The Brattle Group

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June 29, 2012

Via Electronic Filing

Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re *Southern Company Services, Inc.*, Docket No. ER09-88-000
Third Annual Report of the Independent Auction Monitor

Dear Ms. Bose:

Pursuant to the Federal Energy Regulatory Commission's ("Commission") Order Conditionally Accepting Tariff Amendments issued December 18, 2008 in Docket No. ER09-88-000, *The Brattle Group* ("*Brattle*"), as the Independent Auction Monitor for the Southern Companies' Day-Ahead and Hour-Ahead Energy Auctions in the Southern Balancing Authority Area ("Auction"), hereby submits its third annual report (the "Report").

As the Independent Auction Monitor ("IAM"), *Brattle* has been charged by the Commission to report annually on the functioning of the Auction, and include in its report at least the following information: (1) the clearing price for each Auction; (2) the amount of energy offered and sold by each seller (identified by name) in each Auction; and (3) the amount of energy bid on and purchased by each buyer in each Auction. *Brattle* also has been directed to identify: (a) any instances where it was unable to verify Southern Companies' available capacity calculations or inputs; and (b) any instances where issues arose involving availability of or the terms for transmission service needed to accommodate an Auction purchase. The Report, attached as Exhibit A, is submitted in compliance with those requirements and with our best efforts, as economists, to serve the purpose of IAM as articulated by the December 2008 Order and subsequent Commission orders in this docket.

On March 24, 2011, the Commission directed the IAM to file a public version of the Report along with justification for any requests for privileged treatment of any portions of the Report that have been redacted in accordance with 18 C.F.R § 388.112(b) (2011). Pursuant to the March 2011 Order, *Brattle*, as the IAM, is submitting a non-public and a public version of the Report. *Brattle* requests confidential and privileged treatment for the non-public version of the Report in accordance with 18 C.F.R. §§388.107 and 388.112. *Brattle* is authorized to represent that Southern Companies join in this request for confidential and privileged treatment. As directed by the March 2011 Order, a justification for the redactions in the public version of the report has been developed by Southern Companies, and is attached as Exhibit B.

Pursuant to 18 C.F.R. § 388.112(d) and (e), the following individuals should be notified of any request or decision to release the non-public version of the Report or any part thereof and should be given opportunity to comment on any request for release:

Peter Fox-Penner
The Brattle Group
Suite 1200
1850 M Street, NW
Washington, DC 20036
202.955.5050
peter.fox-penner@brattle.com

D. Wayne Moore
Southern Company Services, Inc.
Bin 15N-8289
600 North 18th Street
Birmingham, AL 35203-2206
205.257.6208
dwmoore@southernco.com

Barbara Levine, Esq.
The Brattle Group
44 *Brattle* Street
Cambridge, MA 02138
617.864.7900
Barbara.levine@brattle.com

Thank you for your attention to this matter. Please direct any questions concerning this submission to the undersigned.

Respectfully Submitted,

/s/Peter S. Fox-Penner
Peter S. Fox-Penner

Attachments
cc: All Parties (with public version of Exhibit A)

Exhibit A

Independent Auction Monitor's Third Annual Report

(Public Version — Redacted)

PUBLIC VERSION — REDACTED

The Brattle Group

Third Annual Report for The Southern Companies' Energy Auction February 16, 2011 to April 23, 2012

Submitted by

The Brattle Group
Independent Auction Monitor

June 29, 2012

Prepared for

The Federal Energy Regulatory Commission

PUBLIC VERSION — REDACTED

Third Annual Report
for
The Southern Companies' Energy Auction
February 16, 2011 to April 23, 2012

Docket No. ER09-88-000

June 29, 2012

Prepared By:

The Brattle Group, Inc.
1850 M Street NW, Suite 1200
Washington, DC 20036

Van Ness Feldman, P.C.
1050 Thomas Jefferson Street NW
Washington, DC 20007

The Brattle Group, Inc.
Principal Monitors:
Peter S. Fox-Penner
Dean M. Murphy
Attila Hajos

Assisted By:
Lucas Bressan
Sarah Whitley
Charles Russell

Van Ness Feldman, P.C.
Douglas Smith
Thomas Hutton

Prepared For:
The Federal Energy Regulatory Commission
888 First Street NE
Washington, DC 20426

The views expressed in this report are those of the authors and do not necessarily reflect the views of *The Brattle Group, Inc.*

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APPENDICES

I. INTRODUCTION AND OVERVIEW

This is the third Annual Report reviewing the Southern Companies'[1] Day-Ahead Energy (DAE) and Hour-Ahead Energy (HAE) auctions (collectively the "Energy Auctions" or "Auctions"), as administered by their agent Southern Company Services Inc. ("SCS" or "the Company"). It has been prepared by *The Brattle Group (Brattle)*, which serves as the Independent Auction Monitor (IAM). Broadly, the IAM is responsible for monitoring compliance with Tariff requirements and Commission-approved rules and regulations relating to the Auction.[2] More specifically, the IAM monitors SCS's compliance with the requirement that Southern Companies offer their Available Capacity into the Auction, at a price not exceeding the Seller Offer Price (SOP). The IAM is also available to respond to questions from bidders and regulators regarding the integrity of the auction process.

The Tariff obligates the IAM to report annually to the Federal Energy Regulatory Commission (FERC) regarding the functioning of the Energy Auctions for the first three years of the Auction. Such report must at a minimum include the following:

a. The clearing price for each auction;
b. The amount of energy offered and sold by each seller in each auction;
c. The amount of energy bid on and purchased by each buyer in each auction;
d. Any instances where the auction monitor was unable to verify SCS's Available Capacity calculations or inputs used in those calculations; and
e. Instances where issues arose involving the availability or the terms of transmission service needed to accommodate an Energy Auction purchase.

In addition, the IAM must report to FERC any complaints relating to the Energy Auctions or other serious matters as soon as possible, rather than wait for the next Annual Report.

The review period for this third Annual Report, February 16, 2011 through April 23, 2012, exceeds one calendar year in order to accommodate our obligation as IAM to file a report "every twelve months for the first three years of operation of the Energy Auction,"[3] without having to submit a fourth, supplemental report covering the short period of February 16, 2012 to April 23, 2012.[4] The review of auction performance and the issues discussed in this report relate to our

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1 Alabama Power Company, Georgia Power Company, Gulf Power Company, Mississippi Power Company and Southern Power Company are referred to collectively as "Southern Companies."

2 Southern Companies' market-based rate tariff includes several relevant segments: General Tariff Provisions; Rules of the Energy Auction (Auction Rules); Rules on Southern Companies' Energy Auction Participation (Participation Rules); and Appendices DA-1, DA-2, HA-1 and HA-2 to the Participation Rules. Alabama Power Company Market Based Rate Tariff, Southern's Tariff Volume No. 4, (last amended effective April 26, 2011). We refer to these documents collectively as "the Tariff."

3 Section 4.3.4 of Auction Rules.

4 This report often refers to the current review period as "Year 3" and to the previous review periods as "Year 1" or "Year 2," despite the fact that not all the periods cover exactly one year (the Year 1 review period was shorter than one year, and Year 3 is longer).

daily monitoring of the Energy Auctions throughout the review period, and retrospective reviews of relevant topics. Following discussions with and guidance from the Commission Staff, this third Annual Report was prepared in a format that differs slightly from those of the previous two annual reports. In particular, we have eliminated some detailed discussion from the main body of the report that appeared unnecessarily duplicative.

