

PROJECT NO. 38470

**CONFIDENTIALITY OF ELECTRIC § PUBLIC UTILITY COMMISSION
GENERATION INFORMATION IN THE §
ELECTRIC RELIABILITY COUNCIL § OF TEXAS
OF TEXAS §**

**ORDER ADOPTING AMENDMENT TO §25.505
AS APPROVED AT THE OCTOBER 22, 2010 OPEN MEETING**

The Public Utility Commission of Texas (commission) adopts an amendment to §25.505, relating to Resource Adequacy in the Electric Reliability Council of Texas Power Region, with changes to the proposed text as published in the September 3, 2010 issue of the *Texas Register* (35 TexReg 8032). The amendment addresses the timing for release of transmission system information contained in the Electric Reliability Council of Texas (ERCOT) State Estimator Report (SER). The timing and contents of the data released provide the market transparency that ensures better market operation and results, while recognizing and respecting the need for the protection of resource-specific output levels and offer curves. The timing of the release of this information is instrumental to ensuring safe, reliable, and reasonably priced electricity in the competitive market while protecting the confidentiality of competitively sensitive information. Additionally, this amendment clarifies the protection of consumption information from facilities whose competitively sensitive information is provided to ERCOT for grid reliability. This amendment will provide ERCOT the latitude to release to the public relevant State Estimator data, as appropriate, to assist in the explanation and understanding of unusual and significant events and market results. Additionally, the amendment directs ERCOT to develop a redacted SER that can be released sooner than the full report by excluding the portions of the full report that would release competitively sensitive information. The amendment to §25.505 is a

competition rule subject to judicial review as specified in Public Utility Regulatory Act (PURA) §39.001(e). The amendment is adopted under Project Number 38470.

The commission received initial comments on the proposed amendment from Joint Commenters; South Texas Electric Cooperative, Inc. (STEC); Lower Colorado River Authority (LCRA); Potomac Economics (Potomac); Luminant Generation Company LLC and Luminant Energy Company LLC (Luminant); Texas Industrial Energy Consumers (TIEC); Calpine Corporation (Calpine); CPS Energy; and Electric Reliability Council of Texas (ERCOT). Joint Commenters consisted of Exelon Generation Company, LLC; International Power America; NRG Texas LLC; Shell Energy North America (US); and Topaz Power Holdings, LLC. Potomac currently is the ERCOT independent market monitor (IMM). The commission received reply comments from Calpine, Joint Commenters, Luminant, CPS Energy, and ERCOT. The commission did not receive a request for a public hearing, but did obtain oral comments from ERCOT, the IMM, Luminant, Joint Commenters, and CPS Energy before adopting the amendment.

Release of State Estimator Data

Joint Commenters and Calpine argued that the commission should reject the amendment and maintain the 60-day release period for the SER. They believed that the amendment would reopen a previously debated commission rule (see Project Numbers 33490 and 31972). They expressed the view that the current rule has already established the proper mechanism to balance the competing mandates of transparency and competition. Joint Commenters stated that the disclosure period should be at least 60 days, because most market participants in the prior rulemaking urged a disclosure period of at least three months. They explained that a 14-day

period is too brief because the information is likely to be released while similar market circumstances still prevail, such as electricity demand levels, fuel supply, and fuel prices. Also, some planned outages and occasionally forced outages surpass 14 days in duration, and a release within this period would reveal these outages.

Joint Commenters, Calpine, and STEC expressed the view that the SER information should be available immediately to the IMM, ERCOT staff, commission staff, the Texas Regional Entity (TRE), and transmission service providers to monitor market behavior, ensure reliability, and allow the market operator to model the system properly. The IMM agreed that it is ERCOT's responsibility to ensure that its system operations are conducted in accordance with the ERCOT Protocols, and other data that are being released will enable market participants to detect potential problems that can be quickly communicated to ERCOT for investigation. The IMM contended that having the information at issue released after 60 days rather than after 14 days would not affect market participants' ability to bring problems to the attention of the IMM and the commission.

Joint Commenters stated that PURA §39.151 and §39.1515 refute any contention that the IMM and the commission's monitoring and enforcement should be supplemented through release of competitively sensitive information to market participants. Joint Commenters and Calpine claimed the 14-day release of information would invite gaming and other market manipulation, and this would put a greater strain on IMM and commission resources used in monitoring and enforcement.

Joint Commenters and Calpine stated that market participants already have access to useful data and under the Protocols have access to substantial amounts of additional data. The IMM concurred, explaining that the early release of the SER might be useful in understanding events that occur in the market and to confirm the market is operating correctly, but pointed to the extensive data that will be published by ERCOT in or near real time that will also be useful in understanding market operations and results. The IMM stated that such data include: locational marginal prices (LMPs) at every electrical bus and settlement point; a full transmission network model; planned and actual transmission outages; binding transmission constraint limits, flows, and shadow prices; hourly load and wind forecasts; and real-time load, wind production, and reserve levels, among many other items.

