



Overview of the 2009 and 2010 ISO Transmission Plans

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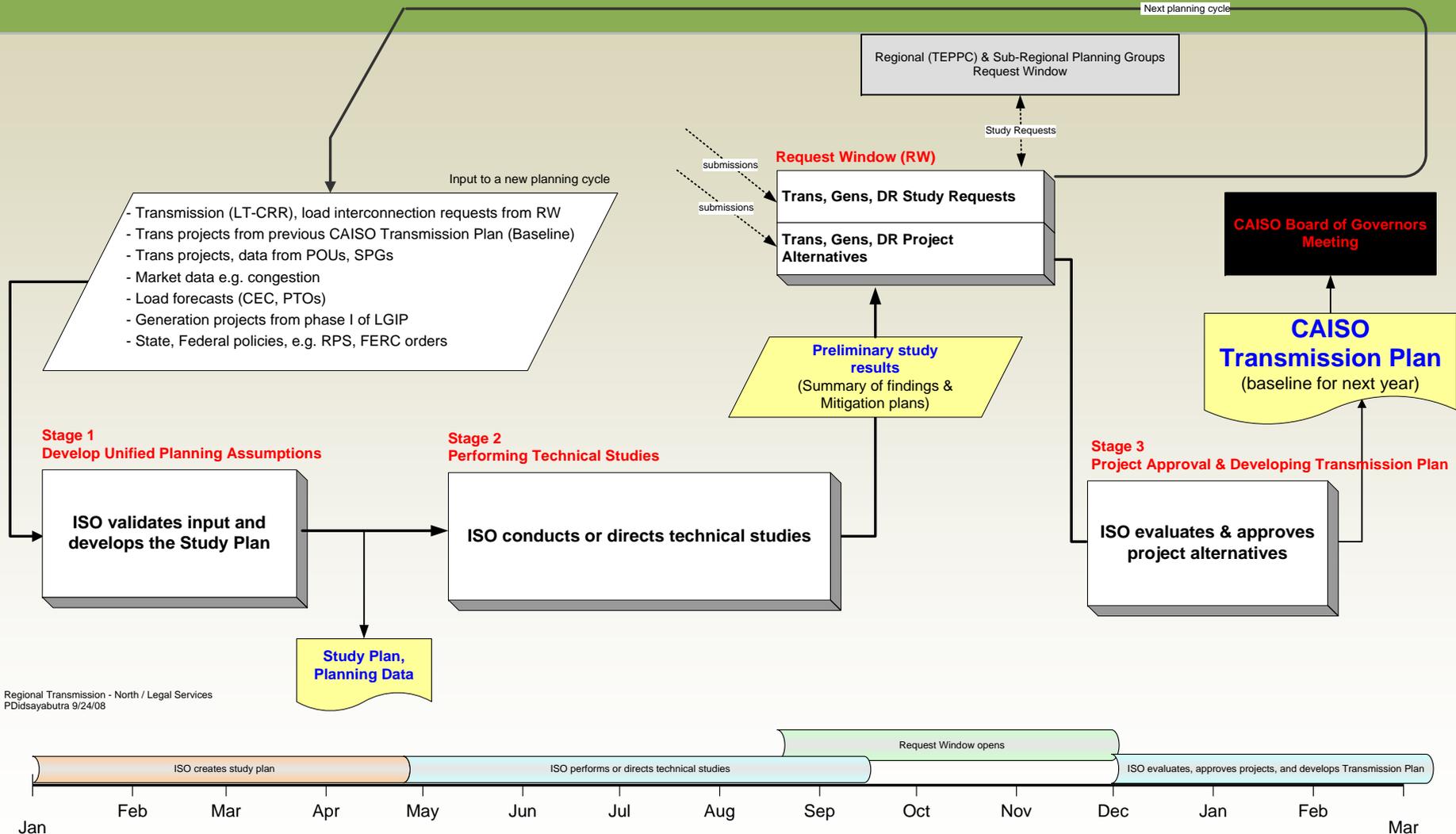
In this presentation

- The ISO planning process in a nutshell
- Briefing on the 2009 ISO Transmission Plan
 - Major projects related to renewable resources
- Overview of the 2010 ISO Transmission Plan
 - Incorporating renewables into the 2010 ISO Transmission Plan
 - Major milestones

The 2009 ISO Transmission Plan was conducted under the new process that complies with FERC Order 890

- The 3-stage planning process
 - Stage 1: Developing the study plan (Jan – Apr)
 - Stage 2: Performing technical studies (May – Sep)
 - Stage 3: Project approval & developing the transmission plan (Dec – Mar of the following year)
- The process also contains a “Request Window” to streamline project submissions
 - Open between August 15 – November 30

The ISO Transmission Plan



Regional Transmission - North / Legal Services
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The 2009 ISO Transmission Plan was conducted under the new process that complies with FERC Order 890 (cont)

- Open and transparent process
 - Open to public
 - At least 3 meetings conducted in each planning cycle
- Comparable
 - Interested parties may submit projects through the Request Window
- For more details, please refer to the Business Practice Manual (<http://www.caiso.com/2024/20246de967b0.pdf>)

