

(Cary Ferchill Comments in Blue)

To: Austin Generation Resource Planning Task Force

August 12, 2009

From: Roger Wood — Task Force Member  
Freescale Semiconductor, Inc.  
[roger.wood@freescale.com](mailto:roger.wood@freescale.com)  
512-895-6070

Ref: AE Generation Plan - Issues for Discussion

All businesses want to be as green as possible but to be competitive and survive; they must also have reliable and affordable power. The current AE plan contains green goals but has no reliability and affordability goals. A key objective of the Task Force should be to bring a balance of these three elements to the plan.

In addition to reviewing the AE generation plan, the Task Force should make recommendations on processes related to the plan such as plan implementation and plan updating.

- a. Reliable Power - Reliable power is critical for local manufacturing and non manufacturing business of all sizes.
  - a. A single power outage or power sag for less than one second can cost millions of dollars in production losses for a large manufacturing customer like Freescale.
  - b. In recent times, most customer reliability issues were associated with failures of the utility transmission and distribution grids and were localized to a single or small number of businesses. As more intermittent generation (i.e. wind, solar) is added to the ERGOT grid, the risk of power outages (due to capacity/load mismatch) increases as the per cent intermittent generation increases. Failures of this of type can impact large geographical areas causing aggregate local business losses of tens or hundreds of millions of dollars.
  - c. AE's generation plan should provide for a generation mix that enhances the overall ERCOT grid reliability. This should be quantifiable for a given generation mix. The Task Force should recommend this be required criteria in evaluating the various generation plan scenarios. In addition there should be reliability goals in the plan, just as there are carbon and renewable goals.

*I think we all agree that we need reliability. However, for the reasons set forth in the GE report to ERCOT on integration of wind resources, this is not an issue that we need to take up in the AE generation plan analysis. No plan that could possibly be executed by AE in the next ten years would have a significant impact on overall ERCOT reliability.*

- b. Affordable Power - AE rates for large businesses are currently significantly higher in Austin than San Antonio. This results in the loss of existing and potential future jobs to that area as well as other lower cost areas.
  - a. The AE generation plan needs to include a strategy to close that cost gap, not just a strategy that looks at relative merits of Austin-only scenarios. San Antonio has a goal to have the lowest power cost among the top 10 major cities in the USA. Where is AE's cost goal?
  - b. A few per cent increase in electric rates translates into millions of dollars per year of additional cost for a major manufacturer. For the aggregate of Austin businesses this amounts to hundreds of millions of dollars.
  - c. When AE electric rates increase, businesses currently don't have the option to switch to a lower cost supplier. If they pass these cost increases onto their customers, those customers can and do go elsewhere with their business, If they absorb these costs, they must remove costs elsewhere. This can translate into job reductions, movement of business to lower cost locations or even business failures. The loss of existing jobs in Austin, due to cost increases, needs to be weighed against the creation of jobs for each of the various generation plan scenarios.
  - d. The Task Force should recommend business impact be a required criteria in evaluating generation plan scenarios. In addition there should be cost goals in the plan, just as there are carbon and renewable goals.

*As set forth in my memo of August 4, I agree that economic cost should be a major factor in any AE generation plan and clearly any scenario that is way out on cost gets rejected out of hand by almost everyone who looks at this issue. Cost should absolutely be a major factor in any analysis, but not because we are competing with San Antonio. Cost should be a major factor because it is a measure of efficiency and any plan that does not assure costs are reasonable cannot be a reasonable plan.*

*That said, I do not accept the conclusion that Austin has been or will be losing jobs to San Antonio and other cities, and if so, that it is a function of electric rates. Even if true, I don't believe that should determine our policies. For a long time Austin has consistently been one of the fastest growing cities in the nation in terms of both population and employment. If we are losing jobs to San Antonio, what sector is that occurring in and why do we care if we are still growing so fast we*

*can hardly keep up? Furthermore, why should we let San Antonio's policy decisions on electric rate structure determine our own? Given the rapid changes in the electric industry and technology, San Antonio may well come to wish they had followed Austin's lead on this issue.*

*Although declining natural resources, improving technology and carbon regulation will probably change the equation eventually, we must recognize that at least for the near term, lowest cost (without considering external environmental costs) and the achievement of climate protection targets are somewhat competing goals. As you say above, these are goals that need to be balanced rather than choosing one over the other.*

