

Federal Energy Regulatory Commission
Washington, DC 20426

Office of the Chairman

February 4, 2005

Dear Reader,

The Federal Energy Regulatory Commission has been actively considering the issue of reactive power supply for the Nation's bulk power supply system for the past several months. We are pursuing this effort as one response to the many recommendations from the Joint U.S.-Canada Power System Outage Task Force. The report urged NERC and regional reliability councils to review reactive power standards and how they are being implemented in each region. My colleagues and I asked Commission staff to prepare a paper exploring the issue from both a technical and economic perspective. This report is a precursor to a technical conference planned for March 8, 2005 when we will invite industry experts to present their views on these aspects of reactive power supply.

The Commission invites interested stakeholders, industry participants, regulators, and legislators to examine this report and to participate in this process to contribute to its content as well as help shape any necessary policy changes to encourage the correct placement and quantity of reactive power supplies across our Nation.

Failure to supply the proper level of reactive power can prove to be disastrous from a reliability perspective. For instance, in the August 2003 blackout, reactive power supplies in Northeast Ohio were exhausted but the need for reactive power continued to rise with peak load. This situation, along with the loss of several critical bulk power supply system facilities and a lack of situational awareness resulted in a sequence of cascading line and generator interruptions that left over 50,000,000 citizens without power in the United States and Canada. Proper reactive power management would have helped to prevent the initial system events and therefore would have delayed or possibly might even have prevented the resulting blackout.

In addition to reliability issues, there are significant costs associated with improper management of reactive power issues. Reactive power uses available system capacity that would otherwise be available to serve customer real-power load. This causes equipment to be overloaded – which results in system reconfigurations, costly upgrades, or even curtailed customer loads to prevent overloads from occurring. Strategic placement of reactive power supplies reduces both real and reactive power losses, resulting in increased capacity and ultimately efficiency.

This staff report and the follow-up technical conference consist of two parts; the technical and the economic. How much reactive power supply is necessary to support the system and what are the proper incentives to install this supply in a least-cost fashion?

At the distribution level, are the current VAR charges sufficient to encourage customers to balance their power factors? Do the transmission entities structure the charges to the distribution providers to encourage static and dynamic reactive supply? FERC's attention and regulatory responsibility are focused on reactive power requirements associated with jurisdictional transmission service. However, we seek comment on how to address the interaction between distribution-level reactive power needs and transmission-level reactive power needs.

At the transmission level, is the transmission tariff sufficient to encourage placement of fixed and switched capacitor banks from the transmission providers beyond those required to meet reliability standards? Is the amount of this reactive power supply sufficient to backstop the transmission system both now and in future years (with load projections including generation retirements in load centers)? Is there a sufficient incentive in the ancillary service charge for dynamic reactive power supply using FACTS devices (i.e. static VAR compensators and statcoms)? Should generators be encouraged to provide reactive power supply in lieu of real power supply during peak load conditions? Should a market system be developed for the dynamic reactive supply and if so, do all generation suppliers have equal footing in this market?

The attached document is a staff report which was prepared and submitted to begin the discussion and examination of these issues with the industry and its stakeholders. The Commission invites peer review of the document – comments about both the technical aspects of reactive power supply and of the development of possible cost recovery mechanisms.

Comments should be submitted in Commission Docket Number AD05-1-000 through April 4, 2005, which will also allow for any responses to issues raised in the public conference.

My colleagues and I look forward to a thoughtful, focused discussion on this crucial issue.

Best regards,

Pat Wood, III
Chairman