Austin Generation Resource Planning Task Force
Information Request Responses
August 26, 2009

AE answers provided in bold/italics

Submitted by Matt Johnson (8/19/06)
During Roger's presentation on DSM at Wednesday's Task Force meeting (and at the EUC meeting), he brought up the issue that AE's DSM programs up until this point have focused primarily on reducing peak demand. Because of that, the DSM programs have "loaded up" the coal plant because the programs that shift peak normally met with gas peakers on to Fayette during off-peak hours.

Where I'm having trouble understanding this is in the amount of load shifting going on relative to the amount of load shed and conserved. In slide 10 of the AE presentation attached it says that load shifting accounts for 6% of the DSM program mix. What does that figure refer to? 6% of funding? kWh saved?
6% represents a target goal for achieving peak demand savings through thermal cool storage. This number represents the percentage of Austin Energy's peak MW demand reduction goal that is anticipated to be met by thermal energy storage. On an annual basis Austin Energy establishes targets for the various DSM programs and technologies. Installing thermal energy storage systems requires a significant financial commitment on the part of the customer, usually resulting in a key account customer adopting such a system. The system usually takes about 24 months to complete. Thermal energy storage has a 6% target for Austin Energy based on past experience.

Slides 8-10 [of Austin Energy's Resource and Climate Protection Plan presentation] break down each DSM program into three categories: peak clipping, strategic conservation, and load shifting. The first two have greater shares of the "program mix". It seems to me, looking at the DSM performance measures reported to the RMC, that those programs that do not shift load onto Fayette represent quite a significant amount of greenhouse gas emission reductions and kWh savings.
Austin Energy's 2008 DSM Performance Measures Report (provided in the Task Force information notebooks) provides greenhouse gas emission reductions and emissions reductions for several other pollutants, annual peak demand reduction (MW), and annual energy savings (MWh) data for all of Austin Energy's DSM programs for the 2008 fiscal year.

Submitted by Cyrus Reed (8/20/09)
1. On the bar-chart we have been provided of the costs being used to run the model (Nukes vs. PV Solar vs. Gas Plants vs. Wind), there is no mention of utility-scale solar like Concentrated Solar Plants.
Please provide the cost figures being used in the PACE modeling for different types of CSP (Parabolic Troughs, Power Towers and Sterling).
Pace presented estimates of capital costs and operations and maintenance costs for parabolic trough and tower CSP plants of 60 MW capacities. For trough plants, capital

costs per kW ranged from near-term $4373 per kW to a long term $4132 per kW. Fixed O&M costs for trough plants were estimated at $30 per kW-year. For tower plants (also known as central receiver), capital costs ranged from $5995 to $5688 per kW and fixed O&M was also estimated at $30 per kW-year. The "levelized cost of energy for generation technologies" document that was compiled by Austin Energy and provided to the Task Force at the July 29, 2009 meeting provides cost estimates from various sources for different types of CSP plants.

Additionally, I have been reading about the potential for a CSP solar plant to be augmented with storage and a natural gas plant to provide for base-load or near base-load type power. Have there been any estimates or consideration of a solar/gas plant hybrid? ***We are aware of this concept but it is still at the conceptual stage like large scale storage. It would need to be considered at the time of any future central solar commitment.***

2. On energy efficiency, please provide an estimate of the amount of energy savings in peak demand or actual use if the $200,000 cap were completely removed, or raised to $500,000.
Austin Energy does not typically run out of budget for its DSM programs, just cost-effective project proposals. Austin Energy's budget for its DSM programs tracks customer participation on an annual basis. The one potential technology that Austin Energy has not been able to see more installations of is thermal cool storage. This technology has a current rebate cap of $200k, and the potential for greater savings is there with thermal energy storage. Austin Energy knows of the greater potential savings of thermal energy storage in larger installations and it is considering going beyond the $200k rebate cap on this technology to achieve greater electric demand savings. It appears that the current barrier to seeing more thermal energy storage installations is payback requirements facing Austin Energy customers. Austin Energy's criteria could potentially allow it to justify greater rebates for thermal energy storage.

