ERCOT Regional Planning Group Charter and Procedures

Version 3.1

Document Revisions

Date	Version	Description	Author(s)
1/7/2009	3.0	As endorsed by TAC for Board approval	ERCOT
1/20/2009	3.0	As approved by the Board	ERCOT
7/10/2009	3.1	Modified to reflect requirement to review generation interconnections > $25M – Approved by Board on 7/16	TAC

CONTENTS Page

1 INTRODUCTION

ERCOT, as the independent organization (IO) under the Public Utility Regulatory Act (PURA), is charged with nondiscriminatory coordination of market transactions, system-wide transmission planning, network reliability and ensuring the reliability and adequacy of the regional electric network in accordance with ERCOT and NERC reliability criteria. In addition, the IO ensures access to the transmission and distribution systems for all buyers and sellers of electricity on nondiscriminatory terms.

The ERCOT Staff will supervise and exercise comprehensive independent authority of the overall planning of transmission projects of the ERCOT transmission grid (transmission system) as outlined in PURA and Public Utility Commission of Texas (PUCT) Substantive Rules. ERCOT's authority with respect to transmission projects that are local in nature is limited to supervising and coordinating the planning activities of Transmission/Distribution Service Providers. The PUCT Substantive Rules further indicate that the IO "shall evaluate and make a recommendation to the commission as to the need for any transmission facility over which it has comprehensive transmission planning authority." In performing its evaluation of different transmission projects, ERCOT takes into consideration the need for and cost-effectiveness of proposed transmission projects in meeting the ERCOT and NERC planning criteria.

Transmission planning (60-kV and above) is a complex undertaking that requires significant work by, and coordination among, the IO and the Transmission/Distribution Service Providers (TDSPs), and other market participants. The IO works directly with the TDSPs, with stakeholders/market participants, and through the Regional Planning Group. Each of these entities has responsibilities to ensure the appropriate planning and construction occurs.

This document describes the practices and procedures through which the ERCOT meets its requirements related to system planning under Texas statute, North American Reliability Corporation (NERC) standards, Public Utility Commission of Texas (PUCT) rules, and the ERCOT Protocols and Operating Guides. This document becomes effective upon approval by the ERCOT Board of Directors.

1.2 REGIONAL PLANNING GROUP

Transmission planning affects many stakeholders and benefits from input of different ideas and perspectives. The Regional Planning Group (RPG) is the primary mechanism through which stakeholder communication related to planning activities in the ERCOT Region is accomplished. The RPG is a non-voting, consensus-based organization focused on identifying needs, identifying potential solutions, communicating varying viewpoints and reviewing analyses related to the transmission system in the planning horizon. While participation in the RPG is required of all Transmission Service Providers (TSPs), membership is open to all stakeholders. Representatives of transmission and distribution owners (existing and potential), generators, marketers, consumer groups, environmental groups, landowners, governmental officials, Commission Staff and other entities typically participate in RPG meetings. The RPG is led and facilitated by ERCOT Staff. Meetings are held on an "as-needed" basis and are open to all RPG participants.

Communication with and among RPG members is accomplished via these open meetings, as well as email and web postings. All stakeholders who are interested in RPG activities and

information should register for the RPG email distribution list. ERCOT maintains a controlled access area on the ERCOT website listing all projects and system planning related data that is not considered protected or proprietary. Access to such information is controlled because some of this information may be considered protected Critical Energy Infrastructure Information (CEII).

The goals of the RPG are:

- Coordinating transmission planning and construction to ensure that the ERCOT and NERC planning standards are met and that proposed projects are the most reasonable means of addressing planning requirements;
- Preventing inefficient solutions to regional problems through a coordinated effort and resolving the needs of the interconnected transmission systems while ensuring a reliable and adequate network;
- Planning the bulk transmission system with sufficient lead time, and considering longer-term needs and impacts, to avoid the unnecessary upgrades to the underlying transmission systems taking into account the transfer capacity needs between load and generation pockets to avoid unreasonable congestion costs;
- Allowing for stakeholder/market participant and consumer review of major proposed transmission project additions;
- Helping to develop coordinated SPSs and RAPs for new problems that occur, and for problems that appear likely to occur based upon the transmission planning simulations;
- Improving communication and understanding between neighboring TSPs on operating procedures, SPSs and RAPs that respond to contingencies, voltage deviations, and facility overloads;
- Allowing for REPs to understand the scope and magnitude of all proposed, planned, and approved transmission projects within ERCOT, so that each can appropriately reflect expected wires cost increases into their retail pricing; and,
- Integrating renewable technologies under PUCT Substantive Rules and Legislative mandates.

1.3 OVERVIEW OF MAJOR TRANSMISSION PLANNING ACTIVITIES

The process of planning a reliable and efficient transmission system for the ERCOT Region is composed of several types of activities and studies.

1.3.1 Long-Term System Assessment (LTSA) – The LTSA is performed by ERCOT in coordination with the RPG on a biennial basis (in even-numbered years) and reviewed annually. The study uses scenario analysis techniques to assess the potential needs of the ERCOT system up to 20 years into the future. The role of the LTSA is not to recommend the construction of specific system upgrades, due to the high degree of uncertainty associated with the amount and location of loads and resources in this timeframe. Instead, the role of the LTSA is to evaluate the system upgrades that are indicated under each of a wide variety of scenarios in order to identify upgrades that are robust across a range of scenarios or might be more economic than the upgrades that would be determined considering only near-term needs in the Five-Year Transmission Plan development.

