



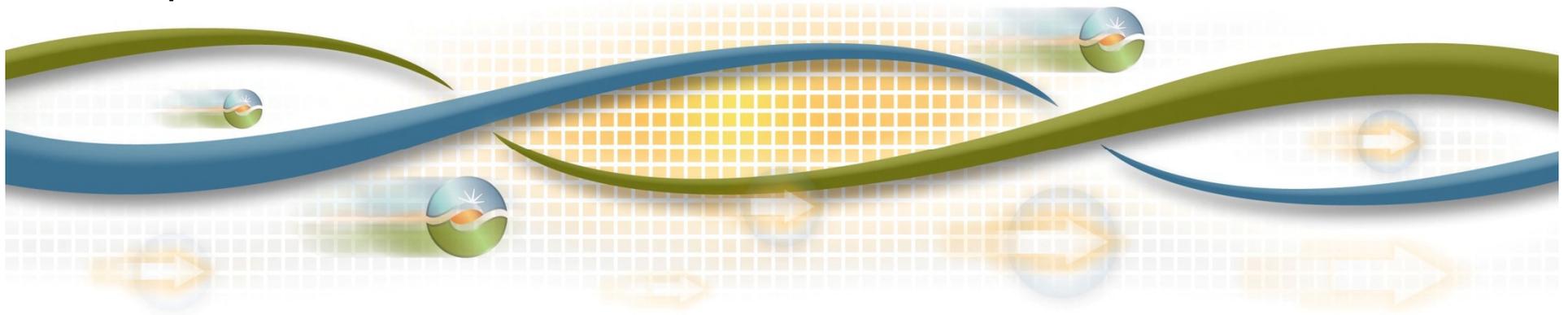
Central California Study Scope Addendum to the Study Plan of 2012/2013 Transmission Planning Process

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Central California Study Plan Stakeholder Call

