

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**Joint Boards on Security
Constrained Economic Dispatch**

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Docket No. AD05-13-000

Study and Recommendations Regarding Security Constrained Economic Dispatch

By

The Joint Board for the South Region

July 11, 2006

I. Overview

The South Joint Board for the Study of Security Constrained Economic Dispatch is one of four joint boards designated by the Federal Energy Regulatory Commission (“Commission” or “FERC”) under EAct2005, Section 1298, Economic Dispatch. The members of the South Joint Board are:

Chairman Joseph T. Kelliher, Federal Energy Regulatory Commission, Chair of the Joint Board
Commissioner Sam J. Ervin, IV, North Carolina Utilities Commission, Vice Chair of the Joint Board
President Jim Sullivan, Alabama Public Service Commission
Chairman Sandra L. Hochstetter, Arkansas Public Service Commission
Commissioner J. Terry Deason, Florida Public Service Commission
Ms. Pandora Epps, Internal Consultant, Georgia Public Service Commission
Chair Brian J. Moline, Kansas Corporation Commission
Commissioner James M. Field, Louisiana Public Service Commission
Dr. Christopher Garbacz, Director, Economics and Planning Division, Mississippi Public Utilities Staff, representing the Mississippi Public Service Commission
Commissioner Steve Gaw, Missouri Public Service Commission
Commissioner E. Shirley Baca, New Mexico Public Regulation Commission
Chairman Jeff Cloud, Oklahoma Corporation Commission
Vice Chairman G. O’Neal Hamilton, South Carolina Public Service Commission
Mr. Pat Miller, Director, Tennessee Regulatory Authority
Commissioner Julie Caruthers Parsley, Public Utility Commission of Texas

The South Joint Board met in public session on November 13, 2005 in Indian Wells, California and on February 12, 2006 in Washington D.C.

As the Commission noted in the initial order convening the joint boards:

Each joint board is authorized: (1) “to consider issues relevant to what constitutes ‘security constrained economic dispatch’”; (2) to consider “how such a mode of operating an electric energy system affects or enhances the reliability and affordability of service to customers in the region concerned”; and (3) “to make recommendations to the Commission regarding such issues.”

This report is divided into four sections. The first, Security Constrained Economic Dispatch: the Basics, provides a description of the basic concept of Security Constrained Economic Dispatch used in the study; the second, Economic Dispatch in the South, describes dispatch procedures in the South; the third summarizes the issues raised and considered by the board, including any recommendations made by individual board members or other parties to address these issues; and the fourth section discusses the

recommendations of this Joint Board. The principal sources for these sections are presentations to the board and written comments submitted to the board, discussions among the Joint Board members, the Department of Energy (DOE) report under EPAct 2005, section 1234, and the responses to the DOE survey of economic dispatch.

II. Security Constrained Economic Dispatch: the Basics

For purposes of the joint boards' studies, the FERC adopted the following definition of Security Constrained Economic Dispatch (SCED): "the operation of generation facilities to produce energy at the lowest cost to reliably serve consumers, recognizing any operational limits of generation and transmission facilities."¹ This definition describes the basic way all utilities in the region dispatch their own and purchased resources to meet electricity load. The basics of SCED are described in this section to establish a common understanding of the process before addressing issues and recommendations.

There are a number of unique challenges to supplying electricity: production must occur simultaneously with demand; demand varies greatly over the course of a day, week, and season; the costs of generation from different types of units vary greatly; and expected and unexpected conditions on the transmission network affect which generation units can be used to serve load reliably. Security constrained economic dispatch is an optimization process that takes account of these factors in selecting the generating units to dispatch to deliver a reliable supply of electricity at the lowest cost possible under given conditions.

The economic dispatch process occurs in two stages, or time periods: day-ahead unit commitment (planning for tomorrow's dispatch) and unit dispatch (dispatching the system in real time).

In the *unit commitment* stage, operators must decide which generating units should be committed to be on-line for each hour, typically for the next 24-hour period (hence the term "day ahead"), based on the load forecast. In selecting the most economic generators to commit, operators must take into account each unit's physical operating characteristics, such as how quickly output can be changed, maximum and minimum output levels, and the minimum time a generator must run once it is started. Operators must also take into account generating unit cost factors, such as fuel and non-fuel operating costs and the cost of environmental compliance.

