



California ISO
Your Link to Power

FERC Order 890

Strawman Proposal

In compliance with the Nine Planning Principles of the Final Rule

Submitted by the California Independent System Operator
Planning and Infrastructure Development

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California ISO Strawman Proposal

In Compliance with FERC's Order 890 Final Rule

1. General Overview of Order 890

On February 16, 2007, the Federal Energy Regulatory Commission (FERC) amended the regulations and pro forma open access transmission tariff (OATT) originally adopted in Order Nos. 888 and 889 by issuing Order No. 890. Order No. 890 is intended to address lingering flaws in the OATT that undermine the efficient functioning of competitive wholesale energy markets. It does so by modifying specific, but multi-faceted, aspects of existing regulatory rules that FERC concluded continue to produce incentives for transmission providers to unduly discriminate against third-party transmission customers. This Strawman proposal relates to one area addressed in Order No. 890 – transmission planning. Order No. 890 mandates that transmission providers implement a coordinated, transparent and participatory transmission planning process as a means to alleviate perceived opportunities for undue discrimination.

The key transmission planning related requirements instituted in Order No. 890 include:

1. Transmission providers must establish a coordinated, transparent and participatory transmission planning process.
2. A transmission provider's transmission planning process must meet each of FERC's nine planning principles. These principles are coordination, openness, transparency, information exchange, comparability, dispute resolution, regional participation, economic planning studies, and cost allocation.
3. Transmission Providers must facilitate a meaningful process for stakeholders and customers to provide early input into and help shape transmission plans.
4. Transmission providers must disclose to customers and other stakeholders the basic criteria, assumptions, and data that underlie their transmission system plans.
5. Transmission Providers must develop a dispute resolution process to manage disputes that arise from the transmission planning process.
6. Each Transmission Provider must describe its transmission planning process in its tariff and provide it as an attachment to its OATT.

2. Implementation Timeline

Under Order No. 890, each transmission provider is required to post a "Strawman" proposal by May 29, 2007 (within 75 days from publication of Order No. 890 in the Federal Register, which occurred on March 15, 2007) that describes a transmission planning process that complies with each of Order No. 890's nine planning principles. The instant document represents the required

strawman proposal (Strawman Proposal) of the California Independent System Operator Corporation (CAISO) and is intended to facilitate a FERC technical conference scheduled for June 26, 2007 in Phoenix that includes the California subregion.

Following the technical conference, the CAISO intends to continue its own stakeholder process to complete development of a transmission planning process that complies with Order No. 890. The schedule for this stakeholder process will be issued following the FERC technical conference. A definitive proposal must be submitted to FERC by October 11, 2007, *i.e.*, 210 days after publication of Order No. 890 in the Federal Register.

3. The Structure of this Strawman Proposal

This Strawman Proposal represents the Transmission Planning practices of the CAISO and its underlying Participating Transmission Owners (PTOs). It consists of two major parts:

- Part I describes each of the Nine Planning Principles included in Order No. 890 and lists in bullet form the current and planned activities of the CAISO and PTOs that ensure compliance with each Principle. Part I serves as a reference and checklist.
- Part II provides a narrative description of the CAISO and PTOs coordinated Transmission Planning Process, including all current and planned activities. Part II outlines the CAISO and PTO Study Plan and Transmission Plan and contains a number of diagrams to aid visualization of the CAISO and PTO Transmission Planning processes.

PART I: Compliance

Part I describes Order No. 890's Nine Planning Principles and outlines how the CAISO and PTOs intend to demonstrate compliance with each Planning Principle.

4.0 Compliance with Nine Planning Principles

4.1 Coordination

Key Elements:

- ✓ The specific requirements for coordination, including the number of meetings, scope of meetings, notice requirements, or other features are not expressly prescribed. However, the transmission planning process must provide a meaningful opportunity for relevant constituents to meet with the transmission provider to provide input into and develop the transmission plan.
- ✓ The CAISO and PTO Transmission Planning Process must provide early and meaningful interaction opportunities so relevant constituents can provide input that helps shape the CAISO's Transmission Plan.
- ✓ The coordination principle does not alter the transmission provider's, *i.e.*, the CAISO's, ultimate responsibility for the transmission planning process.

CAISO and PTO Compliance:

The CAISO and the PTOs satisfy, or will satisfy, the coordination principle through the following activities:

- a. CAISO and PTO stakeholder meetings are open to transmission customers and stakeholders (including interconnected control areas and state agencies) and provide opportunities for early participation and input toward shaping the transmission plan and related activities.
- b. The CAISO and PTOs communicate the activities involved in the planning process, as well as the progress of such activities, at early stages to stakeholders and transmission customers through market notices, emails subscription services, and website announcements.
- c. The CAISO's Transmission Plan is the core activity of its coordinated Transmission Planning Process. The Transmission Plan report contains detailed information on new proposed transmission projects within the CAISO Control Area and any external facility that will become part of or connect to the CAISO Controlled Grid.

- d. The CAISO initiates and coordinates at least three stakeholder meetings annually to present its Transmission Plan at various stages of development. These meetings are open to all interested parties including PTOs, transmission customers, stakeholders, Publicly Owned Utilities (POUs), interconnected control areas, and State regulators such as the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC).
- e. The Transmission Plan report provides details on all proposed new transmission facilities and is updated annually. The report also contains information on other issues related to transmission planning, including, but not limited to, congestion studies, Local Capacity Requirements (LCR), resource deliverability, and alternatives for reducing congestion or LCR or enhancing deliverability.
- f. Stakeholders and other affected parties may utilize the Transmission Planning Process to seek to address specific transmission planning concerns, to propose new transmission projects for evaluation, or request specific studies that relate to the CAISO Transmission Plan.
- g. As a key component of its coordinated Transmission Planning Process, the CAISO and PTOs prepare a “Study Plan,” which is provided to the stakeholders early in the process for input and comments. The Study Plan serves as the road map for conducting the annual Transmission Plan and will include details, such as the study scope, planned stakeholders meetings, data assumptions, load forecasts and planned studies.
- h. The CAISO coordinated Transmission Planning Process encompasses and is closely coordinated with PTO transmission expansion planning activities. The CAISO and PTOs participate in one another’s stakeholder meetings and other activities.
- i. The CAISO participates in a number of subregional and regional transmission planning groups and in subcommittees and working groups of the Western Electricity Coordinating Council (WECC) to ensure coordinated planning within the Western Interconnection power grid and to ensure that Seams issues are addressed.
- j. The CAISO plans to create a “Calendar of Events” on its website to announce to the public all transmission planning activities, including those of the PTOs and various subregional and regional transmission planning subcommittees.

4.2 Openness

Key Elements:

- ✓ The CAISO and PTO Transmission Planning Process must be open to participation of all affected parties including, but not limited to, transmission customers, interconnected control areas, state commissions and other stakeholders.
- ✓ The CAISO and PTO meetings on particular subregional issues may be limited to the relevant affected stakeholders
- ✓ The CAISO and PTOs must develop mechanisms such as confidentiality agreements and password-protected access to manage the release of Critical Energy Infrastructure Information (CEII) to the public domain.

CAISO and PTO Compliance:

CAISO and the PTOs satisfy, or will satisfy, the openness principle through the following activities:

- a. The CAISO and PTOs initiate an open process on planning California's transmission infrastructure and invite stakeholder participation through various means, including market notices, distribution lists, website announcements, and email subscription services.
- b. The CAISO's coordinated Transmission Planning Process discloses CAISO and PTO transmission planning activities through public stakeholder meetings and other means of distributing relevant information.
- c. The CAISO and PTOs are considering expanding the use of teleconferencing and, when feasible and appropriate, web conferencing for their future meetings.
- d. The CAISO intends to create password-protected areas to protect proprietary information and prevent disclosure of Critical Energy Infrastructure Information (CEII) to the public domain. CAISO and PTOs abide by the FERC, NERC and any other jurisdictional entity's guidelines and good practices pertaining to the release of sensitive transmission planning information.
- e. The CAISO intends to develop a Non-Disclosure Agreement (NDA) where the affected parties can execute and have access to the CAISO, PTO and other detailed planning information.
- f. The CAISO provides non-confidential information, including, but not limited to, data, assumptions, decision criteria, study methodology, results and conclusions etc. to all stakeholders and affected parties through its Study Plan and comprehensive study reports on new transmission projects.

- g. The CAISO maintains data confidentiality when:
- Specifically designated as confidential by the data providers in accordance with Good Utility Practice.
 - Release of such information may create adverse impacts on the operation of CAISO wholesale markets.
 - Release of such information may breach existing agreements and contracts, including NDAs.
 - Involves third-party developed or other proprietary analysis tools, computer codes or any other material that is protected by intellectual property rights.

4.3 Transparency

Key Elements:

- ✓ The CAISO and PTOs are required to disclose in writing data, study methodology, basic criteria and assumptions that underlie the Transmission Plan. The disclosed information must be sufficiently detailed such that affected parties can replicate the studies and thereby reduce the potential for after-the-fact disputes.
- ✓ The CAISO and PTOs must make as much transmission planning information available as possible, subject to appropriate reciprocity, confidentiality and CEII safeguards. This information should include the status of transmission projects.
- ✓ The CAISO and PTOs must consider demand response where such measures are available and are capable of providing the required functionality that is assessed in the transmission planning process.

CAISO and PTO Compliance:

CAISO and PTOs satisfy, or will satisfy, the transparency principle through the following activities:

- a. The CAISO and PTOs utilize proven transmission planning practices recommended by WECC, NERC, NAESB and other credible institutions.
- b. The CAISO is obligated to comply with reliability standards promulgated by the relevant Electric Reliability Organizations (NERC/WECC) created pursuant to the Energy Policy Act of 2005. The CAISO, in coordination with its PTOs and other stakeholders, has developed a methodology and performance standards for reliability

assessment of its transmission system that meet or exceed the NERC/WECC standards. These CAISO Grid Planning Standards are available to the public through the CAISO website.

