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May 15, 2015



Minnesota Department of Commerce
Division of Energy Resources
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

RE: In the Matter of Combined Heat and Power Draft Action Plan

Division of Energy Resources:

The Minnesota Department of Commerce, Division of Energy Resources (“Department”), has requested written comments related to the priority issues and action items presented in their March 31, 2015, Draft Combined Heat and Power (“CHP”) Action Plan. While Otter Tail Power Company (“Otter Tail”) supports pieces of the Draft Action Plan, Otter Tail would like to reiterate its October 10, 2014 comments which strongly opposed any inclusion of non-waste heat recovery CHP in the Conservation Improvement Program (“CIP”). Otter Tail will continue to participate in any CHP discussions and try to help find ways CHP may fit as a cost-effective supply-side resource.

Otter Tail’s ensuing comments are in response to the following priority issues listed in the CHP Action Plan.

1. Standby Rates
2. CHP Evaluation Methodology and Criteria
3. Mapping CHP Opportunities
4. CHP Ownership Problems and Solutions
5. Education and Training Needs and Options
6. Adapting CIP for Supply-Side Investments

The Department has hosted a series of CHP meetings since the fall of 2013. These informative meetings have included a wide variety of stakeholders who have an immense amount of energy industry experience. While a great deal of work and discussion took place through the stakeholder process, Otter Tail doesn’t agree that the path forward is as clear as the Draft CHP Action Plan (“Draft Action Plan”) outlines. Many items were discussed through the stakeholder process, but few items had a consensus of agreement.

Results from Microgrid Institute’s post-engagement survey of the stakeholders are an excellent example of the group’s lack of agreement surrounding policy reform. Of the three key findings from

the post-engagement survey, on page 32 of the Draft Action Plan, none have more than forty-three percent of agreement from respondents.

The item with the most agreement in the Department's post-engagement survey, page 7, included,

“When evaluating CHP projects, 85 percent of respondents identified cost effectiveness as the most significant criteria. This includes energy cost savings potential, energy efficiency, spark spread, investment returns and risk-reward factors.”

Otter Tail agrees with the consensus of the stakeholders, these items are the most significant criteria in evaluating CHP. FVB Energy Inc. (“FVB”) prepared a Final Report to the Department in July 2014. The Final Report was funded through the Conservation Applied Research & Development program. On page 14 and 15 of the Final Report, FVB describes low electricity prices in MN as a key challenge suggesting an unfavorable customer spark spread. FVB's Final Report also suggests that without utility customers subsidizing CHP installations with ratepayer money, and ratepayer risk, typical investor's cost of capital and simple payback requirements aren't cost effective enough to invest in CHP (pages 19-21).

Otter Tail is not clear on the overall goal of the CHP stakeholder group. Is the goal to promote generator-to-site energy efficiency, reduce carbon emissions, or other? With Minnesota's strong renewable energy policy, utilities and their customers are making large investments in renewables. The Environmental Protection Agency's proposed Clean Power Plan will also support greater investments in Minnesota renewable energy. Several utilities including Otter Tail plan to retire coal generators in the next several years. A strong argument can be made that in the near future the electric utilities' generation mix may produce less emission than a CHP facility. Many new energy generating resources are also being located closer to consumption sites. These generating sources are sure to have significantly less energy losses than previous resources. Even if many of the CHP barriers were removed, the benefits of CHP compared to Minnesota's upcoming electricity generation is not clear.

1. Standby Rates

Otter Tail's position on standby rates has been stated in our October 1, 2014 comments to the Department in the Generic Proceeding on Standby Rates. These comments have also been included Docket No. E999/CI-15-115 on April 15, 2015. The comments are summarized as follows:

Upon review of the Department's Standby Report, Otter Tail's position has not changed – we do not support a generic proceeding. Our position on a generic proceeding does not equate to being unwilling to improve standby rates in Minnesota. Otter Tail has clearly shown improvements in its standby rate offerings since the September 28, 2004 Order Establishing Standards in Docket No. E999/CI-01-1023. These improvements were completed without a generic proceeding. Thus, Otter Tail believes its standby rate is well positioned for Otter Tail customers seeking standby service as well as being willing and able to make incremental improvements, as warranted.

As the stakeholders in this process head down a path to consider and decide on warranted improvements to standby rates and other customer generation opportunities, Otter Tail believes customers' expectations must be cognizant of the economic realities that may or may not prove fruitful for customer-related generation opportunities. Currently we are in a region of low electricity prices, distributive generation technologies are improving on many fronts, and certain federal and state policies favor exploring – and even requiring – renewable and efficiency improvements in generation. Will all proposed distributed generation projects in Minnesota come to fruition? Not likely. Are standby rates the only potential barrier in this process? No. All costs associated with customer generation are potential barriers.

