Energy Market Consolidation and Convergence: Seams Issues Revisited

Recent orders by FERC on regional transmission organizations signal a consolidation and convergence of energy markets in North America. The impact of this policy shift on configuration and transition "seams issues" is not yet fully appreciated.

Michael Bailey, Michael Ambrosio, and Christopher Eaton

Michael Bailey *is a Partner in Deloitte & Touche's Global Energy Markets Group, Chicago. He leads the group's physical market infrastructure team and provides consulting services and business solutions to energy companies to support their participation in energy market environments. He holds an M.B.A. from Duke University's Fuqua School of Business.*

Michael Ambrosio *is a Director in Deloitte & Touche's Regulatory Consulting Group, Parsippany, New Jersey. He provides consulting services to utilities, energy companies, regulatory agencies, and other government entities to support efforts to restructure regulated industries. He holds an M.S. from Antioch University and a B.S. from Rutgers College of Engineering.*

Christopher Eaton *is a Senior Manager in Deloitte & Touche's Global Energy Markets Group, New York. He provides consulting services to energy companies, system/market operators, and regulatory agencies to support the development of market operations and energy transacting capabilites. He holds a B.B.A. from Simon Fraser University.*

This article draws on concepts and material which first appeared in a paper titled "North American Electricity Markets: Coming Together at the Seams?" prepared for the 24th Annual International Conference of the International Association for Energy Economics (Houston, Texas, April 25–27, 2001) and published in the conference proceedings.

Various sources have demonstrated that structure/operation seams issues undermine the two primary objectives of competitive energy markets: economic efficiency and power system reliability. In a previous article, Michael Bailey and Christopher Eaton analyzed seams issues relating to the structure and operations of Northeastern energy markets (i.e., New York, New England, Mid-Atlantic, and Ontario) and their operators (i.e., the New York Independent System Operator [ISO], ISO New England, Pennsylvania-New Jersey-Maryland [PJM] Interconnection, and the Ontario Independent Market Operator [IMO], respectively), and reviewed policy initiatives aimed at eliminating these seams issues.[1] The purpose was to assess the extent to which energy markets in the Northeast were converging toward a seamless environment and to advance the relevant policy debate. Recent U.S. Federal Energy Regulatory Commission (FERC) orders have indicated that the Commission will adopt a more active role in encouraging consolidation and convergence among regional transmission organization (RTO) candidates to form a few, relatively large regional energy markets.[2] In this article, we analyze seams issues relating to the configuration

  1040-6190/01/$–see front matter PII S1040-6190(01)00254-8

and transition of four major regions (the Northeast, Southeast, Midwest, and West) using the analytical framework introduced in the previous article. Our purpose here is to assess the impact of RTO consolidation and convergence on high-level "configuration/transition" seams issues and to advance the debate on these complex policy challenges.

I. Configuration/Transition Seams Issues

Configuration and transition seams issues present unique challenges in the effort to achieve efficient and reliable regional energy markets. This section provides a refresher on seams issues and examines four configuration/transition seams issues: scope and regional configuration, governance and jurisdiction, superregional functions, and transition program.

A. A Seams Issues Refresher

In the earlier article, Bailey and Eaton defined "seams issues" as "*impediments to interregional trade in and delivery of energy and related products and services which result in economic inefficiency and/or a threat to reliability,*"[3] cited several reference sources that demonstrate the adverse impacts of seams issues, and acknowledged work that was underway to identify and address these issues. They went on to suggest that what has been lacking to date is a rigorous analysis of seams issues and policy initiatives and provide a seams issues framework to facilitate such an analysis (**Figure 1**).

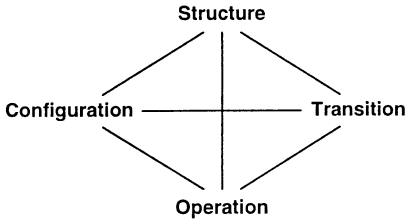

Figure 1. Seams Issue Analytical Framework

In the figure, issues along the *configuration/transition* axis are primarily related to the ongoing effort to establish regional energy markets to meet efficiency and reliability objectives. Issues along the *structure/operation* axis are primarily related to convergence of market design, rules, and business practices across regions. This analytical framework is designed to stimulate a balanced debate between strategic or "evolution"-oriented issues (i.e., along the configuration/transition axis) and tactical or "snapshot"-oriented issues (i.e., along the structure/operation axis). It is also designed to help distinguish between seams issues requiring different types of policy responses and to highlight the interrelated nature of these issues.

B. Configuration/Transition Seams Issues

1. Scope and Regional Configuration. Scope and regional configuration—one of the minimum characteristics outlined in FERC's Order 2000 on RTOs—is concerned with determining an appropriate geographic area in which to establish an RTO. Insisting that the process was voluntary, FERC opted to provide factors or criteria that would be used to determine appropriateness rather than prescribing boundaries for RTOs. Some of these factors include the ability to effectively perform required functions, recognition of trading patterns, mitigation of market power, preservation of existing control areas or regional transmission entities, coverage of contiguous geographic areas and highly interconnected transmission areas, and recognition of useful existing regional and/or international boundaries.[4] Even within these general guidelines, there is a great deal of room for interpretation as to what constitutes an appropriate RTO scope and regional configuration.

Transmission owners, market participants, and other industry stakeholders were requested to submit and comment on proposed RTO configurations through a compliance filing process. The resulting, largely uncoordinated, method of determining scope and regional configuration led to a set of relatively small proposed RTOs (i.e., as many as 12 to 15 based on initial compliance filings). Such a topography would be problematic because the number of RTOs is positively correlated with the number of seams and, quite likely, with the number of structure/operation seams issues. In Order 2000 and later issuances, FERC indicated that an otherwise inappropriate scope and regional configuration may be overlooked if mechanisms to mitigate seams issues are being actively pursued.[5] Lack of firm policy in this area has increased uncertainty and lengthened the time necessary to obtain

 PII S1040-6190(01)00254-8