In addition, forecast conditions that can affect the transmission grid must be taken into account to ensure that the optimal dispatch can meet load reliably. This is the "security" aspect of the commitment analysis. Factors that can affect grid capabilities include generation and transmission facility outages, line capacities as affected by loading levels and flow direction, and the weather. If the security analysis indicates that the optimal

¹ September 30, 2005 order at P14.

economic dispatch cannot be carried out reliably, relatively expensive generators may have to replace cheaper units.² Operators might perform the unit commitment analysis a few times during the day before actually committing generators for the next day dispatch.

In the *unit dispatch* stage, operators must decide in real time the level at which each available resource (from the unit commitment stage) should be operated, given the actual load and grid conditions, such that overall production costs are minimized. Actual conditions will vary from those forecasted in the day-ahead commitment and operators must adjust the dispatch accordingly. As part of real time operations, demand, generation, and interchange (imports and exports) must be kept in balance to maintain a system frequency of 60 Hz (per NERC standards). This is usually done by using Automatic Generation Control (AGC) to change the generation dispatch as needed. In addition, transmission flows must be monitored to ensure flows stay within reliability limits and voltage within reliability ranges. If transmission flows exceed accepted limits, the operator must take corrective action, which could involve curtailing schedules, changing the dispatch, or shedding load. Operators may check conditions and issue adjusted unit dispatch instructions as often as every five minutes.

The manner in which transmission and operational limitations of generators have been represented in unit commitment and economic dispatch software has not been uniform across the industry. For example, some unit commitment software packages might represent the entire transmission network in detail, while others might only represent selected transmission constraints to make the problem easier to solve. Similarly, the representation of unit operational constraints and in some cases even the network model might vary in economic dispatch software. Generally, however, advances in hardware and software (e.g., the use of mixed integer programming for unit commitment) now make it technologically feasible to undertake security constrained economic dispatch over large regions.

Aside from differences in the models used in economic dispatch software, questions have been raised about the extent to which all available resources are appropriately considered in the dispatch process. It has been alleged by some, but certainly not all, of the participants in the Joint Board process that various factors, including perceived limitations in utility open access transmission tariffs, have made it more difficult to ensure that all available resources are appropriately included in the dispatch process.

III. Economic Dispatch in the South

The practice of economic dispatch in the South varies by utility and region. In most of the South, economic dispatch is performed on a system-by-system basis. In Texas it is performed on a regional basis through replacement of utility control areas with a central

² This is known as “out of merit” dispatch.

market operator, and the Southwest Power Pool is proposing its own form of a regional economic dispatch in the form of a balancing market. Even though the South utilizes the same basic concept of next day unit commitment and real-time security constrained economic dispatch processes described in the prior section, there are variations in the implementation details as described below.

In addition to day-ahead unit commitment, Duke performs resource commitment studies over a seven-day period because of a large concentration of pumped storage generation in its portfolio.³ Due to the nature of pumped storage generation, Duke needs to look not just at the forecasted conditions for the next day but also the expected conditions over the next week to determine the most effective way to operate those units. Duke also includes third party resources in its commitment and dispatching processes through its bulk power marketing function that is responsible for purchasing economic power.⁴ In addition, Duke is implementing an Independent Entity for performing certain Open Access Transmission Tariff functions and an Independent Monitor for monitoring its transmission.

Entergy performs economic dispatch for its footprint in Arkansas, Louisiana, Mississippi, and Texas with a diverse generation resource portfolio and bilateral contracts for power purchases from non-utility generators. In addition to next day unit commitment, Entergy has broadened its use of market purchases in its commitment and dispatching processes through a Weekly Procurement Process to include independent power producers and other utilities.⁵

Southern Companies perform economic dispatch under a pooling arrangement for the generating resources controlled by its operating companies in Alabama, Georgia, Mississippi and Florida.⁶ Each operating company makes its generating resources exclusively available for economic dispatch by the pool. The generation portfolio consists of diverse fuel type generation, and purchase power agreements with non-utility generators and other market participants through Southern term traders.⁷

Members of the Southwest Power Pool are considering implementing an Energy Imbalance Market within the SPP footprint. SPP will perform a real-time security constrained economic dispatch of the entire market footprint without respect to control areas. Currently, however, economic dispatch is performed individually by multiple control areas located in the SPP footprint. Each owner of generation performs its own economic dispatch for its portfolio of resources including generation, transactions, and

³ Mr. Scott Henry – Duke, Transcript of Nov. 13, 2005 Board meeting, tr at 22.

