LONG TERM STUDY TASK FORCE MEETING MINUTES 05/21/2010

Overview:

- ERCOT admonition
- Introductions
- Agenda

Department of Energy Representatives:

John Schnagl and Steve Porter from the DOE spoke briefly about the benefits of the unique opportunity this grant provides, with the goal to make a better electric system for Texas and the nation. The DOE will provide oversight to assure that funds are spent appropriately. The DOE will also provide coordination among all three interconnections, to share information and avoid duplication.

Open discussion about what participants are looking for from the study

The rest of the morning was spent on the concept of what the participants would want to get from the study. Discussion topics raised by market participants included:

- Accuracy / benefits of a 20 year study. A broad forward looking perspective is required.
- Develop a scoping document early in the process. Set a direction that allows us to think through lots of uncertainty.
- Adaptability and future use of the model/studies. Methodology is important. Build a repeatable process.
- Load growth (and decline) should be looked at. Energy will have to be moved to the load – whether it is the fuel or the electricity that is transmitted. Load may shift based on technology and policy.
- Use a wide range of scenarios, including disruptive issues (technical, political, environmental, economic, others). Include political landscape for non-electric issues (natural gas, for example).
- Look at social benefits (carbon, NOx) and economic benefits. Look for "black swans" not the typical study processes, not business as usual. Identify the "what if" scenarios to get an idea of the result.
- Look at future, but also enhancements to what is already happening on our system.
- Associate risk with assumptions. Identify risk associated with future outcomes not turning out as we think.
- The study focus is on steady state (generation, transmission, and load) and includes near-term issues (ancillary services). However, dynamics are (and will be) an issue.
- This study provides the opportunity to do transmission planning – not just incremental planning the region traditionally does.
- Maybe evaluate transmission chasing generation vs. generation siting based on available transmission.
- CCET has DOE grants for regional demonstration project.
- Should inter-regional analysis be included?
- Keep in mind the government preference of no change to ERCOT jurisdictions.
- Independent public effort – not a venue for individual market participant's or vendor's agenda.
- TPWD can provide study with land use planning, providing environmental input for generation siting, fuel production, etc.
- Do we have the right participants? What about Council of Governments? City or transportation planning efforts?

Brainstorming Efforts

A brief introduction to a brainstorming effort was presented. Opportunities to provide input include:

- Brainstorm boards
- Open discussions
- Survey monkey
- Email

Bring on the zany/risky ideas…send concepts/ideas to mailto:longtermstudy@ercot.comlongtermstudy@ercot.com. In addition, participants are invited to suggest additional contacts or groups that may be interested in participating in this effort. Some suggestions included Council of Governments, City Planning, other state and federal agencies, other interest groups. Please send contact information to longtermstudy@ercot.com.

Load Growth Scenarios

Calvin Opheim provided a short presentation. Economics is a key factor in the development of any load forecast. Other considerations include:

- Fuel prices
- Gas prices, etc.
- Time of use/advanced metering
- Demand response
- Efficiencies

The goal of this team is to develop internally consistent scenarios based on agreed upon assumptions. More detailed information regarding forecasts will be discussed over the next few meetings.

Open discussion of issues that may influence load growth

Following Calvin's presentation, the open discussion focused on load issues. Some of the topics discussed include:

Load

- Growth rate and type of load growth.
- Consider intensity not only economics.
- Many efforts to lower load – what may increase load?
- What if we get it right and companies move to Texas?
- Will cheap land/energy cause load to show up?
- Small communities building coops and how we take them in consideration.
- How will energy efficiency programs come into play?
- What magnitude of change provides a big enough incentive to cause behavior changes in the market?
- Energy price will be key (peak vs. off peak pricing; smart meters).
- How much price variance customers face will be critical.
- What percentage of demand reduction will we be seeing?
- How do you plan for those who only need to use the grid occasionally as backup power? Example, solar home and generators.
- Will the factors that made Texas grow in the past, make Texas grow in the future?
- Local grouping of EVs and other products would probably be an issue.

- How are we going to be living in the future (in cities or outside of cities).
- Life style decisions will have impacts.
- Population is a huge driver.
- More people are willing to reduce their personal electricity bills.
- Geographical considerations - regions where we have a highly educated workforce? Certain regions in Texas may grow faster, for example central Texas (Austin).
- Look at secondary commercial and residential development based on load growth.
- Reduction in cost of equipment or government intervention may be necessary.
- Energy efficiency and standards.
- Fuel efficiency standards will impact cars, trucks, oil.
- Policy is not necessary to entice customers to change.
- Building envelope standards
- 2nd generation of EE programs may not necessarily continue (either due to cost or lack of appreciation of projects).
- Government action will influence load growth.
- Some incentive programs are buying BTU reduction so that will have an impact but it will come in waves.
- Immigration policy may impact load growth.
- REPs have to introduce products for customers to participate.
- NOIEs don't have incentive to install smart meters and not currently mandated by law to install them.
- Federal immigration policy could make a huge difference in Texas.
- How are environmental restrictions impacting penetration in the market?
- Lighting standards and improvements.
- Pilot programs are not necessarily representative of actual program.
- There are static and dynamic measurements of program impacts.
- Technology changes will introduce new ideas that are currently not present.
- What is the size of penetration? What is the price point of the technology?
- Increased communications capabilities has changed the potential from utilization of data from smart meters.
- New technologies (thermostats, chips in appliances, etc).
- How do we understand the demand curve for smart meters and such devices?
- There is a difference between something that works technically and what will sell commercially to consumers.
- Demand reductions (offset by DG) compared to traditional demand response.
- LED lighting on streets, parks, etc. has an impact.
- What is the impact of companies growing?
- Industrial development or lack of industrial development is an impact.
- Shifts in manufacturing sectors (still plants, data centers, etc.) could impact load growth.
- To what extent will the availability of low cost power in certain times of the day impact large industrial customers? Will industry take advantage of off peak power pricing? Will this cause a major shift in the location of industry?
- Small wind projects just for specific facilities. Increase in the number of small community and business wind projects. What is being used to evaluate these types of projects?
- If we get everything right (variable generation), growth in business could be large and impact the load.
- Refineries looking at building own wind generation for facilities.

Other

- Can we utilize EPRI research?
- How do we factor in the possibility of retirement of resources?
- Offshore and coastal wind development is growing. How long can it sustain this type of growth without transmission expansion?
- Given the right wholesale price signals, "magic will happen".
- Customers may purposely avoid the need for reliability on the grid; this may change our notion of reliability.
- Expected off shore development (wind). What will the Cape Wind development have on other wind developments?
- We have a lot of old generation types in Texas. We need to look at updating the fleet as part of the analysis.
- Desalinization is being proposed.
- Gas companies are not expanding so gas fired DG may not be possible
- Moving into a future where more and more variable generation is available.

COMMUNICATION

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