ML&P Response to CEA/MEA/AEA Proposal

Chugach Electric Association (CEA), Matanuska Electric Association (MEA) and the Alaska Energy Authority (AEA) (collectively the "Proponents") are proposing that a Railbelt transmission entity be formed to facilitate the construction of transmission upgrades and promote more efficient generation dispatch. It is purported that cost savings as a result of more economic dispatch of Railbelt generation will fully fund the needed transmission facilities. As a transitional measure, CEA is also proposing that a load balancing authority (LBA) to perform common electric and gas dispatch be formed among itself, MEA and ML&P until an Independent System Operator (ISO) is created. In order to gauge the efficacy of this concept, the Proponents have submitted Senate Bill No. 196 and House Bill No. 340 that require the Regulatory Commission of Alaska (RCA) to prepare a report to determine if a new Entity is in the best interest of the electric customers in the Railbelt.

The purpose of this white paper is to evaluate the prudency from Municipal Light & Power's (ML&P's) perspective to forming such a new Entity.

New Entity Options—ISO and TRANSCO and POWER POOL/CENTRAL DISPATCH

The Proponents are proposing two options for centralizing the planning, control, maintenance and possible upgrading of the Railbelt transmission system. There are several important differences between these two possible entities. The first option is an ISO which would not own any transmission assets but would plan, manage and control the transmission grid in the Railbelt. The ISO could facilitate intercompany economy sales, dispatch generation and transmission, and possibly coordinate transmission upgrades. The ISO could also form a LBA and allocate transmission-related costs via wheeling rates based on some rational basis.

The other option proposed for a new Entity is the establishment of a Transmission Company (TRANSCO). Under a TRANSCO, this new Entity would finance, construct and own all transmission assets. This TRANSCO would also perform the planning and maintenance functions for the grid, and could facilitate efficient generation dispatch and load balancing.

ISOs and TRANSCOs in the Lower 48

ISOs and TRANSCOs have become fairly common in the Lower 48 in order to further the Federal Energy Regulatory Commission's (FERC) push for open access for all utilities and independent power producers (IPPs) as memorialized in its Order 888. The following table provides general statistics for the ISO's and TRANSCOs currently operating in the US.

	Installed Generation (MW)	***Transmission Line (Miles)***	***Population Served (Millions)***	***Annual Budget ($ Millions)***
CAISO	*57,124*	*25,526*	*30*	*195.1*
ERCOT	*88,227*	*40,327*	*22*	*176.1*
ISO-NE	*33,700*	*8,130*	*14*	*273.0*
MISO	*144,132*	*55,090*	*43*	*137.2*
NYISO	*40,685*	*10,893*	*19*	*119.5*
PJM	*164,895*	*56,499*	*51*	*252.0*
SPP	*66,175*	*50,575*	*15*	*76.2*

Many after the fact cost/benefit analyses have been performed evaluating ISO performance. One of the common findings in these analyses is that when evaluating the benefits and costs of a potential ISO, it is important to examine not just the system-wide impact, but also the impact on the individual utility participants in the ISO. Benefits have been shown not to be consistent across transmission users. In other words, inter-utility cross subsidies are common within the ISO and TRANSCO constructs.

Related to start-up costs, a recent FERC study estimated that the start-up costs of a new ISO will range between $50 – $70 million. In addition, the administrative costs of an ISO are estimated between $0.20/MWh to $0.90/MWh[1]. The general finding is that the larger the ISO, the lower the administrative $/MWH cost. In addition to the cost of operating the ISO, experience in the Lower 48 has shown that many utilities plan for more internal staff, not less, to deal with the ISO interface. Therefore, in order for an ISO or TRANSCO to be cost-effective, significant benefits must be realized through efficiency gains to offset these additional administrative cost burdens.

Regarding the allocation of costs, FERC has adopted the relative benefits ratio across transmission users approach as the way to allocate transmission upgrade and operating costs. As part of Order 1000 and Order 1000-A, FERC addresses cost allocation of transmission upgrades. FERC's principles that must be met related to cost allocation are as follows:

- *Costs must be allocated in a way that is roughly commensurate with benefits.*
- *No involuntary allocation of costs to non-beneficiaries is permitted.*
- *There must be a transparent methodology for determining benefits and identifying beneficiaries.*

Formation of a TRANSCO is more daunting than an ISO. In order to form a TRANSCO, the new Entity must obtain ownership of all major transmission lines. While operating much like an ISO, a TRANSCO would need to purchase all existing transmission owners' assets. This purchase by a TRANSCO (usually privately-owned) would take a very large amount of money. This money, raised by a private entity, would likely have significantly higher capital costs than the capital cost of the incumbent not for profit owners, thereby potentially raising transmission wheeling rates significantly.