Joint Commenters, Calpine, and STEC claimed that the information at issue would allow for reverse-engineering that could reveal offer curves, which the current rule states are released only after 60 days. STEC stated that it is unlikely that smaller market participants would benefit from the posting of such information, because the cost of the software to use the SER data would not be justified. In contrast, larger market participants could use the information to maximize their profits and also to manipulate the market. Calpine explained that the anticompetitive consequence of the amendment is an increased risk that market participants unwittingly could engage in tacit collusion.

Calpine stated that the ERCOT stakeholder process is better suited for the development of disclosure protocols. It expressed the view that §25.505(f) provides ERCOT with broad and clear rules regarding the disclosure of resource-specific data in the nodal market, and §25.505(h)

requires ERCOT to “use a stakeholder process to develop protocols that comply with” the commission’s rules. Calpine stated that the amendment gets this backwards; that is, the ERCOT stakeholder process is the appropriate forum to develop protocols for the release of the State Estimator’s resource-specific data. It stated that in the existing rule the commission has done its job providing ERCOT stakeholders with broad and clear guidance regarding the treatment of resource-specific information, and it is this type of “in the weeds” task that is intended for the ERCOT stakeholder process.

Joint Commenters stated that the amendment adds a new term, *State Estimator Report*, but does not define it. They explained that *State Estimator Report* is not a commonly understood term and if the commission adopted the amendment without defining it, ERCOT could change the disclosure periods in the commission rule simply by changing the information it includes in the SER. Joint Commenters claimed that using the Nodal Protocols’ current scope of information included in the SER would still require release after 60 days. They stated that the current rule language prescribes a 60-day period before public disclosure of “Other resource-specific information, as well as ... actual resource output, for each type of service and for each resource at each settlement point.” Joint Commenters claimed that the information at issue is “other resource-specific information” and that it reveals “actual resource output, for each type of service and for each resource at each settlement point.”

Joint Commenters offered legal arguments that the commission is required to protect competitively sensitive information pursuant to four sources of law: PURA, the Public Information Act (PIA), Texas law on privilege, and constitutional protections. They stated that

the commission cannot exceed its authority under PURA §§14.154, 17.051, 39.001(b), 39.155(a), and 39.351 to adopt rules that would allow ERCOT to release competitively sensitive information that the commission itself could not release under PURA, PIA, and other law. Calpine stated that the Legislature has made policy decisions regarding the operation of the competitive market in PURA. It stated that the Legislature has given the commission the duty to protect market participants' competitively sensitive information.

Joint Commenters cited a case involving the Garland municipal utility that holds that the commission's broad discretion to set policy regarding competitive markets is limited by the PIA and PURA provisions protecting competitively sensitive information. They stated that differences in disclosure timeframes would conflict with the statutory directives regarding discrimination among market participants. Joint Commenters point out that entities like LCRA, CPS Energy, and Austin Energy are competitors in the wholesale power market and although the most recent version of §25.505(f)(3) was not appealed, public power utilities have already appealed two commission competition rules to enforce their PIA §552.133 rights. Joint Commenters stated that discrimination and anticompetitive concerns about the amendment not applying to publicly-owned wholesale power suppliers while applying to their privately-owned competitors are reasons the commission should reject the amendment.

STEC opposed the posting of the SER any earlier than 30 days. CPS Energy also expressed the view that unit-specific State Estimator data should be kept confidential for 30 days, but it supported the earlier release of a non-unit-specific SER. STEC stated that the further out the data are released, the closer the market is to another weather season and thus a different

generation dispatch pattern. STEC stated that the risks of early release out-weigh any benefits that could possibly occur from the release of the information earlier than 30 days.

The IMM commented that the only reason §25.505(f)(3)(B) delays the release of this data for 60 days is to minimize the harm to the competitive market from earlier release. The IMM pointed to the competitive concerns previously raised by TXU Wholesale, Luminant's predecessor, regarding release of competitively sensitive information. It stated that the proposed 14-day release of the SER would result in direct and indirect release of data that are otherwise not released for 60 days pursuant to existing sections of §25.505 that remain unchanged. Joint Commenters offered three exhibits that it stated showed that Luminant or TXU Wholesale has previously argued that certain information was competitively sensitive, which is in contrast to the position Luminant has taken in this rulemaking.

Luminant stated that the release of the SER would not result in release of the same information that it was concerned about in 2006, and the wholesale market will be different than was conceived in 2006. Luminant stated that knowing generation status does not provide insight into a company's bidding behavior. Luminant's primary former concern is not implicated by the release of the SER. It stated that SER release has always included a delay component so that it has never been possible to observe critical information in real time. Luminant stated that the SER is not real time data because it represents an estimate at a point in time and is posted only on an hourly interval. Luminant stated that even if it were made immediately available, a significant amount of analysis time would be necessary if the SER were to be used for the purpose of determining generating outputs. Luminant stated that it does not support the publication of

proprietary confidential information and continued to stand by its position in Project Number 31972, but that the SER will not result in the release of the same data.

The IMM stated that the systematic release of the SER should remain consistent with the existing 60-day timelines in §25.505. The IMM and CPS Energy supported an exception that would allow ERCOT to release transmission flow and resource output data that would otherwise be protected for 60 days on a much shorter timeline, on a limited basis determined by ERCOT, as necessary to provide explanations of market operations and events in a public forum to ERCOT stakeholders. Joint Commenters supported the IMM's recommendation for an appropriate, limited release; they offered rule language setting out a standard for the exception.

