a Publication of GDS Associates, Inc.

TRANSACTIONS

AUG/SEP 2019

PART II

FERC ROE POLICY IN A FLUX

what's happening and why it matters

The Federal Energy Regulatory Commission's ("FERC" or the "Commission") policy on Return on Equity ("ROE") is in a flux following a proposal to drastically change how it determines just and reasonable ROEs. ***Part One of this two-part series outlined the details of the newly proposed framework which involves a change from a solitary reliance on the Discounted Cash Flow ("DCF") method to using multiple analytical methods in determining a just and reasonable ROE.*** This article explains how this represents a major shift in policy and provide cautionary reminder that determining a just and reasonable rate requires a careful balance of investor and consumer interests. Additionally, we highlight the importance of ROE's contribution to transmission charges as it's expected to increase with growing transmission capital expenditure. Finally, we discuss the options available to transmission customers to ensure ROEs are just and reasonable.

Major Shift in ROE Policy

The Commission's proposed framework represents a major shift in policy on a number of fronts. First, the Commission has relied exclusively upon the DCF methodology for several decades, since the early 1980s, to determine a just and reasonable ROE for a public utility. Even its decision in Opinion No. 531 was ultimately within the confines of a range of reasonableness determined by the DCF method. Second, putting any weight on an accounting return method, such as the Expected Earnings method, which is completely devoid of market input, violates the Commission's long-standing view that the best way to meet the standards set out in the landmark Bluefield (1923) and Hope (1944) Supreme Court decisions is through the application of a market-based cost of capital estimate (e.g. the DCF method). Third, in Opinion No. 531, the Commission expressed concern regarding the reliability of the non-DCF methods it is now proposing to directly utilize and concluded that they were "sufficiently reliable – not to set the ROE itself – but rather to corroborate our decision." Therefore, it is quite a change to now propose to directly rely upon these alternative methods in the determination of the ROE. At the very least, significant modifications to the way the methods were applied in Opinion No. 531 is warranted and required. From a review of FERC trial staff's testimony filed in the paper hearing proceedings, it is clear that they also consider that significant modifications will be necessary.

Just & Reasonable ROEs--a Balance of Investor and Consumer Interests

In two landmark decisions, known as Bluefield and Hope, the Supreme Court established standards for regulatory determinations of allowable rates of return on common equity capital which the Commission follows. Importantly, these standards recognize that ratemaking involves a balancing of investor and consumer interests, and that the equity investor's interest is served if the return to the equity owner is comparable to the returns on investments in other enterprises having

GDS HIRES NEW DIRECTOR

GDS *is pleased to announce that*
Rich Hasselman
has joined **GDS** as
Managing Director in the Energy Efficiency Department

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AUGUST 27-29
AESP Summer Conference
Toronto, ON

SEPTEMBER 15-18
2019 NASEO Annual Meeting
Manhattan Beach, CA

UPCOMING WEBINARS

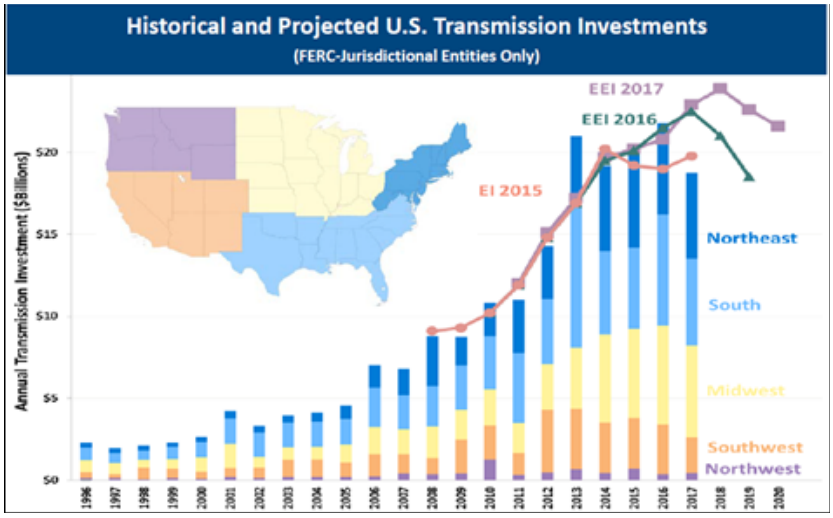
SEPTEMBER 10
Battery Energy Storage Systems