- c. Through a stakeholder process, CAISO has developed a methodology and performance measures for “economic” assessment of its transmission system. This is available to the public through the CAISO website.
- d. The CAISO provides study assumptions, methodology, criteria, and other input through its Study Plan, which will be developed through the Transmission Planning Process and posted on the CAISO website. The CAISO also provides study results and conclusions through the Transmission Planning Process, which will be posted on the CAISO website.
- e. The CAISO and PTOs provide sufficient planning information in a form that skilled practitioners using commercially available simulation tools can replicate such studies.
- f. When proposed by stakeholders, the CAISO and PTOs evaluate the merits of demand response in lieu of transmission facilities where such measures are available and can reasonably meet the CAISO’s and PTOs’ transmission planning requirements.
- g. The CAISO and PTOs support directing NERC and NAESB to develop common reliability standards and business practices regarding Available Transmission Capacity (ATC).
- h. The CAISO utilizes the framework proposed by NERC on calculations of its Total Transfer Capability (TTC), ATC, etc.
- i. The CAISO intends to develop a Business Process Manual (BPM) to describe its entire transmission planning process and practices in a comprehensive fashion.

4.4 Information Exchange

Key Elements:

- ✓ The CAISO and PTOs must develop schedules and guidelines for the submittal of transmission planning information, including, but not limited to, projected load and resource data. Information provided from and available to a specific category of affected parties should be uniform or equivalent within that class.
- ✓ The frequency and scope of studies, and planning horizons, must be consistent with Electric Reliability Organization (ERO) requirements.
- ✓ “Information exchange” relates to transmission planning, not other studies performed in response to interconnection.

CAISO and PTO Compliance:

The CAISO and PTOs satisfy, or will satisfy, the information exchange principle through the following activities:

- a. The CAISO facilitates access to its own transmission planning information, as well as that of the PTOs, through the CAISO website.
- b. The PTOs augment access to their own transmission planning information through their own websites.
- c. The CAISO intends to provide periodic updates of major transmission project studies and post them on the password-protected areas of its website. Stakeholders who have executed the CAISO's NDA can access a common and consistent source of information. This information, includes, but is not limited to, project specific data, assumptions, criteria, study methodology, necessary analyses, required simulations and the status of each transmission project as under review, approved or rejected.
- d. Through its website, the CAISO will to make the following information available:
 - Congestion frequency and costs;
 - A list of new generation (Generation Queue) in the LGIP process;
 - A list of planned transmission projects (Transmission Queue) cross-referenced to the Generation Queue;
 - A link to CEC's list of newly approved generation;
 - A link to CEC's generation retirement information;
 - CAISO studies which assess the impact of planned retirement of generation;
 - A link to CEC load and energy forecasts;
 - A link to PTO websites for their major transmission planning activities; and
 - Stakeholder comments and the associated responses.
- e. CAISO will list relevant regional and subregional planning transmission groups and links to these group's websites.
- f. WECC facilitates access to its regional and wider area study results and conclusions on its website. CAISO, in coordination with WECC, posts the results of its regional and wider area studies on the WECC website.
- g. CAISO will develop Open Season guidelines for the submittal of stakeholder requested studies and, if necessary, further stakeholder transmission planning related information. These guidelines will be posted on the CAISO's website.

4.5 Comparability

Key Elements:

- ✓ The CAISO and PTO Transmission Planning Process must treat similarly situated affected parties comparably when accounting for the specific transmission service-related requests of transmission customers.

CAISO and PTO Compliance:

CAISO and PTOs satisfy, or will satisfy, the comparability principle through the following activities:

- a. CAISO acts as an independent reviewer of new transmission facility additions and new interconnections within its Control Area.
- b. CAISO evaluates each proposed transmission facility independently based on its own merits without regard to the geographical location, potential ownership, facility type or the complexity of the required studies.
- c. The CAISO practices a comparable approval process for facilitating access to, and new investments in, transmission to serve its own native load and third party service requests.

4.6 Dispute Resolution

Key Elements:

- ✓ The CAISO and PTOs may rely on the CAISO Tariff's existing dispute resolution process; however, that process must demonstrate compatibility with the transmission planning process, including how to resolve both procedural and substantive planning disputes in a timely manner.
- ✓ The CAISO and PTOs are encouraged to employ the same format used by FERC's Dispute Resolution Service, which relies on the progression from negotiation to mediation and ultimately to arbitration.

CAISO and PTO Compliance:

The CAISO and PTOs satisfy, or will satisfy, the dispute resolution principle through the following activities:

- a. As part of its existing CAISO Tariff, the CAISO has a dispute resolution process for Market Participants and Transmission Owners to register disagreements as to any dispute under the tariff. These provisions of the tariff require negotiation first, followed by mediation (at the option of the parties), and then arbitration.

- b. The CAISO's dispute resolution processes address both procedural and substantive transmission planning disputes.
- c. The CAISO will consider feasible modifications to its existing dispute resolution process that will better accommodate the need for expedited consideration through the Transmission Planning Process.

4.7 Regional Participation

Key Elements:

- ✓ The CAISO and PTOs must coordinate with interconnected systems to (1), share system plans to ensure simultaneous feasibility, (2) maximize use of consistent assumptions and data, and (3) identify system enhancements that relieve congestion or integrate new resources.
- ✓ The CAISO and PTO Transmission Planning Process must specify the broader region in which it proposes to conduct integrated and coordinated regional planning.
- ✓ The CAISO and PTOs must identify particular characteristics that dictate the geographical scope of the region.
- ✓ The CAISO and PTOs should take into account and accommodate in the planning process, where possible, existing institutions, physical transmission system characteristics, and historical practices.

CAISO and PTO Compliance:

CAISO and PTOs satisfy, or will satisfy, the regional participation principle through the following activities:

- a. The CAISO transmission planning practices encompass those of its PTOs, as influenced by state and local regulatory agencies, as well as WECC and NERC. These practices consider and account for the physical characteristics of the power grid in California and its extensive interconnections to the Western power grid and the historical transmission planning practices of the PTOs.
- b. The CAISO and PTO Transmission Planning Process will focus on planning local, subregional, regional and external interconnection transmission facilities and will provide for both individual and aggregated simultaneous feasibility assessments of such transmission facilities.
- c. The CAISO and PTOs encourage the participation of the non-jurisdictional entities such as Publicly Owned Utilities and State regulatory agencies in their

local subregional, regional and external interconnection transmission planning activities.

- d. The CAISO and PTO Transmission Planning Process acknowledges and supports a three-tiered approach to transmission planning in the West consisting of the transmission provider, the subregional, and the West-wide tiers.
- e. The CAISO and PTOs participate in the transmission expansion planning activities of WECC's Transmission Expansion Planning Policy Committee (TEPPC, the West-wide tier), and will seek to coordinate with WECC's Proposed Western Transmission Planning Process Strawman for TEPPC and Sub-regional Review.
- f. At the subregional level, the CAISO is participating in the creation of a permanent committee, the California Subregional Planning Group (CSPG) to address subregional planning needs within California. It is desirable for membership in the CSPG to include the CAISO, PTOs, other transmission owners, i.e., Publicly Owned Utilities, State regulators, LSEs, resource developers, and other stakeholders.
- g. Through participation in CSPG and WECC/TEPPC, the CAISO, PTOs and other participating entities will exchange data and information ensuring use of consistent assumptions and data for transmission planning studies on a subregional and regional level.
- h. The CAISO and PTOs participate in planning West-wide transmission facilities that may pass through multiple control areas and multiple jurisdictions through coordination with other subregional entities, such as WestConnect and Columbia Grid.
- i. Based on the foregoing, the CAISO and PTOs participate in, and exchange information with, the following regional and subregional transmission planning groups:

WECC:

- TEPPC- Transmission Expansion Planning Policy Committee and its subgroups
- PCC- Planning Coordination Committee
- TSS- Technical Studies Subcommittee
- RS- Reliability Subcommittee
- TAS- Technical Advisory Subcommittee
- SRWG- System Review Work Group
- MVWG- Modeling and Validation Work Group
- TOS- Technical Operations Subcommittee
- Regional Planning Review groups
- Loads and Resources Subcommittee

Subregional Planning Organizations:

- NTAC- Northern Transmission Assessment Committee
- CSPG: California Subregional Planning Group

Other Technical Regional Planning Groups:

- WATS: Western Arizona Transmission Studies Task Force

4.8 Economic Planning Studies

Key Elements:

- ✓ The CAISO and PTOs are required to consider both reliability and economics in their Transmission Planning Practices.
- ✓ The CAISO and PTOs Transmission Planning Process will encompass the preparation of studies identifying “significant and recurring” congestion and make such studies publicly available.
- ✓ The studies should analyze and report on:
 - Location and magnitude of the congestion;
 - Possible remedies for the elimination of the congestion, in whole or part;
 - The associated costs of congestion, and
 - Costs to relieve congestion through system enhancements (or other means).
- ✓ Stakeholders have the right to request studies annually to evaluate upgrades or other investments that could potentially reduce congestion or integrate new resources on an aggregated or regional basis. Such studies are not to duplicate or supersede studies already performed pursuant to approved Large Generator Interconnection Procedures (LGIP). The costs for these studies will be recovered through the CAISO cost allocation methodology.
- ✓ The cost for studies requested in excess of those allotted will be borne by the stakeholder requesting the study.
- ✓ The CAISO and PTOs must allow for an “Open Season” for the stakeholders to request studies and propose new transmission facilities for consideration.
- ✓ Stakeholders requesting study of a particular congested area must provide relevant data within their possession.

CAISO and PTO Compliance:

CAISO and PTOs satisfy, or will satisfy, the economic planning studies principle through the following activities:

- a. The CAISO and PTO transmission planning processes consist of both reliability and economic analyses.
- b. CAISO studies utilize transmission data and models from WECC and other credible organizations.
- c. The CAISO will post or otherwise make available forward and real-time information on congestion occurring on the CAISO Controlled Grid. Such information will be coordinated with the criteria established for the selection of specific congestion-related studies through the “open season” process. This will facilitate the ability of stakeholders to select meaningful study opportunities.
- d. Stakeholders may request the study of specific congestion or the study of beneficial transmission projects for integration of resources on an aggregated basis or to mitigate congestion. CAISO and PTOs will facilitate an “Open Season” process where by December 31st of each year, stakeholders and third parties may propose new facilities for evaluation or request studies for consideration in the following year’s Transmission Plan. The key requirements for submission of study requests, such as the Study Selection Criteria, study request forms, definition of scope of work, submission of supporting data, will be determined and published by the CAISO. In this regard, the CAISO will include appropriate screening parameters to ensure that the requested studies do not bypass the current LGIP processes.
- e. The CAISO will initiate and lead a stakeholder process to develop the definition of “Significant and Recurring” congestion, methodology and process to allow clustering of multiple economic project proposals, screening criteria for approval or rejection of proposed studies and new transmission facilities for inclusion in its Study Plan.
- f. Studies that are not selected for inclusion in the Study Plan must be undertaken by the project proponents at their own expense.
- g. The CAISO and PTOs consider congestion frequency and costs when evaluating the economics of specific transmission facilities.
- h. The CAISO, through WECC and/or California Subregional Planning Group, considers congestion frequency and costs when conducting regional, sub regional and interconnection-wide transmission planning activities.
- i. The CASIO and PTOs plan to utilize the results of congestion studies to develop measures to relieve transmission congestion including, but not limited to, mapping major new areas of generation that can support substantial renewable resources and the location of new transmission facility developments.