⁴ Id. at 26.

⁵ Mr. Hurstell – Entergy, tr at 28.

⁶ Alabama Power Co., Georgia Power Co., Gulf Power Co., Mississippi Power Co., and Southern Power Co.

⁷ Mr. Graham, Jr. - Southern Companies filing comments, page 6.

demand side management.⁸

Economic dispatch in the Florida Reliability Coordinating Council is performed by eleven Balancing Authorities, (formerly referred to as control areas) through their own economic dispatch energy management system. This optimizes production costs for the balancing authority resources that are supplemented with wholesale “market” sales and purchases through bilateral transaction activity, including both utility and non-utility generation. One balancing authority in the region also acts as a “power pool” for its members.⁹

ERCOT is the only organized market currently operating in the South region. It was organized out of 10 control areas. In ERCOT there are two entities responsible for the dispatch of the system: qualified scheduling entities (QSEs) and ERCOT.¹⁰ QSEs perform commitment and dispatch processes by both taking into account their portfolios and any other offers on the bilateral markets. ERCOT will then modify or supplement that dispatch to meet total system load, maintain system frequency and manage transmission congestion if necessary.

ERCOT meets its system needs by using ancillary service capacity and running a balancing energy market every 15 minutes, allowing all generation, regardless of ownership, to bid and provide balancing energy. ERCOT manages transmission congestion with zonal and intra-zonal type arrangements. ERCOT is moving toward nodal pricing, which will allow it to perform centralized day ahead commitment and economic dispatch processes based on bid prices.

IV. Issues

This section describes the issues considered by the Joint Board, and identifies any recommended approaches for addressing these issues suggested in the record. This section also discusses the recommendations from the DOE report to Congress on the value of economic dispatch.

Below are the issues raised by utilities, independent power producers, market participants and transmission dependent utilities:

- Inclusion of non-utility generation in the dispatch
- Coordination of economic dispatch for all loads
- Independence of dispatcher
- Transparency of dispatch information and processes

⁸ SPP: Stakeholder Panel - South filing comments, page 1.

⁹ Florida Reliability Coordinating Council responses to DOE survey.

¹⁰ Mr. Saathoff - ERCOT, tr at 63.

- Market liquidity
- Transmission constraints
- Regional transmission planning and expansion

Inclusion of non-utility generation in the dispatch.

In general, the majority of vertically integrated utilities in the region state that the current unit commitment and real-time economic dispatch processes are working fine and benefiting ratepayers in their areas.¹¹ Their unit commitment processes provide opportunity for third-party generation resources to participate through bilateral contracts in block offers to the extent that those resources elect to be included.

Independent power producers, market participants and transmission dependent utilities state that not all generation resources within vertically integrated utilities' footprints are included in the economic dispatch process. Non-utility generators say that dispatching only generation resources owned by one entity and purchasing power through bilateral contracts does not suggest that the system as a whole is economically dispatched nor does it suggest that the consumers are receiving energy at the least possible cost.¹² If the commitment and dispatch processes do not include all generation resources in a region, then load cannot have access to the most economic power and use of the transmission system will not be optimized. They suggest that including all generation resources regardless of ownership within each utility's footprint and in a broader region would be beneficial to consumers in the entire region.

Some observers say that a reason third-party generation resources are not included in the near real-time economic dispatch is because those resources are incapable of providing sufficient operational flexibility for regulation.¹³ In addition, one utility argues that including all generators, regardless of ownership, into the economic dispatch would strip the states of their power to control whether their retail customers received the lowest cost energy and could decrease reliability because some of those generators probably would not be creditworthy.¹⁴

¹¹ Mr. Scott Henry – Duke, tr at 26.
 Mr. Hurstell - Entergy, tr. at 32.
 Mr. Graham, Jr. – Southern Companies filing comments, page 20.

