**New Substations**

- Existing
- ▲ High Potential
- Medium Potential

**New Lines**

- High Potential
- - - Medium Potential



## Environmental Scores for CTPG-Identified Line Segments

- CTPG requested the RETI Environmental Working Group (EWG) to review new line segments.
- EWG used substantially the same scoring method as for the line segments in the RETI Phase 2A report.
  - Proximity to wilderness areas; parks; monuments; wildlife refuges, habitats and reserves; conservation easements; and wildlands conservancies
  - Visual resources
  - Cultural resources
  - Reconductor, rebuild or new construction
  - Existing, expanded or new rights-of-way
  - Length of upgrade
- Between the RETI Phase 2A report (Appendix H) and the review conducted for CTPG, most CTPG-identified line segments have environmental scores (see Appendix A in the second draft of the CTPG Phase 3 study report).
- EWG did not provide an environmental score for new substations.
- CTPG has not used the environmental scores in identifying “high potential” and “medium potential” transmission upgrades.

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## **CONCLUSIONS AND RECOMMENDATIONS – MIKE DEIS**

## Conclusions

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- The scenarios studied resulted in divergent transmission needs due to the diversity of assumptions
- High and medium potential transmission upgrades were identified (see Appendix C) providing a foundation for the state wide-plan to support 33%
- Transmission needs identified in phase 3 studies predominately focused on CREZs with the high commercial activities (mostly in S CA) and low environmental impacts
  - Information on non-IOU Power Purchase Agreements (PPAs) was not incorporated in CPUC IOU discounted core

## Recommendations

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- Focus time and resources on the “high potential” transmission upgrades identified in this report
  - Transmission project developers
  - Balancing authorities with reliability and cost recovery authority,
  - Regulatory bodies with project approval responsibilities,
  - State and federal agencies with environmental permitting authority

## Recommendations

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### *Individual BAAs should:*

- Consider “High Potential” transmission upgrades in their planning assessments to further refine their need in the Statewide Transmission Plan
- Assess opportunities of increased out-of-state imports to determine their potential in meeting California’s longer term RPS needs
- Consider opportunities to transition “Medium Potential” transmission upgrades to “High Potential” transmission upgrades

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## NEXT STEPS – MIKE DEIS

## **CTPG will continue its coordinated effort to develop a statewide transmission plan**

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- Complete Phase 3 report
  - Stakeholder comments due August 19
  - Phase 3 report finalized on September 2
- Begin Phase 4 -Development of 2010 statewide transmission plan
  - Continue to evaluate “high” & “medium” potential lines
  - Include POU high commercial interest CREZs
  - Further evaluate northern California transmission needs
  - Investigate out-of-state resources & their associated transmission needs
  - Continue to review stakeholder alternatives
- CTPG will develop a schedule and preliminary work plan for 2011

## Phase 3 Schedule – Key Dates

Date	Activity
March 25	Stakeholder Input Session Conference Call
Thursdays	RETI Transmission Working Group Meetings
April 13	Draft Phase 3 Study Plan Posted
April 20	Stakeholder Meeting – Review Draft Phase 3 Study Plan
April 28	Study Plan Comments and Transmission Solutions Alternatives Due
May 10	Final Phase 3 Study Plan Posted
June 14	Draft Phase 3 Study Report Posted
July 21	Second Draft Phase 3 Study Report Posted
August 4	Stakeholder Meeting
August 19	Study Report Comments Due
September 2	Final Phase 3 Study Report Posted



# Questions