Summary of IAM Activities

Over the past year, we met with Commission Staff in July 2011 to review the previous Annual Report. We also met via teleconference in October 2011 and January 2012 to provide interim updates on the progress of the auctions and the monitoring process and to request and receive feedback from Staff. Our interactions with SCS have included regularly-scheduled weekly conference calls (although those are sometimes cancelled in the absence of outstanding issues), and frequent communications via email and phone regarding data updates and particular issues as they have arisen. Several weeks prior to finalizing this report, a draft was provided to SCS. While SCS was invited to check the draft for accuracy and completeness, and comments were received, this report represents our independent opinion.

On a daily basis, we monitor SCS's offers into the Auctions, and the results of the Auctions, for compliance with Tariff requirements. Because of the large volume of information involved, we use a set of automated tools that seek to re-create offer curves based on information we receive about SCS's system, and check that the Auctions cleared properly. On a quarterly and annual basis, we perform reviews of several additional types of information, such as outages and load forecasts, for potential anomalous longer-term patterns. Some types of information, such as for SCS's trades, are reviewed quarterly because it is more efficiently processed on that basis. When incomplete information or potential anomalies are found, we follow up with SCS to understand the cause. Material issues, whether or not they are ultimately judged to be non-compliant, are documented in an Issue Tracking Form.

Overview of IAM Findings

During the review period for this report, auction participation was quite limited and only a small number of auctions actually cleared.[5] No HAE auctions cleared, out of a total of 10,391 HAE auctions. There were 303 DAE auctions in the review period; six cleared for Firm LD Energy and none cleared for Recallable Energy. In five of these six cleared DAE auctions, SCS was the buyer; for the remaining one it was the seller.

For the vast majority of auctions, there were no matches because no buy bids were submitted; less often, at least one buy bid was submitted but the lowest offer was above the highest bid. In a few instances, the lowest offer was below the highest bid, but the auction did not clear for other reasons (*e.g.*, the bids and offers that might have been matched were submitted by the same participant).

Overall, we have found no evidence that SCS has attempted to evade the Tariff requirements or compromise the Auctions' performance, either intentionally or through negligence. Further, SCS

[5] Here we are referring only to those auctions where at least one buyer and one seller were successfully matched, leading to one or more transactions.

has provided the data and information necessary for us to adequately monitor its participation in the Auctions, and has given us access to its facilities and personnel as we have requested. We note that the frequency of two types of non-compliant events has decreased from the previous review period. First, we detected no instances of prohibited bilateral sales transactions in this review period, as compared with three and 17 such transactions in the second and first review periods, respectively. Second, in the current review period there have been no instances of non-compliance related to the use of peak load forecasts in Available Capacity calculations, down from three and two such instances in previous review periods. There was an increase in the total number of failed offer curve submissions (23 in the current review period, versus 11 in Year 2 and 35 in Year 1), though these resulted from a smaller number of discrete events, with a single event accounting for over half of the Year 3 failed submissions. The frequency of other types of non-compliant events does not appear to differ meaningfully from the previous review periods. We have also found no evidence of attempts by third-party participants to manipulate the auction.

Organization of this Report

This report is organized as follows. Section II describes the design, structure, and timing of the DAE and HAE auctions in Phase II. Section III summarizes significant changes in our monitoring and verification processes, including the protocols we follow in monitoring the auctions, since the second Annual Report. Section IV summarizes the instances in which SCS did not fully comply with the Tariff, or when our investigations uncovered a significant issue requiring further investigation (even if we did not ultimately conclude that it involved non-compliance), or when we were unable to fully verify SCS's Available Capacity and Seller Offer Price calculations. Section V provides a more detailed examination of the results of DAE and HAE Auctions during the review period, including an analysis of supply and demand, along with details regarding the cleared amounts of energy and the auction clearing prices. This section also includes an analysis of the Company's Available Capacity calculations and some observations supporting our conclusions regarding the auction results. Section VI contains the summary report of the IAM's legal advisor, Van Ness Feldman, PC, which assisted in monitoring compliance with the data restrictions contained in the Tariff. Lastly, Section VII provides conclusions and a summary of our observations.

II. OVERVIEW OF SOUTHERN COMPANIES' ENERGY AUCTIONS

The Energy Auctions consist of Day-Ahead and Hour-Ahead Energy Auctions: DAE and HAE, respectively. DAE auctions are held for every business day (excluding NERC holidays); HAE auctions are held for every hour of every day of the year, including weekends and holidays. The auctions differ in the timing, duration, and firmness of the energy product, as described below. In both auctions, all matched bidders pay the uniform auction clearing price, which all matched offerors receive, and matched bidders are responsible for entering into an associated bilateral transaction and arranging transmission.

The Energy Auctions began in April 2009 with Phase I, under which sell offers could be submitted only by the Company. Phase II began in January 2010, with the primary change being that third-party participants are now allowed to offer to sell energy, thus also allowing SCS to bid to buy energy. For the entire review period of this report, the auctions have operated under the Phase II Tariff. This makes the Energy Auctions a matching mechanism between multiple buyers and sellers rather than simply a mechanism for offers by SCS. Across this change in Auction phases, the role of the IAM has remained fundamentally unchanged.

II.A. DAE AUCTION

The DAE auction consists of two simultaneous auctions, one for Firm LD Energy and the other for Recallable Energy. For both of these auctions, the product is a 50-megawatt block of energy for delivery "Into Southern" during the 16-hour period from 6 AM to 10 PM CPT. Firm LD, as the name implies, is for guaranteed delivery, while Recallable Energy may be curtailed by SCS in the event of a supply-side disruption. In essence, the total amount of Available Capacity that Southern Company has available to offer into the DAE auction is split between Recallable and Firm LD Energy based on the amount of capacity that SCS might need to recall, which depends on system conditions and the operating status of individual units.[6] Generally, the lowest cost portion of the Available Capacity is offered as Recallable Energy and the balance is offered as Firm LD. During the current review period, 303 DAE auctions were held; SCS offered capacity into all of these DAE auctions.

II.B. HAE AUCTION

The HAE product is a one-megawatt block of non-firm energy for delivery "Into Southern" in the upcoming hour. During the current review period, 10,391 HAE auctions were held, and SCS offered capacity into all but 23 of these.[7]

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[6] The offered amount of Recallable Energy is the greater of (i) the amount of Contingency Reserves specified by the Southern BAA, or (ii) the capacity of units at risk, defined as: (a) generating units online, but indicating potential for unexpected outage; (b) generating units offline, scheduled to return, but indicating potential for delayed return; and (c) other generating units that cannot reasonably be offered except as Recallable Energy without impairing reliability.

[7] These 23 instances in which SCS failed to submit an offer curve were due primarily to failures of its computer systems, as explained further in Section IV.G.

Figure II-1 and Figure II-2 illustrate the timing of the DAE and HAE auctions, showing the bid periods and the delivery periods. The DAE auction clears at 6:45 AM one business day prior to the delivery day, with bidding opening at noon on the previous day. The HAE auction opens for bidding one hour and fifteen minutes prior to the start of the delivery hour and clears one hour before (*e.g.*, the auction for HE 18, 5:00 PM–6:00 PM delivery, clears at 4:00 PM).