Calpine expressed concern with the lack of detail of the IMM's and CPS Energy's proposals for allowing ERCOT, on a limited basis, to release a limited SER, and therefore did not support it at this time. Luminant stated that the limited release of information is insufficient and inefficient, and stated that if the SER is not released, market participants will ask ERCOT for explanations and information whenever unexpected results occur, requiring ERCOT to devote significant resources to responding to these requests.

ERCOT, regarding the limited release of SER data on a shorter timeline, as discussed by the IMM and CPS Energy, stated that it supported the general concept, but did not have enough time to develop criteria for the release. ERCOT stated that it would prefer to work with stakeholders and commission staff to develop the criteria for such disclosure, to protect competitively sensitive information.

LCRA and CPS Energy agreed that a subset of transmission line flows and transformer flows posted as part of the SER may be used to calculate resource output. CPS Energy stated that this information combined with nodal prices would allow for the extrapolation of generation offers. LCRA explained that it prefers a 48-hour lag for the posting of State Estimator flows that could be used to calculate resource output. It stated that delaying the SER data by two days would insulate entities that find themselves in a vulnerable position in the market.

LCRA and CPS Energy stated that they could compromise with the 14-day release time frame. LCRA still expressed a preference for the real-time release of voltages and tap positions and flows that cannot be used to calculate resource-specific output. LCRA proposed changes to the amendment language that would create a redacted SER that would be released every hour.

Luminant supported LCRA's redacted SER real-time release. It agreed with LCRA that the full SER report should be released within 48 hours. Luminant stated that ERCOT staff would not be able to implement the redaction of data from the SER before the Nodal Go Live date and therefore Luminant is willing to help find a procedure to achieve this before that date.

ERCOT explained that the concept of a redacted SER as proposed by LCRA would create an additional nodal system impact. The redacted SER would create abridged and unabridged versions of SER data on different timelines for release. ERCOT would need to evaluate potential system impacts of this proposal. It expressed the view that a redacted SER could not be scoped and implemented before Nodal Go Live.

Luminant stated that more timely information from the SER would help reduce modeling errors that lead to inappropriate pricing outcomes. According to Luminant, the appropriate balance is reflected in the existing ERCOT Nodal Protocols and that if a delay in release of the SER is necessary, it should be no more than 48 hours. Luminant stated that its conclusion was based upon its understanding of the market structure and the potential results of the market operating 14 days with errors that could be more quickly identified and corrected with the information contained in the SER.

Luminant argued that while concerns remain that SER data might be used to determine generation station status and output, these data are already being monitored by third-party commercial vendors, such as Genscape, in real time and are made available through for-profit services. Therefore, Luminant and LCRA favored a shorter release period for the SER, to level the playing field by making this information available to all market participants.

Joint Commenters and Calpine explained that information currently available from private services can be inaccurate and may not be available for some units, while the SER information would provide new insights into all plants, and would do so ERCOT-wide, uniformly formatted, in a reliable and predictable way. They stated that the fact that a limited, less accurate set of resource status and output information is prepared and sold commercially proves such information has value, and premature release of information might expose ERCOT to involvement in potential litigation if a market participant were harmed by the release of the data. Joint Commenters stated that if the information at issue were already available, there would be

no need for the amendment. Joint Commenters and Calpine reiterated that the information available is not as comprehensive or accurate, and information on some resources operated by Calpine, STEC, and the Joint Commenters is not available.

Luminant stated that it would be difficult to determine a scenario where inappropriate market conduct could result from the release of the SER. It offered a demonstration of the information available and what could be reasonably gleaned from it. Luminant pointed out that the majority of offers accepted into the day-ahead market from specific resources cannot be changed in real time, and therefore the nodal market process itself would prevent any generation resource from changing an offer curve.

Luminant stated that other nodal markets have an after-the-fact mechanism to revise pricing based upon deviations and problems that arise in market models and solutions, while in ERCOT market prices can be altered only by an action of the ERCOT Board of Directors. Luminant stated that this places added importance on market transparency. Luminant stated that if the proposed 14-day time frame is instituted, market participants could gain or lose millions of dollars because of model errors that could have been readily addressed. Luminant stated that with no mechanism in the ERCOT market to mitigate the financial distortions resulting from congestion modeling errors, financial loss is permanent. It expressed the view that access to the SER data may be the most effective mitigation mechanism in the ERCOT market; and access to information would permit modeling errors to be identified and eliminated.

Joint Commenters refuted Luminant's argument that market harm cannot occur because the majority of offers accepted into the day-ahead market from specific resources cannot be changed in real time. They noted that this argument focuses on short-term harm and ignores all of the ways that a market participant can be harmed in the near and distant future by competitors' gaining insights into how its units are operating.

Luminant stated that stakeholders in any new market benefit when market participants have the opportunity to observe the market's actual operation and that unintended consequences can occur when a new market structure is launched. The earlier the unintended consequences are identified, the more quickly steps can be taken to address them. To make this point, Luminant offered three examples of actual model errors that would adversely impact the market. Luminant stated that these examples demonstrate that transparency into system conditions (e.g., forced transmission outages, distance from line, voltage, and contingency limits) will contribute to efficiency in the market.