- j. As a component of its Transmission Plan, the CAISO will include an annual analysis that tracks and trends transmission congestion on the CAISO Controlled Grid. This analysis will identify the location, frequency, and cost of congestion, and possible mitigation measures.

4.9 Cost Allocation

Key Elements:

- ✓ The transmission planning process must address the allocation of the cost of new investments. This applies only to investments that do not fit under existing rate structures such as regional projects involving multiple transmission owners.
- ✓ Cost allocation methodology must recognize the FERC's three general principles, which include:
 - Fair assignment of costs among participants, including those that cause the cost and those that benefit from it;
 - Creation of incentives for new investment, and
 - Possess the support of the State and other participants.

CAISO Compliance:

CAISO satisfies, or will satisfy, the cost allocation principle through the following activities:

- a. The cost allocation of new projects has been addressed by CAISO's Transmission Access Charge (TAC).
- b. The cost allocation of multi-jurisdictional regional projects and/or multi-owner projects will be addressed on a case-by-case basis.

4.10 Additional Issues

4.10.1 Independent Third Party Coordinator

Not Required

4.10.2 State Commission Participation

The CAISO and PTO Transmission Planning Process is open to State regulatory agencies (CPUC and CEC). These entities are active participants and integral components of transmission planning in California.

4.10.3 Recovery of Planning Costs

The costs of performing the CAISO's transmission planning functions are generally recovered through the CAISO's Grid Management Charge (GMC). Accordingly, to the extent a proposed project or congestion study is accepted by the CAISO for evaluation as part of the Study Plan detailing the development of the annual Transmission Plan, those costs will be borne, based on their respective responsibilities, either by the CAISO and recovered through existing GMC procedures and practices or by the PTOs in accordance with their tariff authorities. On the other hand, to the extent a proposed project or congestion study is rejected by the CAISO for inclusion in the Study Plan, the costs of performing that study or project assessment will be the responsibility of the sponsor. The CAISO intends to evaluate the need to develop terms and conditions under which participants of the planning process would be required to contribute or otherwise pay for the cost of specific tasks or elements of the transmission planning process. If necessary, this cost recovery process is expected to be restricted to time and materials basis.

4.10.4 Open Season for Joint Ownership

CAISO does not currently have a formal procedure for encouraging joint investment and ownership of transmission facilities. However, the CAISO acts as the independent reviewer of all new transmission projects and conducts studies to assess simultaneous feasibility of multiple planned transmission projects. In this capacity, it is well positioned to identify synergies for combining multiple transmission projects. Therefore, when CAISO observes such synergies, it explores the potential benefits of combining multiple transmission projects into fewer ones with the objective of minimizing overall costs to ratepayers. Under such circumstances, the project proponents are encouraged to consider combining planned projects with joint ownership.

4.10.5 Accommodation of Renewable Resources

The CAISO and PTOs, with the participation of the CPUC, CEC and stakeholders, conduct transmission planning studies, and continually explore enhancements to such studies, to facilitate interconnection and integration of renewable resources. The CAISO has obtained FERC approval for an innovative financing mechanism to expedite interconnection of locally constrained renewable resources. The CAISO and PTO Transmission Planning Process will further coordinate the activities of the PTOs and state agencies and investigate opportunities to apply this financing mechanism to facilitate the development of needed renewable resources.

CAISO, PTOs, CPUC and CEC are considering developing a uniform process for integration of renewables within their transmission grid as mandated by the California Public Utilities Commission.

4.10.6 Long-Term Congestion Revenue Rights (CRRs)

The CAISO will develop transmission planning practices:

- that ensure the feasibility of pre-assigned or long-term CRRs during their ownership periods;
- that ensure feasibility of CRRs associated with merchant transmission lines; and
- to enable creation of long-term CRRs in response to customer requests.

PART II: Strawman Proposal

Part II provides a narrative description of the CAISO and PTOs coordinated Transmission Planning Process. It outlines the plans to comply with the Nine Planning Principles.

5. Overview of CAISO Transmission Planning

The California Independent System Operator Corporation (CAISO) provides electric transmission and related reliability services under both State and federal authority that are essential to the California economy as well as the health and welfare of its citizens. In this regard, the CAISO's core mission can be divided into three interrelated cornerstones:

- Maintain reliable electric service;
- Improve the efficiency of electric system operations, including the provision of open and non-discriminatory access to the transmission facilities under its control; and
- Identify and promote new investments in transmission infrastructure in a coordinated, open, transparent and participatory manner.

In large measure, the ability to deliver reliable electric service through efficient market structures depends on the presence of sufficient physical infrastructure. The CAISO's Transmission Planning Process is intended to facilitate timely, coordinated and least-cost development of electric infrastructure that maintains reliability and meets load growth. This will require:

- Engaging stakeholders in the development of a coordinated transmission plan through a meaningful, open and transparent process;
- Continuing to build a strong partnership and shared vision with our Participating Transmission Owners (PTOs);
- Continuing to expand relationships with non-traditional stakeholders, interconnected control areas and market participants;
- Collaborating with state and federal agencies to develop the CAISO transmission plan;
- Minimizing uplift costs to provide needed transmission; and
- Managing new resource interconnections.

As an integral component of its coordinated Transmission Planning Process, the CAISO is determined to actively eliminate congestion and Reliability Must-Run generation contracts where economical to create a robust transmission system to benefit all CAISO ratepayers.

Under the CAISO's new wholesale market design - Market Redesign and Technology Upgrade (MRTU) - which is expected to become operational in 2008, locational signals will be made available for developing resources in areas that would reduce or eliminate transmission congestion.

6. CAISO’s Transmission Planning Process

The coordinated Transmission Planning Process at the CAISO creates an integrated, open, participatory and transparent process for the development and shaping of the CAISO’s annual Transmission Plan. Participants include PTOs, stakeholders, state regulatory agencies such as the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC), Publicly Owned Utilities (POUs), regional and subregional planning committees, Load Serving Entities (LSEs), and affected customers.

The CAISO Transmission Planning Process encompasses, and is closely coordinated with, its PTOs’ transmission planning processes and emphasizes certainty in development, evaluation, approval, and implementation of key projects to assure reliable electric service, while supporting California’s resource preference policies. This process coordinates the individual proceedings and processes of the CEC, CPUC and allows robust stakeholder involvement.

The CAISO’s coordinated Transmission Planning Process is intended to accomplish the following objectives:

1. Maintain the ability to reliably serve forecasted demand;
2. Conduct technical studies and future transmission assessments;
3. Assess the reliability and economics of transmission infrastructure;
4. Provide open, meaningful and effective means for stakeholder participation in the planning process;
5. Analyze and consider congestion in planning transmission facilities, including assessing the viability of reducing local capacity requirements (LCR) through transmission upgrades;
6. Encourage new investments;
7. Review and approve PTO, stakeholder and third party proposed transmission facilities that promote reliability and/or economic efficiency;
8. Coordinate interconnections with neighboring systems and other control areas;
9. Interconnect new generation;
10. Integrate new renewable resources as mandated by State regulation;
11. When available, comparable and feasible, consider non-wire solutions such as demand response;
12. Facilitate approval and interconnection of merchant transmission;
13. Preserve the feasibility of long-term transmission rights;
14. Review local resource adequacy and LSE capacity planning;
15. Account for planned generation retirements and other deactivations;
16. Consider risks associated with an aging infrastructure; and
17. Provide a dispute resolution process for transmission planning issues.

CAISO’s Transmission Planning Process involves the following roles and responsibilities for its participants:

	<i>Participant</i>	<i>Roles and Responsibilities</i>
1	CAISO	Acts as planning coordinator for the CAISO controlled grid, performs NERC’s Planning

		Coordinator function, conducts transmission planning studies for the CAISO controlled grid, conducts independent review of new proposed projects, facilitates an Open Season for proposing new transmission projects and/or requesting studies, approves beneficial projects, administers LGIP process, participates in regional/subregional planning groups, conducts interconnection studies, and conducts simultaneous feasibility analyses.
2	PTOs	Perform NERC's Transmission Planning function, conduct local and bulk transmission planning studies of its own service areas, propose new facilities, prepare meaningful cost estimates for new facilities, conduct interconnection studies and participate in regional/subregional planning groups.
3	Load Serving Entities (LSE)	Capacity planning and procurement to meet Resource Adequacy requirements, obtain necessary Congestion Revenue Rights (CRRs).
4	Publicly Owned Utilities (POU)	Participate in the transmission planning process, exchange information and coordinate plans with CAISO and PTOs.
5	California Energy Commission (CEC)	Participates in the CAISO and PTO coordinated Transmission Planning process, conducts Integrated Energy Policy Report (IEPR) and other strategic plans, provides data, permitting and approval of new thermal generation.
6	California Public Utilities Commission (CPUC)	Participates in the CAISO and PTO coordinated Transmission Planning process, issues CPCN/environmental permits for new transmission and administers the Renewable Portfolio Standard (RPS).
7	Stakeholders/affected customers	Participate in the CAISO and PTO coordinated Transmission Planning process, propose new transmission projects, request studies.
8	Regional and subregional planning groups	Participate in the CAISO and PTO coordinated Transmission Planning process, perform transmission planning studies (including congestion studies), propose new conceptual facilities, exchange information toward shaping transmission plans from subregional and regional perspectives and consider CAISO's and PTOs' plans into the larger regional transmission plan.
9	Interconnection Customers	May participate in the CAISO and PTO

	coordinated Transmission Planning process, communicate with CAISO, PTOs and stakeholders regarding their generation and transmission proposals.
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The PTOs, CPUC, CEC and CAISO have committed to building relationships that utilize the core strengths of each party and ensure better coordination and alignment with state and federal policies. This process relies on the CEC’s expertise in developing forward-looking analyses for projections of loads and resources. The CAISO, by applying its transmission planning expertise, oversees the development of an integrated forward looking Transmission Plan which utilizes the CEC’s analyses as well as the PTOs’ assessments and the CPUC’s resource and portfolio mandates.