Figure II-1[8]
DAE Energy Auction Timing

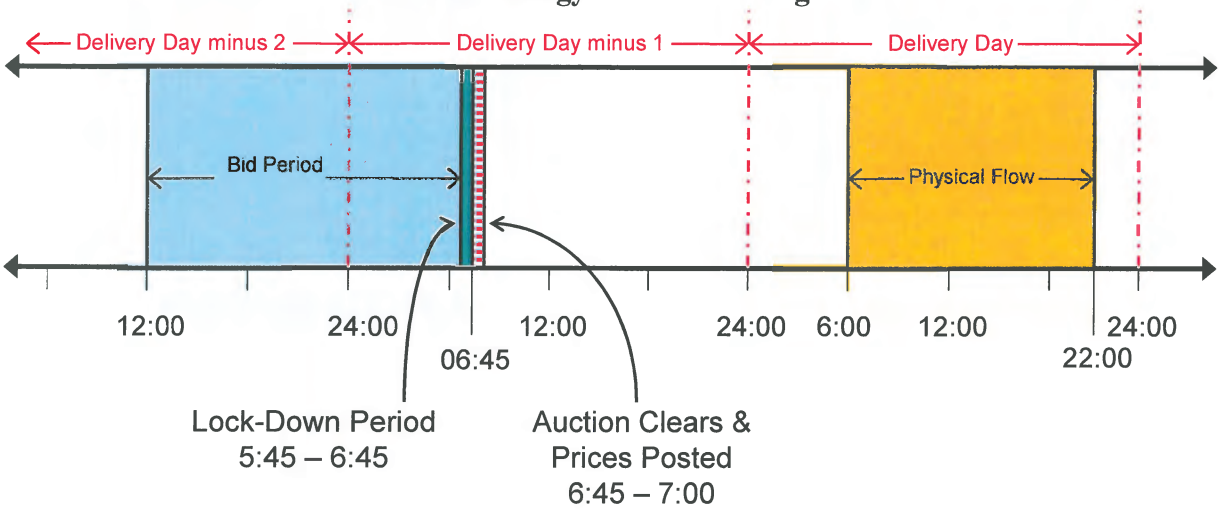
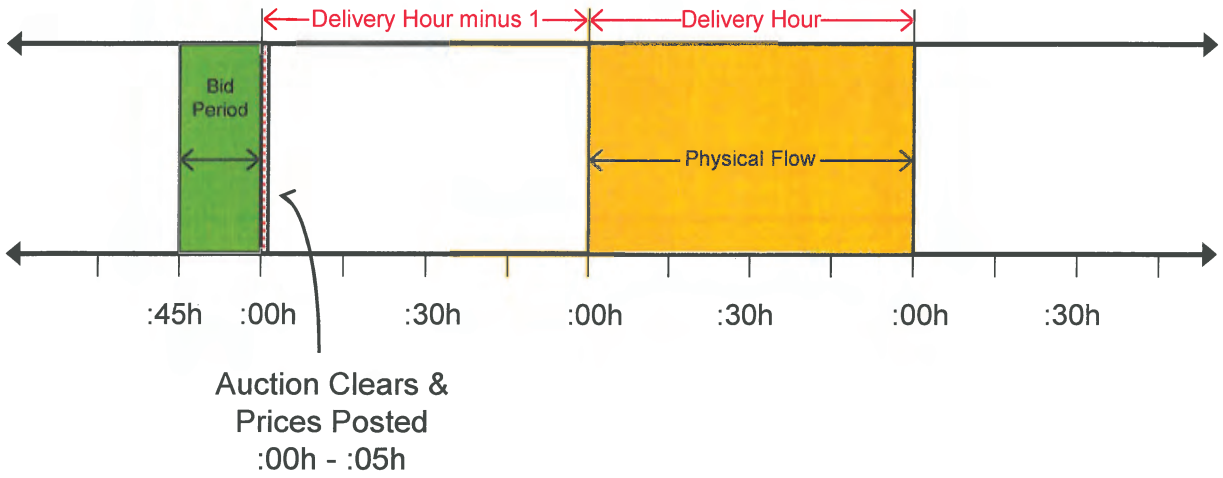


Figure II-2[9]
HAE Energy Auction Timing



[8] According to section 4.2.2.2 of Auction Rules, DAE auction clearing price must be posted within fifteen minutes of the close of the applicable DAE Bid Period.

[9] According to section 4.2.2.3 of Auction Rules, HAE auction clearing price must be posted within five minutes of the close of the applicable HAE Bid Period.

III. AUCTION VERIFICATION PROCESS AND PROTOCOLS

III.A. General Approach

Our primary task as the Independent Auction Monitor is to verify SCS's compliance with the Auction-related aspects of the Tariff. The largest single part of this task is to verify whether SCS offers all of its Available Capacity, as defined by the Tariff, into each daily and hourly auction at prices at or below those allowed by the Tariff. Doing this involves collecting and analyzing a vast amount of input data as well as output data from the Company's operational tools and models to verify that SCS's DAE and HAE offer curves were constructed properly. It is often impossible (and almost always impractical) to trace each of these inputs back to its point of origination and independently verify its accuracy. This makes it impossible for us to have absolute confidence that no input value was altered to affect the resulting supply curve.

Accordingly, in Year 3 we continued to verify SCS's compliance with the Tariff under the same general monitoring philosophy that was stated in our prior annual reports. That is, we check SCS's construction of its daily and hourly offer curves to the point that we can verify each step of the process with high accuracy, *relying on the same extensive inputs as SCS uses for its own operations*.[10] Further, rather than attempting to independently verify each input value used by SCS (*e.g.*, unit-level outages, fuel prices, operating status, heat rates, operational limitations, *etc.*), our approach continues to be to monitor the key input data for anomalous events or trends. If we do not observe such anomalies in the data, we find it unlikely that there has been conscious alteration of the data used by SCS and/or provided to us in an attempt to evade the requirements of the Tariff. If and when we find apparent anomalies, we probe these issues more deeply, and would, if appropriate, consult with the Commission.

There are a few exceptions to our general principle of not attempting to verify input data. For example, SCS controls several third-party-owned generators under power purchase agreements (PPAs), for which we did verify unit-level cost and performance parameters against the terms of the relevant contracts. SCS performs unit commitment and dispatch of these contractually controlled units using the same optimization process as it does with its directly owned units, but characterizes these contractual units on the basis of the contractually specified costs and performance parameters (*e.g.*, guaranteed capacity, guaranteed heat rate, start-up costs, variable operations and maintenance costs, *etc.*), instead of the units' physical parameters. It also uses these contractual parameters to construct its supply curves for the DAE and HAE auctions.

We monitor for anomalies in the data partly on a daily basis and partly on a periodic (typically quarterly) basis. For example, we check each day whether load forecast errors are within historic norms and whether unit characteristics that are expected to be relatively stable are changing frequently. On a periodic basis we observe trends in input data and check for anomalies, including whether: (1) delivered fuel prices track major fuel price indices; (2) scheduling of generator outages appears consistent with good utility practice; and (3) exclusion of capacity due

[10] In Year 3, we used the same general monitoring processes and set of tools we created initially. We have refined and improved our tools over time to more efficiently monitor Tariff compliance, but the general process and level of oversight in Year 3 remains at a level comparable to that of Years 1 and 2.

to operational constraints is consistent with available information. For this report, we performed the trends analysis over the full review period, February 16, 2011 through April 23, 2012.