2. CHP Evaluation Methodology and Criteria

Otter Tail is a member of the Technical Reference Manual Advisory Committee (“TRMAC”) and will participate in any discussions regarding the inclusion and development of a CHP energy savings method as proposed by the Department.

Otter Tail cautions the inclusion of all forms of CHP in Minnesota’s Technical Reference Manual (“TRM”). The TRM currently includes savings algorithms for energy conservation measures which are included in CIP. Otter Tail does not believe MN statute 216B.241 is inclusive to all forms of CHP. Otter Tail recognizes CIP to include, “waste heat recovered and used for thermal energy” as an energy conservation measure that can be included in utilities’ CIP programs. MN Statute 216B.241, Subd 1, part (e), states,

(e) "Energy conservation improvement" means a project that results in energy efficiency or energy conservation. Energy conservation improvement may include waste heat that is recovered and converted into electricity, but does not include electric utility infrastructure projects approved by the commission under section 216B.1636. Energy conservation improvement also includes waste heat recovered and used as thermal energy.

Sudb. 10 of this statute further defines the use of CHP in CIP.

Subd. 10. Waste heat recovery; thermal energy distribution.

Demand-side natural gas or electric energy displaced by use of waste heat recovered and used as thermal energy, including the recovered thermal energy from a cogeneration or combined heat and power facility, is eligible to be counted towards a utility's natural gas or electric energy savings goals, subject to department approval.

Some stakeholders have asserted this language is intended to also include CHP topping cycle technologies, but nowhere in statute is “topping cycle” mentioned. The only CHP defined in statute is “waste heat recovered and used as thermal energy”. Much of the discussion in the stakeholder process surrounds CHP facilities that **produce** thermal energy, not that **recover** energy. Otter Tail believes the spirit of statute is to promote waste heat recovery CHP in CIP.

Currently Otter Tail offers its commercial customers rebates on custom projects through CIP. Otter Tail has evaluated numerous waste heat recovery projects and paid customers rebates based on the

energy and demand savings. These projects are waste heat recovery projects and conform to the legislature's definition of CHP's inclusion within CIP. A sample of all custom projects is audited by the Department's engineering staff annually.

Fuel Switching

Using electric utility CIP funds to incentivize a natural gas CHP facility is fuel switching. Fuel switching with CIP funds has not been allowed historically. A March 7, 2005 *Order* by the Deputy Commissioner specifically prohibited targeted fuel switching in CIP.¹ In addition, the Director of the Office of Energy Security specifically prohibited the use of CIP funds to switch a customer from a natural gas system to an electric powered heat pump system in Otter Tail Power's 2011-2013 CIP.

Because of these policy directives, Otter Tail is not allowed to rebate a customer who installs an electric ground-source heat pump to replace a natural gas heating system, even though the overall thermal efficiency of the electric ground-source heat pump is more energy efficient than the natural gas furnace it would replace. As a result, fuel switching policy prohibits a CIP rebate for the higher efficiency, renewable, ground-source heat pump.

Consistent with current policy directives, natural gas utilities should incentivize customers for avoided natural gas costs; electric utilities should incentivize customers for avoided electric costs. Transfer payments should not result. Therefore, Otter Tail believes electric utilities cannot fund installation of CHP systems, with the exception of waste heat recovery. If CHP funding in CIP is allowed, then other fuel switching projects should be considered. This is another strong example of why CHP funding does not fit within CIP.

3. Mapping CHP Opportunities – Map CHP Facility-Specific Opportunities

The Department proposes to assess opportunities for CHP implementation at public wastewater facilities throughout Minnesota. Otter Tail encourages the Department to include in the final Action Plan a requirement that these facilities must first have an energy-audit assessment of all potential energy-efficiency measures. Each facility should be required to provide evidence that all reasonable cost-effective conservation investments have previously been made to the facility before participating in any CHP project using public funds.

Otter Tail is unclear on the number of CHP opportunities existing in Minnesota. In FVB Energy's Assessment of the Technical and Economic Potential of CHP in Minnesota, FVB Energy relied on ICF International's ("ICF") CHP Database. Otter Tail found ICF's CHP Installation Database to be inaccurate. The database claims to be "*a work in progress. While the information is believed to be accurate, we realize that incorrect data may be included and that the database may not be complete.*" FVB also relied on ICF for establishing their Assessment of the Technical and Economic Potential for

¹ Targeted fuel switching is prohibited in CIP per a March 7, 2005 *Order* by the Deputy Commissioner in Docket No. G008/CIP-00-864.07.