1.3.2 Five-Year Transmission Plan – The Five-Year Transmission Plan is developed annually by ERCOT, in coordination with the RPG, and by the TSPs. The Plan addresses region-wide

reliability and economic transmission needs and the planned improvements to meet those needs for the upcoming five years. These planned improvements include projects previously approved by the ERCOT Board of Directors, projects previously reviewed by the RPG, new projects that will be refined at the appropriate time by TSPs in order to complete RPG review, and the local projects currently planned by TSPs. Combined, these projects represent ERCOT's plan addressing the reliability and efficiency of the system to meet national and regional planning standards, criteria, and protocols. Projects that are included in the Five-Year Transmission Plan are not considered to have been endorsed by ERCOT until they have undergone the appropriate level of RPG Project Review, if required.

1.3.3 RPG Project Reviews – Except for minor transmission projects that have only localized impacts and projects that are directly associated with the interconnection of new generation, all transmission projects in the ERCOT region undergo a formal review by the RPG. In addition, ERCOT Staff performs an independent analysis of the need for major transmission projects that are submitted for RPG Project Review. The affirmative result of this review is formal endorsement of the project by ERCOT. This ERCOT Project Endorsement is intended to support, to the extent applicable, a finding by the PUCT that a project is necessary for the service, accommodation, convenience, or safety of the public within the meaning of PURA §37.056 and PUCT Substantive Rule § 25.101.

1.3.4 Generation Interconnection Process – This process facilitates the interconnection of new generation units in the ERCOT region by assessing the transmission upgrades necessary for new generating units to operate reliably. The process to study interconnecting new generation or modifying an existing generation interconnection to the ERCOT grid is covered in a separate procedure. The generation interconnection study process primarily covers the direct connection of generation facilities to the ERCOT grid and directly-related projects. Projects that are identified through this process and are regional in nature may be reviewed through the RPG Project Review Process upon recommendation by the TSP or ERCOT, subject to the confidentiality provisions of the generation interconnection procedure. ERCOT staff will perform an independent economic analysis of the transmission projects that are identified through this process which are expected to cost more than $25 million. This economic analysis is performed only for informational purposes; as such, no ERCOT endorsement will be provided. The results of the economic analysis will be included in the interconnection study posting. Additional upgrades to the transmission system that might be cost-effective as a result of new or modified generation may be initiated by any stakeholder through the RPG Project Review procedure described herein at the appropriate time, subject to the confidentiality provisions of the generation interconnection procedure.

2 RPG PROJECT REVIEW PROCESS

2.1 CATEGORIZATION OF PROPOSED TRANSMISSION PROJECTS

ERCOT classifies all transmission projects into one of four categories (or Tiers). Each Tier is defined so that projects with a similar cost and impact on reliability and the ERCOT market are grouped into the same Tier. The criteria used to classify a specific project into the appropriate Tier are given below, in increasing order of the level of review to which the projects within the Tier are subjected.

ERCOT Staff may use its reasonable judgment to increase the level of review of a proposed project (e.g. from Tier 3 to Tier 2) from that which would be strictly indicated by these criteria, based on stakeholder comments, ERCOT analysis or the system impacts of the project.

Any project that would be built by an entity that is exempt (e.g. a municipal utility) from getting a CCN for transmission projects but would require a CCN if it were to be built by a regulated entity will be treated as if the project would require a CCN for the purpose of defining the Tier of the project.

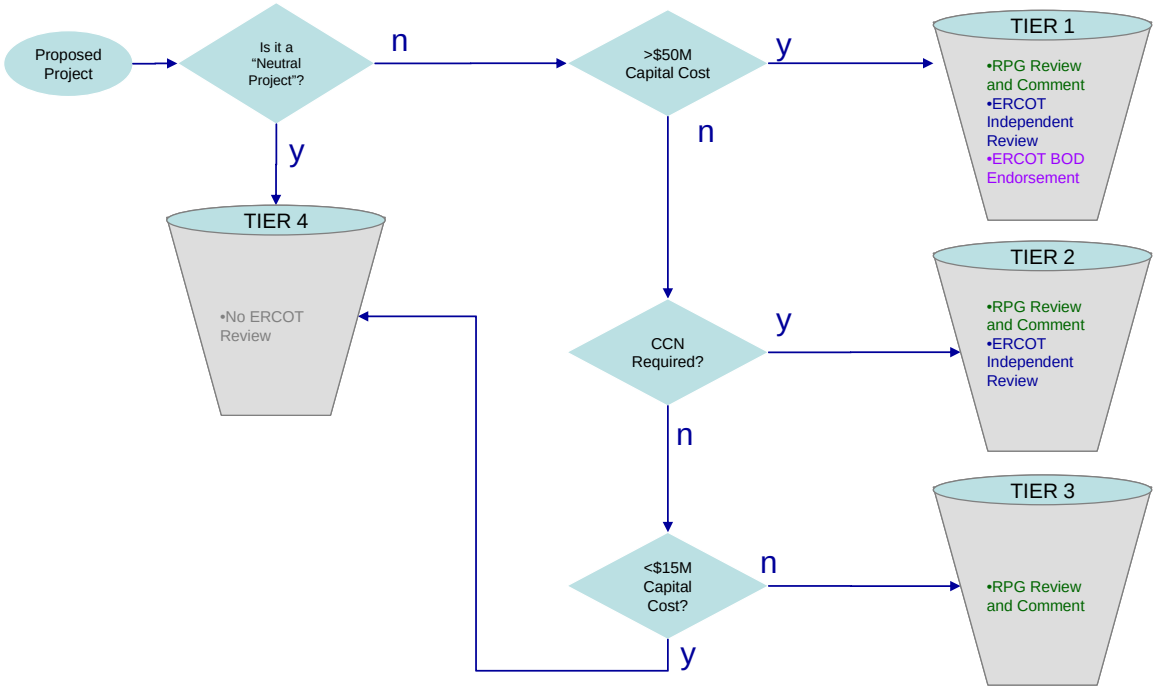
2.1.1 Tier 4 - This category consists of: small system upgrades whose estimated capital cost is less than or equal to $15 million and that do not require a CCN, as well as certain "neutral" projects. Neutral Projects are: the addition of or upgrades to radial transmission lines; the addition of equipment that does not affect the transfer capability of a line; repair and replacement-in-kind projects; projects that are directly associated with the interconnection of new generation; and the addition of static reactive devices. A project, irrespective of estimated capital cost, to serve a new load is considered to be a Neutral Project even if a CCN is required, unless such project would create a new transmission line connection between two stations (other than looping an existing line into the new load serving station).