Situation on Railbelt System

The Railbelt consists of three sub-areas: the Anchorage area where CEA, MEA and ML&P are located, the Kenai area where HEA and Seward are located, and the Northern area where GVEA is located. The distance from Homer in the south to Fairbanks in the north is roughly 580 miles and consists of approximately 750 miles of transmission line. The total loads of all six utilities in the Railbelt are only expected to reach approximately 1,034 MW by 2023. Compared to the existing ISOs and TRANSCOs in the Lower 48, a new Railbelt transmission Entity would be very small. This size differential may be problematic as many of a new Entity's costs are fixed, thus resulting in much higher costs per MWh.

Operating utilities in Alaska are also very different from operating utilities in the Lower 48. Alaska utilities traditionally rely less on transmission and power supply from other entities than is common in the Lower 48. Outages are not acceptable in Alaska given its isolation from a major grid and the adverse climatological conditions during the winter; thus each Alaska utility carries significant back-up resources to ensure no loss of load.

However, as pointed out in the CEA and AEA presentations, the Railbelt is changing. The number of generating utilities is increasing from three to five. In addition, two IPPs (Fire Island and the Doyon landfill project) are now operating in the Railbelt and more IPPs are likely to consider locating in the Railbelt in the future. While numerous bilateral buy/sell transactions between utilities for wholesale economy energy sales currently exist, there are no standard contracts for such sales across utilities. In addition, studies have identified the need for significant investment into the Railbelt transmission system. To help facilitate the funding of these transmission upgrades, CEA and AEA are promoting the creation of a new transmission Entity in order to realize savings through more economic dispatch.

Critique of Proponents' Proposal from ML&P's Perspective

ML&P is in a unique situation in the Railbelt. ML&P is in the process of updating its generation resources to improve efficiency and continue to meet long term reliability requirements. While ML&P utilizes the existing Railbelt transmission system to participate in a reserve sharing pool, once Plant 2A is on-line in 2016, ML&P's long-term transmission requirements will primarily be to deliver its share of Bradley Lake power to the Anchorage area and maintain reserve

sharing capability. When Plant 2A comes online, it is important to note that ML&P will not need to rely on Bradley Lake output as much as it has in the past to meet load. ML&P will also be able to tolerate reduced Bradley Lake generation during times of transmission constraints. Though it is yet to be precisely calculated, ML&P's future generation portfolio will likely reduce the value of Bradley Lake to ML&P.

ML&P is also eager to meet economy energy sales requests when it is cost effective to do so.

Finally, ML&P will have adequate resources to meet its own capacity needs until 2030 and perform its LBA function adequately with its own resources, even with the existing transmission system's current capacity restraints.

ML&P acknowledges that there is value in looking for better ways to coordinate future planning and operations in the Railbelt; however, the overarching principle that must guide this coordination is that costs must be allocated in a way that is commensurate with benefits.

The transmission upgrades most directly benefitting ML&P among those noted as noted above are the ones that are necessary to remove the bottle neck from Bradley Lake. This bottle neck has not caused major issues for ML&P in the past. However, assuming that all of the proposed Bradley Lake related projects ($402.2 million) are beneficial to ML&P, ML&P's project cost share, based on Bradley Lake ownership, will be approximately 26% or $104.6M. In addition, ML&P could potentially benefit from the Southcentral transmission projects ($20.5M), of which ML&P should pay its share based on commensurate benefits. The Proponents' current proposal, however, would have ML&P pay approximately 22% of the total Railbelt project costs ($903.4 million) based on load ratios, or almost $200M. This $200M may exceed ML&P benefits associated with these proposed transmission projects and does not consider ML&P's option of paying for fewer, if any, of the identified upgrades by being able to accept less Bradley Lake output during peak periods. ML&P realizes that there is value to being an inter-connected utility, but is not necessarily convinced that interconnection improvements are worth the costs incurred by ML&P under the proponent's proposal.

The need for a new transmission Entity in order to implement transmission upgrades is also questionable from a cost-effective standpoint. System transmission upgrades could successfully be undertaken under the current Railbelt Interconnection Agreement, with the costs of projects allocated based on relative benefits. As the operating cost of a new transmission Entity will be relatively high given the large up-front costs and small base over which to allocate these costs, it will be very important to ensure any proposed change to current transmission operations and funding is cost-effective given ML&P's particular circumstances.

As an alternative idea for constructing any transmission upgrades, the Railbelt may not need a new Entity, with its attendant overhead and profit requirements. Instead, developing a locally-controlled coordinating and planning group such as a Centralized Dispatch/ Power Pool function with local participants could be a far cheaper option. This planning group (or single incumbent utility) could follow a process similar to the FERC Order 1000 required Regional Planning Process. Participation in this process would be voluntary and local groups of utilities could join based on project needs and economics. The current Railbelt Intertie Agreement has a cost sharing arrangement for new construction and historically, existing utilities have been able to build specific transmission system projects without a for-profit private Entity assistance.