*I do not believe that the projected costs for any of the scenarios we have seen are anywhere near accurate enough to lead us to say "We will choose plan A because it will give us an X% carbon reduction for a Y% increase in cost" or "We will pay \$X for each one ton reduction in annual carbon emissions". Anyone who thinks that these projections are that good should think about the projections for cost of natural gas over the last several years. Any balancing of cost and environmental impact in the scenarios I have seen modeled will have to be more qualitative than quantitative.*

- C. Green Power — Renewable generation and demand side management (DSM) are both part of the AE generation plan, We support both of these but we also have concerns about their mix in the plan.
- Virtually everyone agrees DSM is preferred since it not only reduces carbon but also reduces utility consumption and thus cost.
  - AE currently spends an average of \$350/kW for DSM, In all the generation scenarios under consideration, ratepayers will spend \$700/kW - \$6,000/kW for new generation (more when you include fuel and O&M costs). If DSM is the preferred approach, AE should be spending much more on it and lesson new generation.
  - At Freescale Semiconductor, equivalent dollars spent on DSM (vs. renewable generation additions) yield more carbon reduction, reduce consumption/cost, and create more local jobs. Each year Freescale sets new global and local energy and water efficiency/conservation goals (sustainable annualized savings for new conservation projects implemented during that year). In addition Freescale sets global and local energy and water maximum consumption goals. It has internal teams and programs that continually work to achieve those goals. Last year the company implemented a new program called "Lean" to further reduce costs. Small teams are formed and empowered to identify and reduce waste (including energy and water) in specific operations or processes. During the last 18 months the company empowered 930 teams involving 7,500 people to capture over \$90M in savings. These and similar programs demonstrate Freescale's strong belief and commitment to DSM.
  - The Task Force should recommend AE put much more emphasis on DSM and give customers the option to spend their utility money on DSM (vs. new generation) when the benefits to the local environment and economy are greater. Perhaps this could be more effectively accomplished if the current scenario evaluation process treated DSM as another generation source, being compared (based on reliability, affordability, and carbon) with currently identified sources.

*I agree. DSM is often the cheapest possible source of meeting demand. By any measure, AE's current goals of 700MW are very aggressive on this front. From what Roger and Karl have told us, I think AE is willing to entertain almost any project proposed by a customer, as long as it fits below AE's marginal cost of new generation. Perhaps we should recommend that AE commit a specific amount of capital to an RFP for DSM projects from Austin businesses. Then AE could choose from among the competing proposals based on the lowest all-in project cost per KW to AE, not to exceed marginal cost of new generation. That way Austin businesses could use their own ingenuity in helping to allocate capital investments at AE.*

*On another front, I think that we should consider recommending a more aggressive approach to the residential side as well. AE's incentive programs there are already very good. However, it still requires a sale to every existing homeowner to get them to buy in. Unlike businesses, which are accustomed to making investments on an IRR basis, homeowners often don't buy in even when it makes sense. In my opinion, we should ask the council to revisit the Point of Sale ordinance adopted last year and consider including a provision that adds a surcharge to the electric rates for homeowners who do not upgrade their energy efficiency to a specific level after receiving a point of sale energy audit. Mandatory compliance was rejected by the task force that considered that ordinance because the realtors thought it was a big impediment to sales. A surcharge would leave the decision with the homeowner, but more properly reflect what the issue is from the point of view of the utility, i.e., it sucks up a lot of AE's generating capacity to air-condition people's attics and it leads to AE spending more money on generation facilities.*

- d. Other AE Generation Plan Issues
- Flexibility - The plan needs to be flexible.
    - Key influencing parameters such as fuel costs, construction costs, legislation, technology, and the economy are moving targets with often significant volatility, unpredictability, and range of possible values.

- ii. The Task Force should recommend commitment to a process for reviewing the plan at regular intervals, at significant milestones or as key influencing factors dictate. The process needs to provide for performance balanced between green, reliability and cost goals and allow changing of goals as future conditions warrant.