Submitted by Roger Wood (8/21/09)

1. Slide 13 (Class Rate Impacts in 2020) and Slide 20 (AE Recommendation AE Estimated Rate Impacts)
    - Are 2020 numbers in terms of 2009 real dollars or are they nominal dollars? ***Real dollars (in 2007$)***
    - If real dollars, what were estimated inflation rates for years 2010 – 2020. ***a 2.5% discount rate was applied by Pace and this same rate was used for AE's rate impact analysis***
    - If real dollars, please provide same information in nominal dollars ***57.4%***

2. In our August 19 meeting, Roger Duncan indicated AE is now estimating natural gas costs ($/mmBTU) will not increase significantly through 2020.
    - What is AE's estimate now for natural gas costs for years 2010 – 2020? Please use nominal dollars and 2009 real dollars.

Year	Henry Hub	Houston	East Texas	South Texas	West Texas	Dallas Ft. Worth
2009	3.79	3.40	3.78	3.23	3.33	3.79
2010	5.00	4.74	4.92	4.64	4.69	5.00
2011	5.99	5.93	5.89	5.79	5.84	5.99
2012	6.31	6.39	6.17	6.26	6.31	6.31
2013	6.33	6.37	6.45	6.24	6.32	6.36
2014	6.82	6.87	6.94	6.73	6.80	6.85
2015	7.74	7.79	7.85	7.65	7.71	7.76
2016	8.31	8.36	8.38	8.22	8.25	8.29
2017	8.03	8.08	8.09	7.93	7.95	8.00
2018	7.46	7.52	7.49	7.37	7.35	7.40
2019	7.80	7.87	7.76	7.72	7.62	7.67
2020	8.77	8.84	8.70	8.69	8.57	8.62
2021	9.38	9.45	9.30	9.30	9.16	9.21
2022	9.16	9.24	9.06	9.08	8.93	8.98
2023	10.30	10.38	10.21	10.22	10.08	10.13
2024	10.65	10.73	10.56	10.57	10.42	10.47
2025	10.30	10.38	10.20	10.21	10.07	10.12
2026	10.53	10.60	10.43	10.44	10.29	10.34
2027	10.82	10.90	10.72	10.73	10.58	10.63
2028	11.01	11.09	10.92	10.93	10.78	10.83
2029	11.21	11.29	11.11	11.12	10.97	11.02
2030	11.40	11.48	11.31	11.32	11.17	11.22

Year	Inflator	Henry Hub	Houston	East Texas	South Texas	West Texas	Dallas Ft. Worth
2009	1.051	3.98	3.57	3.97	3.39	3.50	3.98
2010	1.077	5.38	5.10	5.30	5.00	5.05	5.38
2011	1.104	6.61	6.54	6.50	6.39	6.45	6.61
2012	1.131	7.14	7.23	6.98	7.08	7.14	7.14
2013	1.160	7.34	7.39	7.48	7.24	7.33	7.37
2014	1.189	8.11	8.17	8.25	8.00	8.08	8.14
2015	1.218	9.43	9.49	9.56	9.32	9.39	9.45
2016	1.249	10.38	10.44	10.46	10.26	10.30	10.35
2017	1.280	10.28	10.34	10.35	10.15	10.18	10.24
2018	1.312	9.79	9.87	9.83	9.67	9.64	9.71
2019	1.345	10.49	10.58	10.44	10.38	10.25	10.31
2020	1.378	12.09	12.18	11.99	11.98	11.81	11.88
2021	1.413	13.25	13.35	13.14	13.14	12.94	13.01
2022	1.448	13.27	13.38	13.12	13.15	12.93	13.00
2023	1.484	15.29	15.41	15.16	15.17	14.96	15.04
2024	1.521	16.20	16.33	16.07	16.08	15.85	15.93
2025	1.560	16.06	16.19	15.91	15.92	15.70	15.78
2026	1.598	16.83	16.94	16.67	16.69	16.45	16.53
2027	1.638	17.73	17.86	17.56	17.58	17.33	17.42
2028	1.679	18.49	18.62	18.34	18.36	18.10	18.19
2029	1.721	19.30	19.43	19.12	19.14	18.88	18.97
2030	1.764	20.11	20.26	19.96	19.97	19.71	19.80

Austin Energy has used for its rate impact analysis natural gas cost estimates provided by Pace. The above tables were provided by Pace and show natural gas price projections through 2030 in real and nominal dollars. Natural gas projections by Pace (from 2009 through 2030 in 2007$ per MMBtu) and a discussion of those estimates are provided on pages 65-70 of the Pace Assumptions document entitled "Assumptions and Market Drivers Document for Focused Integrated Resource Planning Analysis." The South Texas prices were used for Austin Energy's analysis.