OCTOBER 8
Wood Poles-Standards & Design

NOVEMBER 12
Application of Voltage Regulators

NOTE *All webinars are recorded & are available for viewing post-presentation*

Figure 1. ***Transmission Investment***



Source: The Brattle Group, Transmission Solutions: Potential Cost Savings Offered by Competitive Planning Processes, November 13, 2018.

similar risks. In addition, the Court's standards support an ROE that is sufficient to ensure confidence in the financial integrity of the enterprise so as to maintain its credit and to attract capital. The consumer interest is described as including protection from "exploitation at the hands of" the utility. It goes without saying, that investors in utilities want a high ROE rate and that consumers want a low ROE, but ultimately a necessary balance ensures a sustainable and mutually beneficial arrangement supporting the provision of transmission service, a critical public good.

However, a wholesale transmission customer should be concerned about the direction of the newly proposed framework, including the particulars of how each methodology is employed, and whether it will simply result in an unjustified increase of ROE rates. If one were to take a cynical view, it can be seen that there are distinct similarities between the views expressed by the Edison Electric Institute, an advocacy group for investor-owned utilities, in its December 2017 whitepaper calling for the Commission to revisit its reliance on the DCF methodology, and the resulting proposed framework put forward by the Commission. Furthermore, the Commission's orders and notice of inquiry emphasize the need to ensure that the capital attraction standard is met but omits to mention that setting a just and reasonable ROE involves a balancing of investor and consumer interests. The importance of this balance is not lost on leaders of the electric utility industry, with FirstEnergy Corp. president and CEO, Charles Jones, Jr., saying during the February 20, 2019 earnings call, that "Good investments are formulaic mechanisms at transmission…that lead to the improvements that we're making to also serve customers, and you've heard me say this before good investments are the ones customers are willing to pay for and shareholders are willing to invest in." It is critical that this required balance is not overlooked.

With Growing Transmission Capital Expenditure, ROE's Importance in Transmission Charges is Expected to Increase

The transmission system has experienced a significant and sustained level of investment over the past 10 years. The is readily apparent from Figure 3 below which shows yearly utility investment in transmission infrastructure was around $10BN in the late 2000s to $20BN in each of the last five years. This is significantly up from the $2BN a year level seen in the 1990s. The drivers for this investment can be summarized into ***three broad categories: (1) aging infrastructure replacements and upgrades, (2) integration of new renewable and gas-fired generation, and (3) system resiliency, security, and protection.*** Additionally, investment in transmission facilities under FERC's jurisdiction is clearly an attractive proposition. For example, in late 2018, FirstEnergy Corp. exited its troubled non-regulated businesses and become an entirely regulated company. Moreover, it's president and CEO, Charles Jones, Jr., during the February 20, 2019 earnings call, praised the virtues of investing under FERC approved transmission formula rates and distribution real-time riders when he said the company's planned investment ***growth of 6-8%*** a year "does not depend on any rate cases in order for us to achieve that growth; it's merely executing the plan, investing in these formula-driven mechanisms and the growth will occur." These comments demonstrate the attractiveness of low-risk guaranteed return formula-driven mechanisms to investors.

The ROE component of a utility's FERC approved transmission formula rate accounts for a significant part of the overall revenue requirement. The ROE component is a function of the ROE rate times the rate base and acts as the utility's profit, from a regulatory perspective, as all the other components are cost past through items e.g. Operations and Maintenance expenses, depreciation expense and taxes. Additionally, the tax gross up needed to keep a utility whole is a direct function of the ROE return. Taking PSE&G's 2017 actual annual transmission revenue requirement as an

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example, we see that PSE&G was entitled to an ROE return of $441.5M which amounted to 36% of its overall net revenue requirement of $1.25BN. The specific contribution from the ROE return to the overall revenue requirement will vary from utility to utility but its contribution is always significant. Therefore, given the dollars involved, it is critical that ROE rates are just and reasonable.

Moreover, cooperative and municipalities can see real savings from a reduction in the ROE rate. For instance, under the PSE&G 2017 formula rate, if a cooperative or municipal has peak load of 200 MW, as measured for transmission service, its transmission charge would be $24.75M. If the base ROE were reduced by 100bps, from 11.18% to 10.18%, the charge would be reduced to $23.45M, a reduction of $1.3M or 5% (note for simplicity this example ignores any interactions related to regional PJM projects). Additionally, this would be an annual savings, until the ROE rate was changed once again, and its effective value would increase as the transmission rate base increases.