¹² Mr. O'Connell – Williams, filing comments, page 3.
 Ms. Turner - Union Power, filing comments page 2.
 Mr. Sam Henry – SUEZ filing comments, page 1.

¹³ Mr. Scott Henry - Duke, tr at 27.
 Mr. Hurstell - Entergy, tr at 29.
 Mr. Graham, Jr. – Southern Companies filing comments, page 16.

¹⁴ Id., page 16.

Coordination of economic dispatch for all loads.

Transmission dependent utilities¹⁵ in the South are concerned that there is no coordinated economic dispatch that covers all loads within a utility's footprint. With Entergy's Weekly Procurement Process, the dispatching utility can take advantage of independent resources of its choosing to serve its own load, but the transmission dependent utility's network customers do not benefit from the process. Furthermore, during the Weekly Procurement Process, the available flowgate capacity determination process for other transmission customers is closed down for about half a day, while the optimization analysis is being performed for the dispatching utility. Other transmission customers seeking alternative resources cannot have transmission reservation requests processed during this "blackout" period, and are able to use only available flowgate capacity that is left after the dispatching utility completes its resource selection.¹⁶ This makes it difficult, especially for entities that are transmission dependent, to efficiently utilize their own resources and prevents them from taking advantage of efficiencies in a broader wholesale market.

Independence of dispatcher.

In addition to suggesting that all generation resources should be included in the economic dispatch process in order to improve benefits to consumers, non-utility generators further recommend that an independent organization should be responsible for implementing and operating the commitment and dispatch processes. An independent administrator will utilize the most efficient resources available regardless of ownership and optimize transmission capacity by sharing real-time information between the dispatcher and the market participants. It also eliminates any suspicion that transmission owners favor their own resources over those of other stakeholders.¹⁷ One utility argues that this Joint Board is not the forum to discuss whether an independent entity should regionally operate the transmission in the South.¹⁸

Transparency of dispatch information and processes.

One utility argues that there is significant transparency in the transmission information posted on Open Access Same Time Information System ("OASIS"), including information pertaining to Total Transfer Capacity, Available Transfer Capacity, and

¹⁵ Mr. Priest – MDEA (Mississippi Delta Energy Agency), tr. at 34.

Mr. Beam – NCEMC (North Carolina Electric Membership Corp), tr at 38.

¹⁶ Mr. Priest – MDEA, tr at 36.

¹⁷ Mr. O'Connell – Williams, filing comments, page 4.

Ms. Turner - Union Power, filing comments, page 7.

Mr. Sam Henry – SUEZ filing comments, page 2.

¹⁸ Mr. Graham, Jr. - Southern Companies, filing comments, page 20.

transmission studies.¹⁹ However, independent power producers argue that an independent administrator will provide transparency of prices, allocation of transmission capacity and transmission congestion management through published business rules, interpretations and curtailment events.²⁰ The lack of visibility into transmission loading events hampers their ability to respond because they do not know whether making a certain adjustment will result in helping or hindering the particular problem that the dispatching utility is addressing. The other issue that hampers them in performing economic dispatch is that their plants do not get access to the control signals necessary to perform certain functions, such as regulation.²¹

Market liquidity.

One transmission dependent utility contends that the South region has a very illiquid market for economic transactions.²² Utilities still rely on phone calls for potential trading because there is no central clearinghouse, making it an inefficient system for optimizing resources at the lowest cost. One independent power producer argues that trading hubs in the South are less liquid than other hubs because they lack transparency regarding transmission congestion management, transmission system operation, and price information. Limitation on transmission capacity is also a contributing factor.²³

Transmission constraints.

Because of transmission limitations in the South, transmission dependent utilities and the Southwest Power Pool²⁴ say that the biggest impediment to economic dispatch is constraints on the transmission system. Transmission constraints can prevent efficient generation resources from being dispatched. These parties say they are frequently unable to access economic sources because of transmission limitations and often forgo economic transactions because of a concern that the transaction could be curtailed.

¹⁹ Mr. Graham, Jr. – Southern Companies, filing comments, page 12.

²⁰ Mr. O’Connell – Williams, filing comments, page 4.

Mr. Sam Henry – SUEZ, tr at 45, 46.