The CAISO’s Transmission Plan is used by the LSEs in developing their resource procurement plans as well as by the CPUC in reviewing those plans. The CPUC review of the LSE procurement plans involves the evaluation and potential approval of resources that may either displace planned transmission projects or require the development of extensive additional transmission to interconnect and integrate the resources. The CPUC uses the information included in the CAISO’s Transmission Plan to give its jurisdictional LSEs guidance and to decide whether to approve the LSEs’ resource procurement contracts. In addition, the CAISO and PTOs intend to use resource planning and procurement information from the CPUC and LSEs back into planning new transmission projects and developing the Transmission Plan. Similar synergies from enhanced coordination reflected in the Transmission Plan should also benefit POU’s in their resource planning activities.

The CAISO’s coordinated Transmission Planning Process (Figure 1) is based on the following guiding principles:

- **Timely Project Development:** The process should promote timely development of needed transmission and resource projects.
- **Consistency and Repeatability:** The process must be designed and implemented such that it will be consistently followed by all PTOs and CPUC jurisdictional utilities.
- **Transparency and Openness:** The process must be transparent in that the methodology and assumptions are clearly established and accessible to all stakeholders.
- **Meaningful Stakeholder Participation:** This process must solicit and encourage the participation of all interested stakeholders.
- **Clearly Defined Input and Output:** Each major step should be clearly defined, including the entity that is responsible for specific input and output, and the linkages to other steps in the process.

- ***Avoid Duplication:*** Any request for information should be required to be submitted once in any forum throughout the process. Stakeholders should not be faced with participating in multiple forums for the same purpose.
- ***Support State and Federal Policy Objectives:*** It is imperative that each decision maker considers the overarching state and federal objectives. These include, but are not limited to, the State’s goal of achieving the Renewables Portfolio Standard (RPS) and the federal requirements for open access and competition in the CAISO controlled Grid.
- ***Leverage Expertise:*** The process should promote collaboration and make optimal use of the focused expertise of the CEC, CPUC, CAISO, PTOs, stakeholders and LSEs.
- ***Recognize Regionalization:*** California must coordinate transmission planning with the West-wide regional planning processes. Any resource determination in California must be mindful of the impact on the grid and electric power markets, as it is one interconnected system in the Western United States.
- ***Flexibility for Feedback and Adjustment:*** Any long term plan and policies must allow for some flexibility to accommodate emerging developments and short-term contingencies.

7. CAISO’s Transmission Plan

The CAISO’s Transmission Plan is the core product of its coordinated planning process for California (see Figure 1). The Transmission Plan provides details on new proposed transmission projects within the CAISO Control Area, any external facility that will interconnect to the CAISO Controlled Grid, and articulates the plans or key activities of each participating entity.

The CAISO Transmission Plan encompasses and is closely coordinated with PTO planning activities. The CAISO initiates and coordinates at least three stakeholder meetings annually to create and shape its Transmission Plan through various stages of development. Stakeholder meetings are open to all interested parties, including PTOs, POU’s, CPUC, CEC, LSEs and all affected customers.

The Transmission Plan provides details on all proposed future transmission facilities and is updated annually. The Transmission Plan also contains information on other issues related to transmission planning such as congestion analysis, Local Capacity Requirement (LCR), resource deliverability and operational issues based on experiences learned from real-time operations, as well as proposed transmission facilities that would address these issues.

Stakeholders and other affected parties may utilize the activities that relate to the CAISO Transmission Plan to participate, interact and propose new transmission projects or studies for evaluation and help shape the CAISO Transmission Plan.

The CAISO will maintain an annual “Open Season” for submission of studies and new project proposals with a cutoff date of December 31st. Proposals submitted before the cutoff date that

meet CAISO's Study Selection Criteria will be considered for analysis in the following year's Transmission Plan.

Activities related to the Transmission Plan are announced well in advance through the CAISO website, market notices and email subscription services. When possible, teleconferencing and web conferencing services also will be considered. Meetings are held throughout the State and structured to facilitate maximum stakeholder participation.

This Section summarizes the process in each planning cycle to produce the CAISO Transmission Plan. Extracted from the coordinated planning process diagram (Figure 1), Figure 2 provides a simpler overview of CAISO's coordinated Transmission Planning Process. Figures 3, 4 and 5 provide additional details of each key stage in the CAISO Transmission Planning Process.

7.1 Contents of Transmission Plan

The CAISO's Transmission Plan is a product of the CAISO's coordinated Transmission Planning Process and is consistent with the guiding principles of the CAISO transmission planning practices. The Transmission Plan benefits stakeholders by providing detailed information on the performance of the CAISO transmission system and the direction of its future infrastructure development.

The CAISO published and presented its very first Transmission Plan report to the CAISO Board of Governors in January 2007. The CAISO intends to continuously improve its Transmission Plan consistent with full implementation of its coordinated Transmission Planning Process.

The Transmission Plan contains the following details:

Executive Summary: Provides an overview of the projects that are addressed by the Transmission Plan and the reliability concerns that they mitigate.

Long-Term Transmission Plans: Lists and describes significant long-term projects that are addressed by the Transmission Plan and the progress on various studies.

PTO Transmission Plans: Provides an overview of the projects proposed or being evaluated by each PTO and describes reliability and economic justifications of such projects.

Regulatory Transmission Plans: Lists and describes the projects that are required to meet the State of California's RPS.

Merchant Transmission Plans: Describes individual merchant transmission projects, project sponsors, estimated costs and benefits and expected on-line dates.

Analysis of Transmission Congestion: The CAISO is currently working toward implementation of a new wholesale market design (MRTU) where transmission congestion is assessed at nodal levels. The CAISO also is currently working on a new analysis methodology for consideration of forward and real time congestion in its transmission planning process. In part, this methodology

will identify the information needed for Market Participants to independently assess the effects of congestion and to submit requests for studies or transmission upgrades as part of the Open Season process to assess transmission related mitigation measures.

Resource Adequacy and Related Issues: Provides an overview of the state mandatory requirements for LSEs to procure sufficient capacity to meet their demand during peak hours.

Local Capacity Assessments: Addresses local capacity requirements to ensure that local areas meet CAISO's Local Reliability Criteria and potential transmission alternatives to reduce those requirements.

Short-Term Plans: The CAISO generally will address short-term planning requirements as part of PTO Transmission plans. These requirements include operational or reliability concerns that must be mitigated during an interim period until evaluation, approval, and completion of permanent, long-term solutions (approximately a three year time frame). These short-term planning solutions may include the use of Special Protection System (SPS), re-conductoring or re-rating of a transmission facility (i.e., transformer bank re-rate by installing additional cooling equipment).

Operating Guide: Provides early warning and guidelines to CAISO's grid operations division regarding the possible impact of new transmission projects and the need to revise existing operating procedures or develop new ones.

Future Plans: Describes plans for enhancing the Transmission Plan, including planned modifications to studies and analyses.

7.2 Stages of Transmission Plan Development

The CAISO's Transmission Plan consists of three major stages of development and is updated annually as shown in Figure 6. This process was developed in a collaborative manner and has been agreed upon by various participants and stakeholders including:

- Major PTOs
- CPUC
- CEC
- Stakeholders
- Third-party participants

Each stage has specific tasks, objectives and timeline. The CAISO conducts at least three stakeholder meetings annually to achieve the intended objectives of the various stages.

The specific objectives and deliverables of each stage of the Transmission Plan development are as follows:

7.2.1 Stage 1: Development of Unified Planning Assumptions

The objective of this Stage is to determine the goals of, and agree on study assumptions for, the upcoming Transmission Plan studies. Input is collected from various entities such as CEC-IEPR (Integrated Energy Policy Report), subregional planning groups such as California Subregional Planning Group, PTOs, CAISO, CPUC, and POUs. The timeframe for Stage 1 development is January to April of each year. Stakeholder proposed projects submitted prior to the Open Season cutoff date (December 31st of the previous year) will be considered in Stage 1 for inclusion in the Study Plan. In addition to specific proposed projects for evaluation, stakeholders also can provide by December 31st (1) requests to perform specific congestion-related studies, which must include any required information in accordance with Open Season guidelines, and/or (2) general suggestions or proposed modifications regarding study assumptions and methodology for the upcoming Study Plan. This latter option is to allow stakeholders an opportunity to provide early input in the development of the upcoming year's Study Plan. To facilitate stakeholder input, the CAISO will issue a market notice in approximately November of each year requesting that stakeholders identify improvements or modifications to the input, assumptions, and methodology utilized in the prior year's Study Plan.

During January - February of each year, the CAISO and PTOs will review all information received from other stakeholders prior to the close of the Open Season, i.e., requested projects and studies, and general study modifications to develop the scope of the new annual planning cycle. The CAISO will retain sole authority to apply the selection criteria to determine which studies or projects will be incorporated to the draft Study Plan. The draft Study Plan (see Section 7.2.4) will include:

- Goals and objectives of each participating party;
- Study assumptions including load forecasts, transmission assumptions, generation assumptions, import, contingencies to be studied, etc.;
- Study approach and methodology for each study; and
- Description of the studies selected to be performed.

The CAISO hosts the first stakeholder meeting during March to discuss and seek input to its draft Study Plan (the Market Notice will be sent out at least two weeks prior to any stakeholder meeting). The CAISO will then post all related documents on its website. Within approximately two weeks following the stakeholder meeting, stakeholders will be requested to provide comments or input to the draft Study Plan. For the reasons of transparency, the CAISO requests that PTOs, stakeholders, CEC, CPUC and other parties provide their input, comments and questions electronically by sending them via email to regionaltransmission@caiso.com.

Within approximately four weeks following the first stakeholder meeting, the CAISO will post responses to comments on its website along with the final Study Plan, containing the Unified Planning Assumptions.