What Avenues are Available to Ensure Just and Reasonable ROEs?

There are two primary regulatory avenues directly related to the ROE that a cooperative or municipality can pursue depending on whether the ROE is an existing ROE or a one that is newly requested by the transmission utility.

1. ***Regarding an existing ROE included in a FERC regulated formula rate, a customer can challenge the just and reasonableness of this rate on the basis that the economic environment and capital markets have changed substantially since the time the ROE was approved. While the Commission's proposal includes a rebuttable presumption that existing ROEs are just and reasonable if it is within a certain bandwidth, this restriction and the various ROE methods proposed to be used to develop the bandwidth are not yet finalized. Therefore, pending finalization, it is difficult to assert how restrictive this viewpoint will ultimately be.***

2. ***Separately, customers have an opportunity to challenge a new requested ROE as part of a FERC regulated formula rate filing by protesting this aspect, along with other aspects of the formula rate. The burden is on the transmission owner to justify the just and reasonableness of the requested ROE.***

Importantly, the Commission has proposed to apply the rebuttable presumption of just and reasonableness only to existing ROEs and NOT new ROE requests.

There are also alternative non-ROE routes available to hedge against increasing transmission charges or other FERC regulated formula rates. One approach is to participate in the annual review of the transmission formula rate true-ups or updates and challenge items that are inappropriately included in the rate. These efforts may result in significant savings. For example, a review may identify that distribution expenses are erroneously included in transmission regulatory accounts.

Conclusion

The Commission's proposed new ROE framework represents a major shift in its policy direction and is expected to result in an increase in ROEs if adopted as-is. The Commission, transmission customers, and other stakeholders will need to closely scrutinize its merits as part of the hearing and notice of inquiry proceedings to ensure the policy continues to balance the interest of investors and customers as set out by the landmark Supreme Court decisions. It will likely take a number of years before the Commission's policy will be affirmed. In the meantime, industry players will need to work within the confines of this non-finalized policy. Given the significant role that ROE plays as part of the overall transmission charges, and its ever-increasing importance due to continued investment growth in the transmission network, cooperatives and municipalities would benefit from pursuing available avenues to ensure that ROEs are just and reasonable.

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— FEATURING —

ENERGY EFFICIENCY IN EUI

NOW PLAYING AT A UTILITY NEAR YOU

Over the last two and a half years, the Minnesota Department of Commerce ("Department") completed a series of projects aimed at improving energy efficiency in the state's Electric Utility Infrastructure (EUI). ***EUI is defined as utility-owned assets used to deliver electric energy to customers, which includes distribution, transmission, generation, and miscellaneous utility facilities.*** These projects created technical and policy tools to clarify opportunities and incentives to help utilities drive efficiency improvements of their infrastructure. Examples of opportunities include: low loss conductors, conservation voltage reduction, improved heat rates at generation facilities, and high efficiency transformers.

In Minnesota, utilities are required by State legislation to develop conservation plans to achieve energy savings equal to 1.5 percent of average annual retail sales. Similar requirements are common across the country and utilities are constantly looking for new technologies and tools to help them meet their conservation goals. The aim of these EUI conservation projects is to unlock infrastructure efficiency as a new tool to help utilities cost-effectively meet their goals and better serve their retail customers. Despite statutory clarity that EUI projects can be used as a conservation tool in Minnesota, until now there had been significant uncertainty how EUI efficiency could be leveraged within the regulatory framework.

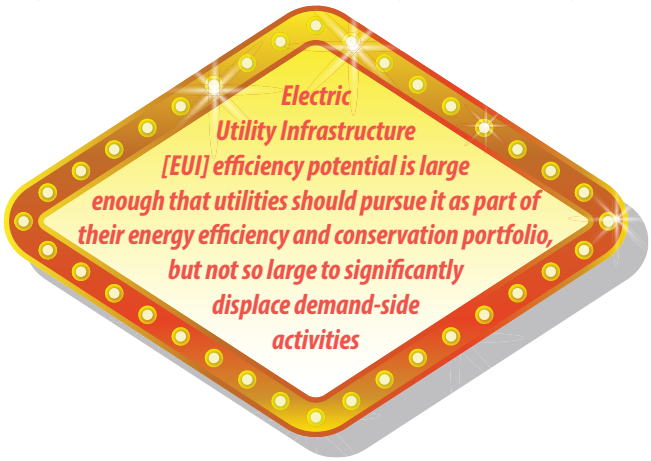
The Department worked with expert consultants and a wide variety of stakeholders to complete the series of projects and achieve final outcomes including:

