

## Business as Usual

*Please define "usual"...*

ERCOT plans to work with the stakeholders at the next two LTS Task Force meetings to finalize the primary input assumptions for the first set of four or five future scenarios. In the meantime, ERCOT is using a "business-as-usual" (BAU) scenario in order to start the scenario evaluation process, and to help us develop and refine the generation expansion processes and tools. The BAU scenario is built off of the final results of the recently completed ERCOT five-year transmission plan, and includes all existing and planned future generation with signed interconnection agreements. The transmission topology used in this analysis will be simplified using the tool described on page 3.

The BAU scenario will be a continuation of current market trends and regulatory policies. Fuel forecasts will be derived from the latest Energy Information Agency (eia.doe.gov) forecasts, and load forecasts will be consistent with the latest ERCOT long-term planning demand forecast. The

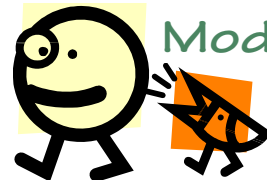
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## NEXT LTS TASK FORCE MEETING

JANUARY 10, 2010, 9:30AM – 3:30PM  
ERCOT AUSTIN MET CENTER

### AGENDA TOPICS

- Project Status Report
- Finalizing Business-As-Usual Scenario
- Finalizing First Set of Scenarios
- Modeling Software Overview
- Incorporating Water Impact
- Assessing Environmental Impact



## Modeling Software

*NOW can you tell us who was selected?*

In August, ERCOT issued a request for proposal to identify economic modeling software to assist with long range resource planning solutions through scenario analysis. After evaluating the submittals, ERCOT ISO planning staff has selected Ventyx PowerBase Suite of applications, which includes

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*According to Ventyx, PROMOD IV is the industry-leading Fundamental Electric Market Simulation software.*

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PROMOD IV with Nodal LMP Forecasting and Transmission Analysis, MarketPower, PAT and ERCOT Simulation Ready Data. According to Ventyx, PROMOD IV is the industry-leading Fundamental Electric Market Simulation software, incorporating extensive details in generating unit operating

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## Highlights of December Long-Term Study Task Force Meeting

Thanks to our guests Pat Braddock from Fulbright & Jaworski and Tom “Smitty” Smith from Public Citizen.

The Long-Term Study (LTS) Task Force convened on December 2, 2010. After introductions, Warren Lasher presented a project status report and several near-term activities. These include:

- Implement the grid simulation/generation expansion tool
- Develop potential generation expansion for the business-as-usual (BAU) scenario
- Complete formal documentation of technology reviews
- Complete the transmission simplification tool
- Establish initial scenarios
- Evaluate options to assess system reliability requirements.

Following the project status report, Jonathan Rose provided information on the transmission network simplification tool. Additional information is provided in the article, *Transmission System Simplification* on Page 3

The last topic of the morning was the BAU scenario. Kevin Hanson, ERCOT, presented slides to initiate a discussion on the BAU scenario and other scenario considerations. For additional information, see the article, *Baseline Scenario*, on Page 1.

The afternoon focus was on environmental policy and the impacts on the generation and ultimately the transmission system in ERCOT. The presenters were Pat Braddock, a partner with Fulbright & Jaworski, who spoke about rules and regulations affecting the industry and the associated challenges, and Tom “Smitty” Smith with Public Citizen who spoke about the impact the industry has on the environment.

The presentations and meeting notes are available on the December meeting page found [here](#). Questions? Please contact [longtermstudy@ercot.com](mailto:longtermstudy@ercot.com). ❖



### DID YOU KNOW???

Looking beyond ten years may be new to ERCOT transmission planning, but many other groups or agencies have long-term plans that exceed the 20 year scope of our study. For example, the Texas Water Development Board looks out over 50 years. Every four years, the Texas Department of Transportation provides a State-wide Long Range Plan covering the next 24 years.

## Task Force Participation

### *Why does the Task Force need YOU?*



Participation in the Task Force is critical to the success of the study and the planning process, as the task force provides guidance and direction for this effort. A diverse task force can bring breadth, depth, and relevance to the study efforts. Participants have the opportunity to provide expertise and insight on the topics that interest the stakeholders.

