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GREATER RAILBELT ~~ENERGY &~~ TRANSMISSION CORPORATION

MAF Notes, Friday, 18 Dec 09

These notes are developed for discussion purposes only and are not necessarily reflective of positions or principles advanced by ML&P or the Municipality of Anchorage unless otherwise noted.



Together, Building a Future



1. First distributed to group 16 Dec 09; looks like a 12 day lag between production and distribution

December 4, 2009 Update

2. DNR Reports Reserves to Production Ratios for Natural Gas in the Cook Inlet that are comparable to L48 markets in the 1990s and early 2000s. We (electric & gas utilities) all need to work together to find gas and gas storage, but to characterize the resource as depleted is misleading.

Making the case for GRETC... our present situation:

- Limited, aging transmission infrastructure
- Aging generation resources
- Depleted and/or expensive fuel resources
- Economic uncertainty
- Capital requirements of regional large-scale alternative/renewable projects are beyond the borrowing ability of any one individual Railbelt utility

3. "Expensive" fuel resources compared to what? We can burn fuel or we can burn dollars to paraphrase Steve Denton quoting Joe Usibelli. The question we need to focus on is what alternatives do we have, how much will they cost, what are the risks and opportunities associated with each alternative?

4. As we've been reminded in the recent financial crisis, risk and uncertainty frequently just get shifted to someone who doesn't know or isn't accountable for what they are buying. Show me how risk and uncertainty go away under GRETC. It looks like some are trying to stick the State treasury with the risk and uncertainty of big bets on big monuments rather than allowing the private sector to develop sound business plans that can attract prudent capital.

...has lead to:

6. Please show me an "attractive" alternative/renewable project that is not being advanced because GRETC hasn't been around to plan for it. If the AEA would stick to assisting with transmission planning, they might have an argument that they are helping with economically rational development if they had a subject matter expert in Alaska transmission systems under contract.

- Very limited development of alternative/renewable projects
- Limited projects aggregating economies of scale from the entire Railbelt

...except one, the Bradley Lake Hydroelectric public/private partnership

5. IF the industry finds an "attractive" large scale alternative/renewable energy project(s) like maybe Chakachamna, Mt. Spurr, etc. rather than presume that the vertically integrated electric utilities are well suited to get together with the AEA in yet another commercially unbalanced committee to attempt political solutions to commercial problems appears to ignore the obvious - independent power producers have already arrived to develop those resources without the help of GRETC. The question isn't whether GRETC can help. The question is how do we best help advance and develop "attractive" projects. Seems like we have lots of options that are more consistent with basic commercial principles (like JVs, power purchase agreements) before creating yet another public/private hybrid organization with unbalanced governance with a statutory mission to plan. Our job is to evaluate risks and opportunities and create future commercial opportunities, not devote more resources to central planning models with government employees and short lived political appointees. With respect to whether any particular utility might want to increase its borrowing capacity in light of an "attractive" alternative and "whether" a utility wants to take an equity position or use a power purchase agreement might be best left to the individual utility to assess - rather than adding a layer that consists of an unbalanced committee and a political appointee.

7. As should be evident from many regional planning exercises in the Railbelt, generating projects with favorable economies of scale (coal-fired power plants at 200MW+; natural gas fired turbines up to 200MW) have to be balanced against reliability resource requirements and transmission requirements. Larger units tend to require larger contingent back-up resources. See AIDEA Railbelt IRP submitted with Healy Clean Coal (1992) and ML&P Integrated Resource Plan (2004). Larger units will also require larger capacity transmission facilities and may cost more than a smaller unit, especially if the larger unit is far away and has relatively low daily or seasonal capacity factors compared to a local small high capacity factor unit. Proponents of the big scale theory tend to forget that large distances between relatively small energy demand clusters cost real money.

8. Bradley Hydro notes:

a) AEA was the project developer during a time of substantial State fiscal surplus - the State had money to burn and it proceeded to do so.

b) Each utility eventually entered into a power purchase agreement that was exempt from Commission regulation (it was a series of bilateral contracts with project developer, not a "consolidation" model per se)

c) Project experienced cost overruns that were born by State treasury and ratepayers

d) Project experienced long suffering (over a decade) control system and voltage regulation problems that lead to cost overruns that were born by ratepayers

e) The project is still plagued by water hammer problems, pointed out during development by ML&P GM Tom Stahr, that limit operational flexibility and have the potential to shorten its economic life.

f) While the project might appear to have been less expensive than other power sources during the last few years of high fuel prices, it is far from clear whether the project has yet to reach a cumulative net benefit based on total cost, especially compared to a cumulative net present value using a risk adjusted discount rate for the investment.

g) In stark contrast with AEA hydro project developments, Investor-owned utilities have consistently brought in hydro projects *under* budget and under AEA cost estimates. The incentive structure associated with the free enterprise investor model works to the benefit of ratepayers and shareholders - they both share in a well planned and executed capital project. The AEA models built on other people's money (State of Alaska) and unbalanced political committees continue to deliver poor results. Do we really want to continue to perpetuate an AEA planning annuity dressed up in new clothes?