- *A statewide Potential Study to quantify infrastructure efficiency opportunities and identify where those opportunities can be found*
- *An Action Plan to clarify the policy landscape surrounding EUI and recommend actions for stakeholders to capture EUI efficiency opportunities*
- *New Technical Reference Manual measures to standardize methods of calculating energy efficiency conservation for some common infrastructure improvements*
- *A series of policy guidance documents and technical tools to help lower barriers to implementing projects*

The findings from these projects reduce the uncertainty and lower barriers to implementing EUI projects. For utilities in other states that may wish to apply lessons learned from this project, the first step is to clarify the eligibility of EUI for achieving established conservation goals, then all other findings can be extrapolated with minor adjustments.

Each of the three studies and their findings are described in some detail on the following page.

A statewide EUI Potential Study identifies and quantifies conservation opportunities in EUI assets owned and operated by electric utilities. The models developed for the study estimate that the "achievable" potential for EUI efficiency is approximately 106,465 MWh of annual average conservation. This corresponds to approximately 9% of utilities' predicted conservation goals over that time. "Achievable" is a term of art used in potential studies to indicate that the identified conservation is both economically feasible and can be implemented in a reasonable timeframe. This can be contrasted with "technical" potential which assumes technology is the only limiting factor (not money or time). The ultimate takeaway from the study is:



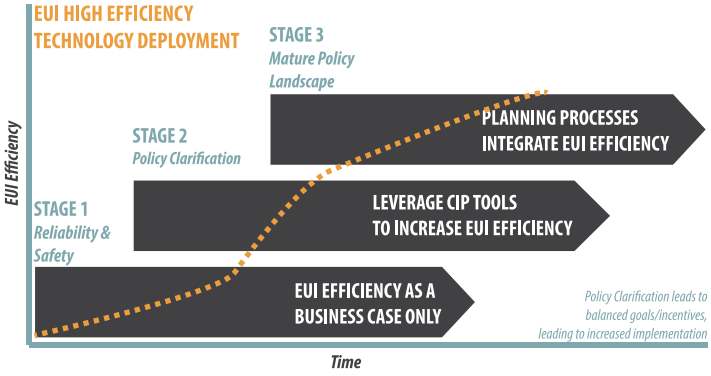
This study uses a unique approach to estimate potential in EUI sectors, accordingly, there are important differences between this study and a conventional demand-side study that should be understood to properly interpret results. For example, the meaning of "achievable" potential depends on how utilities make decisions rather than predicting utilities' ability to influence end user decisions.

For full results and descriptions of the methodology used, see the final report: *http://mn.gov/commerce-stat/pdfs/card-gds-eui-potential.pdf*

Through a U.S. Department of Energy State Energy Program grant, the Department of Commerce project team undertook a stakeholder engagement process to address uncertainty regarding how EUI efficiency improvements fit into Minnesota's existing policy and regulatory framework. Stakeholders included investor-owned, municipal, and cooperative utilities as well as advocacy groups, technology manufacturers, policymakers, and an impressive array of experts to provide perspective on relevant subjects. Ultimately, the final Action Plan consists of recommendations for stakeholders to unlock the potential of EUI efficiency and build momentum toward implementation.

Figure 2 illustrates the long-term vision of EUI as a viable tool to help meet conservation goals. Currently, infrastructure design is largely driven by reliability and safety parameters. This Action Plan represents the climb from Stage 1 to Stage 2 by raising awareness of infrastructure efficiency opportunities and leveraging policy tools to capture those opportunities. If successful, the Action Plan will help drive EUI efficiency implementation projects and lead to further clarifications of policy objectives. Ultimately, the goal is to seamlessly incorporate efficiency considerations into the infrastructure design process, with a full understanding of their value in terms of helping meet conservation goals, as represented by Stage 3 in the figure.

Figure 2. EUI High Efficiency Technology Deployment



To achieve increased certainty, the final Action Plan lays out concrete next steps for stakeholders. To develop recommendations, the project team spoke with stakeholders about barriers to implementing EUI efficiency projects and developed consensus solutions to reduce those barriers. The Action Plan consists of fifteen major recommendations and twenty-nine specific sub-recommendations. The following list is a summary of the ***six most important recommendations:***

Build Partnerships ■ Utilities should consciously build connections between infrastructure planning teams and CIP personnel to increase awareness of EUI efficiency options and to identify opportunities to leverage CIP resources in the infrastructure planning process.