III.B. Verification Protocols

Our processes and accompanying "tools" that make the needed calculations to validate Available Capacity, Seller Offer Prices, and the clearing price for each Auction are codified in our protocols. These protocols were created and tested during the initialization phase of our monitoring assignment, prior to the start of the Auction, and have been updated as needed to reflect new information and improvements. The current versions of our ten protocols are shown in Appendix A.[11] They include:

Protocol I — Monitoring of SCS's daily load forecasts

Protocol II — Monitoring of SCS's daily load forecast uncertainty calculations

Protocol III — Monitoring SCS's bilateral transactions into Southern during the Energy Auction bid periods

Protocol IV — Monitoring of SCS's unit outage data

Protocol V — Verifying DAE Available Capacity calculations and the associated Seller Offer Prices (SOP), as well as the final SOP curve submitted to OATI

Protocol VI — Verifying the HAE Residual Supply Curve (RSC) calculations and the associated SOPs, as well as verification of the final SOP curve submitted to OATI

Protocol VII — Verifying SCS's compliance with the Tariff regarding the treatment of cleared Recallable Energy, when applicable

Protocol VIII — Verifying Energy Auction clearing, when applicable

Protocol IX — Assessing availability of transmission services for energy sold in the Energy Auction

Protocol X — Monitoring of third-party Energy Auction participants.

Protocols I, II, IV, V, and VI monitor the inputs and outputs used in calculating SCS's Available Capacity and Seller Offer Prices for the DAE and HAE auctions. Protocol III aims to verify that SCS's bilateral purchases and sales are appropriately accounted for in its Available Capacity Calculations, and also that SCS does not engage in prohibited bilateral transactions. Protocol VII verifies that Recallable Energy cleared in the DAE auction, if recalled, is done so only during a supply-side disruption, as provided in the Tariff. Protocol VIII verifies that auction clearing prices and quantities are determined accurately by the auction clearing software.[12] Protocol IX

[11] See the final subsection of this section for further discussion of data sources and data transfer issues.

[12] Open Access Technology International, Inc. ("OATI") provides the auction clearing software called webMarket.

verifies the proper availability of Southern Company's transmission services for energy transactions resulting from bids and offers matched through the Auctions. Almost all of these protocols call for daily monitoring, with the exception of Protocols IV and IX, and some components of Protocol VIII. For these, reviews are performed as needed.

Our protocols are living documents that are modified as needed. Figure III-1 summarizes the main changes to each of the protocols in Year 3, and the remainder of this section explains these changes in further detail. In the interest of brevity, only changes to our protocols since our second Annual Report are discussed here; the full set of our current monitoring protocols is included as Appendix A.

Figure III-1
Summary of Changes to IAM Protocols in Year 3

Protocol	*Changes in Year 3*
I. Load Forecasting	Added unconditional load forecast flags
II. Load Forecasting Uncertainty	Updated LFU percentages
III. Purchases and Sales	Status quo
IV. Outages	Status quo
V. DA Available Capacity and SOP Verification	Status quo
VI. HA Available Capacity and SOP Verification	Status quo
VII. Recallable Energy Verification	Status quo (not activated in Year 3)
VIII. Auction Clearing Price Verification	Status quo
IX. Assessment of Transmission Services for Energy Auction Purchases	Status quo (not activated in Year 3)
X. Monitoring of Third-Party Participants	Implemented new protocol

Protocol I — Daily Load Forecast Report and Load Forecast Protocol

Our load forecast protocol requires that we evaluate SCS's load forecasts to determine if there is any strategic pattern that could have a negative impact on Available Capacity and SOP. Specifically, we screen for whether SCS's official load forecast unusually deviates from its normal practice, particularly by over-forecasting load. Prior to the start of the Energy Auction, we reviewed SCS's load forecast process and examined its historical forecast errors in order to establish the historical range of SCS's load forecast errors. SCS forms its official load forecast (OF) based [redacted]. For this reason, we screen for any

abnormalities in SCS's load forecasts by comparing its OF with [redacted] for both two-days ahead (DA2) and one day-ahead (DA1) for DAE auctions. Additionally, we observe the change in OF from DA2 to DA1 as well as the forecast error between DA1 OF and actual load (AL).

Our original load forecast protocol generated two types of load forecast flags: Condition 1 and Condition 2 flags. Condition 1 flags screen for significant deviations between [redacted] and OF forecasts. Condition 2 flags screen for significant load over-forecasts, conditional on SCS significantly changing its one-day-ahead official load forecast compared to its two-day-ahead official forecast. Therefore, we refer to this flag as the "conditional" Condition 2 flag. These Condition 2 flags are generated when the following conditions are satisfied:

"Conditional" Condition 2 Flag:

[redacted]

Then Flag 2 Alert

where SD is a standard deviation of a set of forecast errors; and [redacted] is the historic relative difference between SCS's official DA1 load forecast and DA2 official load forecasts.

In Year 3, to be alerted to relatively large load over-forecast errors, even in the absence of large changes to the official load forecast, we implemented an "unconditional" Condition 2 flag that screens for unusually large load over-forecasts, independent of whether SCS changed its official load forecast. These flags are triggered whenever the following conditions are satisfied:

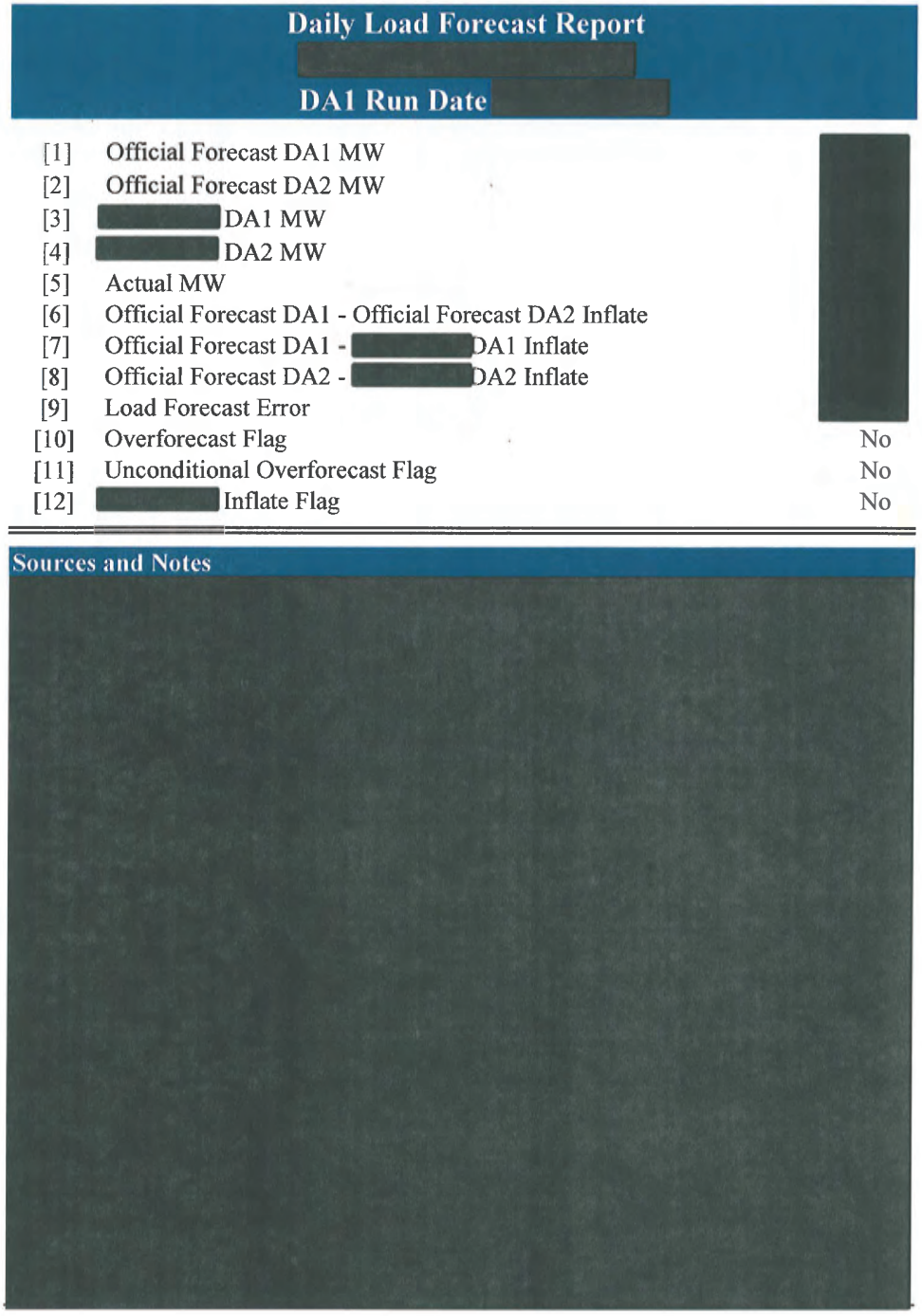
"Unconditional" Condition 2 Flag:

[redacted]

Then Flag 2 Alert

We performed an analysis of historical load forecast errors to determine how frequently the unconditional flag would have been triggered. As expected, we found that these flags are triggered more frequently than the conditional flags. A sample of our new Daily Load Forecast Report, containing the new unconditional Condition 2 flag, is included as Figure III-2 below.

Figure III-2
Sample New Daily Load Forecast Report



We report load forecast flags observed in the Year 3 review period in Section IV.A, and provide further observations regarding load forecasting in Section V.

Protocol II — Load Forecast Uncertainty (LFU) Protocol

As in previous years, SCS performed an annual revision of LFU percentage values for use in the DAE auction, taking effect with the August 1, 2011 DAE delivery day. We independently verified these values, which are summarized in Appendix C, and have incorporated them into our daily monitoring. Our findings regarding this protocol are reported in Section IV.B.

Protocol X — Monitoring Third-Party Participation in the Energy Auction

The Commission Order on Compliance Filing of March 24, 2011 clarified that the IAM "is responsible for identifying suspected tariff violations and/or violations of Commission approved rules and regulations related to the Auction, including suspected [Auction] manipulation, by any [Auction] participant."[13] In July 2011, we presented to the Commission Staff our formal proposal for monitoring third-party participants, recognizing that participation by third parties in the Energy Auction is entirely voluntary. To our knowledge, the Energy Auction is not currently used as a price reference, benchmark, or index for other transactions, and therefore there is no obvious incentive for any third-party participant to manipulate the outcome of the Auction. Market power is presumed not to be present, given that all Energy Auction participants subject to the Commission's jurisdiction have been granted Market-Based Rate (MBR) authority by the Commission.[14]

This led to the creation of a new protocol to explicitly monitor third-party participation in the Auctions. Our third-party monitoring protocol contains several activities designed to detect potentially problematic behavior, including:

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

[13] *Southern Company Services, Inc.*, 134 FERC ¶61,226 at P 33 (2011).

[14] FERC has the responsibility for ensuring that Auction Participants are in general compliance with their rate authority (*i.e.*, that Auction Participants have MBR authority where necessary to offer into the Auction, and are not violating conditions of that authority). Thus it would be redundant for the IAM to also monitor this.

In carrying out these actions, we primarily rely on information generated through the Auction itself, and therefore our ability to verify conformance with these rules is limited. If we identify questionable behavior, we will promptly notify the Commission's Office of Enforcement.

III.C. Data Receipt, Monitoring Periods, and Archiving

The process of daily auction monitoring described above requires a large amount of data that SCS transfers to us as part of a daily, automated data transfer process that was established by the beginning of Year 1 of the Energy Auction. As part of this process, we received all data needed in Year 3 to perform our monitoring tasks, with the specific exceptions noted below.

SCS failed to submit an offer curve into 23 HAE auctions. For those 23 auctions we did not receive the offer curves themselves, nor the input data that we normally use to verify such offer curves, and therefore we were unable to determine what SCS's Available Capacity would have been for these auctions. There were no third-party bids in any of these auctions, and thus the outcome of the auctions was not affected. For more detail on these issues, see the relevant issue tracking form in Appendix B.

In Year 3, SCS continued the process of providing us enhanced [redacted] data. In particular, in May 2011, SCS added additional fields to an [redacted] table with the objective to improve the efficiency of our verification process. Shortly after this implementation, it was discovered that the additional fields generated a computer glitch that resulted in a large number of HAE SOP discrepancies. SCS removed the new fields from the [redacted] table after the error was discovered. Since the new data fields were not critical for our verification HAE offer curves, we continued our monitoring using the previous process.

As in Year 1 and Year 2, we maintain a complete archive of our daily reports and quarterly surveys.

IV. RESULTS OF MONITORING

This section of the report provides a summary of the results of our daily and periodic monitoring activities, and discusses these results within the context of each protocol, covering the period from February 16, 2011 through April 23, 2012. Our monitoring continues beyond this period.

IV.A. LOAD FORECASTING PROTOCOL

Briefly, the purpose of the load forecasting protocol is to verify that SCS's DA2 and DA1 official peak load forecasts were the same as those used for the Available Capacity calculations. We found no discrepancies or evidence of Tariff violation with respect to this protocol in Year 3. In contrast, in Year 2 we found three such instances of non-compliance that resulted in a DAE offer curve that contained less offered capacity than SCS's Available Capacity.

In addition to verifying that DA1 and DA2 peak load forecasts are appropriately used to calculate Available Capacity for the DAE auction, we also perform (as explained in Section III.B) automated monitoring of SCS's day-ahead and hour-ahead load forecasts. Our automated load forecast verification process generates flags when SCS's load forecast errors or its adjustments to the computer-generated ( ) load forecasts are large relative to their respective historical norms.[15] As discussed in Section III.B, we introduced new load forecast flags to be better able to observe cases of relatively large over-forecasts. The mere presence of load forecast flags does not indicate that SCS failed to comply with the Tariff; these flags are meant to alert us to periods where load forecasting errors are relatively large, thereby allowing us to watch for patterns and anomalous relationships. Our observations regarding the flags detected in Year 3 are summarized below.

Day-ahead load forecast flags are summarized in Figure IV-1. During the review period, we observed 48 flags on 47 days. Considering that the third review period was significantly longer than previous review periods, the frequency of Year 3 day-ahead load forecast flags is comparable to the frequency of past observed load forecast flags.[16]

In Year 3, about 70% of the day-ahead load forecast flags were Condition 1 flags (*i.e.*, SCS's official load forecast). We observed Condition 2 flags (*i.e.*, SCS's official load forecast) on 13 days; the majority of these flags represented moderate load forecast errors ("flag 1 alerts") of up to approximately for a DA1 load forecast.[17] We observed higher load forecast errors ("flag 2 alerts") on three days.[18] Overall

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15 There are some differences in the hour-ahead and day-ahead load forecast thresholds and the way the various flags are triggered. For more detail, see the discussion on Protocol I in Section III.B.