2.1.2 Tier 3 - This category consists of projects with estimated capital costs between $15 million and $50 million not requiring a CCN.

2.1.3 Tier 2 - This category consists of projects with estimated capital costs less than $50 million requiring a CCN.

2.1.4 Tier 1 - This category is for all projects whose estimated capital cost is $50 million or greater.

2.1.5 Flowchart for Tiers - The flowchart below illustrates the general process, described in this subsection, used to classify projects into the four Tiers.



2.2 PROJECT SUBMISSION

Any stakeholder may initiate a RPG Project Review through the submission of a document describing the scope of the proposed project, as described in the Project Scope section below, to the RPG (rpg@ercot.com) mailbox. Projects should be submitted with sufficient lead-time to allow the Project Review to be completed prior to the date on which the project must be initiated by the designated TSP.

Stakeholders may submit projects for RPG Project Review within any project Tier. All transmission projects in Tiers 1, 2 and 3 should be submitted. TSPs are not required to submit Tier 4 projects for RPG review, but should endeavor to see that any Tier 4 projects that are known in advance are included in the cases used for development of the Five-Year Transmission Plan.

All system improvements that are necessary for the project to achieve the system performance improvement, or to correct the system performance deficiency, for which the project is intended should be bundled into a single project submission.

2.2.1 All Projects

The submittal of each transmission project (60-kV and above) for RPG Project Review should include the following elements:

- The proposed project description including expected cost, feasible alternative(s) considered, transmission topology and transmission facility modeling parameter data, and all study cases used to generate results supporting the need for the project in electronic format (powerflow data should be in PTI PSS/E RAWD format). Also, the submission

should include accurate maps and one line diagrams showing locations of the proposed project and feasible alternatives (AutoCad-compatible format preferred);
- Identification of the SSWG or Five-Year Transmission Plan powerflow cases used as a basis for the study and associated PSS/E IDEVs or PowerWorld Auxiliary files that describe the proposed project.
- Description and data for all changes made to the SSWG or Five-Year Transmission Plan cases used to identify the need for the project, such as generating unit unavailability and area peak load forecast.
- A description of the reliability and/or economic problem that is being solved;
- Desired/needed in-service date for the project, and feasible in-service date, if different;
- The phone number and email address of the single point of contact person who can respond to ERCOT Staff and RPG participant questions or requests for additional information necessary for stakeholder review.

2.2.2 Projects that are Not Included in the Current Five-Year Transmission Plan

In addition, for projects that are not included in the current Five-Year Transmission Plan, the following elements should be included in the submission. While it is not necessary, if any of these additional elements are available for projects that are included in the Five-Year Transmission Plan, they should be included in the submittal of these projects as well.

- Analysis of rejected alternatives, including cost estimates, effect upon transfer capability, and other factors considered in the comparison of alternatives with the proposed project;
- Assumptions modeled in performance studies such that credible performance deficiencies can be identified through study;
- Results of performance analyses that are consistent with system operating practices and procedures;
- Documentation of the process used to identify specific performance deficiencies (reliability and economic);

Both transmission and non-transmission solutions to performance deficiencies may be considered where applicable.

2.2.3 Other Information

If there is any other information, not included above, that the submitter believes is relevant to consideration of the need for any submitted project, they should include that information in the project submission.

2.3 RPG PROJECT REVIEW PROCEDURE AND TIMELINE

The RPG Project Review Procedure is designed to review projects in a manner commensurate with the cost and impact to the market and to system reliability of the project, based on the Tier into which the project is grouped.

2.3.1 All Tiers

The RPG Project Review procedure for submitted projects in all Tiers consists of the following steps:

- ERCOT will provide electronic copies of RPG Project Review submittals to the RPG within seven days of receipt and solicit comments or questions from the RPG.
- All concerns/questions or objections about the submitted project by any stakeholder or ERCOT Staff should be submitted to the RPG within 21 days after ERCOT's transmittal to the RPG.
- Stakeholders should each provide a "single" complete comment from their company about each project by the end of the 21-day review period rather than sending multiple comments at various times or from various individuals. A single comment will help ERCOT and the project submitter keep track of the comments and develop an appropriate response.
- Any questions related to data deficiency should be submitted to ERCOT and the submitter immediately.
- If concerns or objections about a project are received, the project will be put into "study mode" until all concerns are resolved or until ERCOT assesses that a reasonable effort has been made to resolve all concerns, generally no more than an additional 28 days.
- Project submitters should answer all questions and respond to all concerns in a timely manner.
- Comments should be based on good utility practice and sound engineering judgment. Suggestions should be able to be implemented by the TSP constructing and operating the project.
- ERCOT will post all project submissions, the comments received, and other information and databases associated with submitted transmission projects on its website.