The task force provides input into working groups and data gathering efforts, as well as provides validation of assumptions and methodologies. In addition, the group will provide feedback and comments on the study results. Keep in mind that the intent is not to predict the future, but to bound the future so that we can define the potential needs of the electric system, both for transmission planning and operational reliability purposes. ❖

# Transmission System Simplification

## *How simple is simple?*

The full ERCOT transmission system network encompasses every bus and line operating at transmission level voltages, which includes 69kV, 138kV, and 345kV equipment - over 6,000 elements!

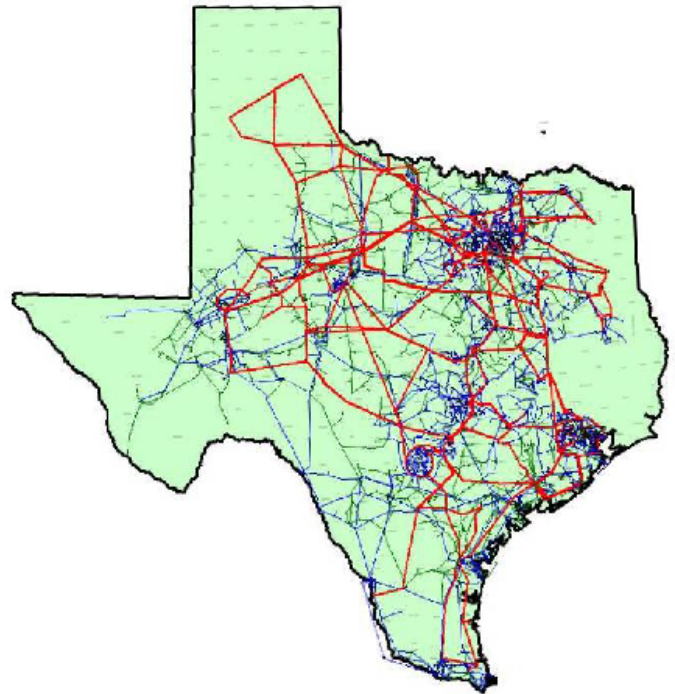
Jonathan Rose of ERCOT presented information at the last meeting of the Long-Term Study (LTS) Task Force on a recently developed network simplification tool that is being used for the 2010 Long-term System Assessment (LTSA) transmission requirements analysis. This tool will also be used to provide a simplified transmission network as a starting point in the the LTS.

This simplification tool improves visibility for long-range study needs and avoids problems that are better dealt with in the short term, such as 69kV load-serving line overloads. Without these modifications, the sheer number of small, load-serving system overloads obscures the visibility of larger system needs.

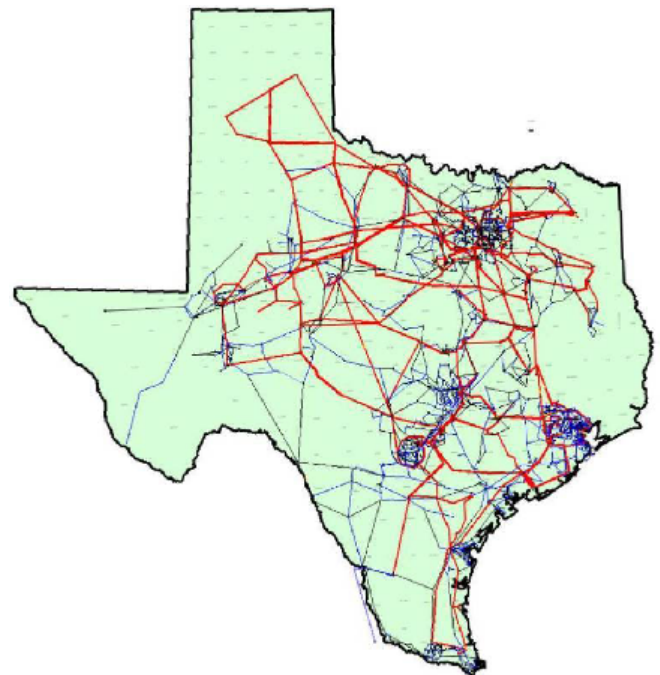
Key features of the simplified network include removal of the 69kV network. This is accomplished by moving the load flows and generation to the nearest 138kV bus. In addition, low-load 138kV radial lines and 138kV in-line buses are removed.