²¹ Mr. O’Connell – Williams, tr at 52, 53.

²² Mr. Beam – NCEM, filing comments, page 2.

²³ Mr. O’Connell – Williams, tr at 77,78.

²⁴ Mr. Beam – NCEMC, tr at 40.

Mr. Monroe – SPP, filing comments, page 2.

Mr. Sam Henry – SUEZ, filing comments page 2.

Regional transmission planning and expansion.

Transmission dependent utilities suggest that transmission infrastructure in the South should be strengthened. One transmission dependent utility²⁵ states that regional planning and operation of the electric system beyond traditional control area boundaries are necessary to resolve many of these problems without mandating an RTO structure. For example, load-serving entities in North Carolina, in cooperation with the North Carolina Utilities Commission, recently established a collaborative transmission planning process to jointly plan the transmission system for network customers. The Southwest Power Pool also states that, without adequate regional transmission planning to expand and upgrade the capacity of transmission grid, economic dispatch cannot fully sustain its promised benefit.²⁶ Although members of the South Joint Board did not reach unanimity as to the desirability or importance of independent review of transmission projects, some members of the South Joint Board contend that having an independent entity review transmission projects helps to ensure that regional transmission plans are developed in a non-discriminatory manner so as to optimize security constrained economic dispatch.

One utility argues that without participant funding or direct assignment of costs, expanding the transmission system so that all generators within the system can be incorporated into economic dispatch would be prohibitively expensive and place an undue burden on retail customers.²⁷

V. Recommendations of the Joint Board

The members of the South Joint Board agree, consistent with the conclusions reached in the Department of Energy survey, that there is no single appropriate method for performing economic dispatch and that the nature of economic dispatch can appropriately vary from region to region across the country depending upon variations in local conditions, including, but not limited to, the degree to which the industry remains vertically integrated, the presence or absence of bid-based organized markets, the manner in which retail rates are established, and similar factors. For example, dispatch is performed differently in the ERCOT region of Texas than it is in those portions of the region not served by an organized market, but the mere existence of those differences does not establish that either portion of the region fails to engage in security constrained economic dispatch.

The members of the South Joint Board unanimously agree that utilities operating in the region should engage in security constrained economic dispatch. However, economic dispatch is performed differently in ERCOT than in the remainder of the South, where

²⁵ Mr. Beam – NCEMC, tr at 41.

²⁶ Mr. Monroe – SPP, filing comments, page 3.

²⁷ Mr. Graham, Jr. – Southern Companies filing comments, page 12.

generation is dispatched on an individual system basis at the present time. The members of the South Joint Board conclude that utilities in the South are engaging in security constrained economic dispatch to the extent that they operate consistently with the procedures that the utilities described to the Joint Board. Some members of the South Joint Board are concerned about the efficacy of the results that occur when dispatch is performed by the utility outside the context of an organized market or in situations not including an independent operator due to a perceived lack of transparency. The members of the South Joint Board agree that state regulatory oversight of utilities helps to ensure that such utilities do, in fact, perform security constrained economic dispatch. In addition, the members of the South Joint Board conclude that the work of the Joint Board is limited to examining issues relating to “security constrained economic dispatch” and that other forms of dispatch, such as environmental or efficient dispatch, are beyond the scope of the Joint Boards’ assignment.

Some members of the South Joint Board believe that, in areas that lack organized wholesale markets, it becomes difficult to determine whether or not all available resources are appropriately included and dispatched and therefore, that cost effective markets can contribute to the operation of generation facilities to produce energy at the lowest cost. Other members of the South Joint Board believe that there are legitimate questions as to the cost-effectiveness of organized wholesale markets, the extent to which transactions in such markets are priced appropriately, the extent to which bid-based pricing of the type characteristic of such organized markets results in the dispatch of the lowest cost generation to meet customer load and the difficulty of overseeing the appropriateness of dispatch in the absence of such markets. As a result, the South Joint Board did not reach a conclusion on the value of organized wholesale markets in ensuring that the lowest cost available resources are actually being dispatched to serve end-user customers.