16 For example, when looking at the flags triggered specifically between 2/16/2011 and 2/15/2012, 41 flags on 40 days, this year is consistent with Year 2 when we observed 41 flags on 39 days.

17 The thresholds for load forecast flags differ depending on how far in advance of the delivery day the forecast is made. For example, the threshold for a DA2 load forecast flag is lower than that for a DA4 flag, since greater uncertainty is associated with a more distant forecast.

18 These occurred on .

the frequency of the more extreme Condition 2 "flag 2 alerts" seems to have decreased in Year 3, relative to the previous review period.

The majority of the load forecast flags did not require further inquiry. For example, we often observe that SCS makes an adjustment to [redacted] load forecast that results in a more accurate (official) load forecast when compared to *ex-post* (actual) load data, though it may also trigger a Condition 1 flag.

As shown in Figure IV-2, hour-ahead load forecast flags were triggered for 68 hours, representing less than 1% of the 10,391 HAE Auctions in Year 3, a decrease relative to Year 2 (when 92 hours were flagged out of the total of 8,760 total hours). [redacted], which is not surprising since these circumstances make it more difficult to project load patterns.

As in previous years, we made several inquiries to SCS regarding load forecast errors. For example, relatively large load forecast errors [redacted] were due to [redacted]. In some instances, SCS proactively alerted us that unusual system circumstances might create the potential for large forecast errors.

Figure IV-1
Day-Ahead Load Forecasting Flags by Delivery Date

Delivery Date	*Condition 1*	*Condition 2*
[redacted]		
Total Flags	**35 Flags**	**13 Flags**

Figure IV-2
Hourly Load Forecast Flags by Delivery Date and Trigger Condition

Delivery Day	*Delivery Hour (hour beginning)*	*Number of Hours*	*Condition 1*	*Condition 2*
[redacted]				
Total Flags		**68 Hours**	**15 Flags**	**53 Flags**

Using historical day-ahead and hour-ahead load forecast and actual hourly load data for a roughly three-year period (from late 2005 through early 2009), we performed an additional analysis to see whether the frequency of load forecast flags since the start of the Energy Auctions is comparable to their frequency (using the same thresholds) in the pre-auction period. [redacted] For example, in the

41 months of available historical pre-auction data, [redacted]. In the three-year period since the start of the Energy Auctions, [redacted].

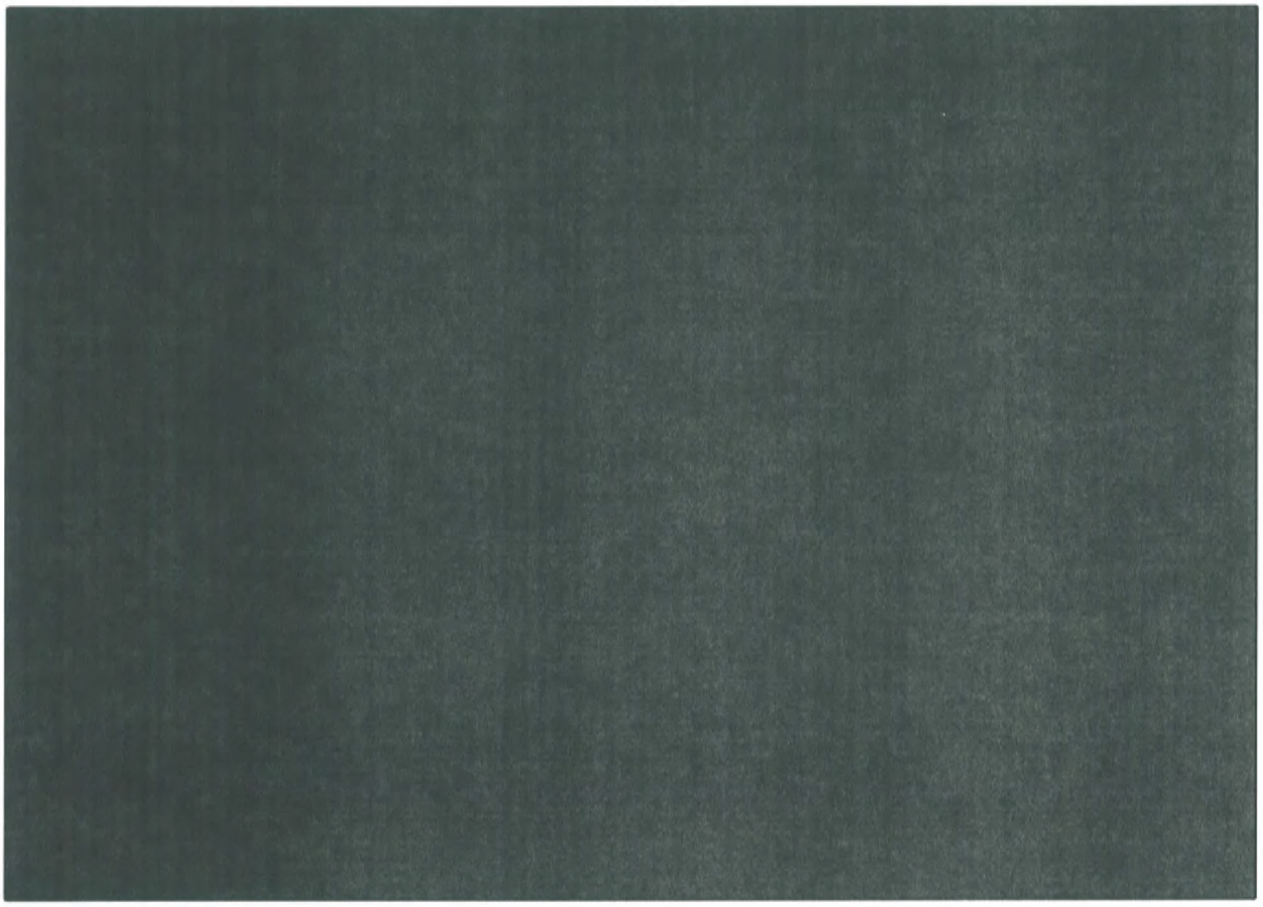
Figure IV-3
Day-Ahead and Hour-Ahead Condition 1 Load Forecast Flags[19]

[redacted]

With respect to Condition 2 flags (official forecast [redacted]) shown in Figure IV-4, the picture is somewhat mixed. For hour-ahead forecasts, [redacted]. Day-ahead peak load forecasting [redacted].