Also, a new Entity is not the only way to maximize generation dispatch efficiency. A proliferation of economy energy sales or an Energy Imbalance Market (EIM) could also be pursued to achieve the same objective. Both of these options would have much lower operating costs and would result in the sharing of the most efficient generation units among utilities. Again, assuming that generation assets can be more efficiently dispatched i.e. via a voluntary centralized Dispatch/Power Pool function) than they are today, the potential impact of incremental dispatch efficiency gains must be examined for each utility in the Railbelt individually to determine the cost-effectiveness of changes in dispatch protocol to each particular utility, and the attendant cost allocation.

A number of organizational options, cost allocation methods and transaction models need to be evaluated before adopting the current Proponents' proposal. The economic and equitability case for a new transmission Entity and the attendant cost allocation methodology has not, from ML&P's perspective, yet been made.

How to Proceed

Before adopting the Proponents' proposal, an independent evaluation of 1) transmission upgrade options, 2) perceived inefficiencies in the current generation dispatch and 3) the allocation of costs algorithm must be made. As well, the benefits of any warranted change from status quo must be quantified to determine who pays for any changes. The State of Alaska needs to be included as a beneficiary in this evaluation as the State benefits from economic development potential associated with these upgrades and possible efficiencies. This evaluation must allocate the benefits and costs for the total Railbelt area as well as for each individual utility.

The State should consider passing a resolution or legislation (e.g., SB 196 and HB 340) remanding this evaluation to the RCA. The State should also commit to fund this evaluation in order to help ensure objectivity. Whatever process (report or rulemaking docket) the RCA chooses to carry out the legislature's directive, it should determine:

- *What upgrades are needed that are cost-effective?*
- *Are there generation inefficiencies that exist under current dispatch protocol and if so, what cost-effective options are available to remedy the situation?*
- *Is a new Entity needed to perfect upgrades and efficiency improvements?*
- *If so, what is the preferred structure of a new Entity and how should attendant costs be allocated?*
- *Who benefits from any changes to the current situation and which benefit-based cost allocation algorithm should be used?*

The following parameters should also guide the RCA evaluation:

- *The evaluation should be considered in an open forum.*
- *All stakeholders should have the right to review and critique this evaluation thoroughly.*
- *The evaluation should examine all options, not just the ISO or TRANSCO options (e.g., EIM, more bilateral deals between utilities, or an incumbent utility taking responsibility for a particular project(s)).*
- *The evaluation should determine the benefit/cost of each major transmission segment and determine if there is a cheaper and more cost-effective option to solve any perceived problem.*
- *The evaluation should determine benefiting parties and develop cost allocation methodologies such that costs follow benefits.*
- *Participation in any new Entity should be voluntary.*
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Given the State's excellent bond rating, consideration should be given to the State funding worthy projects, with debt service on those funds paid by benefitting utilities. Funding in this manner would greatly reduce retail rates to the Railbelt electric customers.

Proposed Senate Bill No. 196 and the companion House Bill No. 340 provide an effective means of evaluating the ISO/TRANSCO proposal being advanced by the Proponents. The Proposals would be evaluated by an independent party (the RCA) who has experience evaluating complex matters in an open and balanced manner. This legislation seems to allow the RCA to consider other options in that it requires a determinate of whether an independent entity "is the best option". However, one glaring flaw in the proposed legislation is that Section 1(b) (5) provides for mandatory participation by all entities. Participation should be voluntary. Accordingly, consideration should be given to submitting a proposed change in this section of the legislation.

Summary/Conclusion

From ML&P's prospective the case has not yet been made to accept or support the Proponents' proposal. At present, the Proponents' proposal lacks key policymaking inputs such as a delineation of all organizational options to pursue any needed changes, all technical options available to meet any perceived needed changes and, most importantly, a benefit/cost analysis for each incumbent shareholder. Without a thorough and independent review of issues related to the proposed creation of an ISO/TRANSCO, while ML&P favors a voluntary Centralized Dispatch/Power Pool concept, it would be premature and possibly imprudent for ML&P to support any proposal for change at this time.

The logical forum for an independent review of the proposal is the RCA with the caveat that the following higher principles guide the RCA's deliberations:

- *Any change from status quo must be cost-effective and the least costly option available.*
- *All organizational options to affect any needed change should be considered.*
- *If a new Entity is deemed necessary, participation by incumbent stakeholders should be voluntary.*
- *Any costs associated with the new Entity should be allocated based on benefits received from the formation of the new Entity.*

ML&P will continue to monitor the Proponent's proposal and actively participate in future LBA, ISO, TRANSCO and Centralized Dispatch/ Power Pool activities and forums.

Approved

Listen-think-solve

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