It should be noted that certain study activities, such as the one-year LCR Study, will proceed prior to finalization of the Study Plan. Given that "new" congestion studies and other project studies submitted for a particular Transmission Plan will not be concluded in time to affect one-year LCR procurement during that Transmission Plan year, the CAISO may proceed based on

study assumptions, methodology and criteria that utilize relevant Open Season stakeholder input, but are developed through a parallel, but distinct, process from that of the Study Plan. The Study Plan and the general Study Plan timeline, however, will account for the longer-term LCR studies that the CAISO performs to estimate LCR needs three and five years out.

7.2.2 Stage 2: Performance of Technical Studies

The objective of this stage is to perform technical studies and present the study results to stakeholders. The studies follow the Study Plan using the Unified Planning Assumptions. The time frame for this activity is May – October of each year.

The CAISO and PTOs perform technical studies according to the Study Plan. At the end of Stage 2, the CAISO and PTOs present the preliminary study results to stakeholders during the 2nd stakeholder meeting (around October of each year) and seek stakeholder input and comments. The following information is presented to the stakeholders:

- Summary of findings;
- Proposed mitigation plans for identified problems; and
- Findings on stakeholder requested studies and the need for further analysis.

Before Stage 2 is complete, PTOs may hold additional stakeholder meetings to discuss results of system performance assessment studies and potential transmission alternatives to mitigate the problems identified in those studies. These meetings provide an additional opportunity for stakeholders to provide input on the transmission alternatives to be considered in the Transmission Plan.

Figure 7 provides detailed descriptions of the CAISO's study procedures for reliability and economic analyses.

At times it may be more efficient to delegate to subcommittees such as WECC's TEPPC (Transmission Expansion Planning Policy Committee) the responsibility to conduct specific planning studies. Under such circumstances, the CAISO and the PTOs will send a formal study request to the group of interest for their consideration.

Stakeholders are requested to submit their comments on all studies and provide their input no later than two weeks after the second stakeholder meeting. The CAISO posts comments received from stakeholders and responses on the website approximately four weeks after the second stakeholder meeting. At this stage, the final study will be used for the development of the CAISO Transmission Plan.

7.2.3 Stage 3: Development of Transmission Plan

The objective of this Stage is to develop the CAISO Transmission Plan report in coordination with PTOs, and other stakeholders, and to present it to the CAISO Board of Governors. The timeframe for this activity is November – January.

Within Stage 3, the CAISO develops a draft annual CAISO Transmission Plan report based on

the final study results. This report lists the status of the transmission projects subject to CAISO Management approval, i.e., those with capital investment of less than \$20 million, along with the basis of the CAISO's decision on such projects. This report also lists the projects that require more than \$20 million of capital investment, which will be submitted to the CAISO Board of Governors for approval.

The CAISO presents this draft report to the stakeholders during the 3rd or, if necessary, 4th stakeholder meeting to seek input and identify potential improvement for the following year's Transmission Plan. Stakeholder comments and CAISO responses will be posted on the website and the CAISO Transmission Plan report will be finalized and scheduled for presentation during the January (or February) CAISO Board of Governors meeting.

Upon approval by the CAISO Board of Governors, PTOs and other successful project sponsors may move toward the development and permitting of their project. The CAISO Transmission Plan also is provided to interested regional and subregional planning groups.

7.2.4 The Study Plan

The Study Plan constitutes the roadmap for all activities that will be conducted throughout the study year. It is intended to create a framework and guide the performance of the studies that will make up the Transmission Plan. The only exception is the one-year LCR Study, which will proceed on a more expedited schedule. As noted above, the LCR Studies that evaluate local capacity requirements three and five years in the future will be included as part of the annual Transmission Plan.

The Transmission Plan includes both technical and process information. The technical details include scopes of work, study objectives, general assumptions, work plans, data and load forecasts. Process details include timelines and coordination of activities.

Overall, the Study Plan describes:

- The stakeholder process for the upcoming year;
- Data that CAISO and PTOs will make available to stakeholders;
- Data that CAISO and PTOs will be requesting from stakeholders;
- Accessibility to sensitive information;
- Coordination with stakeholders and other participants at local, sub-regional and regional levels;
- Participant goals and objectives;
- A list of technical studies and anticipated deliverables;

- Detailed information on each planning study such as basic assumptions, methodology, criteria, and other related information.

As previously stated the Transmission Planning Process involves coordination and exchange of transmission planning information among entities. At the beginning of each planning cycle, a draft Study Plan will be developed by the CAISO and PTOs, with early input from stakeholders, to communicate the scope of all proposed studies and applicable planning assumptions. The CAISO and PTOs notify neighboring systems regarding this effort and incorporate assumptions obtained from neighboring systems in the Study Plan to make sure the most accurate assumptions are reflected in the draft Study Plan. During the first stakeholder meeting, stakeholders will be requested to review the draft Study Plan and provide comments on its assumptions. The final Study Plan will contain the Unified Planning Assumptions based on this input.

7.2.5 Transmission Plan Timelines and Milestones

The following describes the approximate proposed timelines and milestones for the CAISO Transmission Plan:

By December 31st: Requests for studies, including congestion and new proposed facilities, shall be formally submitted to the CAISO for consideration in the following year's Transmission Plan. Also, the CAISO shall formally request input on the assumptions, methodology, and criteria utilized in the prior year's Transmission Plan to inform the development of the upcoming year's Transmission Plan.

By January 31st: Previous year's Transmission Plan recommendations are presented to the CAISO Board of Governors for approval.

By February 15th: The CAISO identifies highly beneficial studies and projects that will be analyzed by the current year's Transmission Plan according to the Study Selection Criteria. On this date, the CAISO also will identify the proposed studies that will not be included for analysis by the Transmission Plan.

By April 30th: Stakeholder meeting is held to discuss Unified Study Assumptions.

By May 31st: Complete and publish final Study Plan

By June 1st - October 31st: Transmission Plan studies are performed. PTOs hold additional stakeholder meetings to discuss results of system performance assessment studies and discuss potential transmission alternatives to mitigate the problems identified in those studies.

By October 31st: Stakeholder meeting is held to discuss Transmission Plan study results. This date also is the deadline for submission of new proposed transmission facilities that require CAISO approval.

By November 1st - December 31st: The Transmission Plan is finalized.

The sequence and timing of the above activities will be reviewed as needed and may be adjusted based on stakeholder input to further support the objectives of Order No. 890.

7.2.6 Annual LCR Study Timelines and Milestones

The timing of the annual LCR Study is driven by the practical need to provide LSEs with sufficient time to procure, if directed by their Local Regulatory Authorities, the local capacity requirements identified by the CAISO. Currently, LSEs must include in resource adequacy demonstrations made in October the quantity of local capacity procured. The CPUC is contemplating altering the definition of its resource adequacy compliance period from a calendar year to summer to summer. If this change is made, the timing of CAISO's LCR Study also would have to change. Nevertheless, this following timeline and milestones reflects the current calendar year compliance schedule.

By early January: Stakeholder or standing committee meeting to address potential modifications to study criteria, assumptions or methodology.

By February 1st: Develop basecases

By February 7th: Stakeholder or standing committee meeting to verify basecase development

By March 4-5th: Publish preliminary results

By March 20th: Stakeholder meeting to address preliminary results and trigger request for operating procedures

By April 7-8th: Receive operating procedures and stakeholder comments on preliminary results

By May 7-8th: Review and validate operating procedures and make any necessary changes to address stakeholder comments.

By May 7-8th: Publish proposed final results and request final stakeholder comments

By May 15th: Receive comments and hold stakeholder meeting to discuss final results

By May 31st: Revise LCR Study as appropriate based on stakeholder comments

By May 31st: Send final LCR Study to CPUC and other LRAs

To the extent the CAISO, in coordination with stakeholders, elects to establish a standing LCR committee to address study assumptions, criteria, and methodology, the CAISO will develop with stakeholder input a charter for such committee that would govern participation and other procedural rules.

8. Regional Committees and Work Groups

The CAISO and PTOs act as the initiators, organizers and participants in relevant forums for local, subregional and regional transmission planning committees and workshops, which facilitate CAISO's coordinated Transmission Planning Process.

The CAISO participates in all PTO sponsored workshops along with stakeholders, State regulatory agencies, and POU's in their assessment of the transmission needs in their service areas.

The CAISO and PTOs participate in subregional activities that may include entities outside the CAISO Control Area. CAISO and PTOs rely on WECC forums for analysis of external interconnections and the Western transmission systems. In this regard, the CAISO and PTO Transmission Planning process acknowledges and supports a three-tiered approach to transmission planning in the West, with the three tiers consisting of the transmission provider tier, the subregional tier, and the West-wide tier.

On occasion, for reasons of efficiency, the CAISO and PTOs may need the expertise of specific subregional and regional subcommittees and request that those subcommittees conduct specific transmission planning studies.

Participation by the CAISO and PTOs in subregional and regional activities are based on the following guiding principles:

Open and Transparent Process: The CAISO's coordinated Transmission Planning Process solicits participation from subregional, regional and Western wide forums. The CAISO and PTOs facilitate open and impartial forums where stakeholders, generator owners, LSEs, and federal and state commissions can participate and provide input toward shaping the CAISO Transmission Plan.

Common Data Sources: The CAISO and PTOs ensure that within all committees and workshops, all parties including stakeholders, third-parties, generator owners, LSEs and federal and state commissions have access to a common set of information such as data, models, base cases, study assumptions and decision criteria.

Simultaneous Feasibility Analysis: The CAISO acts as independent reviewer of new proposed projects in California and is responsible for macro-planning of the transmission system within its Control Area. Participants of local, subregional and regional committees may develop solutions that resolve specific transmission problems. The CAISO performs the necessary analysis and conducts simultaneous feasibility studies to ensure the aggregated effectiveness of all new proposed transmission facilities.