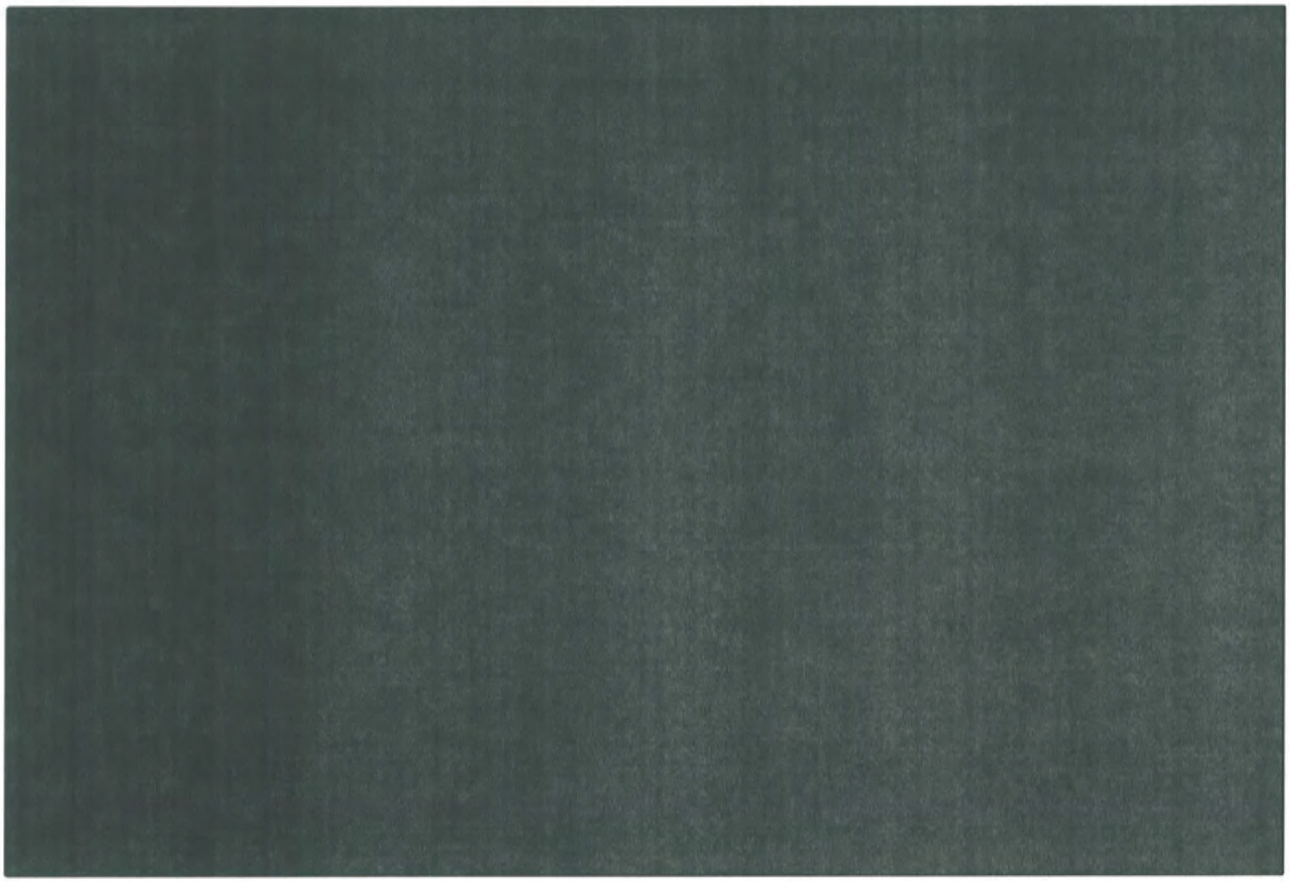
[19] We do not have hour-ahead load forecast data for about a three-month period prior to the start of the Energy Auction.

Figure IV-4
Day-Ahead and Hour-Ahead Condition 2 Load Forecast Flags



Lastly, Figure IV-5 shows day-ahead conditional and unconditional load forecast flags for the pre- and post-auction periods. As discussed in Section III.B, every unconditional flag is, by definition, also a conditional flag, since unconditional flags detect significant load forecast errors, irrespective of whether SCS made any adjustments to its load forecast. Therefore, we do expect unconditional load forecast flags to be more frequent than conditional load forecast flags. As shown in Figure IV-5, the frequency of unconditional load forecast flags

Figure IV-5
Day-Ahead Condition 2 Load Forecast Flags: Conditional and Unconditional



Overall, we do not find any evidence of Tariff violation with respect to this protocol, and observe no negative trends in SCS's load forecast errors.

IV.B. Load Forecasting Uncertainty Protocol

The primary purpose of the load forecasting uncertainty (LFU) protocol is to verify that the allowance for LFU used in SCS's DAE Available Capacity calculations is consistent with the LFU baselines that SCS has established based on historical load forecast error statistics. LFU used in SCS's Available Capacity calculations is determined as a percentage of the peak load forecast and is deducted from Available Capacity offered in the Auction.[20]

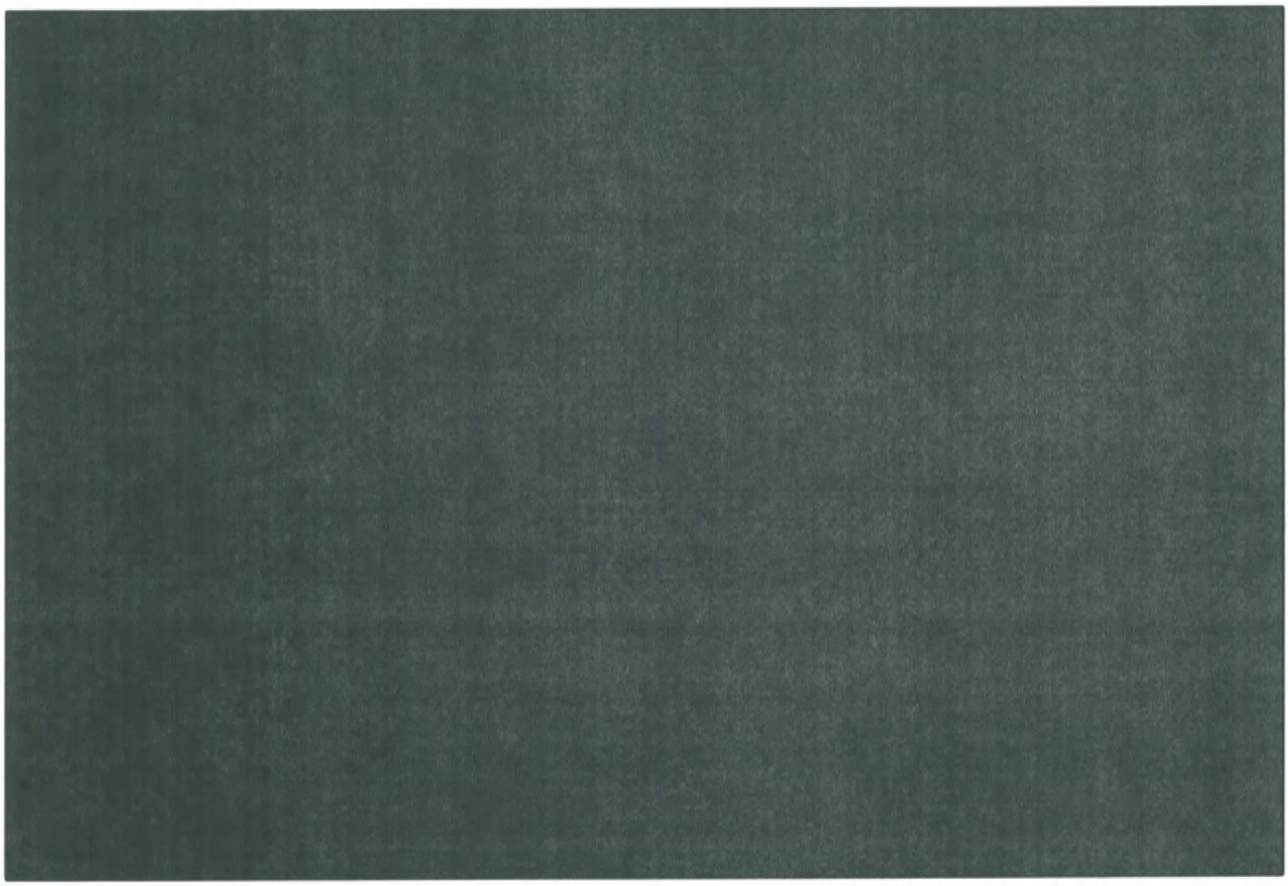
SCS established baseline LFU percentages prior to the start of the Energy Auction. These values are . The initial baseline LFU percentages were in effect from the first DAE auction held for April 27, 2009 . These were later updated , and further revised . For each

[20] SCS is permitted to use to calculate the LFU.

revision, SCS provided us with the new LFU percentage tables based on their most recent LFU study, including the methodology used to derive those values.[21]

Following SCS's methodology, we replicated the new LFU percentages and compared them to the previous sets of values. The LFU percentages did not change materially with these updates. The old and new LFU percentage tables are listed in Appendix C.