CHP in Minnesota, but Otter Tail could find no background data to support this analysis other than some footnotes. Otter Tail questions the data and methodology used in this study. Did the study rely on any site visits or field work with Minnesota customers? How current is the data? One of Otter Tail's customers listed in the ICF report has not owned the facility in over 10 years and the CHP equipment there has not been operational in the last eight years. Otter Tail has concerns with any conclusions based on ICF International's CHP Database.

4. CHP Ownership Problems and Solutions – Leverage Existing Financing Programs Applicable to CHP

Otter Tail mostly agrees with the Department's proposed action item number four. Existing financing programs (outside of CIP) should be explored for the promotion of CHP. Most stakeholders can agree that lack of access to financial assistance is a major barrier to CHP development. Otter Tail believes that all funding mechanisms, both private and public, should be considered.

However, leveraging CIP funds to finance a CHP project in Otter Tail's service territory could dwarf Otter Tail's CIP budget, and would add risk to Otter Tail's Minnesota rate payers. Otter Tail's CIP funds are currently available to all Minnesota customers with energy-efficiency projects. Residential, low-income, commercial, and industrial customers all participate in CIP. Funding CHP through CIP would take CIP dollars away from Otter Tail's other customers limiting cost-effective CIP participation for all.

5. Education and Training Needs and Options – Expand Education and Training Resources

Otter Tail supports expanding education and training resources for CHP. In reply comments Otter Tail would appreciate if the Department could discuss what funding sources are available to support the education materials, website expansion, outreach, and other training resources needed for CHP education. Otter Tail does not support the use of CIP funds to support ongoing education efforts for CHP.

6. Adapting CIP for Supply-Side Investments – Develop and Clarify Electric Utility Infrastructure Policy

Inclusion of CHP in CIP was not supported by the majority of the stakeholder group. Most utilities and several non-utilities repeatedly stated their concerns with CHP in CIP. Otter Tail is surprised that this option is being considered in the Draft Action Plan, considering the lack of support for CHP in CIP throughout the stakeholder process. The Department's post engagement survey indicated that only thirty-eight percent of respondents supported inclusion of CHP as a supply-side opportunity in the Electric Utility Infrastructure program. As Otter Tail stated previously, we believe MN statute only allows CHP to be included in CIP in the form of waste heat recovery.

As Otter Tail stated in number two above, Otter Tail will participate in any TRMAC meetings the Department hosts. Otter Tail would like to remind the Department the next year is a CIP triennial planning year for most utilities. The utilities will be working with the Department and Franklin Energy to complete a major revision to the TRM to be completed by December 2015. This major revision will be used for triennial plans file June 1, 2016. Otter Tail believes the TRM revision will take considerable time from TRM members and should be the primary focus of our efforts. Any discussion regarding the inclusion of CHP (waste heat recovery) in the TRM should only occur after the TRM has been finalized for 2017 triennial plans.

Conclusion

As the post-engagement survey indicated, Otter Tail recognizes the challenges surrounding the development of cost-effective CHP. Including an expanded version of CHP in CIP is not supported by current policy and CIP Orders. At a minimum, including waste heat recovery CHP projects in CIP requires them to be treated equally to other CIP programs. Allowable CHP projects would need to pass benefit/cost tests, receive similar custom incentives, and be evaluated/audited like other CIP programs.

With the limited of economic potential, lack of stakeholder consensus, added risk to ratepayers, no clear funding mechanisms, and low regional energy prices, it seems that advancing a robust CHP Action Plan throughout Minnesota is like forcing a square peg into a round hole. With all these barriers identified through the stakeholder process it seems the Draft Action Plan should be scaled back and include only education and evaluation opportunities.

CHP is most appropriately evaluated like other resources in utilities' Integrated Resource Plans ("IRP"). Otter Tail has evaluated CHP opportunities through its IRP and CHP has not proven to be a top cost-effective generating resource. As opportunities arise, Otter Tail will continue to include CHP evaluations in future IRPs.

Otter Tail appreciates the opportunity to participate in the stakeholder group and looks forward to the continued exploration of opportunities, assessment of challenges and work towards equitable solutions. If you have any questions regarding this filing, please contact me at 218-739-8639 or at jgrenier@otpc.com.

Sincerely,

/S/ JASON GRENIER

Jason Grenier
Manager, Market Planning