The CAISO and PTOs participate in the following regional and Subregional planning groups which CAISO and PTOs participates in:

WECC:

- TEPPC- Transmission Expansion Planning Policy Committee and its subgroups
- PCC- Planning Coordination Committee
- TSS- Technical Studies Subcommittee
- RS- Reliability Subcommittee
- TAS- Technical Advisory Subcommittee
- SRWG- System Review Work Group
- MVWG- Modeling and Validation Work Group
- TOS- Technical Operations Subcommittee
- WECC Regional Planning Process
- Loads and Resources Subcommittee

Subregional Planning Organizations:

- NTAC- Northern Transmission Assessment Committee
- CSPG- California subregional Planning Group (under development)

Other Technical Regional Planning Groups:

- WATS- Western Arizona Transmission Studies

The CAISO is participating in creation of the CSPG (California Subregional Planning Group) as a permanent committee to address subregional planning needs within California. CSPG is intended to act as a forum for coordination and sharing of information on transmission planning activities within California. Its organizational structure, charter, objectives and deliverables are under development. Membership should include CAISO, transmission owners, State regulators, third parties and other stakeholders. CSPG is expected to be formed by end of 2007.

As a permanent subregional group, the CSPG is intended to support WECC's three-tiered transmission planning process, and will identify facilities to meet California's local transmission needs. The facilities that will be identified by CSPG will be coordinated with the WECC and other subregional Planning Groups such as the WestConnect and Columbia Grid.

9. Data Sources and Tools

The process of planning transmission systems requires data, analysis tools, methodology, planning standards, and decision criteria for both reliability and economics.

The CAISO and PTOs propose to continue to utilize WECC as a primary source of data, including models, base cases, and tools for both the CAISO and PTOs. In addition, the CAISO and PTOs will continue to utilize data from the CEC, the Department of Energy (DOE) and the manufacturer of electric equipment. The CAISO and PTOs rely on the CEC for demand and supply forecast information. The CEC also is used as the key source of data for newly planned and approved generation. The CAISO and PTOs rely on WECC and DOE for economic data such as forecasts of the price of natural gas.

It often is necessary to update or add greater detail to WECC data, models and base cases to better assess more focused areas for evaluation. Under such circumstances, the CAISO and PTOs may modify the original WECC data. However, this is conducted in an open and transparent manner and is a key consideration in the Study Plan/Transmission Plan development process. The CAISO and PTOs recognize the importance of a common set of data, models and base cases.

An open, transparent process for exchange of information also is an essential part of CAISO's coordinated Transmission Planning Process. It facilitates the CAISO's role as an independent reviewer of newly proposed projects. In addition, it positions the CAISO to duplicate studies and to confirm findings and conclusions included in studies performed by PTOs or third-parties.

The CAISO and PTOs utilize proven transmission planning techniques including practices recommended by WECC, NERC, NAESB and other credible institutions.

The CAISO, PTOs and third-parties rely on equipment manufacturers for specific reliability and economic data related to the operation of such equipment.

CAISO relies on PTOs and other project proponents for preparation of meaningful and detailed cost estimates for the newly proposed facilities.

9.1 Data Confidentiality

The CAISO provides non-confidential data, including, but not limited to, certain input assumptions, decision criteria, study methodology, results and conclusions to all stakeholders and affected parties through its comprehensive study reports.

The CAISO and the PTOs exercise extreme care in handling proprietary and confidential information and preclude release of Critical Electric Infrastructure Information (CEII) to the public domain.

The CAISO intends to create password-protected areas on its website to protect propriety and confidential information. In addition, a Non-Disclosure Agreement (NDA) shall be developed to allow access to specified planning information.

The CAISO maintains data confidentiality when:

- Specifically designated as confidential by the data providers in accordance with Good Utility Practices. However, the CAISO will evaluate the adoption of a rule that places the burden of demonstrating confidentiality on the entity seeking to restrict access so that data is presumed available to disclosure, unless otherwise justified.
- Release of such information may create adverse impact on the operation of CAISO wholesale markets.
- Release of such information may breach existing agreements and contracts including previously executed NDAs.

- Information includes third-party developed or other proprietary analysis tools, computer codes or any other material that is protected by intellectual property rights.

10. CAISO's Transmission Planning Standards

Planning of transmission systems often requires analyses of both reliability and economics. These analyses enable transmission planning organizations to identify opportunities for new investments to maintain reliability at minimum cost to consumers.

Through a collaborative stakeholder process, the CAISO has developed methodology and performance standards for "reliability" assessment of its transmission system. These standards meet the minimum requirements of NERC and WECC, and will continue to do so by incorporating any changes in reliability standards promulgated from time to time by the Electric Reliability Organization for the West. Such standards are available to the public through the CAISO website. The CAISO also has adopted certain reliability standards that currently exceed NERC or WECC standards in accordance with its statutory authority.

Through a stakeholder process and proceedings at the CPUC, the CAISO also has developed a methodology and principles for the "economic" assessment of its transmission system called TEAM (Transmission Economic Assessment Methodology). Materials on TEAM can be found on the CAISO website.

The CAISO and PTOs employ consistent planning standards to evaluate the transmission performance and address its future upgrades needs.

11. Proposal for New Facilities

11.1 PTO Proposed Facilities

In each planning cycle, PTOs conduct system assessment and propose transmission projects to the CAISO for evaluation and approval. During the Open Season, PTOs may submit requests for the CAISO to conduct major economic assessments of specific projects. As indicated in Section 8, the CAISO participates in all PTO public meetings to ensure effective coordination and communication throughout the process. PTO's transmission project proposals seeking CAISO approval along with the supporting documents must be submitted to the CAISO by October 31st of each year. The PTO's final expansion plan reflects those studies that were required to be performed by the PTO in accordance with the CAISO Study Plan and will receive CAISO review prior to approval. The PTO expansion plans are required to contain:

- 1) Transmission projects for which PTOs are seeking approval or re-approval due to scope changes.
- 2) Conceptual transmission projects not yet requiring formal approval that capture the PTOs' long-range vision for upgrading their transmission systems. This information is used to facilitate early participation of parties interested in the new transmission proposals. Conceptual transmission plans might remain in the Transmission Plan for several years before their analyses are completed.

11.2 Stakeholder or Third-Party Proposed Facilities

Stakeholders and third parties may propose new facilities at any time during the planning cycle. Such requests have to be formally submitted to the CAISO by December 31st of each year for consideration in the development of the following year's Study Plan that underlies the composition of the Transmission Plan.

11.3 Request for Study

The PTOs, transmission customers, and other interested parties may submit at any time during the planning cycle specific study proposals, such as a particular request to analyze congestion. Such a request must be formally submitted to the CAISO by December 31st of each year for consideration in the development of the following year's Study Plan that underlies the composition of the Transmission Plan.

CAISO plans to develop a formal process for stakeholders to request studies for evaluation of new proposed facilities as well as requests for analysis of congestion. If the transmission facilities identified by these specific study requests are determined to be needed by the CAISO, construction of such facilities shall be pursued in accordance with Section 24 of the CAISO Tariff.

11.4 Study Selection Criteria

Due to limited resources to conduct transmission planning studies, the CAISO will develop in coordination with stakeholders a process to develop Study Selection Criteria to identify the projects and studies that should be included in the Study Plan.

Studies which do not meet the Study Selection Criteria will not be included in the Transmission Plan. The proponents of such projects may conduct their proposed studies on their own and at their own expense. As an independent reviewer, the CAISO will evaluate the results of such analyses and consider the findings in the following year's Transmission Plan provided that the study results are submitted formally by October 31st.

12. Accommodation of Renewable Resources in the Transmission Planning Process

The CAISO intends to coordinate with the PTOs and stakeholders to develop a robust transmission planning study process that considers the transmission needs associated with accessing renewable generation within and outside its Control Area. The following is a potential study approach, which would be reflected in the Study Plan and performed by the PTOs:

- Utilize identified locations of potential large renewable generation resources developed by the CEC;
- In addition to data from the CEC, the CAISO and the PTOs, request information regarding potential renewable generation sites from generation developers.

- Perform technical analyses to develop conceptual transmission plans for delivering power from renewable energy sites to load centers.
- Further details on technical, engineering and cost estimating can be performed prior to selecting transmission alternatives that preliminarily demonstrate the greatest potential benefits to the California consumers and ratepayers in accessing new renewable energy. These transmission alternatives are then included in the Transmission Plan for further evaluation based on an assessment of significant interest from generation developers to pursue generation possibilities in the identified areas. While “significant interest” requires further evaluation and definition, it could be indicated by the number of projects and the amount of generation submitted into the CAISO new generation project queue (if within CAISO controlled grid), or generation interconnection requests to other non-participating transmission providers.

13. Dispute Resolution

The current CAISO Tariff includes dispute resolution procedures that apply to any dispute arising under the CAISO Tariff. These provisions of the CAISO Tariff require negotiations first, followed by mediation (at the option of the parties), and then arbitration. CAISO’s dispute resolution process permits parties to address both procedural and substantive transmission planning disputes. However, the CAISO recognizes that its current dispute resolution process must demonstrate compatibility with the transmission planning process, including how to resolve both procedural and substantive planning disputes in a timely manner. In order to achieve this objective, the CAISO is evaluating the need to refine its current dispute resolution procedures as part of its final Order No. 890 submission.

14. Cost Allocation

The CAISO satisfies the cost allocation principle of Order No. 890 through its FERC approved Tariff, including the provisions found in Section 24 and those relating to the Transmission Access Charge (TAC) in Appendix F.

15. Recovery of Planning Costs

The costs of performing the CAISO’s transmission planning functions are generally recovered through the CAISO’s Grid Management Charge (GMC). Accordingly, to the extent a proposed project or congestion study is accepted by the CAISO for evaluation as part of the Study Plan detailing the development of the annual Transmission Plan, those costs will be borne, based on their respective responsibilities, either by the CAISO and recovered through existing GMC procedures and practices or by the PTOs in accordance with their tariff authorities. On the other hand, to the extent a proposed project or congestion study is rejected by the CAISO for inclusion in the Study Plan, the costs of performing that study or project assessment will be the responsibility of the sponsor. However, the CAISO intends to evaluate the need to develop terms and conditions under which participants of the planning process would be required to contribute or otherwise

pay for the cost of specific tasks or elements of the transmission planning process. If necessary, this cost recovery process is expected to be restricted to time and materials basis.

Order No. 890 further directs transmission providers to work with other participants in the planning process to develop cost recovery proposals in order to determine whether all relevant parties, including state agencies, have the ability to recover the costs of participating in the planning process. The CAISO does not currently propose to include a mechanism to allow parties to recover the costs of participating in the transmission planning process, but believes that its existing procedures encourage the broadest participation possible.