Connect EUI Efficiency to Grid Modernization and Other Related Efforts ■ As utilities consider strategies to modernize the grid, they should also consider the possible impacts of increased infrastructure efficiency in terms of helping to achieve conservation goals. Grid Modernization is an umbrella term that applies to any number of technologies and strategies for upgrading grid performance.

Review Policy Guidance ■ Utilities and other stakeholders should review the policy guidance documents to clarify the role of EUI efficiency within utility conservation policy framework. In particular, utilities should become familiar with the "EUI Project Review and Approval Process" guidance issued by Commerce, which provides a good starting point and example for understanding how EUI fits into conservation policy in

potential projects. These tools can be found at:
http://mn.gov/commerce-stat/xls/electric-infrastructure-efficiency-screening.xlsx

Examine Potential ■ Utilities should reference the EUI potential study conducted in 2018 that found EUI conservation is a worthwhile target of CIP resources in Minnesota. Estimates indicate EUI conservation has the potential to achieve approximately 9 percent of annual electric utility conservation goals statewide, on average, from 2020-2039.

Collaborate with Policymakers ■ Utilities should reach out to policymakers with ideas or questions about including EUI in their conservation plans. This is an evolving landscape with the potential for increased understanding and collaboration going forward.

The project webpage includes the full Action Plan report with all recommendations, a description of the methodology used to develop recommendations, summaries of stakeholder conversations and meeting materials, useful links to reference documents, and a link to a summary webinar on findings. The project page can be found at: *https://www.mncee.org/mnsupplystudy/home/*

GDS TRM EUI MEASURES ADMIT ONE

One of the major barriers to claiming conservation credit for implementing EUI efficiency projects is the uncertainty about how to calculate the value of the credit. This is analogous to demand side conservation projects like lighting and efficient motors. On the demand side, Technical Reference Manual measures have been developed to standardize the methods for calculating energy efficiency credit in terms of metrics established by policymakers (typically kWh, peak kW, or therms). A similar approach was undertaken to develop standard measures for EUI projects. The Minnesota TRM now contains the following measures:

- ***Conservation Voltage Reduction (CVR)***
- ***Generation Heat Rate Improvements***
- ***High Efficiency Transformers***
- ***Low Loss Transmission/Distribution Conductors***
- ***28 additional measures adapted from C/I to apply to utility-owned facilities***

Utilities now have some additional certainty to calculate savings achieved by EUI efficiency projects, which can then be compared to other efficiency program options and considered as part of the design and decision-making process. The algorithms seen in ***Figure 3*** are an example, outlining how to calculate credit for high efficiency transformers in terms of the kWh metric used to track utility conservation goals.

GDS CONCLUSION ADMIT ONE

The Minnesota Department of Commerce has completed a series of unique projects to apply existing conservation tools to drive efficiency improvements in Electric Utility Infrastructure. The projects quantified available conservation potential, clarified relevant policies, created tools to reduce barriers to implementation, and defined an Action Plan for stakeholders to capture the identified opportunity. For electric utilities outside Minnesota that are interested in applying conservation tools in EUI, there are many lessons to be learned from Minnesota's experience and a great first step is to clarify the eligibility of EUI for achieving established conservation goals within your state. Interested readers can find project materials, including the final Potential Study and Action Plan reports at: *https://www.mncee.org/mnsupplystudy/home/*

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Figure 3. Algorithm Credit for High Efficiency Transformers

$$\text{Annual kWh Savings} = 8.766 \times \left(\left[\left(\frac{Load_{peak}}{FLC_{base}} \right)^2 \times FLL_{base} \times LossFactor + NLL_{base} \right] - \left[\left(\frac{Load_{peak}}{FLC_{ee}} \right)^2 \times FLL_{ee} \times LossFactor + NLL_{ee} \right] \right)$$

$$\text{Peak kW Savings} = \left[\left(\frac{Load_{peak}}{FLC_{base}} \right)^2 \times FLL_{base} + NLL_{base} \right] - \left[\left(\frac{Load_{peak}}{FLC_{ee}} \right)^2 \times FLL_{ee} + NLL_{ee} \right]$$

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