- Are these the costs used in slide 20? If not, what costs were used? ***Pace cost projections are also used to generate the results provided in slide 20.***
- Are these the costs used in slide 13? If not, what costs were used? ***Pace cost projections are also used to generate the results provided in slide 20.***

3. Similarly, are other key cost factors (such as the following) the same for both slide 13 and 20: ***All cost factors are the same for both slides 13 and 20 of the Resource and Climate Protection Plan presentation.***
    - Cost of fuel for all fuel types ($/mmBTU) ***Fuel cost estimates are provided in Pace assumptions document. Austin Energy used its current fuel factor for 2009 in its rate impact analysis while Pace used a 2009 estimate.***
    - Construction costs ($/kWh) ***Construction costs are captured in capital cost estimates and levelized cost of electricity estimates provided by Pace.***
    - Total operating costs ($/kWh) ***Based on Pace estimates for operations and maintenance costs.***

    If not, what are the differences? ***n/a***

Based on the latest AE staff recommendation, provide answers to the following questions in tabular form and in both nominal dollars and 2009 real dollars. Where data is considered confidential by AE, flag and provide industry average or some other number that is reasonably representative for the specified year.
Data previously provided by Austin Energy in various documents in referenced below. Where applicable, costs are represented in real dollars. To convert to nominal dollars an assumption of the discount rate would need to be made. 2.5% discount rate was applied by Pace and this same rate was used for AE's rate impact analysis

4. For each generation plant (existing and new), for each year 2009 – 2020:
    - Nameplate capacity (MW) ***This is provided on pages 13-14, Exhibits 8 and 9 of the Pace assumptions document as "capacity" for each generation facility and technology. These numbers remain constant throughout the planning period.***
    - Peak dispatchable capacity (MW) ***For conventional resources this would be the same as the nameplate capacity. For wind, AE uses an average peak capacity of 8.7% consistent with ERCOT estimates and for solar of 50%. Wind and solar peak capacity will vary by day based on weather patterns and seasonal changes.***

- Capacity factor (%) ***This level of detail is considered confidential. Capacity factors used in the LBJ model under the "Choose Your Generation Mix," Column O provides industry averages that are similar to AE's current generation facilities. Projected capacity factors for AE's renewable resource contracts are provided on page 14, Exhibit 9 of the Pace assumptions document as "capacity factor."***
- Heat rate (mmBTU/MWh) ***This is provided on page 13, Exhibit 8 of the Pace assumptions document as "heat rate."***
- Fuel cost ($/mmBTU) ***Fuel cost estimates for natural gas are provided above in detail in both real and nominal dollars. A discussion of fuel costs for natural gas, coal and nuclear is provided on pages 65-75 of the Pace assumptions document.***
- Construction cost for year completed ($/kW) ***Total capital cost projections are provided by the Pace analysis. In the Pace presentations dated May 27, 2009 and June 29, 2009 capital costs are represented as new unit and existing unit fixed costs in slides that present the cost components of different scenarios. For existing units these costs are considered sunk costs and are therefore not relevant to the discussion of future potential capital costs.***
- Total operating cost including cost of fuel, O&M, depreciation, debt service, incentives, carbon tax, etc. ($/kWh) ***Slide 50 of the Pace presentation dated May 27, 2009 shows levelized cost projections for 2012 and 2020 broken up by capital and fixed O&M costs (include debt service), variable O&M costs, fuel costs, and emission costs (carbon).***