ERCOT stated that it does not agree with all of Luminant's characterizations of the three examples and offered a clarification. Joint Commenters stated that every example of model errors Luminant cited could have been identified by using the data available to market participants that were listed in the IMM's comments. They also stated that no market participant has demonstrated that any shorter release period would be adequate to avert competitive harm from release of this information. Calpine stated that the commission should show more regard for the concerns of anticompetitive harm raised by market participants and disregard Luminant's three examples.

ERCOT stated that it has no position on when to disclose the SER. ERCOT's comments addressed the nodal system impacts of the amendment. It explained that the amendment would change the posting requirement; ERCOT would have to modify the Current Day Reports (CDR) and Information Services Master (ISM) nodal systems. ERCOT stated that the initial cost/budgetary impact is less than \$50,000 and could be absorbed into the Nodal Program budget without use of contingency funding. ERCOT explained that using its ISM data instead of the CDR system would require the following nodal system changes: (1) develop system modifications to the publication of transmission and transformer flows information from the CDR system; (2) replicate the transmission and transformer flows from the Energy Management System into the ISM system, which provides the ability to post data to the Market Information System (MIS) at a later date; (3) write a program in the ISM system to assemble information stored in ISM and post it at the designated time; and (4) write a program that could post the data after holding it after the Operating Day. ERCOT stated that if the commission makes a final decision on SER disclosure requirements by the end of October 2010, then ERCOT would be able to implement the nodal system changes necessary to comply with the requirements by Nodal Go Live.

Commission Response

With certain exceptions, existing §25.505(f)(3)(B) provides that generation or load resource-specific information provided to ERCOT shall be released by ERCOT 60 days after the day for which the information is accumulated. In adopting this requirement, the commission concluded that by 60 days after the information was accumulated, the

information was not competitively sensitive. *Rulemaking Proceeding to Address Pricing Safeguards in Markets Operated by the Electric Reliability Council of Texas, Project No. 33490, Order Adopting Amendment to §25.505 as Approved at the August 16, 2007, Open Meeting at 12 (Aug, 16, 2007).* The generation or load resources to which the information pertains are controlled by companies and utilities that compete in the wholesale electric market.

In contrast to that prior rulemaking, the commission in this rulemaking is not directly addressing ERCOT's disclosure of resource-specific information. Instead, it is addressing the disclosure of information concerning the transmission system, through which competitors in the wholesale electric market provide their services. Pursuant to PURA Chapter 35, Subchapter A, the commission regulates wholesale transmission service, including ensuring nondiscriminatory service to eligible customers and setting rates. Thus, wholesale transmission service is a regulated service and operational information about the transmission system is therefore not competitively sensitive. In fact, timely disclosure of operational information about the transmission system is essential to the efficient operation of the wholesale electric market. As Luminant explained, market participants can gain or lose millions of dollars because of modeling errors related to the ERCOT transmission system, and disclosure of operational information about the transmission system permits market participants to identify problems that can lead to the correction of these errors. Thus, timely disclosure of transmission system information through the SER allows for the mitigation of financial harm, and inefficient operations, resulting from modeling errors related to the ERCOT transmission system.

Timely disclosure of transmission system information through the SER is especially critical at the start of the nodal market, which is scheduled to occur on December 1, 2010. The nodal market constitutes a comprehensive redesign of the existing zonal wholesale market and has cost ERCOT approximately half a billion dollars and has taken approximately six years to design and implement. Pursuant to §25.501(m) (relating to Wholesale Market Design for the Electric Reliability Council of Texas), ERCOT contracted for an independent cost-benefit analysis of the nodal market, and that analysis showed that the benefits of the nodal market will substantially exceed its costs. The commission remains confident that the benefits of the nodal market will substantially exceed its costs. Nevertheless, as with any project of this magnitude and despite the extensive testing of the nodal market design that ERCOT and market participants have engaged in, implementation issues may arise, and these implementation issues should be identified and resolved as quickly as possible.

The commission is confident that ERCOT and the IMM will vigilantly monitor the nodal market to identify problems, particularly during the early period of its implementation. Nevertheless, market participants, given their “on the ground” participation in the market, may be able to more quickly identify some concerns and report them to ERCOT and the IMM. In addition, although market participants as a whole have diligently prepared for the implementation of the nodal market, their learning process for the nodal market will unavoidably continue after the market “goes live.” As a result, as a general matter, the more information that they have about the actual operation of the nodal market, the better

able they will be to adapt to it and thrive under it. As part of their learning process, market participants will undoubtedly have many questions about how the market is operating in practice during the early months of its operation. Furthermore, no new complex system ever fully operates as initially conceived. As a result, refinements to the nodal market will need to be made, including some that have already been identified, and the sources giving rise to those refinements should be identified as soon as possible.