2.3.2 Tier 3

- ERCOT will assume acceptance of a Tier 3 project by the RPG if no concerns/questions or objections are provided within 21 days of ERCOT's transmittal to the RPG.
- If reasonable ERCOT or stakeholder concerns about a Tier 3 project cannot be resolved within the 28-day study mode, the project may be processed as a Tier 2 project, unless ERCOT assesses that reasonable progress is being made toward resolving these concerns.
- Projects that are required to meet an individual TDSP's Planning Criteria and that are not covered by the NERC Reliability Standards or ERCOT Planning Criteria will also be processed in this Tier, and will be reclassified as a Tier 4 "neutral" project if comments are resolved.

2.3.3 Tiers 1 and 2 Only

For Tier 1 and 2 projects, ERCOT Staff will conduct an Independent Review of the submitted project:

- The ERCOT Independent Review will consist of studies and analyses necessary for ERCOT Staff to make its assessment of whether the proposed project is needed and whether the proposed project is the preferred solution to the identified system performance deficiency that the project is intended to resolve.
- ERCOT will consider all constructive comments received during the 21-day RPG comment period and factor these comments into the Independent Review of the project.
- ERCOT will attempt to complete the Independent Review for a project in 90 days or less. If ERCOT Staff is unable to complete their Independent Review based on RPG input within 90 days, ERCOT will provide the submitter a reason for the delay and expected completion time.
- ERCOT may, at its discretion, discuss submitted transmission projects at meetings of the RPG in order to obtain additional input into the Independent Review.
- ERCOT will prepare a written report documenting the results of its Review recommendation on the project and will distribute this report to the RPG.
- Tier 1 projects will require ERCOT Board of Directors endorsement.

2.3.4 Determine Designated Providers of Transmission Additions

Upon completion of the RPG Project Review, ERCOT Staff will determine designated providers for the recommended transmission projects. The default TSPs will be those TSPs that own the end points of the new projects. Those TSPs can agree to provide or delegate the new facilities. If different TSPs own the two ends of the recommended project, ERCOT will designate them as co-providers of the recommended project, and they can decide between themselves what parts of the recommended project they will each provide. If they cannot agree, ERCOT will determine their responsibility following a meeting with the parties. If a designated TSP agrees to provide a project and that designated TSP does not diligently pursue the project (during the time frame before a CCN is filed, if required) in a manner that will meet the required in-service date, then upon concurrence of the ERCOT Board of Directors, ERCOT will solicit interest from TSPs through the RPG and will designate an alternate TSP.

2.3.5 RPG Acceptance and ERCOT Endorsement

For Tier 3 Projects, successful resolution of all comments received from ERCOT Staff and stakeholders during the 21-day RPG comment period will result in RPG Acceptance of the proposed project. An RPG Acceptance letter will be sent to the designated TSP for the project, the project submitter (if different from the designated TSP), and copied to the RPG. For Tier 2 projects, ERCOT Staff recommendation as a result of the ERCOT Independent Review of the proposed project will constitute ERCOT Endorsement of the project. For Tier 1 projects, ERCOT Endorsement is obtained upon affirmative vote of the ERCOT Board of Directors. An ERCOT Endorsement letter will be sent to the designated TSP for the project, the project submitter (if different from the designated TSP), the Public Utility Commission of Texas (PUCT) and copied to the RPG upon receipt of ERCOT Endorsement for Tier 1 and Tier 2 projects.

Following the completion of the ERCOT Independent Review, ERCOT will present all Tier 1 projects to the ERCOT Board of Directors with its recommendation as to whether or not the project should be endorsed by the Board. Prior to presenting the project to the Board, ERCOT will present the project to the ERCOT Technical Advisory Committee (TAC) for review and comment. Comments from TAC will be included in the presentation to the Board for the Board's consideration. ERCOT will make a reasonable effort to make these presentations to TAC and the Board at the next regularly scheduled meetings of these groups following completion of the ERCOT Independent Review of the project.

2.3.6 Notify PUCT of Recommended Transmission Projects

ERCOT will inform the PUCT of the disposition of all ERCOT Tier 1 or 2 transmission projects and of the designated TSPs for those projects. ERCOT will then support ERCOT Endorsed projects in future CCN proceedings required for those projects through the use of filed supporting documents and testimony if necessary.

2.3.7 Modifications to ERCOT Endorsed Projects

If the designated TSP for an ERCOT Endorsed project determines a need to make a significant change to the facilities included in the project (such as the line endpoint(s), number of circuits, voltage level, decrease in rating or similar major aspect of the project) prior to filing a CCN application(if required) for the project (or prior to beginning the final design of the project, if no CCN is required), the TSP should notify ERCOT via email (RPG @ercot.com) in a timely manner of the details of that change. If ERCOT concurs that the proposed change is significant, the change will be processed as a Tier 3 project.

2.4 TRANSMISSION PROJECT IMPLEMENTATION TRACKING

ERCOT will track the status of public transmission projects that change the characteristics of the grid that are modeled in powerflow cases as they are implemented, and communicate that status to stakeholders via the Transmission Project Information and Tracking database (TPIT). TPIT provides information on transmission projects that are included in current TSP plans or included in the Five-Year Transmission Plan, including a description of the project, the status of the project including currently-expected in-service dates, contact information for the designated TSP for the project, etc. The assigned Tier of each project and the review status of the project will also be included.