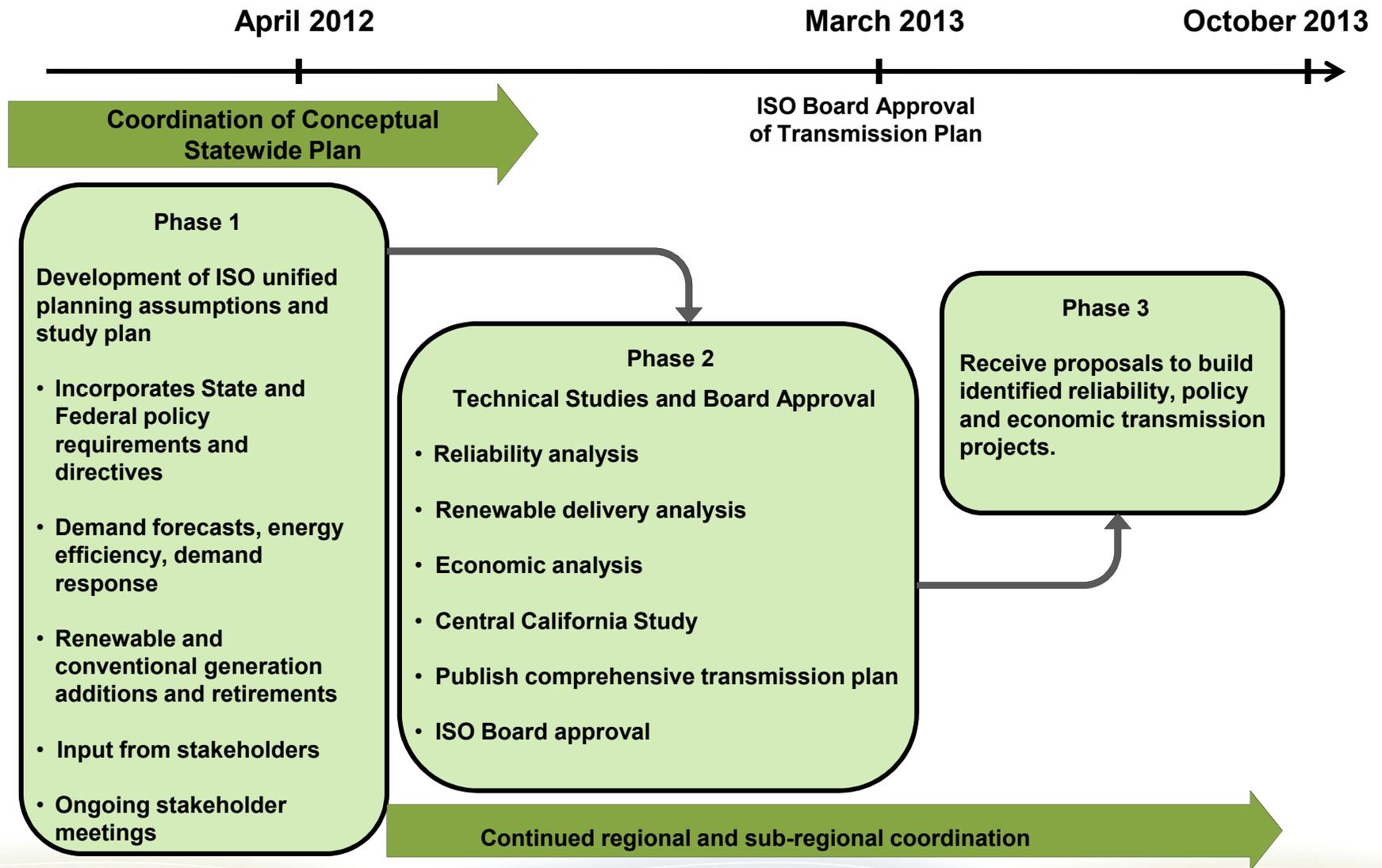
April 26, 2012



Introduction

- Central California Study will be conducted as a part of the 2012/2013 Transmission Planning Process
- Central California study scope is an addendum to the March 30, 2012 Unified Planning Assumptions and Study Plan
 - As identified in Section 4.8 of the Study Plan

2012/2013 Transmission Planning Cycle



Study Objective



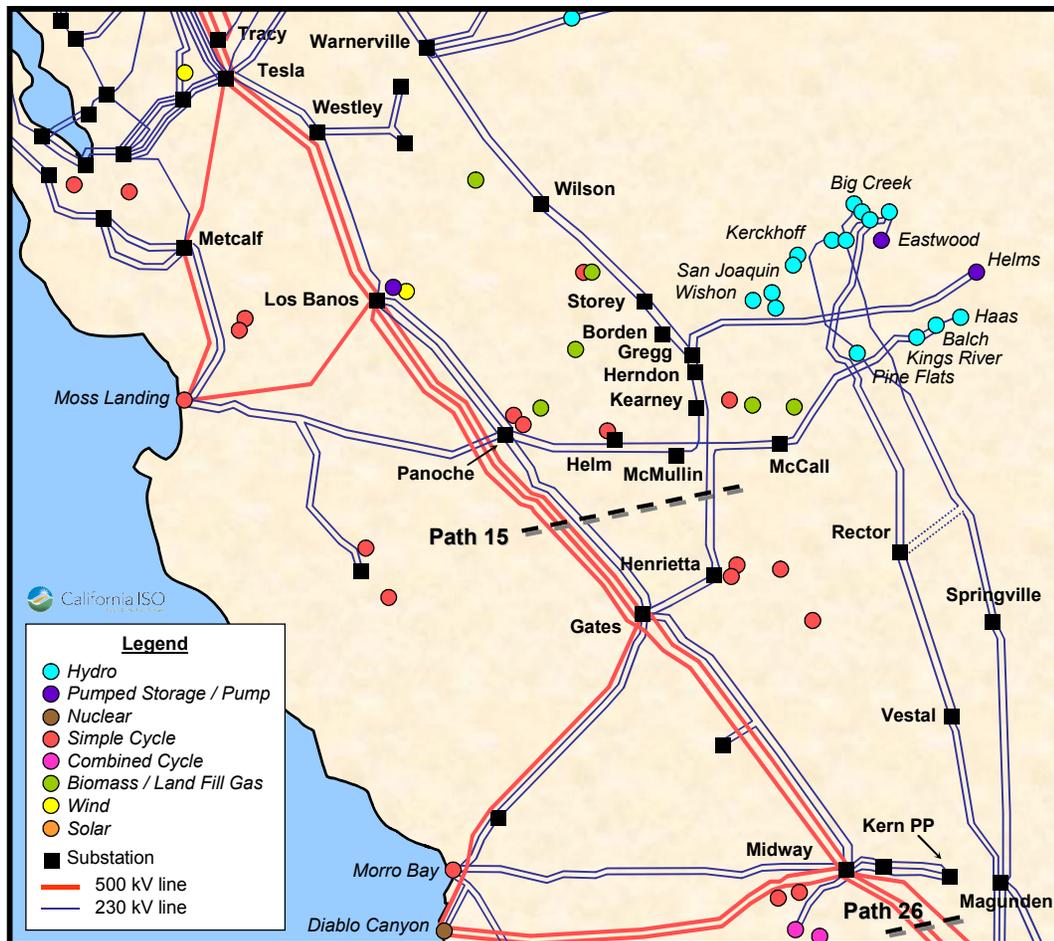
- Central California transmission system integral part of the bulk electric system to facilitate power transfers throughout ISO-controlled grid.
 - In addition to supply to overall Fresno area.
- System performance needs to be assessed under variety of scenarios to:
 - Ensure reliability requirements met;
 - Facilitate policy objectives; and
 - Assess economic opportunities.