5. Provide each generation plant (existing and new):
    - Estimated total life (yrs) ***Pace has been requested to estimate the estimated useful life for each type of generation technology. Most conventional generation units can last indefinitely if properly maintained, but may become non-competitive due to efficiency or other operating characteristics.***
    - Estimated remaining life (yrs) ***Existing facilities can continue to operate with capital investments to maintain and upgrade when necessary and appropriate. Retirement determinations are made when a better alternative is available relative to life extension. Various costs to consider include capital for a new unit, efficiency/heat rate, fuel cost, O&M, and environmental compliance.***
    - Levelized cost over total life including cost of fuel, O&M, depreciation, debt service, incentives, carbon tax, etc. ($/kWh) ***Slide 50 of the Pace presentation dated May 27, 2009 shows levelized cost projections for 2012 and 2020 broken up by capital and fixed O&M costs (include debt service), variable O&M costs, fuel costs, and emission costs (carbon).***

6. For AE system for each year 2009 – 2020:
    - Peak load (MW) ***This information is provided on page 8, Exhibit 3 of the Pace assumptions document with DSM. These projections were made***

prior to the Austin Energy staff recommendation of achieving an additional 100 MW of DSM savings.

- Peak load without DSM (MW) ***This information is included in the LBJ model under the tab entitled "Before You Begin."***
- Nameplate capacity (MW) ***This is provided on pages 13-14, Exhibits 8 and 9 of the Pace assumptions document as "capacity" for each generation facility and technology. Total nameplate capacity and capacity additions are represented on various slides for different scenarios in the Pace presentations dated May 27, 2009 and June 29, 2009. Annual capacity additions by resource type through 2020 are provided as a separate document.***
- Peak dispatchable capacity (MW) ***For conventional resources this would be the same as the nameplate capacity. For wind, AE uses an average peak capacity of 8.7% and for solar of 50%. Wind and solar peak capacity will vary by day based on weather patterns and seasonal changes.***
- Weighted average capacity factor (%) ***This is not considered a useful industry metric due to the significant differences between unit types.***
- AE generation (kWh) ***For generation to meet AE customer load, this information is provided on page 8, Exhibit 3 of the Pace assumptions document with DSM.***
- AE customer consumption (kWh) ***See above answer. Annual generation for native load by generation type is presented for different scenarios in the Pace presentations dated May 27, 2009 and June 29, 2009.***
- AE revenue ($) ***Revenue requirements are presented for different scenarios in the Pace presentations dated May 27, 2009 and June 29, 2009.***
- Average cost of new power plant additions completed during the year ($/kW) ***Total capital cost projections are provided by the Pace analysis. In the Pace presentations dated May 27, 2009 and June 29, 2009 capital costs are represented as new unit and existing unit fixed costs in slides that present the cost components of different scenarios. A discussion of capital cost assumptions used by Pace are provided on pages 14-19 of the Pace assumptions document. Cost components of the staff recommendation are provided as a separate document.***
- Planned budget for new DSM projects completed during the year ($/kW) ***Austin Energy has submitted its budget for rebates and the conservation program in general for the 2010 fiscal year. Austin Energy has not budgeted for future years and any projections would be estimates. In Karl Rabago's presentation to the Task Force on the "Demand-side Resource" goals for kW and kWh demand and energy savings were provided. In order to reach these goals a $ per kW ceiling target of the cost of our next unit of avoided capacity is set. In the past, this has been set at the price of our next unit of CCGT capacity – about $740 kW. That number will change over time – likely upward, and at least at the***

rate of inflation. It is also possible that other technologies will become the next avoided unit of capacity – changing the "ceiling value."

- Inflation rate (%) ***Pace applied a 2.5% discount rate to its cost projections. Austin Energy assumes this same discount rate.***

Submitted by Cary Ferchill (8/21/09)
Information on the **average** and **levelized** projected future rates for the most likely scenarios over the lifetime of the investments included in the scenarios. ***Steve Machicek will present this information at the August 26, 2009 Task Force meeting.***

Submitted by Ron Rogerson (8/24/09)

