



## Reactive Power Problem Statement and Issue Charge



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# Dominion Energy

## Company Overview



- Narrowed **focus** on **regulated** and **regulated-like** businesses
- Premier **state-regulated** utility operations
- Industry-leading **clean energy** profile
- Long-term earnings and dividend growth

	State-regulated utility operations			Regulated-like
	Dominion Energy Virginia	Gas Distribution	Dominion Energy South Carolina	Contracted Assets <i>(formerly Contracted Generation)</i>
States of operation				
Pro forma operating earnings contribution				
Description	Electric distribution, transmission & generation	Gas distribution & Renewable natural gas (RNG)	Electric distribution, transmission, generation & gas distribution	Cove Point (50%) and long-term contracted zero-carbon generation

**Aggressively pursuing vision to be the most sustainable energy company in the country**

# Reactive Power

## *Background*

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- **Reactive power** is a critical component of operating an AC electricity system and controls system voltage for reliable operation of the transmission system and allows for transmission of real power across transmission lines.
- Transmission lines dissipate reactive power more quickly than real power, such that reactive power cannot be efficiently transferred over long distances on transmission lines. Thus, PJM needs localized resources to provide reactive power.
- Transmission customers pay for reactive power as an ancillary service under Schedule 2 of the PJM Tariff. These charges are zonal charges, collected from customers and paid to resources in the zone where the customers and resources are located.

# Reactive Power

## *Generation Compensation*

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- **Under Schedule 2 of the PJM Tariff** Generation owners submit for filing at FERC under Section 205 of the Federal Power Act and Part 35 of the Commission's regulations rate schedule for Reactive Supply and Voltage Control from Generation Sources Service for VAR capability.
- The rate schedule specifies the generator's revenue requirement for Reactive Supply and Voltage Control from Generation Sources Service from the generating facility.

# Reactive Power

## *Generation Compensation*

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### **Compensation:**

- FERC has accepted reactive cost-based rate schedules in PJM to collect revenue for VAR capacity for synchronous and non-synchronous generation facilities.
- PJM also pays make whole and opportunity cost payments under Attachment K, Appendix Section 3.2.3B for combustion turbine units, combined cycle units, steam electric generation units, storage resources and hydro units.

Non-synchronous resources do not get energy opportunity costs when dispatched by PJM for VARs.

# Problems with the existing mechanism...

*Onerous, costly and discriminatory process*

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- Time consuming and onerous for generation owners, developers, and transmission customers.
- Exposes generators, developers, and customers to significant litigation costs, either defending or contesting the requested rates.
- Non-synchronous resources do not receive energy opportunity costs when dispatched by PJM for VARs.
- Exclusion of non-synchronous resources from LOC eligibility may be unduly discriminatory against non-synchronous resources (e.g. solar).

# Issue Charge

## *Key work activities*

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### **Provide Education on topics:**

- Existing Reactive Rate filing process
  - Examination of Reactive Rate recovery mechanism in ISO-NE
  - Review inputs for the determination of reactive revenues.
  - Identify potential gaming risks.
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- Discuss improvements to the Reactive Power cost recovery process and examine alternative Reactive Power cost recovery mechanisms.
    - **Examine PJM market mechanisms that would recover Reactive Rates.**
    - Identify potential gaming risks and develop protective provisions to be included in any cost recovery mechanism, if necessary.
  - Discuss the possibility of expanding resource eligibility for LOC revenue.

# Issue Charge

## *Scope and Expected Deliverables*

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### **Out of Scope**

- Modifications to cost-based offers and fuel cost policies.
- Modifications to capacity offers.
- Any existing FERC approved reactive service revenue requirements.

### **Expected Deliverables:**

- A recommendation to the MRC on a proposed market rule change that would establish a rate mechanism that would reduce the risks and costs associate with the existing methodology, if appropriate.



# Summary

## Benefits

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### Benefits:

- FERC precedent.
- Explores eligibility rules of all resources providing Reactive Power, Voltage Control and Reactive Services.
- Develop and document the determination of standard rates, thereby creating a simpler and more transparent process.
- Opportunity to create alternative standard rates, which would provide generation owners and developers the option to receive those standard rates, avoiding significant time, litigation costs which would otherwise be passed on to customers.



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