Although the members of the South Joint Board conclude that security constrained economic dispatch is performed across the region in varying ways, the Joint Board recognizes that a number of different issues were raised during the initial meeting of the Joint Board and in the comments submitted to the Joint Board that are worthy of further discussion. One of the principal tasks committed to the membership of the regional FERC/State Joint Boards is to make recommendations to the Commission concerning possible improvements to economic dispatch in each region. The suggestions made during the initial South Joint Board meeting and in the comments submitted following that meeting were intended to assist the members of the South Joint Board in developing such recommendations. The members of the South Joint Board appreciate the time and effort that went into the presentations made by all participants during the initial Joint Board meeting and the comments that have been submitted to the Joint Board since that time. These presentations and comments raise a number of issues which the members of the South Joint Board have carefully considered in the formulation of our conclusions and recommendations.

Among the suggestions for improving economic dispatch in the South were that a trading hub with a day ahead market, an energy broker system such as that previously used in Florida, or an automated interchange matching system similar to the one that existed during the 1990s be established in the region. In view of the manner in which economic dispatch is performed in the portion of Texas served by ERCOT, the members of the South Joint Board assume that this recommendation applies exclusively to the portion of the region outside ERCOT. As the members of the South Joint Board understood these proposals, the proposed improved trading hub, energy broker system, or automated interchange matching system would be voluntarily established and open to any market participant that wished to purchase or sell power using the facilities made available by these arrangements. The purpose of such trading hubs would be to improve the liquidity and price transparency associated with bilateral transactions in certain portions of the region. The members of the South Joint Board agree that there might be some benefit to the establishment of such an expanded trading hub, energy broker system, automated interchange matching system, or some similar mechanism as long as market participants have confidence in the transparency and evenhandedness with which such an institution was operated (whether through independent management or some other mechanism) and as long as such an institution produces cost-effective purchase and sales opportunities without creating additional reliability or congestion issues. Subject to those caveats, the members of the South Joint Board encourage market participants to give further consideration to the development of such arrangements.

In addition to proposing the establishment of an improved trading hub or similar processes, participants in the Joint Board process also suggested that the scope of economic dispatch be expanded. As a result of the approach to economic dispatch employed in the ERCOT portion of Texas, and the energy imbalance market scheduled for operation in SPP in the fall of 2006, members of the South Joint Board believe that this recommendation is applicable to that portion of the region outside ERCOT and SPP. Although the nature and extent of the proposals for expanding the scope of economic dispatch in the region advanced to the Joint Board were not described in detail, some members of the Board believe that the adoption of such proposals could, depending upon the manner in which they were implemented, fundamentally alter the manner in which electric service is provided in some parts of the South, disturb settled customer expectations, and result in significant shifts in jurisdiction and customer costs. Other members of the South Joint Board believe that the implementation of such an expanded dispatch could result in lowering overall generation costs and produce savings for retail customers. In order to implement such a proposal, it would appear to the members of the Joint Board that a Regional Transmission Organization (RTO) or some independent third party dispatch operator would be required. Some members of the South Joint Board are concerned that the institution of an RTO or similar institutions in their states would result in a loss of State jurisdiction and could increase customer costs. Some members of the South Joint Board believe that RTO or independent third-party dispatch creates greater wholesale price transparency and could result in lower customer costs. The FERC's belief (which is shared by many State members) is that such institutions should only be

established on a voluntary basis. The State members of the South Joint Board believe that existing law requires that the implementation of such proposals be subject to State review and approval in order to ensure their cost-effectiveness. As a result, the members of the South Joint Board do not recommend that an expanded regional dispatch be involuntarily implemented in the South at this time. As is always the case, however, the members of the South Joint Board encourage market participants and others to continue to investigate alternatives that would reduce the cost and improve the reliability of electric service for customers within the region.

Certain participants in the Joint Board process recommended that additional transparency be created with respect to the operation of the transmission system and transmission congestion management in the region and that the capacity of the existing transmission system be expanded. Although these proposals are interrelated and could apply throughout the region, including the area served by ERCOT and the Southwest Power Pool, the members of the South Joint Board will address them individually, given that these proposals raise several different issues and could be resolved in differing ways.