1) Stakeholder meetings were never allowed to have a special meeting to discuss cost findings for the scenarios with PACE. Can we set up a time for PACE to cover the cost impacts information related to scenarios? With only a summary sheet being provided there is no way to gain an understanding for PACE's cost analysis work. This is important since this information is used as the cost bases for all future generation plans and was also the pre-information for Austin Energy's cost analysis. ***Austin Energy is working with Pace to determine a date to present its risk analysis findings to the Task Force. This will also provide an opportunity for Task Force members to ask questions to Pace about any other topics.***

2) Why is AE proposing a peak generation plan that exceeds the projected peak load of 2,710 MW in 2020? See page 16 Generation Resources & Load Forcast charts. What is the extra cost for bringing on generation beyond AE projected peak needs? ***Utilities typically have a reserve margin above projected peaks. This is needed to address required operating reserves (ex. spinning reserve), unplanned outages and load uncertainty.***

3) The Austin Energy Scenario bill impact analysis confuses the cost understanding for all scenarios. This analysis needs to be explained in detail or be replaced by a more comprehensive analysis by PACE. Since the AE analysis builds off the PACE analysis it would seem that PACE should do this analysis for consistency purposes. How do we get from a 29% average generation cost increase (an analysis that does not include all costs) to an average bill cost increase project of 10-20% by AE when the PACE cost analysis did not include all the costs? PACE or AE needs to present this information in a manner that all of us can understand and agree with. ***Steve Machicek will present this information at the August 26, 2009 Task Force meeting.***

4) Please show a year by year cost matrix comparing 2 scenario's (new AE Strawman and Lowest Bill meeting Council goals), plus all other AE cost impacts that would hit customer bills between 2009 and 2020. Other costs should include: congestion, transmission costs, ERCOT costs, fuel cost projects, Pecan Street, distribution, capital costs and base rate increases. Basically looking for the total expected cost impacts for customers—future generation plan additions +

other costs additions that will be impacting customers. ***This request is beyond the scope of the resource planning process as this would require a full rate analysis. The resource planning process is focused on the generation component of rates.***

5) PACE models do not capture the full life cycle costs for generation sources that have useful lives beyond 2020. What is the impact of not considering these costs in our models? ***If full life cycle costs refer to impacts outside of the power sector, Pace has not accounted for that in their analysis, which is specific to costs of generation for Austin. However, Pace did run their analysis through 2030 and has amortized all fixed costs over the expected lives of new projects.***

6) AE has notified Industrial customers that the cost impact for the 30MW of solar is a 1.5% increase in fuel charges starting in 2011 (thru 2020) and that the cost for the Bio Mass will be 5% increase in fuel charges beginning in 2012 (thru 2020). AE also gave a future fuel charge projection graph in the November 19th presentation (page 11) that showed fuel charges from 2009 to 2015 going up by more than 50%. These actual costs and projected costs do not appear to align with numbers used by PACE for projecting future costs. Has anyone at AE certified that the PACE models included all costs and the correct cost numbers? Second, if fuel costs have already gone up 6.5% due to the first 2 renewable energy projects one would expect that the cost impact due to adding 9 more renewable projects between now and 2020 to have a larger impact than the AE projected overall 10-20% number given out last week. ***Comparing the forecasts on the rate impacts of the biomass and solar projects with the Pace results is an apples and oranges comparison. The Austin Energy forecasts were for the fuel charge only and represented a snapshot for that timeframe. If recalculated today they would be different based on updated fuel cost projections – particularly for natural gas which has declined significantly over the past year. Additionally, the referenced impacts were stated (as noted in the presentations) for the year in which the given project first impacts the fuel charge, not through 2020. Since the projects begin in different years the estimates cannot be directly added for a total value.***

The Pace results are an estimate of gross revenue requirement impact associated with each scenario, and as such cannot be directly compared to the fuel charge estimates of individual projects. The scenario revenue requirement estimate includes a fuel value for all resources in the scenario mix, but does not include rate differences among customer classes or other important costs of operations (e.g., transmission, distribution, G&A) that could change in the future. This method of estimating gross revenue impact allows for a meaningful way to compare all the scenarios on the basis of common assumptions, but is not sufficient for estimating the ultimate impact on individual customer rates.