The commission concludes that it is imperative that ERCOT timely disclose operational information related to the transmission system as soon as the nodal market is implemented. To ensure that this disclosure occurs, the commission has changed the amendment to divide the information that ERCOT initially discloses into two categories. First, ERCOT shall initially post the unredacted SER information 60 days after the day for which the information was accumulated. This 60-day posting requirement is consistent with existing §25.505(f)(3)(B)'s posting requirement for resource-specific information, and thereby avoids disclosing competitively sensitive information. Second, ERCOT shall initially post a redacted SER that avoids material disclosure of competitively sensitive information, as soon as reasonably practicable after collection of the State Estimator data. In addition, both initially and on an ongoing basis, ERCOT shall have the sole discretion to release relevant State Estimator data less than 60 days after the day for which the information is accumulated if it determines the release is necessary to provide complete and timely explanation and analysis of unexpected market operations and results or system events. These requirements ensure that market participants will have timely access to transmission system information as soon as the nodal market is implemented.

As explained above, as a general matter, the more information that market participants have about the actual operation of the nodal market, the better able they will be to adapt to it and thrive under it, thereby supporting an efficient competitive wholesale electric market. The concern with the SER arises from the fact that information in it, along with other information that ERCOT discloses, can be used to derive some resource-specific information. This information may be competitively sensitive and used to manipulate the market.

The State Estimator provides detailed operational information related to the transmission system. In addition, the specific information that is provided may change over time. In light of this, Calpine's comment is well taken that the ERCOT stakeholder process is better suited than a commission rule for addressing the detailed State Estimator disclosure requirements. As a result, the commission has changed the amendment to require that, in conjunction with the IMM and the commission staff, ERCOT, through its stakeholder process, shall develop protocols that detail, at a minimum, the methodology, duration, and posting requirement of a redacted version of the State Estimator data. The commission notes that its existing rules protect the rights of individual market participants vis-à-vis ERCOT conduct, including the results of its stakeholder process. Section 22.251 (relating to Review of Electric Reliability Council of Texas (ERCOT) Conduct) provides that any affected entity may obtain relief from the commission for improper conduct, which would include a stakeholder-produced Protocol that provides for the inappropriate release of competitively sensitive information.

Competitively Sensitive Consumption Data

Texas Industrial Energy Consumers (TIEC) commented that the amendment should avoid unintended disclosure or conflicts between the commission's rules and Protocols regarding Private Use Networks (for example, Protocols §6.5.7.1.13(4)(b) and (d)), which are privately-owned transmission systems containing industrial loads and generation behind the point of interconnection with the ERCOT grid. It stated that it is critical that competitively sensitive consumption data be protected from disclosure as part of the SER, to prevent competitive harm to industrial customers, noting that private use networks are protected under numerous provisions of PURA, including §39.901, and the commission's Substantive Rules, including §25.361(e). TIEC contended that this protection is consistent with the information disclosure rules under the PIA. TIEC concluded by suggesting adding language to the amendment to specifically exempt disclosure of competitively sensitive consumption data from the SER posting or deleting the last sentence of the proposed language that was potentially too vague and encompassing.

CPS Energy stated that it supported a different treatment of data for private use networks but stated that TIEC's proposed edits to the proposed rule language are confusing. CPS Energy stated that a better way to address TIEC's concern would be to have an additional subsection in the rule to describe the treatment for private use networks. Otherwise, CPS Energy preferred the second option offered by TIEC.

Joint Commenters explained that private ownership of transmission does not preclude the generation behind the point of interconnection from selling power in ERCOT's wholesale

market; therefore, a TIEC member who owns generation and sells output should not be exempted from ERCOT data disclosure. They stated that such an exemption would introduce discrimination among market participants.

Commission Response

The commission agrees with TIEC that any competitively sensitive load consumption data need not, and should not, be released as part of the SER, and has amended the rule accordingly. The commission notes that Private Use Network data was removed from the SER when the ERCOT Board of Directors approved Nodal Protocol Revision Request (NPRR) Number 202, relating to Clarification of Network Operations Model and State Estimator Posting, in January 2010. This amendment is not intended to change the disclosure protections for Private Use Networks as already provided in the ERCOT Protocols.

All comments, including any not specifically referenced herein, were fully considered by the commission. In adopting this section, the commission makes other minor modifications for the purpose of clarifying its intent.

This amendment is adopted under the Public Utility Regulatory Act, Texas Utilities Code Annotated §14.002 (Vernon 2007 and Supp. 2010) (PURA), which provides the commission with the authority to make and enforce rules reasonably required in the exercise of its powers and jurisdiction; and specifically, §35.004, which requires that the commission ensure that ancillary services necessary to facilitate the transmission of electric energy are available at reasonable

prices with terms and conditions that are not unreasonably preferential, prejudicial, discriminatory, predatory, or anticompetitive; §39.001, which establishes the legislative policies to protect the public interest during the transition to and in the establishment of a fully competitive electric power industry, to encourage full and fair competition among all providers of electricity, and to protect the competitive process in a manner that ensures the confidentiality of competitively sensitive information; §39.101, which establishes that customers are entitled to safe, reliable, and reasonably priced electricity, and gives the commission the authority to adopt and enforce rules to carry out these provisions; §39.151, which requires the commission to oversee and review the procedures established by an independent organization, directs market participants to comply with such procedures, and authorizes the commission to enforce such procedures; it also authorizes the commission to require an independent organization to provide reports and information relating to the independent organization's performance of its functions; and §39.157, which directs the commission to monitor market power associated with the generation, transmission, distribution, and sale of electricity and provides enforcement power to the commission to address any market power abuses.