The members of the South Joint Board favor appropriate, cost-effective, improvements in the transparency with which the regional transmission system is planned and operated and the manner in which transmission congestion is managed. The efficacy of existing economic dispatch procedures in the region, which rely heavily on bilateral transactions, rests on the assumption that load serving entities have non-discriminatory access to potential suppliers. Users of the transmission system for the purpose of participating in wholesale transactions should receive non-discriminatory transmission service in a manner consistent with the Open Access Transmission Tariff (OATT) and existing market rules. However, issues have been raised about the adequacy of the manner in which the OATT has been implemented and enforced in many parts of the country. For that reason, some of the State members of the South Joint Board have expressed support for the Commission's decision to reexamine the existing OATT in order to ensure that any needed improvements are made and any important issues are addressed. The members of the South Joint Board assume that OATT-related issues will be appropriately addressed in the ongoing Commission proceeding relating to the revision of Order 888 and see no need to further comment on those issues as part of the activities of this Joint Board. Furthermore, the nature of the proposed improvements in the manner in which the transmission system in the region is planned and operated and the manner in which transmission congestion is resolved were sometimes not clearly stated. In the event that the proponents of these improvements in transmission system operation contemplate the creation of an RTO or a non-RTO independent entity or process, the members of the South Joint Board conclude that such a step may or may not be appropriate depending on the circumstances, that market participants should feel free to explore the creation of such institutions or alternative approaches, and that proposals for the creation of such institutions should be handled consistently with federal and state law to assure that they are cost-effective and serve the public interest.

As the members of the South Joint Board understand the term, the issue of transmission system expansion may or may not go beyond the scope of an examination of security constrained economic dispatch of the type contemplated by Congress. On the one hand, some members of the Joint Board believe that the inquiry contemplated by Congress takes the capacity of the existing transmission system as a given and proposes an examination of how available generating units should be dispatched in the most economic manner possible given these system limitations. Other members of the South Joint Board believe that issues relating to the expansion of the system are well within the Joint Board's purview as described by Congress. The members of the South Joint Board were not able to achieve unanimity with respect to this legal issue. Regardless of the conclusion which individual members of the South Joint Board reach with respect to this issue, the adequacy of the transmission system in the region clearly affects the ability of load serving entities to utilize or procure energy from certain suppliers and is, for that reason, related to system dispatch issues on a longer-term basis. The members of the South Joint Board further agree that it would be beneficial to obtain improved information about actual expansion of the regional transmission system, including the size, location, and purpose of proposed expansions. In addition, the members of the South Joint Board agree that the obligation imposed upon all regulated utilities to provide adequate service includes appropriately planning for the cost-effective expansion of the transmission system to meet the needs of end user customers in the most reasonably-priced and equitable manner possible. Finally, the members of the South Joint Board believe that issues relating to the expansion of the transmission system should be resolved in a manner that is equitable and cost-effective and that respects appropriate jurisdictional boundaries as is required by existing federal and state law.

Various participants in the Joint Board process recommended the establishment of independent transmission coordinators or similar entities to optimize transmission planning for both reliability-related and economic expansions, to monitor market conditions and behavior, and to oversee system operations. As a result of the role in planning and system operation played by ERCOT and SPP, the members of the South Joint Board assume that these proposals relate primarily to the portion of the region not served by the two existing RTOs. Most areas in the South region outside ERCOT and SPP rely upon traditionally-regulated, vertically integrated utilities with a statutory obligation to provide service in defined service territories. The primary duty that these utilities are required to perform is providing reliable service at just and reasonable rates to native load customers. Although these utilities are solely responsible for planning and operating their own systems, they are interconnected with adjoining utilities and work with their regional neighbors to some degree in order to plan and operate the transmission system. The coordination of planning and operations among such utilities is becoming more formal and interdependent through voluntary action on the part of the affected utilities.

A considerable amount of work on proposals for improving the planning and operation of the transmission system is currently occurring within the region. These initiatives make

transmission planning and operation more independent from the utility company owning the transmission. For example, the Commission has recently approved Entergy's ICT proposal and Duke Power's Independent Entity proposal. Similarly, the load serving entities in North Carolina have agreed upon a joint planning process that they hope will lead to improvements in transmission planning there. Some members of the South Joint Board believe that an independent transmission planning process is required to assure that transmission upgrades and other improvements occur on a non-discriminatory basis. In addition, some members of the South Joint Board believe that specific proposals for independent transmission planning should be subject to State review for cost-effectiveness as a precondition for their implementation. Although the members of the South Joint Board disagree on the need for or desirability of an independent transmission planning process, they do agree that interested parties should continue to explore such alternatives on a voluntary basis and to seek appropriate regulatory redress in the event that they possess evidence of inappropriate conduct by any market participant. The members of the South Joint Board also conclude that the formation of such entities should be encouraged where their activities would be cost effective, beneficial to customers, and not diminish reliability and that their formation should be voluntary rather than mandatory and subject to any applicable state rules, regulations, and statutes.