*I agree.*

b. AE Transparency/communications

- i. If we lived in a deregulated area, and suspected our electric supplier costs/prices were excessive, we would shop around for a new supplier. We currently don't have that option in Austin. As a result, the best way to understand if AE costs are excessive is to have good visibility/access into AE's cost structure, operations, and decision making process. Businesses are frustrated of being told, that's confidential information" or having decisions made that significantly impact to their bill without their knowledge or input. Remember, ratepayers are the "customers". They're the people and organizations paying for all of AE services and programs. Common sense dictates they should be informed and involved early in key decision making processes that impact their costs.
- B. We need unfiltered flow of communications from us (and all AE stakeholders) to/through AE to City Council related to important utility concerns/issues. When this doesn't happen we are forced to take issues directly to the Council, This was one key reason for the formation of the Task Force.
- iii. The Task Force should provide recommendations to improve the current transparency/communications situation.

*I agree. However, I would have to say that I have found the public outreach on the generation plan over the last year and a half to be exceptional. I would like to see this process continued.*

c. Public Involvement in PPA Process — Except for Sand Hill plant expansions the AE plan does not identify who will own future generation additions.

- i. Based on recent decisions (through 2012) it appears most new generation will owned/operated by others (PPAs) and funded through the customer fuel pass through charge. This means AE/COA will no longer share financial risk in projects, leaving it all to ratepayers and PPA suppliers. Compounding this is the significantly less stringent AE/COA review/approval process for PPAs vs. capital acquisitions. Without this intense public capital review process, ratepayers are being further removed from the decision making oversight process.
- ii. The Task Force needs to provide recommendations for better involvement of ratepayers in the PPA process.

d. Green Choice - This program has been very successful and should be continued with 100% commitment by AE.

- i. AE needs to find and price Green Choice options so they are financially attractive to customers. AE used to have the lowest cost green power. Currently AE has some of the most expensive green power in the state. Batch 6 pricing and re-pricing highlights this issue.
- ii. AE has not significantly changed its marketing strategies in the last 10 years. Now is the time to step up its Green Choice marketing effort. This should be a Task Force recommendation.

*I am probably a maverick on this, but I think it is time to retire the Green Choice program. It has been a great story, but I feel like it is no longer necessary to treat Green Energy as an exotic choice that only some are interested in. Since Green Choice was developed, Austin has committed to have at least 30% renewables in the AE portfolio. If it makes sense in the portfolio, as it clearly does in many cases, then it should be included. If not, we should not be insisting on selling it as a luxury item.*

e. Nuclear Power - AE currently owns nuclear power (STNP) and will continue to own it in the future per the AE plan. This is a near zero carbon, reliable and affordable source of base load power.

- i. The current AE plan doesn't provide for any nuclear additions. This needs to be reconsidered and seriously studied further; especially as new nuclear opportunities continue to arise. The plan should not prevent this serious consideration from happening at any point in the future.
- ii. The STNP project is the cheapest source of electricity for AE ratepayers. With its life expectancy of as much as 60 years, it doesn't have to be replaced every 20—25 years as is the case with PPA purchases (i.e. — recent bio mass plant). In the long term this brings significant value to AE ratepayers. Since the AE

generation plan only extends through 2020, the long term value of this type investment is not being adequately weighed against the short lived PPA options currently under consideration.

- iii. The Task Force should recommend nuclear continue to be considered as a viable plan option.

*I am sure we will disagree on this, but I have spent a lot of time researching new nuclear energy proposals, and have firmly concluded that what I have seen is simply is not economical. I would be happy to share my research on this. Furthermore, new nuclear energy projects would be directly contrary to your interest in flexibility noted above. Any investment in building nuclear power will have to be a commitment for a large number of MW, will be a huge commitment of capital to a single project, and will be a very long-term proposition that will not be able to be abandoned if it turns out to*

*be too costly later. I would not want to say that we should never reconsider nuclear. Perhaps there will be some great technological advance that changes the game, but for the foreseeable future, it just doesn't make economic sense and it ties up too much capital for a single source.*

#### Plan Impact to Customer Bills

- i. Impacts to customer bills (\$or s/kwh) need to be estimated and made available to customers as part of the AE generation plan development/revision process. The impact should represent all cost elements and be consistent among generation types. Recent cost information provided is often confusing or misleading from this standpoint.

*I agree. I am not able to make heads or tails out of the rate analysis so far.*

- ii. Anticipated bill impacts should be made available in the early planning and decision making stages of implementation of specific plan elements, not at (or after) EUC or City Council approval votes. Bill impact, more than anything else helps customers understand the economic impact of actions under consideration. AE's ability to provide this type information in a timely fashion needs to significantly improve. The Task Force should study this issue and make specific recommendations as to how this can happen.