TPIT will be updated by the TSPs on a quarterly basis and posted on the ERCOT website on or around March 8, June 8, September 8 and December 8 of each year. Changes to the status of each project, if any, will be documented each quarter along with a brief description of the reason for the change. Individual project costs are not included, but a summary of the total costs of projects will be provided.

3 PROJECT EVALUATION

Proposed transmission projects will be evaluated using a variety of tools and techniques to ensure that the system is able to meet applicable reliability criteria in a cost-effective manner. For most proposed projects, several alternatives will be identified to meet the reliability criteria or other performance improvement objectives that the proposed project is designed to meet. The project alternative with the expected lowest cost over the life of the project is generally recommended, subject to consideration of the expected long-term system needs in the area (as identified in the LTSA), and consideration of the relative operational impacts of the alternatives.

In some cases, one alternative may be to dispatch the system in such a way that all reliability requirements are met, even without the proposed project or any transmission alternative, resulting in a less efficient dispatch than what would be required to meet the reliability requirements if the proposed project was in place. Consideration of the merits of this alternative relative to the proposed transmission project is more complex. To facilitate the discussion and consideration of these alternatives, ERCOT has adopted certain definitions and practices, described in the following subsections.

3.1 DEFINITIONS OF RELIABILITY-DRIVEN AND ECONOMIC-DRIVEN PROJECTS

Proposed transmission projects are categorized for evaluation purposes into two types: reliability-driven projects and economic-driven projects. The differentiation between these two types of projects is based on whether a simultaneously-feasible, security-constrained generating unit commitment and dispatch is expected to be available for all hours of the planning horizon that can resolve the system reliability issue that the proposed project is intended to resolve. If it is not possible to forecast a dispatch of the generating units such that all reliability criteria are met without the project, and the addition of the project allows the reliability criteria to be met, then the project is classified as a Reliability-Driven Project. If it is possible to simulate a dispatch of the generating units in such a way that all reliability criteria are met without the project, but the project may allow the reliability criteria to be met at a lower total cost, then the project is classified as an Economic-Driven Project.

3.2 RELIABILITY-DRIVEN PROJECT EVALUATION

For reliability-driven projects, the comparison of project costs generally includes only the relative capital costs of the alternatives. In the case of Tier 1 and 2 projects, any differences in expected ERCOT system production costs between the alternatives may be included in the consideration of the relative costs of the alternatives, due to larger potential impacts on losses and congestion of these projects.

3.3 ECONOMIC-DRIVEN PROJECT EVALUATION

For economic-driven projects, the net economic benefit of a proposed project (or set of projects) will first be assessed over the project's life based on the net societal benefit that is reasonably expected to accrue from the project. The project will be recommended if it is reasonably expected to result in positive net societal benefits. If the proposed project is not expected to provide positive net societal benefits, then the net consumer benefit of the project will be assessed, and the project will be recommended if the net consumer benefits are reasonably expected to be positive.

To determine the societal benefit of a proposed project, the revenue requirement of the capital cost of the project is compared to the expected savings in system production costs resulting from the project over the expected life of the project. Indirect benefits and costs associated with the project should be considered as well, where appropriate. The current set of financial assumptions upon which the revenue requirement calculations is based will be posted on the ERCOT Planning website. The expected production costs are based on a chronological simulation of the security-constrained unit commitment and economic dispatch of the generators connected to the ERCOT grid to serve the expected ERCOT system load over the planning horizon. This market simulation is intended to provide a reasonable representation of how the ERCOT system is expected to be operated over the simulated time period. From a practical standpoint, it is not feasible to perform this production cost simulation for the entire 30-40 year expected life of the project. Therefore, the production costs are projected over the period for which a simulation is feasible and a qualitative assessment is made of whether the factors driving the production cost savings due to the project can reasonably be expected to continue. If so, the levelized annual production cost savings over the period for which the simulation is feasible is calculated and compared to the first year annual revenue requirement of the transmission project. If this production cost savings exceeds this annual revenue requirement for the project, the project is economic from a societal perspective and will be recommended.

For projects that do not provide sufficient societal benefit to be recommended, the net consumer benefit of the proposed project will be calculated. Outputs from the same market simulation described above will be used to provide an estimate of the expected reduction in total system generator revenues due to the project, which is a reasonable indication in the ERCOT market of the impact on consumer costs due to the project. Expected above-market generator revenues not included in the simulation, such as RMR payments, may need to be included in this evaluation. If the levelized generator revenue reduction exceeds the first year annual revenue requirement for the project, the project is economic from the consumer benefit perspective and will be recommended.

Other indicators based on analyses of ERCOT system operations may be considered as appropriate in the determination of consumer benefits, including:

- out-of-merit payments for unit operations;
- visible ERCOT market indicators such as clearing prices of Transmission Congestion Rights or Congestion Revenue Rights;
- actual Market Clearing Prices or Location Marginal Prices and observed congestion.

In order for such an alternate indicator to be considered, the costs must be reasonably expected to be on-going and be adequately quantifiable and unavoidable given the physical limitation of the transmission system.