The Railbelt has a unique opportunity to transition the single project concept to meet future regional needs:

- Significant financial strength to shoulder long-term debt
- Make use of State financial underwriting
- Combined technical expertise and corporate leadership to manage and operate G&T system
- Risk to any one utility is minimized

9. Who exactly has the financial strength and how much do they really have to contribute to this scheme?

10. Gov and Leg have made State finances available under other simpler models

11. Political risk from poor project selection associated with popularity contests and not commercial considerations is spread to utilities disproportionate to their commercial size due to an unbalanced governance model

Risk/benefit Benefit is shared across all Railbelt consumers

- Regional Integrated Resource Planning (IRP) for future G&T projects

12. Is Statutorily prescribed perpetual "integrated resource planning" organization a blessing or a curse? Open competitive procurement model of generation and distributed resources may be more effective than a perpetual central planning model. State policy should encourage private capital, not force Independent Power Producers to deal with yet another layer of organization with political appointees that perpetuates vertically integrated electric coops.

13. Finally, a more appropriate role for State and Federal Government - build the roads (and require easy open access) in order to encourage the development of local resources, whether renewable energy, oil & gas or other export industries (including Mining and Department of Defense) customers

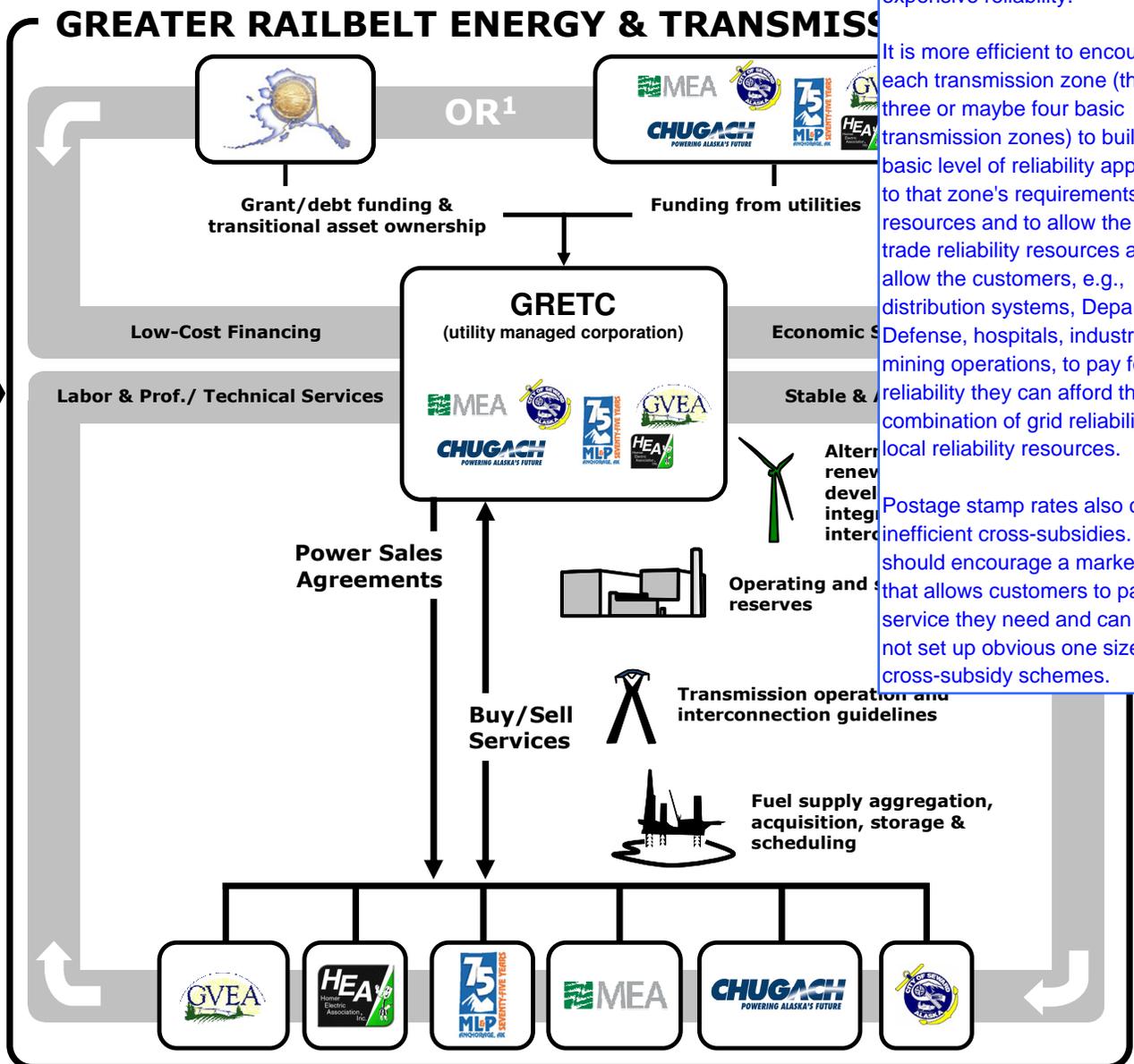
GRETC's vision.... a stable, secure and affordable energy future:

- A **robust transmission system** capable of delivering the benefit of new ~~large-scale~~ projects to all Railbelt consumers
- Diversification of fuel supply and resource options
- Minimization of risk to any one utility
- Ensure low-cost financing will reach all Railbelt consumers
- Rate stabilization through large, long-lived power projects
- Regional planning will provide all regions with **equal reliability**

14. Another bad idea that amounts to a hidden subsidy to benefit those with needs for high and inevitably expensive reliability.

It is more efficient to encourage each transmission zone (there are three or maybe four basic transmission zones) to build to a basic level of reliability appropriate to that zone's requirements and resources and to allow the zones to trade reliability resources and to allow the customers, e.g., distribution systems, Department of Defense, hospitals, industrials, mining operations, to pay for the reliability they can afford through a combination of grid reliability and local reliability resources.

Postage stamp rates also create inefficient cross-subsidies. We should encourage a market structure that allows customers to pay for the service they need and can afford, not set up obvious one size fits all cross-subsidy schemes.



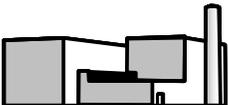
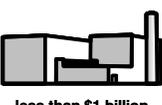
¹ depends on project scope and scale

GRETC FUNCTIONS, GOVERNANCE, OWNERSHIP & FINANCING

Administration

Participating utilities equally share in project governance and administration costs

15. To paraphrase Margaret Thatcher, "The trouble with Socialism is that eventually you run out of other people's money." Do we really want to turn the AEA loose chasing big projects predicated on the theory that it can pick commercially viable projects in consultation with its unbalanced GRETC governance committee and use the State treasury to pay for its picks. Who bears the risk? The State and ratepayers bear the risks of cost overruns and poor performance. In the IPP model, the shareholders bear risk and the resulting incentives reinforce streamlined development of capital projects.

Project Scale	Governance	Ownership	Financing
 more than \$1 billion	Energy/ Capacity Share	AEA (transfer to GRETC after bonds are paid)	AEA Bonds – moral obligation from SOA Potential for grant funds with repayment obligation Utilities guarantee debt service payments
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 less than \$0.5 billion	Energy/ Capacity Share	GRETC	Participating utilities finance their respective share

16. An *independent* regional transmission system that: 1) leverages *Federal* funds to help development a transmission network to renewable resources; 2) leverages Federal rules (to help with permitting); and 3) develops integration standards, is an excellent first step toward improving prospects for economic development projects that help attract private sector investments in renewable energy (wind, geothermal, hydro, etc.) and export industries (oil & gas, mining, fertilizer, etc.).



Fuel Alternatives

- Gas storage project
- Evaluate gas exploration opportunities

17. Gas and electric utilities are already developing fuel supply alternatives - including gas supply and gas storage arrangements. ANGDA, a mature organization with gas sector experience, is better positioned than untried GRETC to assist with gas supply alternatives. The AEA's attempt to venture into fuel supply riding a GRETC horse shines a light on why we should walk away from GRETC - it looks, walks and talks like political appointees and State bureaucrats trying to expand their reach into areas where experienced teams who understand the importance of building road maps for private sector investment are already hard at work. The State should give serious consideration to limiting, not expanding, the number of "quasi-public" entities it turns loose in the energy sector.



Fuel Alternatives

- LNG import option analysis
 - Nikiski LNG facility
 - New LNG facility
 - Direct injection – reservoir storage
- West Cook Inlet coal bed methane pilot project
- Propane/LNG North Slope options



Critical Transmission

- SVC replacement
- Alaska Intertie repairs

Interconnection Standards

- Transmission
- Generation



Alternative Energy

- Establish wind **integration system standards**
- Coordinate geothermal development efforts with independent power producer
- Large hydroelectric technical analysis
- Wind development
- Coordination to aggregate small projects



Transmission

- Anchorage-Kenai capacity increase – Girdwood SVS
- Anchorage-Soldotna transmission upgrade
- Eklutna line substation enhancements
- Douglas-Lorraine intertie completion
- Lorraine tap for Mat-Su prison and port
- Transmission to connect alternative energy projects



Alternative Energy

- Work with municipalities on garbage-fueled power plants

18. AEA's highest and best use is to act as a conduit, where needed, for Federal funding and help streamline Federal and State rules (ROW, permitting) to enable others to develop energy opportunities.

19. State policy should be focused on attracting federal resources and creating level playing field opportunities for the commercial gas and electric and renewable energy sectors, not expanding the footprint of political appointees and State agencies in key sectors of the economy.