Study Objective

The assessment will monitor the transmission system in the area under a variety of scenarios and the studies will include, but not limited to the following:

- North of Los Banos north-to-south transfer capability
- Path 15 south-to-north transfer capability
- Path 26 transfer capability
- Fresno area import/export capability
- San Joaquin area transmission reinforcement requirements,
- Fresno area local capacity requirements, and
- Economic analysis for congestion relief and renewable integration
- Operational flexibility and potential economic benefit of Helms (pump and generation)

Study Area



- Primary study area for Central California Study is the 500 kV and 230 kV transmission system between Tesla and Midway substations.
- Major transmission in the area:
 - WECC Path 15 (north of Midway)
 - WECC Path 26 (south of Midway)
 - 500 kV system north of Los Banos
 - San Joaquin area 230 kV system

Technical Assessment

Assumptions will be same as 2012/2013 Study Plan

- Reliability Standards and Criteria
- Load forecast (based on CEC - February 23, 2012)
 - 1-in-10 year load projection for local area studies
 - 1-in-5 year load projection for bulk system studies
- Generation (new resource additions and retirements)
 - 2017 same as reliability assessment
 - 2022 utilizing 2012 RPS Portfolios
- Transmission
- Technical Study Methodology
- Contingencies
 - Subset to include the most severe system results and impacts

Technical Study Scenarios

Study Area	2017	2022
Central California Study	Summer Peak Fall/Winter Summer Partial Peak Spring Light Load	Summer Peak Fall/Winter Summer Partial Peak Spring Light Load

- **Summer peak case** - used to evaluate the impact on North of Los Banos north-to-south transfer capability with low hydro conditions in the Fresno area as well as LCR studies
- **Fall/Winter case** - used to evaluate the impact on Path 15 south-to-north transfer capability and will represent low hydro conditions
- **Summer partial peak case** - used to evaluate the import capability of Fresno area under low hydro conditions during partial peak periods
- **Spring light load case** - used to evaluate the export capability of Fresno area during high resource output (hydro, QF, solar)
- **Sensitivity analysis** – based on variable resource output and hydro conditions

Economic Planning Studies

- Evaluate the level of congestion and associated costs as well as the potential importance of Helms full participation in the ancillary services (in order to facilitate the integration of renewable resources) and supporting reliability of the greater Fresno area:
 - Base renewable portfolio
 - Renewable portfolio with the highest level of congestion cost
- Sensitivity analysis to include, but not limited to:
 - Variations in forecasted demand
 - Variations in hydro generation output
 - Variations in gas price

Alternative Analysis

- Based upon the assessment of the Central California area, alternatives will be developed to address the system requirements. These potential developments may include:
 - 500 kV transmission development
 - 230 kV transmission development
 - Combination of transmission and generation alternatives in Fresno area

Schedule and Milestones

No.	Due Date	Activity	Phase
1	April 19, 2012	The ISO develops draft Addendum to 2012/2013 Study Plan for the Central California study scope and posts it on its website	I
2	April 26, 2012	The ISO hosts a stakeholder session to discuss the contents of draft study scope for the Central California study.	I
3	May 10, 2012	Comment period for stakeholders to submit comments on the stakeholder session and discussion on draft study scope	I
3	May 24, 2012	The ISO finalizes the Addendum to 2012/2013 Study Plan for the Central California study scope and posts it on its website	I
4	September 26-27, 2012	At stakeholder meeting #2 of 2012/2013 planning cycle, the ISO will present will present the preliminary results of the technical analysis conducted to date and potential alternatives that have been identified	II
5	December 11-12, 2012	At stakeholder meeting #3 of 2012/2013 planning cycle, the ISO will present will present the preliminary results of the technical analysis, economic analysis and alternatives that have been identified	II

General Information

- Final Study Plan will be published after your comments
- Base cases will be posted on the Market Participant Portal (MPP)
 - For reliability assessment in Q2
 - For 33% renewable energy assessment in Q3
- Market notices will be sent to notify stakeholders of meeting and any relevant information
- Stakeholder comments
 - Stakeholders requested to submit comments to:
regionaltransmission@caiso.com
 - Stakeholder comments are to be submitted within two weeks after stakeholder meetings
 - ISO will post comments and responses on website