4 FIVE-YEAR TRANSMISSION PLAN DEVELOPMENT PROCESS

The purpose of the Five-Year Transmission Plan is to provide a coordinated plan for the ERCOT system, in which all planned improvements to the system are documented, and which includes projects that have achieved a level of review that is commensurate with the impact of the projects. The Five-Year Transmission Plan is updated on an annual basis. While unanticipated changes in load and generation may require additional projects to be needed that were not included in the current Five-Year Transmission Plan, or require additional evaluation of projects included in the current Five-Year Transmission Plan when they are submitted for RPG Project Review, the Plan provides a reasonable and supportable basis for analyses of the planned ERCOT grid.

4.1 DEVELOPMENT OF FIVE-YEAR TRANSMISSION PLAN

The starting case for the Five-Year Transmission Plan development is created by removing all Tier 1, 2 and 3 projects that have not undergone RPG review from the most recent Steady-State Working Group summer peak base cases for each year of the planning horizon. The planning process begins with computer modeling studies of the generation and transmission facilities and substation loads under normal conditions in the ERCOT system. Contingency conditions along with changes in load and generation that might be expected to occur in operation of the transmission grid are also modeled. To maintain adequate service and minimize interruptions during facility outages, model simulations are used to identify adverse results based upon the planning criteria and to examine the effectiveness of various problem-solving alternatives.

The effectiveness of each grid configuration and facility change will be evaluated under a variety of possible operating environments because loads and operating conditions cannot be predicted with certainty. As a result, repeated simulations under different conditions are often required. In addition, options considered for future installation may affect other alternatives so that several different combinations must be evaluated, thereby multiplying the number of simulations required.

Once feasible alternatives have been identified, the process is continued with a comparison of those alternatives. To determine the most favorable, the short-range and long-range benefits of each must be considered including operating flexibility and compatibility with future plans.

4.2 USE OF FIVE-YEAR TRANSMISSION PLAN

The Five-Year Transmission Plan will generally serve as the basis for all subsequent RPG Project Reviews, both of projects included within the Five-Year Transmission Plan and of other proposed projects. Stakeholders are encouraged to submit, at the start of the Five-Year Transmission Plan development process, any known transmission projects that are not in the current SSWG base cases and are likely to be submitted within the next year, as work on RPG Project Reviews will be limited while the Five-Year Transmission Plan is being developed and documented. Projects submitted for RPG Review after the Five-Year Transmission Plan development has begun and which need ERCOT Independent Review may be delayed. Inputs to the Five-Year Transmission Plan, such as new generating units and updated local transmission projects, may be updated at the time these subsequent studies are performed if ERCOT Staff or stakeholders identify such updates as being needed to appropriately consider the need for the specific project under review. If the project under review is included in the Five-Year Transmission Plan, and no changes are identified which would affect the need for the proposed project through the 21-Day Comment Period, then the Five-Year Transmission Plan will serve as the ERCOT Independent Review of the proposed project, if required.

Tier 1, 2, and 3 projects that are included in the Five-Year Transmission Plan should be submitted for RPG Project Review at an appropriate lead time. Generally, this lead time should be sufficient to allow the Review to be completed before the TSP reaches the decision point at which it must initiate the engineering and procurement in order to meet the required in-service date, but not farther in advance than is necessary. In general, these lead times will be 3-4 months for Tier 3 projects and 6-7 months for Tier 1 and 2 projects.

Tier 1, 2 and 3 projects that are included in the Five-Year Transmission Plan but do not reach this decision point before the development of the next year's Five-Year Transmission Plan begins will be removed from the case used to develop the Five-Year Transmission Plan and will be re-evaluated as a part of the development of this subsequent Five-Year Transmission Plan.

5 REQUESTS FOR NEW OR MODIFIED GENERATION INTERCONNECTION

As required under PUCT Substantive Rules, ERCOT will receive and process all new generation interconnection and change requests in accordance with the procedure entitled "GENERATION INTERCONNECTION AND CHANGE REQUEST PROCEDURES" (GI Procedures). As a part of that process ERCOT will perform a steady-state security screening study to determine site feasibility for interconnection and at what level the generator can expect to operate with other generation in the area in operation before significant transmission additions are necessary. ERCOT will also make a very rough estimate of the transmission system additions needed to integrate the new generation. This information in the form of a report will be presented to the generating entity requesting interconnection, and the generating entity can then decide if it wants to continue to request interconnection at that site or withdraw the application. At that time, ERCOT will inform the generating entity if it considers the proposed site to be inappropriate to the point that ERCOT will not support the addition of transmission needed to integrate the project into the transmission system.

If the generating entity decides to go forward at the designated site, ERCOT will then initiate a full interconnection study and designate the TDSP whose system is most likely to be the point of direct interconnection for the new generator as the lead TDSP for the study. The full interconnection study is primarily intended to analyze and develop the direct interconnection and directly-related facilities that would be needed to reliably connect the interconnecting generator to the ERCOT grid.

The provisions of the GI Procedures with respect to confidentiality of generation interconnection requests will govern the treatment of that information. Once a generation interconnection becomes non-confidential under the GI Procedures, it may be included in scenario analysis in the Five-Year Transmission Plan or RPG Project Reviews. Once ERCOT receives an executed interconnection agreement or public, financially-binding agreement between the generator and TSP under which generation interconnection facilities would be constructed or a commitment letter from a municipal electric provider or an electric cooperative building a generation project, the project will be included in the base cases beyond its expected in-service year in the development of the Five-Year Transmission Plan and RPG Project Reviews. Tier 1, 2 or 3 transmission projects associated with generation interconnections may be submitted for RPG Project Review as soon as the confidentiality provisions of the GI Procedures allow. However, projects that are dependent on generation interconnections may not receive final RPG Acceptance or ERCOT Endorsement of the projects associated with the new generation until the execution of a generation interconnection agreement or other public, financially-binding agreement between the generator and TSP under which generation interconnection facilities would be constructed or ERCOT's receipt of a commitment letter from a municipal electric provider or an electric cooperative building a generation project.