Cross reference to statutes: Public Utility Regulatory Act §§14.002, 35.004, 39.001, 39.101, 39.151, and 39.157.

§25.505. Resource Adequacy in the Electric Reliability Council of Texas Power Region.

- (a) **General.** The purpose of this section is to prescribe mechanisms that the Electric Reliability Council of Texas (ERCOT) shall establish to provide for resource adequacy in the energy-only market design that applies to the ERCOT power region. The mechanisms are intended to encourage market participants to build and maintain a mix of resources that sustain adequate supply of electric service in the ERCOT power region, and to encourage market participants to take advantage of practices such as hedging, long-term contracting between market participants that supply power and market participants that serve load, and price responsiveness by end-use customers.
- (b) **Definitions.** The following terms, when used in this section, shall have the following meanings, unless the context indicates otherwise:
- (1) **Generation entity** – an entity that owns or controls a generation resource.
 - (2) **Event trigger** – a calculated value for each interval that is equal to 50 times the Houston Ship Channel natural gas price index for each operating day, expressed in dollars per megawatt-hour (MWh) or dollars per megawatt per hour (MW/h). The event trigger shall be applied solely for the purpose of establishing the timing of the publication of certain market data and shall not be construed to establish the legitimacy of any offer, whether such offer is less than, equal to, or higher than the event trigger.
 - (3) **Load entity** – an entity that owns or controls a load resource, including, but not limited to, a load acting as a resource (LaaR) or a balancing up load (BUL), as those terms are defined in the ERCOT Protocols.

- (4) **Resource entity** – an entity that is a generation entity or a load entity.
- (c) **Statement of opportunities (SOO).** ERCOT shall publish a SOO that provides market participants with a projection of the capability of existing and planned electric generation resources, load resources, and transmission facilities to reliably meet ERCOT's projected needs. A SOO published in even-numbered years shall use a ten-year study horizon and be published by December 31 of those years. A SOO published in odd-numbered years shall use a five-year study horizon and be published on or around October 1 of those years. ERCOT shall prescribe reporting requirements for generation entities and transmission service providers (TSPs) to report to ERCOT their plans for adding new facilities, upgrading existing facilities, and mothballing or retiring existing facilities. ERCOT also shall prescribe reporting requirements for load entities to report to ERCOT their plans for adding new load resources or retiring existing load resources.
- (d) **Projected assessment of system adequacy (PASA).** Beginning no later than October 1, 2006, unless otherwise specified below, ERCOT shall provide market participants with information to assess the adequacy of resources and transmission facilities to meet projected demand in the following two reports:
- (1) Each month, ERCOT shall publish a Medium-Term PASA for each week of the subsequent three years beginning with the week after the Medium-Term PASA is published. At a minimum, each Medium-Term PASA shall include the following information:
- (A) Load forecast by ERCOT zone or area;

- (B) Ancillary service requirements;
 - (C) Transmission constraints; and
 - (D) Aggregated information on the availability of resources, by ERCOT zone or area, including load resources.
- (2) Each day, ERCOT shall publish a Short-Term PASA for each hour for the seven days beginning with the day the Short-Term PASA is published.
- (A) At a minimum, each Short-Term PASA shall include the following information:
 - (i) Load forecast by ERCOT zone or area;
 - (ii) Ancillary service requirements;
 - (iii) Transmission constraints; and
 - (iv) Aggregated information on the availability of resources, by ERCOT zone or area, including load resources.
 - (B) By October 1, 2006, ERCOT shall file at the commission a plan to incorporate the impact of transmission constraints into its Short-Term PASA at a later date.
- (e) **Filing of resource and transmission information with ERCOT.** ERCOT shall prescribe reporting requirements for resource entities and TSPs for the preparation of PASAs. At a minimum, the following information shall be reported to ERCOT:
- (1) TSPs shall provide ERCOT with information on planned and existing transmission outages.

- (2) Generation entities shall provide ERCOT with information on planned and existing generation outages.
 - (3) Load entities shall provide ERCOT with information on planned and existing availability of LaaRs, specified by type of ancillary service, and BULs.
 - (4) Generation entities shall provide ERCOT with a complete list of generation resource availability and performance capabilities, including, but not limited to:
 - (A) the net dependable capability of generation resources;
 - (B) projected output of non-dispatchable resources such as wind turbines, run-of-the-river hydro, and solar power; and
 - (C) output limitations on generation resources that result from fuel or environmental restrictions.
 - (5) Load serving entities (LSEs) shall provide ERCOT with complete information on load response capabilities that are self-arranged or pursuant to bilateral agreements between LSEs and their customers.
- (f) **Publication of resource and load information in ERCOT markets.** To increase the transparency of the ERCOT-administered markets, ERCOT shall post at a publicly accessible location on its website, beginning no later than October 1, 2006, the information required pursuant to this subsection, unless a different date is specified by a paragraph of this subsection.
- (1) The following information in aggregated form, for each settlement interval and for each area where available, shall be posted two calendar days after the day for which the information is accumulated.