16. Treatment of Long-Term Transmission Rights

In Order Nos. 681 and 681-A regarding Long-Term Congestion Revenue Rights in Organized Electricity Markets, FERC required that transmission organizations incorporate procedures into their transmission planning processes that maintain or ensure the feasibility (but not the value) of allocated or awarded long-term firm transmission rights over their entire term. The CAISO responded to this directive by adding new Section 24.1.3 to its Tariff. That section provides for the CAISO to test the simultaneous feasibility of allocated long-term Congestion Revenue Rights (CRRs) in its transmission planning assessments. The CAISO also will test and evaluate the continuing feasibility of allocated long-term CRRs in acting on the following types of projects: (a) planned or proposed transmission projects; (b) generation or transmission retirements; (c) generator interconnections; and (d) interconnection of new load. Moreover, in assessing the need for transmission additions or upgrades to maintain the feasibility of allocated long-term CRRs, the CAISO will consider alternatives to transmission solutions, including, but not limited to, acceleration or expansion of existing projects, demand-side management, remedial action schemes, reactive support, etc. The costs of specific upgrades or expansions included in the Transmission Plan to address the feasibility of long-term CRRs will be recovered through CAISO Tariff mechanisms.

17. Planned Business Process Manual

The CAISO plans to develop a Business Process Manual (BPM) to fully describe and disclose its coordinated Transmission Planning process.

The BPM is intended to serve as a one-stop reference source for meaningful and effective participation in CAISO's coordinated Transmission Planning Process.