6 PLANNING RESPONSIBILITIES

ERCOT, the TDSPs and other stakeholders have important responsibilities in the planning process, both individually and as part of the RPG.

6.1 ERCOT RESPONSIBILITIES

ERCOT Staff will:

- Study and monitor the transmission system for current and future transmission constraints;
- Review generation additions and determine adequacy of generation reserve levels;
- Support development and validation efforts for appropriate and accurate modeling of generation, load and transmission equipment needed to support operations/planning studies and simulations.
- Gather load data via the Annual Load Data Request (ALDR) process and independently develop its own monthly, annual, and long-term forecasts;
- Gather generation data via the Generation Interconnection and Change Request Procedures and keep track of existing generation and new generation additions to the ERCOT system;
- Prepare information, studies and reports for various governmental agencies (FERC, PUCT, etc.) and national organizations (NERC, etc.);
- Perform simulations in order to determine the impact of various transmission line contingencies, load and generation levels on the reliability of the ERCOT transmission system;
- Execute independent simulation and testing of the transmission system to help investigate possible impacts to reliability and system security;
- Review, assess possible impacts and approve remedial action plans (RAPs) and special protection systems (SPSs);
- Supervise the processing of all requests for interconnection to the transmission system from owners of proposed new or expanded generating facilities, including performing or coordinating any applicable system security studies;
- Lead and supervise the RPG in the consideration and review of proposed projects to address transmission constraints and other system needs;
- Conduct an open process of public review and comment on major proposed transmission facility additions;
- Consider new transmission proposals submitted by all interested parties;
- Generate alternatives analysis, including estimated cost comparisons, and recommend beneficial projects/solutions;
- Recommend transmission facility additions that are the cost-effective means to meet the ERCOT and NERC planning criteria or are required for interconnection of new generating facilities into the ERCOT system;
- Submit certain transmission facility additions, as specified in this Charter, to the ERCOT Board of Directors for review and concurrence;
- Determine the providers of transmission additions;
- Notify the PUCT of all Board-supported transmission facility additions and their designated providers;
- Support, to the extent applicable, a finding by the PUCT that a project is necessary for the service, accommodation, convenience, or safety of the public within the meaning of PURA §37.056 and PUCT Substantive Rule §25.101;

- Coordinate with the ERCOT Technical Advisory Committee Reliability and Operations Subcommittee (ROS) in the performance of steady-state and dynamic simulation testing of the bulk power system to determine the impact on the planned system of occurrences of the types of contingencies listed in the North American Electric Reliability Corporation (NERC) Planning Standards;
- Work with the Steady-State Working Group (SSWG), Dynamic Working Group (DWG) and System Protection Working Group (SPWG) to model equipment, create databases, perform tests with the TSPs to evaluate compliance of their transmission facilities with the ERCOT Operating Guides, and recommend further studies if needed;
- Perform Reliability Must-Run (RMR) studies when generation owners notify ERCOT of their intent to mothball, not run or retire existing generating units to determine if RMR status for such generation is required to maintain area reliability consistent with the ERCOT Transmission Planning Criteria. Additionally, ERCOT Staff will coordinate with affected TSP(s) and other interested market participants to develop RMR exit strategies to ensure that an overall cost effective plan is developed, reviewed, approved, and implemented in an expeditious manner;
- Facilitate the quarterly communication of changes to project status via the ERCOT Transmission Project & Information Tracking (TPIT). The quarterly updates will be posted on the ERCOT website on March 8, June 8, September 8, and December 8 of each year;
- Facilitate the quarterly update and posting of the SSWG Dataset A and B cases to reflect changes to project status communicated in TPIT. The quarterly updates will be posted on the ERCOT website on or around March 1, June 1, September 1, and December 1 of each year;
- Post error correction files submitted by TSP(s) as soon as reasonably possible;
- Use a planning process and associated analysis tools that are flexible enough to accommodate the different internal planning, engineering, material procurement, capital budgeting schedules and financial structures of TSPs;
- Post electronic versions of the annual Federal Energy Regulatory Commission (FERC) 715 Reports, annual FERC Form 1 reports and all annual reports of all planned transmission projects provided by the TSPs.
- Maintain appropriate and cost effective computer hardware and software to perform all of the above responsibilities in a timely manner to meet stakeholder and ERCOT management objectives.

6.2 TDSP RESPONSIBILITIES

TDSPs shall:

- Ensure review and compliance with PURA and PUCT Substantive Rules obligations to plan, build and operate the transmission system for the benefit of all users;
- Perform appropriate tests to ensure the reliability of its own transmission facilities, recommend studies, and propose appropriate solutions;
- Utilize the RPG process as the forum for ERCOT Staff, PUCT Staff, consumers and stakeholder/market participant review of all proposed transmission projects;
- Provide accurate and appropriate load data via the ALDR process;
- Provide data necessary to allow RPG members to replicate studies of project proposals and feasible alternatives. This includes identifying the previously posted PTI PSS/E case to be used as the reference case, supplying PTI PSS/E IDEV or PowerWorld Auxiliary files to modify the case as necessary to develop the study case and supplying a written description of the project proposal, alternatives considered, and any other case changes that were necessary to replicate the study;
- Actively participate in and support the RPG efforts and ROS working groups by providing timely input, study comments and responses to comments submitted;
- Recommend coordinated studies to the RPG as needed of those conditions of importance to multiple ERCOT TSPs or the entire ERCOT power system;
- Propose appropriate solutions for issues identified by ERCOT including RAPs and SPSs;
- Support analysis and reports needed for the ERCOT Board of Directors to make the final decisions on the projects necessary to fulfill PURA and PUCT Substantive Rules obligations;
- Be responsible for obtaining the Certificate of Convenience and Necessity (CCN) and all other required regulatory approvals;
- Identify and provide the information necessary to remove Tier 1, 2, and 3 projects from the current SSWG cases in order to produce the cases that will be used for the Five-Year Transmission Plan development.
- Provide input, feedback and analysis necessary to develop the Five-Year Transmission Plan as a consensus plan of the transmission needs of the ERCOT system at the time the Plan is developed;
- Submit projects included in the Five-Year Transmission Plan for RPG Project Review at an appropriate lead time to meet the required in-service date;
- Make a firm commitment to construct with sufficient lead time to meet required in-service dates for most transmission line projects recognizing that some projects could take five to eight years to accommodate the time for routing studies, CCN approval, right-of-way acquisition and construction.
- Make every effort to adhere to the project schedule to meet the needs as determined through the RPG Project Review;
- Provide quarterly updates to ERCOT of transmission project status changes, recognizing that transmission planning is a continuous process;
    - Provide quarterly updates to reflect the current status of its transmission projects, and keep up to date all information/documentation relating to its transmission projects (previous, new, and future) in TPIT. These quarterly updates will be due one month prior to the dates that ERCOT Staff will post the updates (i.e., February 1, May 1, August 1, and November 1);

  - Provide quarterly PTI PSS/E IDEV updates (or PowerWorld Simulator Auxiliary Files) to the SSWG Dataset A and B cases that reflect the timing and scope change of projects using the most accurate information available to reflect current plans, actual conditions, and ongoing construction activities. These quarterly updates will be due one month prior to the dates that ERCOT Staff will post the updates;
  - Use the most accurate information available to annually assist in building accurate base cases (steady-state, stability and system protection) reflecting actual conditions, ongoing construction activities and future additions;
  - Submit error corrections to ERCOT as they are identified, with a description and associated PTI PSS/E IDEV file (or PowerWorld Simulator Auxiliary Files);
- Provide to ERCOT electronic copies of their planning criteria (or any basis document or philosophy used to justify transmission additions) and notify ERCOT of any changes within 30 days;
- Provide electronic copies of all generation interconnection requirements and notify ERCOT of any changes within 30 days;
- Provide to ERCOT their annual report of all planned transmission projects;
- Provide to ERCOT complete paper and electronic copies of their annual FERC Form 1, FERC 714 and FERC 715 filings;
- Provide to ERCOT a copy of all signed interconnection agreements or other agreements under which generation interconnection facilities would be constructed within ten business days following the signing of the agreement;
- Provide to ERCOT and other interested market participants upon request, annually updated paper and electronic copies of complete system oneline diagrams. It is recognized that the TSP may require market participants to enter into a confidentiality agreement before providing complete system oneline diagrams in order to ensure the protection of this Critical Energy Infrastructure Information and may charge a reasonable fee to cover the cost of producing the requested documents.

6.3 STAKEHOLDER/MARKET PARTICIPANT RESPONSIBILITIES

With the implementation of retail competition in the ERCOT market and the associated changes in market design and operations, more market participants and stakeholders have a financial stake in the development of a reliable and cost-efficient transmission system. The Retail Electric Providers (REPs) and load-serving Qualified Scheduling Entities (QSEs) pay for transmission wires services. Wholesale energy costs and prices are significantly affected by transmission system constraints, providing a strong financial incentive for market participants and other stakeholders to become actively involved in the ERCOT transmission planning process to encourage efficient, long-term transmission system development. By working in a collaborative fashion, stakeholders will ensure that reliable and cost-effective long-term planning is pursued.

Stakeholders/Market Participants shall:

- Actively participate in the ERCOT transmission planning process to encourage efficient, reliable, and cost-effective long-term transmission system development;
- Provide accurate, appropriate and timely data including performance characteristics and limitations upon request by ERCOT and TDSPs for their simulations and analysis;
- Support and assist in operations and planning model development and validation efforts;

- Review proposed projects and provide timely comments about projects submitted to the RPG for their review that address reliability and/or economic deficiencies of the transmission system;
- Provide data necessary to allow RPG members to replicate studies of project proposals. This includes identifying the previously posted PTI PSS/E case to be used as the reference case, supplying PTI PSS/E IDEV file (or PowerWorld Simulator Auxiliary Files) to modify the case as necessary to develop the study case and supply a written description of the project proposal, alternatives considered, and any other case changes that were necessary to replicate the study;
- Develop and submit accurate/appropriate proposed projects for review;
- Operate facilities and provide updated information per the requirements of the ERCOT Protocols, Operating Guides, Generation Interconnection or Change Request Procedures and applicable Standards of the North American Electric Reliability Corporation. These obligations include real and reactive power, frequency control and governor action, and coordination of protection systems, controls and machine or load characteristics;
- Maintain the confidentiality of Critical Energy Infrastructure Information.

All market participants may develop and submit proposed projects to the Regional Planning Group (RPG), as well as review projects developed and proposed by the RPG. Broad participation in the process results in a thorough development of projects. However, confidentiality provisions prevent participation of non-TDSPs in the studies leading to interconnection agreements with generators until they become public.