After running this tool, the system bus count was reduced from approximately 6,000 to 3,000 while the flows on the bulk transmission network are maintained. In addition, the simplified case has similar voltage behavior as the full case.

By using this tool to simplify the transmission network, the Long-Term Study also benefits by reducing model run-time without compromising ERCOT transmission system behavior. ❖



*Full Network (~6000 bus model)*



*Simplified Network (~3000 bus model)*

### What is the LTSA?

Every even-numbered year, ERCOT is required by the Texas Public Utility Regulatory Act (PURA) to provide a Long-Term System Assessment (LTSA). The focus of the LTSA is to identify projects that may require 5 or more years to bring on-line or projects that both solve short-term issues but also meet long-term system needs more cost-effectively.

## SPOTLIGHT: ERCOT LONG-TERM PLANNING TEAM

The responsibility for successful navigation through the long-term study maze falls on the Long-Term Planning and Policy team within ERCOT System Planning. This team is led by Warren Lasher and is responsible for the long-term transmission analyses performed on the ERCOT system as well as for any policy issues related to System Planning. As this project is expanding the tools and capabilities of this team, it has also expanded the staff and skills of the team, as the funding from the DOE has allowed the addition of four team members.

Keep an eye out for team spotlights in future newsletters. ❖



## Modeling Software – continued from page 1

characteristics, transmission grid topology and constraints, unit commitment/operating conditions, and market system operations. PROMOD IV is accepted by regulatory agencies and commissions and used by many ISOs, utilities, transmission companies and consulting firms.

In the coming months, ERCOT will consolidate, validate and improve model data for the as-is ERCOT system and simplified transmission network and begin to run scenarios, beginning with the business-as-usual (BAU) case. ❖

Federal renewable energy production tax credit will be assumed to be renewed, and no significant changes to environmental regulations will be included.

At the January LTS Task Force meeting, the focus will be on developing consensus regarding the key input assumptions for the first set of scenarios. Discussions in the meeting will include:

- rate of load growth,
- amount of load-shifting technologies such as energy efficiency, distributed generation, and demand response,
- amount of intermittent generation and associated capacity factors,
- strength of environmental regulations,
- availability of water, and
- fuel prices.

Participation by the task force is encouraged to ensure “outside-the-box” thinking as well as to ensure we are pushing the limits and boundaries of traditional planning studies. ❖

## BUSINESS AS USUAL

1. Continuation of current market trends and policies.
2. Continue federal renewable production tax credit.
3. Additional capacity based on projections of future costs.
4. Fuel price assumptions based on latest EIA forecasts.
5. Use ERCOT load forecasts.

## COMMUNICATION

EMAIL: [longtermstudy@ercot.com](mailto:longtermstudy@ercot.com)  
PHONE: 512-248-3152  
MAIL LISTS: <http://lists.ercot.com/longtermstudy>, [scenario\\_development](http://lists.ercot.com/scenario_development)

## INFORMATION

LONG-TERM STUDY TASK FORCE  
<http://www.ercot.com/committees/other/lts>  
SCENARIO DEVELOPMENT WORKING GROUP  
<http://www.ercot.com/committees/other/lts/sdwg>

## MISSION STATEMENT

THE LONG-TERM STUDY TASK FORCE PROVIDES THE PRIMARY FORUM FOR DISCUSSION BETWEEN REPRESENTATIVES OF APPROPRIATE STATE AGENCIES, NON-GOVERNMENTAL ORGANIZATIONS, POLICY-MAKERS, OTHER PLANNING STAKEHOLDERS, AND ERCOT STAFF REGARDING ISSUES AFFECTING LONG-RANGE POWER SYSTEM PLANNING IN THE ERCOT REGION AND SPECIFIC INPUTS, RESULTS AND FEEDBACK ON LONG-TERM PLANNING STUDIES.