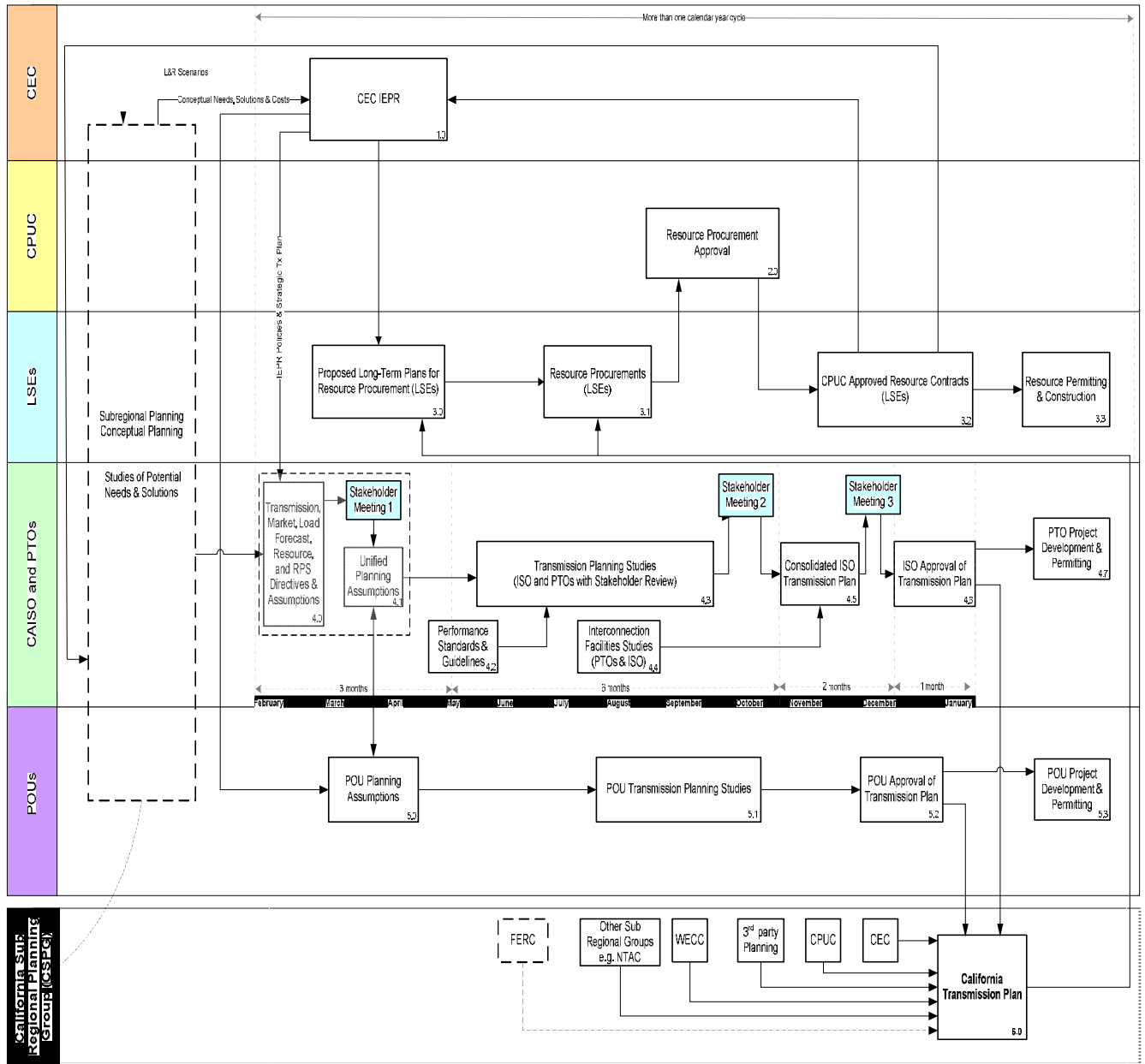


Figure 1: CAISO's coordinated Transmission Planning Process

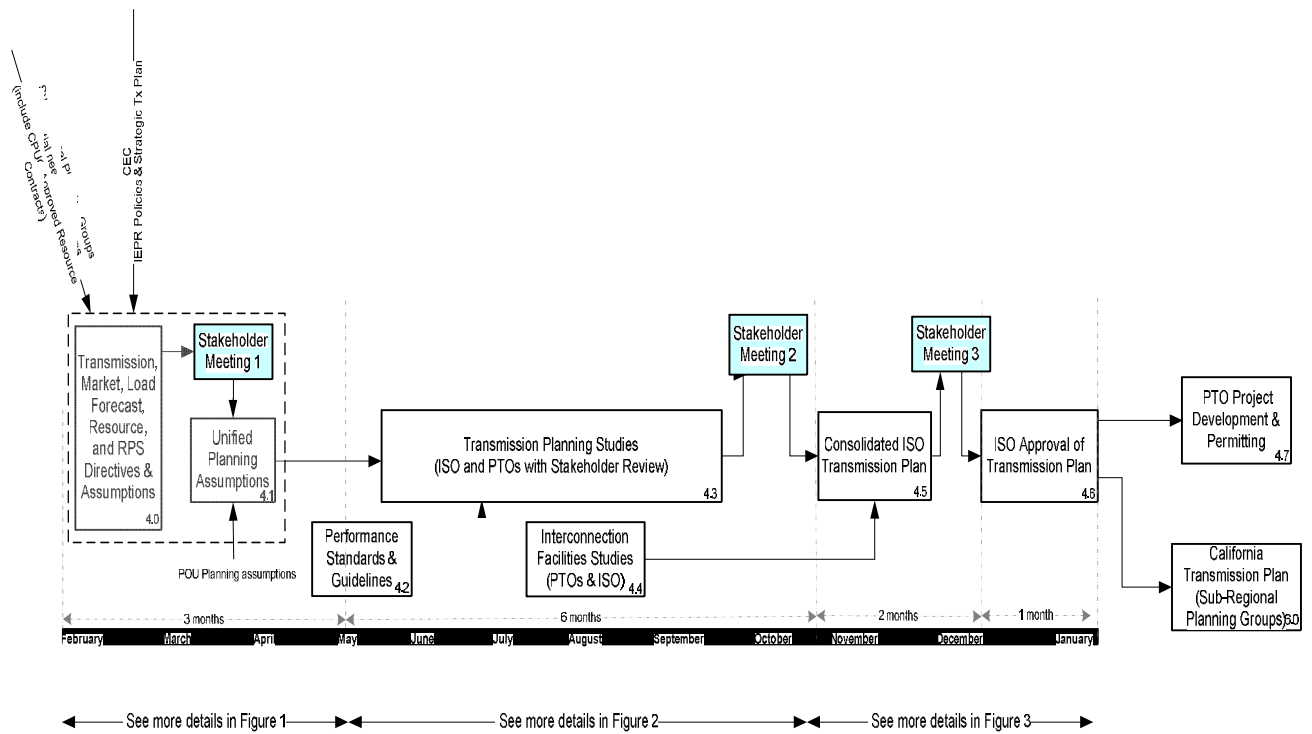


Figure 2: CAISO Planning Process – See details in Figures 3, 4 and 5

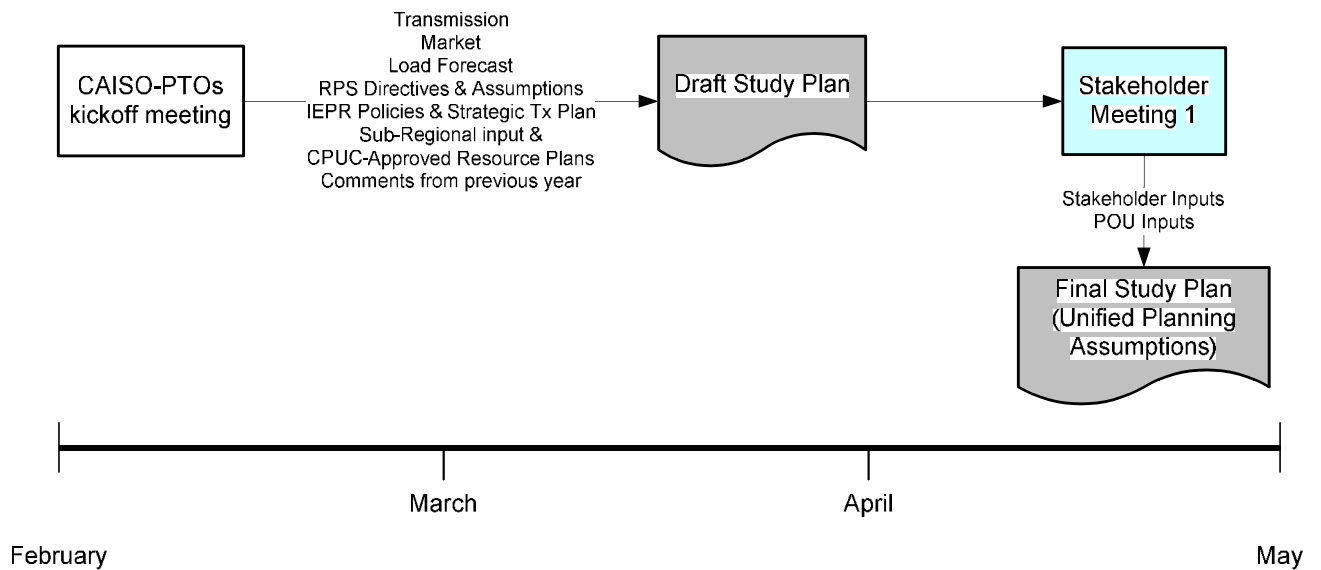


Figure 3: Development of Unified Planning Assumptions

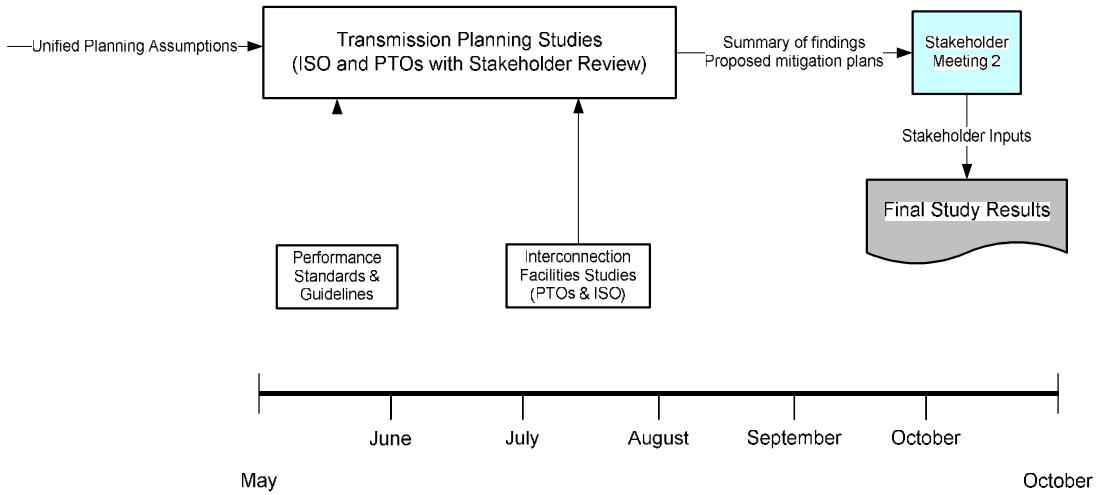


Figure 4: Conducting Planning Studies

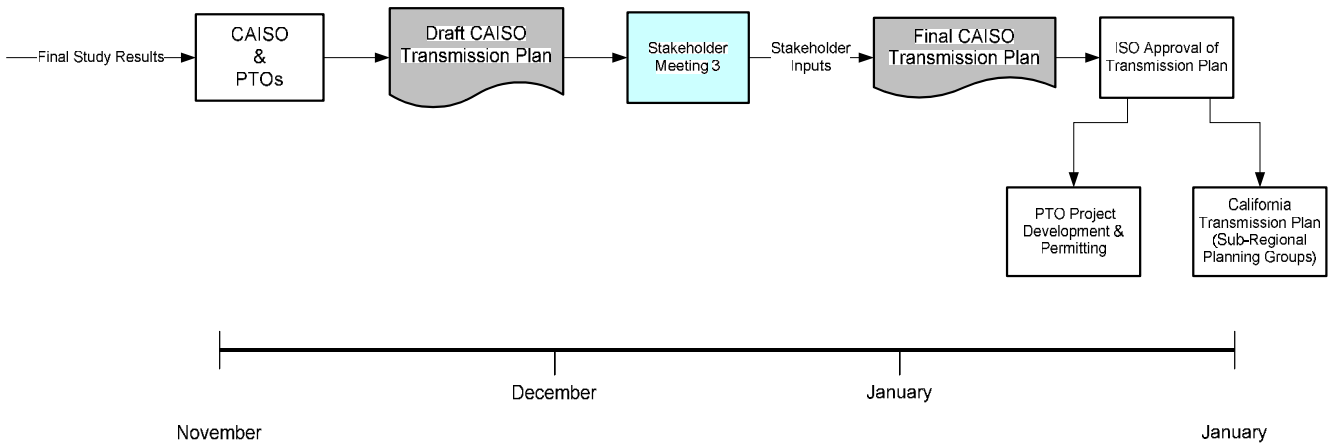


Figure 5: Development of Annual CAISO Transmission Plan Report

Development and Shaping of CAISO Transmission Plan

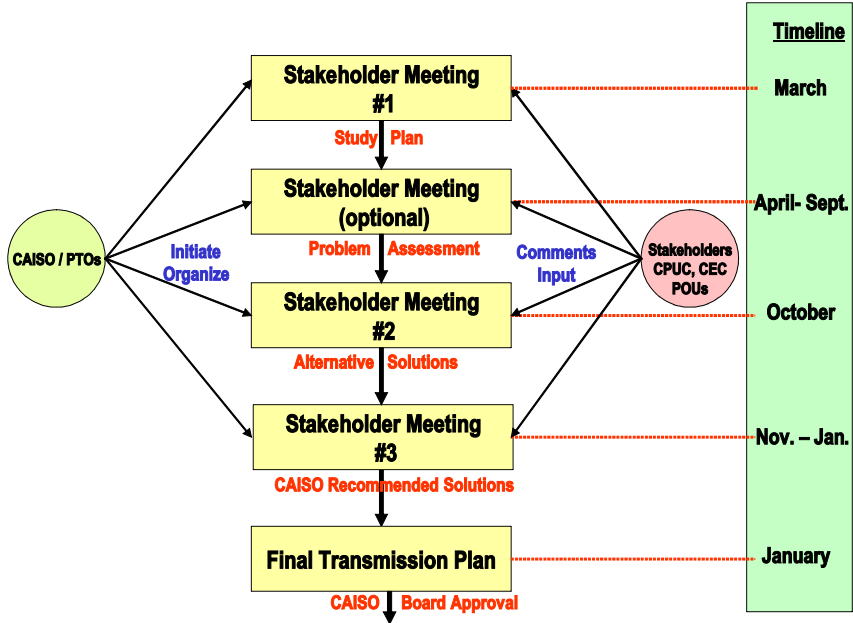


Figure 6: Overview of Transmission Plan Development

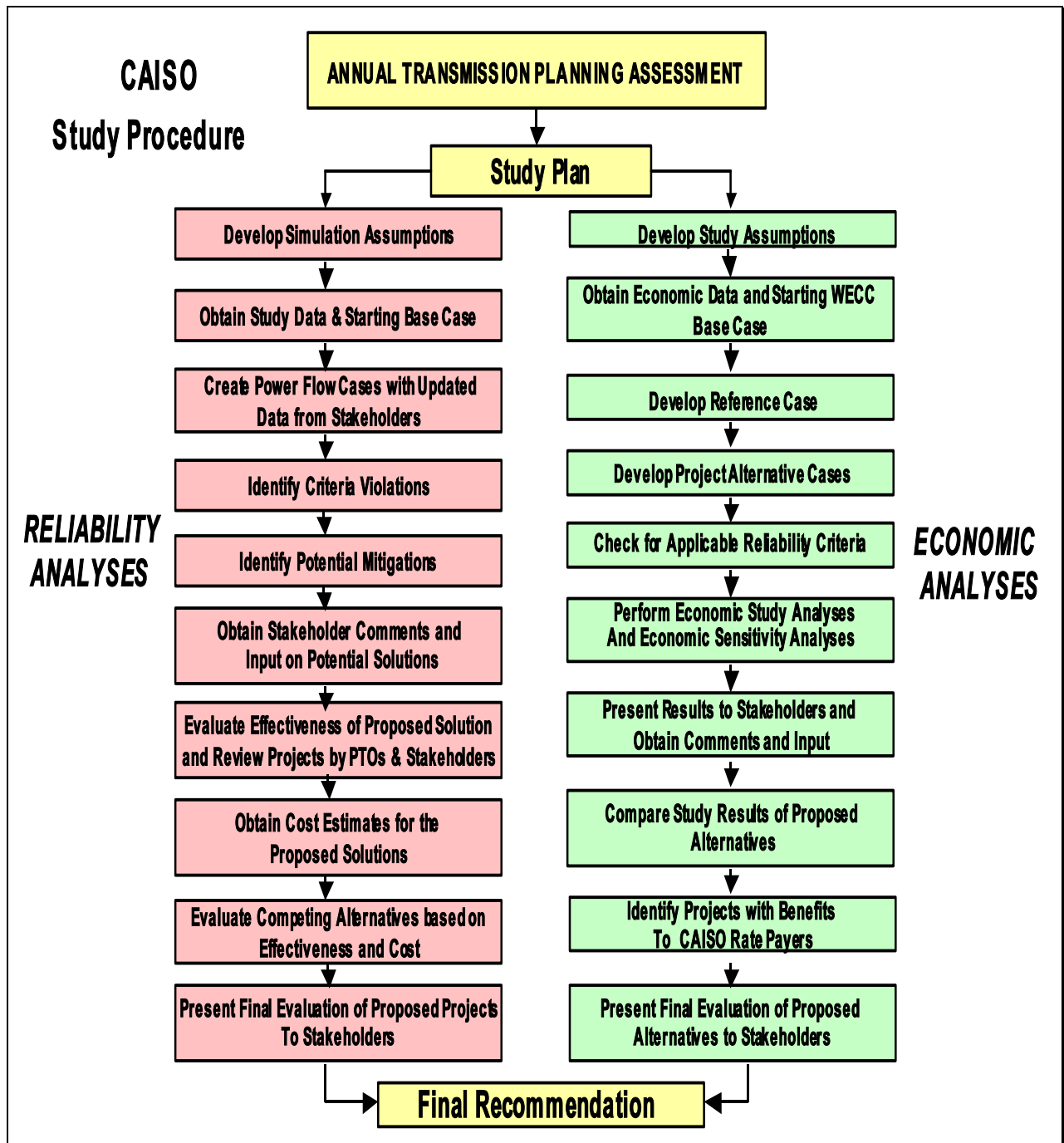


Figure 7: Overview CAISO's Transmission Planning Studies