One should also keep in mind that many things have changed over the time that it has taken to conduct this process. Some of the factors that make direct comparisons difficult include that the earlier AE forecasts used older / higher

load forecasts and the outlook for natural gas prices was higher in the older forecasts.

7) Can PACE define the real costs for running FPP with the expected CO2 legislation coming forward (run it under a cap and trade scenario). How does this cost compare to the proposed scenario where FPP is limited to 60% of its output. This is not replacing it—this is operating it in an efficient and low cost manner. Analysis should take into account LCRA contract clauses, coal cost changes, and costs to improve FPP it to a level that would allow AE to meet the projected CO2 requirements. ***Pace's results assume CO_2 legislation will be imposed. A discussion of these impacts and projected carbon costs are provided on pages 53-57 of the Pace assumptions document entitled "Assumptions and Market Drivers Document for Focused Integrated Resource Planning Analysis." Therefore, the results for the Staff Recommendation would reflect these compliance cost estimates. FPP is able to reduce its capacity factor to 60% (of AE's control) in 2020 due to increased wind in its generation mix. However, running FPP at a higher capacity factor and selling the remaining energy to the market could generate revenue for Austin Energy. If this were to occur, this would create a policy issue as Austin Energy would be generating revenue based on the selling of a resource that generates CO_2. These issues are discussed in slides 32-35 of Austin Energy's presentation entitled "Resource and Climate Protection Plan."***

8) Why is AE showing a lower CO2 requirement for Waxman and Markey on its latest CO2 emissions chart (page 18) than the level shown by PACE on April 29th? Basically 4,800,000 vs 4,600,000 tonnes? What is driving this and what is the cost for making this change? ***The original Waxman-Markey projections provided in the April presentation showed a requirement to lower CO_2 emissions by 14% below 2005 levels (a reduction for AE to about 4,779,000 metric tons). At that time, there was some confusion as the goals of Waxman-Markey were changing as the legislation moved through committee to the House of Representatives. By May, the goal changed from a 20% reduction by 2020 below 2005 levels to a 17% reduction by May as legislation moved through Congress. The latest presentation from Austin Energy entitled "Resource and Climate Protection Plan" represents the requirements of the House approved version of Waxman-Markey (now in the Senate) which requires a 17% reduction in CO_2 emissions below 2005 levels by 2020.***

9) What is the cost for pushing for a higher renewable energy level and reduced CO2 level when these goals are not asked for by the Austin Council? What is the cost difference for the CO2 extra effort between the new AE plan and the previous Strawman and Lowest Bill meeting Council goals scenarios? ***One would have to isolate the addition of a particular resource and the amount of that resource to determine the cost of reaching a 35% renewables goal by 2020 rather than 30%. Comparison of the costs of the Staff Recommendation to***

the Strawman or other scenarios that only reach the 30% renewables goal provide an indication of the cost difference.

10) What is the cost for going after CO2 reductions now in the current proposed plan vs waiting to see what the final requirements are and then proposing a plan to meet the requirements? ***If and when carbon legislation is passed Austin Energy will re-evaluate its resource and climate protection plan with regards to such regulation. The plan envisions the need for reduced carbon emissions based on the likelihood of such regulation as well as Council's direction to establish a carbon plan.***

11) Why did AE not consider the scenario –Lowest bill impact meeting council goals? ***Austin Energy considered all scenarios analyzed by Pace consulting. There were three primary differences b/w the staff recommendation and the lowest bill impact meeting Council goals scenarios: 1) the inclusion of 200 MW addition of a combined cycle natural gas unit at Sand Hill; 2) the addition of geothermal and landfill gas in the lowest bill impact scenario; 3) the timing of solar resources.***

Austin Energy decided to recommend the inclusion of the addition of a 200 MW combined cycle natural gas unit expansion at Sand Hill for several reasons that are expressed on slide 26 of Austin Energy's "Resource and Climate Protection Plan" presentation. Austin Energy feels that the combined cycle unit will reduce natural gas fuel price risks as this unit will be more efficient than other natural gas units and it will reduce reliance on power market purchases.