- (A) Quantities and prices of offers for energy and each type of ancillary capacity service, in the form of supply curves.
 - (B) Self-arranged energy and ancillary capacity services, for each type of service.
 - (C) Actual resource output.
 - (D) Load and resource output for all entities that dynamically schedule their resources.
 - (E) During the operation of the market under a zonal market design, scheduled load and actual load. During the operation of the market under a nodal market design, firm scheduled load, scheduled load with “up to” limits on congestion charges, and actual load.
- (2) During the operation of the market under a nodal market design, the following day-ahead market information in aggregate form shall be posted two calendar days after the day for which the information is accumulated: load bids, including virtual loads, in the form of day-ahead bid curves, and cleared load.
- (3) The following information in entity-specific form, for each settlement interval, shall be posted as specified below.
- (A) During the operation of the market under a zonal market design:
 - (i) Portfolio offer curves for balancing energy and for each type of ancillary service, for each area where available, shall be posted 60 days after the day for which the information is accumulated beginning September 1, 2007, except that, for the highest-priced offer selected or dispatched by ERCOT for each interval after

January 12, 2007, ERCOT shall post the offer price and the name of the entity submitting the offer 48 hours after the day for which the information is accumulated. In the event of interzonal congestion, ERCOT shall post, separately for each zone, the offer price and the name of the entity submitting the highest-priced offer selected or dispatched.

- (ii) If the market clearing price for energy (MCPE) or the market clearing price for capacity (MCPC) exceeds the event trigger during any interval, the portion of every market participant's price-quantity offer pair for balancing energy service and each other ancillary service that is at or above the event trigger for that service and that interval shall be posted seven (7) days after the day for which the offer is submitted. ERCOT shall implement the requirements of this clause by September 1, 2007.
- (iii) Other offer-specific information for each type of service and for each area where available shall be posted 90 days after the day for which the information is accumulated beginning March 1, 2007. Effective March 1, 2008, this information shall be posted 60 days after the day the information was accumulated. The information subject to this disclosure requirement is as follows:
 - (I) final energy schedules for each QSE;
 - (II) final ancillary services schedules for each QSE;
 - (III) resource plans for each QSE representing a resource;

- (IV) actual output from each resource; and
 - (V) all dispatch instructions from ERCOT for balancing energy and ancillary services.
- (iv) The information posted shall include the names of the resources in the portfolio that were committed, the name of the entity submitting the information, the name of the entity controlling each resource in the portfolio.
- (B) Two months after the start of operation of the market under a nodal market design:
- (i) Offer curves (prices and quantities) for each type of ancillary service and for energy at each settlement point in the real time market, shall be posted 60 days after the day for which the information is accumulated except that, for the highest-priced offer selected or dispatched for each interval on an ERCOT-wide basis, ERCOT shall post the offer price and the name of the entity submitting the offer 48 hours after the day for which the information is accumulated.
 - (ii) If the MCPE or the MCPC exceeds the event trigger during any interval, the portion of every market participant's price-quantity offer pairs for balancing energy service and each other ancillary service that is at or above the event trigger for that service and that interval shall be posted seven (7) days after the day for which the offer is submitted.

- (iii) Other resource-specific information, as well as self-arranged energy and ancillary capacity services, and actual resource output, for each type of service and for each resource at each settlement point shall be posted 60 days after the day for which the information is accumulated.
 - (iv) The posted information shall be linked to the name of the resource (or identified as a virtual offer), the name of the entity submitting the information, and the name of the entity controlling the resource. If there are multiple offers for the resource, ERCOT shall post the specified information for each offer for the resource, including the name of the entity submitting the offer and the name of the entity controlling the resource.
- (C) The load and generation resource output for each zone, for each entity that dynamically schedules its resources, shall be posted 90 days-after the day for which the information is accumulated beginning March 1, 2007. Effective March 1, 2008, the information required by this subparagraph shall be posted 60 days after the day for which the information is accumulated.
- (D) ERCOT shall use §25.502(d) of this title (relating to Pricing Safeguards in Markets Operated by the Electric Reliability Council of Texas) as a basis for determining the control of a resource and shall include this information in its market operations data system.

- (E) After the start of operation of the market under a nodal market design, ERCOT shall begin posting transmission flows, voltages, transformer flows, voltages and tap positions (*i.e.*, State Estimator data) 60 days after the day for which the data were accumulated or other time interval as established in clause (ii) of this subparagraph. The data released shall be made available simultaneously to all market participants.
- (i) Notwithstanding the provisions of this subparagraph and the provisions of subparagraph (B) of this paragraph, ERCOT, in its sole discretion, shall release relevant State Estimator data earlier than 60 days after the day for which the information is accumulated if it determines the release is necessary to provide a complete and timely explanation and analysis of unexpected market operations and results or system events, including but not limited to pricing anomalies, recurring transmission congestion, and system disturbances. ERCOT's release of data under this clause shall be limited to intervals associated with the unexpected market or system event as determined by ERCOT. The data released shall be made available simultaneously to all market participants.
- (ii) Notwithstanding the provisions of this subparagraph and the other provisions of subparagraph (B) of this paragraph, ERCOT shall, by the start of the nodal market, develop and post a redacted version of State Estimator data, as soon as reasonably practicable after collection of the data, so long as a redacted version excludes

information (including but not limited to, voltages, transmission flows and transformer flows) from which resource-specific output levels or offer curves could continually and systematically be derived. Concurrently, in conjunction with the Independent Market Monitor and the commission Staff, ERCOT, through its stakeholder process, shall develop protocols that detail, at a minimum, the methodology, duration, and posting requirement of a redacted version of the State Estimator data. The redacted report methodology developed through the stakeholder process shall be completed within 90 days of the start of the nodal market. If ERCOT is unable to develop a cost effective protocol for the redaction process of the State Estimator data within 90 days of the start of the nodal market, then the following information shall be released as soon as reasonably practicable:

- (I) Current commercially significant constraints (CSCs) and closely related elements (CREs) line flows that are embodied in the competitive constraint list from the Competitive Constraint Test;
- (II) For phase shifting transformers, tap positions and line flows;
- (III) Voltages at all buses;
- (IV) Line flows on lines that make up interfaces (import, export, flow gate, or stability); and

(V) Line flows on DC ties.

(iii) In no event shall ERCOT disclose competitively sensitive consumption data.

(g) **Scarcity pricing mechanism (SPM).** ERCOT shall administer the SPM. The SPM shall take effect on January 1, 2007, unless the commission by order changes this date. The SPM shall operate as follows:

- (1) The SPM shall operate on an annual resource adequacy cycle, starting on January 1 and ending on December 31 of each year.
- (2) For each day of the annual resource adequacy cycle, the peaking operating cost (POC) shall be 10 times the daily Houston Ship Channel gas price index for the previous business day. The POC is calculated in dollars per megawatt-hour (MWh).
- (3) For the purpose of this section, the real-time energy price (RTEP) shall be measured as the price at an ERCOT-calculated ERCOT-wide hub.
- (4) In the annual resource adequacy cycle, the peaker net margin (PNM) shall be calculated as: $\sum((RTEP - POC) * (\text{number of minutes in a settlement interval} / 60 \text{ minutes per hour}))$ for each settlement interval when $RTEP - POC > 0$.
- (5) Each day ERCOT shall post at a publicly accessible location on its website the updated value of the PNM, in dollars per megawatt (MW).
- (6) The system-wide offer caps shall be as follows:
 - (A) The low system offer cap (LCAP) shall be set on a daily basis at the higher of:

- (i) \$500 per MWh and \$500 per MW per hour; or
 - (ii) 50 times the daily Houston Ship Channel gas price index of the previous business day, expressed in dollars per MWh and dollars per MW per hour.
- (B) Beginning March 1, 2007, the high system-wide offer cap (HCAP) shall be \$1,500 per MWh and \$1,500 per MW per hour.
- (C) Beginning March 1, 2008, the HCAP shall be \$2,250 per MWh and \$2,250 per MW per hour.
- (D) Beginning two months after the opening of the nodal market, the HCAP shall be \$3,000 per MWh and \$3,000 per MW per hour.
- (E) At the beginning of the annual resource adequacy cycle, the system-wide offer cap shall be set equal to the HCAP and, except for increases authorized in this section, maintained at this level as long as the PNM during an annual resource adequacy cycle is less than or equal to \$175,000 per MW. During an annual resource adequacy cycle, the system-wide offer cap shall be increased in accordance with the schedule authorized in this section unless the PNM has been exceeded by that date. If the PNM exceeds \$175,000 per MW during an annual resource adequacy schedule, the system-wide offer cap shall be reset at the LCAP for the remainder of that annual resource adequacy cycle.
- (F) The Independent Market Monitor, as part of its responsibilities pursuant to Public Utility Regulatory Act §39.1515(h), may conduct an annual review of the effectiveness of the SPM.

- (G) ERCOT, through its stakeholder process, may adopt protocols setting the HCAP at a level below that specified in subparagraphs (C) and (D) of this paragraph. Protocols adopted pursuant to this subparagraph shall terminate no later than the 45th day after ERCOT begins to use nodal energy prices for resources pursuant to §25.501(f) of this title (relating to Wholesale Market Design for the Electric Reliability Council of Texas). Protocols adopted pursuant to this subparagraph shall not set the HCAP so low that a resource would be required to offer service to the market below its marginal cost, unless the protocols provide a mechanism allowing the resource to recover such costs.
- (h) **Development and implementation.** ERCOT shall use a stakeholder process to develop protocols that comply with this section. Nothing in this section prevents the commission from taking actions necessary to protect the public interest, including actions that are otherwise inconsistent with the other provisions in this section.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority. It is therefore ordered by the Public Utility Commission of Texas that §25.505 relating to Resource Adequacy in the Electric Reliability Council of Texas Power Region is hereby adopted with changes to the text as proposed.

SIGNED AT AUSTIN, TEXAS this the 4th day of NOVEMBER 2010.

PUBLIC UTILITY COMMISSION OF TEXAS

BARRY T. SMITHERMAN, CHAIRMAN

DONNA L. NELSON, COMMISSIONER

KENNETH W. ANDERSON, JR., COMMISSIONER