Among the recommendations advanced in the study of economic dispatch issues performed by the United States Department of Energy was the suggestion that the Joint Board review selected dispatch entities, including some investor-owned utilities, in order to determine exactly how they conduct economic dispatch. According to the DOE study, such reviews could document the reasons for any departures from pure least-cost dispatch so that one could ascertain whether such deviations resulted from entity-specific or regional business rules, on the one hand, or reliability, regulatory, and environmental constraints, on the other. The members of the South Joint Board believe that conducting such a study in a dispassionate, fact-based manner might resolve some of the issues that were raised by various participants in the Joint Board process and would tend to be supportive of the performance of such a study. However, it is not clear to the members of the South Joint Board how much data would need to be obtained in order to conduct such a review, how much time and expense would be involved in the review process, and how such a study would be paid for. As a result, the members of the South Joint Board conclude that such a review should be undertaken by an appropriate body in the event that the cost of such a review is determined to be reasonable, the funding source is clearly identified, the necessary data is readily available in filings with state or federal agencies, and the purpose and scope of the review is agreed upon by all parties at the beginning of the review process.

Furthermore, the DOE recommended that the Joint Boards explore various proposals for more standardized contract terms associated with wholesale power transactions and engage in further study of current economic dispatch technology tools. The members of the South Joint Board believe that further exploration of these issues could be helpful. However, any such exploration should be undertaken with the understanding that

adequate flexibility in wholesale contracting should be preserved in the interests of assuring the most economical service for customers, that the data necessary to undertake these explorations should be reasonably available before such a study is undertaken, that the costs of these reviews should be reasonable, and that any review of such standardized contract terms and dispatch technology tools should have a specific, widely-accepted scope and set of specific objectives sought to be accomplished.

CODA

The record contains expressions of concern about the extent of the willingness of vertically integrated utilities to purchase power from unaffiliated generators even when it is economically appropriate to do. The vertically integrated utilities argue in response that they do not hesitate to purchase power from any available source that can supply power on an economic basis. The Joint Board process created by Congress does not allow the members of the South Joint Board to resolve this apparent factual dispute since it does not involve the use of formal hearing procedures. The members of the South Joint Board note that, in many States where vertically integrated utilities continue to exist and are subject to state regulation, State commissions or State commission staff have the authority to oversee utility dispatch decisions and to disallow costs incurred as the result of a failure to purchase the most economical power. However, the information on potential bilateral energy transactions available to state commissions may be subject to certain limitations. Specifically, data on potential transactions not pursued by the utility may not be routinely retained in the absence of an order to the contrary. In addition, under certain circumstances, claims alleging undue or unreasonable discrimination by regulated utilities can be presented to either the FERC or a State commission. The members of the South Joint Board conclude that there is some degree of recourse available to entities that believe that security constrained economic dispatch is not being performed in an appropriate manner and that entities with evidence that security constrained economic dispatch is not being performed properly should not hesitate to bring such claims to the appropriate regulatory body for redress in accordance with law. Some members of the South Joint Board believe that it may be difficult for a regulatory body to determine whether actionable discrimination has occurred in the absence of the transparency that they believe to be inherent in organized markets or the use of an independent operator. However, as has been noted above, the members of the South Joint Board have differing opinions as to the value of such institutions. Those Joint Board members that are supportive of cost effective organized markets and similar institutions believe that they improve the ability of regulators to evaluate the credibility of such allegations. Those Joint Board members that are not convinced of the value of such institutions are skeptical of the usefulness of any information that is allegedly available in such markets given limitations on available resources and do not believe that organized markets or similar institutions are necessary to permit a determination as to whether actionable discrimination has occurred.