The Lowest bill impact scenario included 50 MW of relatively cheap geothermal and 15 MW of relatively cheap landfill gas. Austin Energy is not confident that these resources will be available by that amount by 2020 at the costs estimated by Pace. If these resources are available at such cost by 2020 Austin Energy would consider those resources at the time they are available.

All solar deployment beyond the Webberville solar facility (70 MW) under the lowest bill impact scenario would be built out in 2020 under the Lowest bill impact scenario. Under AE's staff recommendation solar is added incrementally in the final five years of the planning period (2016-2020).

a. Lowest bill renewables 35% vs new AE plan of 36%
b. Capital costs $2,175B vs $2,671B—basically half billion cheaper!
c. Real increase 2009 to 2020 is 20% vs 29+ % for the new plan
d. AE projected cost on residential customers, general, and industrial---12% vs 22%; 9.8% vs 17%; 3.6% vs 12%
e. Levelized NPV of $56.01/MWhr vs $58.15 for the new plan
f. CO2 reduction from 2005 levels: 16% vs 17%. Or 4,686 tonnes emitted vs 4,580 tonnes emitted.
g. Capacity additions 1,342 MW vs 1,575 MW

Submitted by Matt Johnson (8/24/09)

1) The debate on the future cost of electricity has focused intensely on the price of electricity, the market transaction itself, up to this point. Discussion on the environmental and social consequences of various portfolio options has been limited to a policy framework of meeting requirements of local and federal goals (i.e. Climate Protection Plan goals and impending Federal regulation of greenhouse gas emissions). Austin Energy has recognized some benefits outside the direct cost of electricity, like water savings from the reduced capacity factor of Fayette, under their current plan proposal. What is the total societal cost of keeping Fayette running (eg. healthcare costs, costs from mercury pollution, etc.)? Alternatively, what is the total societal benefit of shutting Fayette down and replacing it with renewable energy? ***This type of analysis is beyond the scope of Austin Energy's resource planning process. This type of analysis would require many assumptions on societal costs.***

2) Can AE provide the industrial rate history for the past 11 years (similar to what the Task Force was provided last week for the residential rate history)? ***Need to clarify billing demand and monthly kWh usage.***

3) In the rate impact analysis of Austin Energy's Generation Plan, why does the base rate change in 2010 if a rate case is not scheduled (tentatively) until 2012? Why does the base rate change every year?
An annual rate change was input for each year. In reality, the base portion of the rate change would not change annually. However, fuel does. The only factors causing increases or decreases in the base rate are Pace's numbers for O&M, debt service, etc. All scenarios assume Austin Energy owns future generation plants beyond the current agreements in place (Webberville and the Biomass).

Submitted by Phillip Schmandt (8/25/09)

1. Does AE have any knowledge of the costs associated with San Antonio's 30 year and 14 megawatt solar contract?
http://www.mysanantonio.com/business/More_solar_for_CPS_Energy.html

Austin Energy does not have any knowledge of the costs associated with this contract beyond what has been made publicly available. CSP previously signed a 27 megawatt solar contract and released publicly that the cost would be 17 cents a kilowatt-hour.

2. As ERCOT will assess CREZ transmission fees based on relative percentages of summer peak demand, what is the relationship between reductions in peak demand and (estimated) reductions in future costs that will be assessed to Austin Energy for the CREZ (and other) transmission build outs? For every megawatt of peak reduction demand, how much can we estimate that Austin Energy's future transmission fees to ERCOT will be reduced? Stated another way, if Austin Energy currently estimates that its share of the CREZ transmission fees will be $200 Million based on the fact that AE customers

represent about 4% of summer peak demand in the state, how much in future transmission fees will be saved by increasing demand side management reductions in peak capacity from 700 MW to 800 MW or by increasing distributed generation on the customer side of the meter by 100 MW?

Using current transmission rates a 100 MW reduction in 4CP (AE's average load during the ERCOT 1-hour peak of each summer month, i.e. "4 month coincident peak") will reduce AE's transmission charges by a little over $2 million. There is an offsetting reduction in base revenues, the magnitude of which is strictly speculative. The offsetting loss in energy sales will depend on a variety of factors including the type of DSM that resulted in that energy reduction (i.e. load shifting, peak clipping, etc.).