The 2008 Request Window: The ISO received 134 submissions

- Various types of proposals
 - Reliability transmission projects
 - Economic transmission projects
 - Location Constrained Resource Interconnection Facilities (LCRIF)
 - Network upgrade transmission project proposals (LGIP/SGIP)
 - Merchant transmission project
 - Generation alternative
 - Load interconnection
- The proposals are in different stages
 - Full detail projects that seek ISO approval
 - Conceptual projects that require further studies

The 2008 Request Window: Several proposals are related to renewable resources

- Mostly major transmission projects
- 2 proposals are LCRIF seeking ISO approval
- 12 proposals require further studies
 - 6 proposals are network upgrades
 - 6 proposals are conceptual projects
 - The ISO will evaluate these proposals in its 2010 Study Plan
- In addition there are a number of proposals that will be evaluated in future planning cycles

The 2008 Request Window: The ISO received 14 proposals that related to renewable

No	Name of Proposed Project	Project Category	Proposed On-Line Date
1	Malin-Cottonwood -Table Mountain 500 kV Line	Reduce congestion and aid import of new renewable resources into California.	Summer 2016
2	Midway-Antelope 500 kV Line	Connect renewable generation, improve reliability and economic operation	Summer 2014
3	North Gila-Imperial Valley #2	Connect renewable generation	Summer 2014
4	Imperial Valley-Blythe Area Renewable Transmission Integration	Deliver solar, wind and geothermal resources to the load centers in Southern California.	Summer 2014
5	Mohave-San Bernardino - Devers Renewable Integration Transmission Project	Deliver output of the proposed solar resources to the Southern California load center.	Summer 2014
6	Green Energy Express Transmission Line Project	Economic project, connect renewable resources	June 2013

The 2008 Request Window: The ISO received 14 proposals that related to renewable (cont.)

No	Name of Proposed Project	Project Category	Proposed On-Line Date
7	Drycreekwind Location Constrained Resource Interconnection Facility (LCRIF) Project	Connecting location-constrained resource interconnection generators (LCRIGs), of which all are renewable generation, in the Tehachapi Wind Resources Area	October 2013 or sooner
8	Highwind Location Constrained Resource Interconnection Facility (LCRIF) Project	Connecting location-constrained resource interconnection generators (LCRIGs), of which all are renewable generation, in the Tehachapi Wind Resources Area	December 2010
9	Eldorado - Ivanpah Transmission Project	LGIP/SGIP Network upgrade	July 2013
10	New ECO 500/230/69kV Substation & New 69kV Transmission Line to Boulevard Substation	LGIP/SGIP Network upgrade	September 2011
11	Morro Bay-Midway 230 kV Line Nos 1. and 2 Reconductor	LGIP/SGIP Network upgrade	May 2011

The 2008 Request Window: The ISO received 14 proposals that related to renewable (cont.)

No	Name of Proposed Project	Project Category	Proposed On-Line Date
12	San Luis Obispo Solar Switching Station #3	LGIP/SGIP Network upgrade	December 2010
13	Vaca Dixon - Sobrante - Moraga 230 kV Reinforcement	LGIP/SGIP Network upgrade	May 2012 or later
14	Table Mountain - Vaca Dixon 230 kV Reinforcement	LGIP/SGIP Network upgrade	May 2013 or later

Proposed Locations**



** High level and approximate locations of these 14 proposals based on the information provided by project sponsors. This diagram does not depict actual routes or detailed configurations. These proposals still require further evaluation by the ISO

The 2010 ISO Transmission Plan: Going beyond reliability

- The scope of the 2010 plan is beyond reliability
 - Reliability assessment
 - Short-term plan
 - Long-term congestion revenue rights
 - Local capacity requirement
 - Once-through cooling
 - Renewable Transmission Study (using RETI data)
 - *Economic Planning Study*
 - *Generation Interconnection (under the new process)*
- A renewable transmission study will be conducted as part of the 2010 study process

Renewable Transmission Study:

- Utilize the information from RETI study e.g. Competitive Renewable Energy Zones (CREZ)
- The ISO study will identify transmission solutions to accommodate energy from the CREZs
- The study follows the ISO TPP schedules
 - Posting of the preliminary study results: Sep 15, 2009
 - Stakeholder presentation: Oct 2009

The 2010 ISO Transmission Plan: Where we are now?

- The 2010 ISO Transmission Plan has started
- The first meeting was conducted on March 24, 2009
 - The draft Study Plan was discussed with stakeholders
 - ISO staff outlined the technical studies and assumptions
- The ISO plans to publish its preliminary study results on September 15, 2009
- The next stakeholder meeting will be held in October 2009
 - Purpose of the meeting will be to discuss the preliminary study results

The 2010 ISO Transmission Plan: Major milestones

No	Date	Activity
1	March 2009	Stakeholder Meeting #1
2	Apr-09	The ISO finalizes the Study Plan
3	End of July 2009	If needed, the ISO hosts additional stakeholder meetings at the local locations
4	August 15, 2009	Request Window Opens
5	September 15, 2009	The ISO posts preliminary study results on its Regional Transmission secure website
6	October 15, 2009	PTOs submit reliability project proposals through the Request Window along with their study reports
7	End of October 2009	Stakeholder Meeting #2
8	November 30, 2009	Request Window Closes
10	End of January 2010	The ISO posts draft Transmission Plan on its website
11	February 2010	Stakeholder Meeting #3
12	February (or March) 2010 Board Meeting	ISO presents Transmission Plan to the Board of Governors