Figure IV-6
Load Forecast Uncertainty Percentages Used in Year 3



On a daily basis we monitor whether SCS uses the established LFU baseline percentages, and also whether one or more instances of maximum LFU overrides occur within a rolling ten-day window. We verified that in Year 3 SCS never exceeded the maximum LFU percentage values from the historical baselines.[22] Figure IV-6 above illustrates the actual LFU percentages used in

[21] SCS's most recent LFU study was based [redacted].

[22] [redacted]

Available Capacity calculations against the baseline average and maximum percentages. As shown, the relevant baseline LFU percentages [redacted], consistent with our observations regarding SCS's load forecasting in Section IV.A.

IV.C. UNIT OUTAGES PROTOCOL

Our primary approach to monitoring outages is to screen for anomalies in the input data used by SCS. We monitor unit outages by: (1) analyzing general trends in the scheduling/occurrence of outages (results are reported in Section V.F); (2) performing quarterly comparisons of the unit outage data between SCS's various databases; and (3) performing ad-hoc investigations into individual outage events.

We performed quarterly audits of SCS's unit outage data for Year 3. These audits consist of comparing the unit outage data used for Available Capacity calculations against the outage database in SCS's [redacted] management reporting system.[23] These audits have resulted in a few inquiries to SCS, which usually occurs when we are unable to match an outage event used in [redacted] against a similar outage event in the [redacted] database.

Occasionally we perform *ad-hoc* investigations into individual outage events that could not be matched. During the Year 3 review period, we requested further clarification from SCS [redacted]. SCS provided explanations for all of these unmatched outages; [redacted]. There were also a number of instances where [redacted].

Our quarterly outage audits detected one instance of non-compliance in Year 3. For DAE delivery days [redacted], SCS modeled [redacted] as being on outage [redacted]. As a result this unit was excluded from SCS's Available Capacity calculations. SCS confirmed [redacted]. This error resulted in SCS offering less than its Available Capacity, though it did not affect the outcome of the DAE auctions. For additional detail, see Appendix B.

[redacted]

[23] As noted in the previous Annual Report, [redacted] is not SCS's official outage database, but rather is one of SCS's internal reporting tools.

IV.D. DAY-AHEAD AVAILABLE CAPACITY VERIFICATION PROTOCOL

IV.D.1. Fixed Baseline Discrepancy Report

In accordance with our Protocol V on day-ahead available capacity verification, we use the Fixed Baseline Discrepancy Report on a daily basis to identify changes in fixed unit characteristics that could affect the DAE Available Capacity and SOP calculations. One purpose of this report is to supplement our review of the Seller Offer Price Curve and Projected Load and Resources Reports.

The Fixed Baseline Database (FBD), which characterizes SCS's generating units with parameters that can change daily, monthly, seasonally, and annually, is used in baseline DAE Available Capacity and SOP calculations. We compare these parameter values with those present in the daily [redacted] input files, to enable us to evaluate the impact of changes in unit characteristics on Available Capacity and SOP. When the two sets of parameters deviate, we seek an explanation from SCS (unless SCS has already provided adequate prior notification).

Another purpose of the Fixed Baseline Discrepancy Report is to monitor whether the unit characteristics are changed more frequently than expected, over the entire Year 3 review period. Figure IV-7 shows the results of this review: fixed unit characteristics did not change more frequently than expected for the vast majority of the units.[24] We reviewed on a case-by-case basis those units for which one or more fixed parameters changed more often than expected. For some units, high and low operating limits were updated for one of the following reasons:

- [redacted]
- [redacted]
- [redacted]

We found that none of these parameters appear to have been altered for strategic reasons that would have adversely affected the Energy Auctions.

[24] To focus on the most significant changes, we looked only at parameter value changes that exceeded a [redacted] threshold.

Figure IV-7
Expected and Observed Frequency of Updates to Unit Characteristics during the Review Period

Parameter	*Expected Frequency*	*Number of Units Above Expected Frequency*
[redacted]		

[redacted], and did not negatively affect the Energy Auction.

We also observed [redacted], the Auction was not negatively affected.

We investigated other units whose parameters changed more frequently than expected, and found that in all cases, these changes resulted in higher levels of availability and/or lower Seller Offer Prices in the Energy Auctions, and therefore raised no concern.

IV.D.2. Fixed Purchases and Sales Update Report

SCS's obligations are adjusted for short-term purchases and sales through fixed schedules. These fixed schedules are used as an input into the two-day-ahead unit commitment. One day prior to the delivery day (*i.e.*, shortly before the DAE auction), SCS makes an adjustment to its Available Capacity calculation from the previous day, using updated information on purchases and sales. This DA1 update to fixed schedules may result in either an increase or a decrease in Available Capacity. Our Purchases and Sales Update Report replicates changes in fixed schedules, using information on DA1 and DA2 fixed schedules, and compares the resulting value to that used by SCS. Any discrepancy between the two values is flagged on a daily basis.

During this review period, we found nine incidents that triggered flags in our Purchases and Sales Update Report. These incidents, summarized in Figure IV-8, occurred as a result of three separate but similar errors within SCS's internal fixed schedule tools. In both April and October/November of 2011 it was discovered that SCS's fixed schedule tools were not properly accounting for all transactions in their morning update; SCS reported that this was the result of human error introduced when changes were made to a tool. In January 2012, a different type of error occurred, where the positive change in fixed schedules was incorrectly double-counted in the DA1 update, thus understating Available Capacity. These three instances appear to have been unintentional errors, not related to any attempt to harm the auction process.

Figure IV-8
Purchases and Sales Update Report Flags

DAE Delivery Day	*Description*
April 1, 2011	303 MW mismatch in adjusted fixed schedules in LFU Log and corresponding calculation based on input data to [redacted]
April 11, 2011	597 MW mismatch in adjusted fixed schedules in LFU Log and corresponding calculation based on input data to [redacted]
October 18, 2011	150 MW mismatch in adjusted fixed schedules in LFU Log and corresponding calculation based on input data to [redacted]
October 19, 2011	303 MW mismatch in adjusted fixed schedules in LFU Log and corresponding calculation based on input data to [redacted]
November 4, 2011	73 MW mismatch in adjusted fixed schedules in LFU Log and corresponding calculation based on input data to [redacted]
November 8, 2011	160 MW mismatch in adjusted fixed schedules in LFU Log and corresponding calculation based on input data to [redacted]
November 17, 2011	111 MW mismatch in adjusted fixed schedules in LFU Log and corresponding calculation based on input data to [redacted]
November 25, 2011	200 MW mismatch in adjusted fixed schedules in LFU Log and corresponding calculation based on input data to [redacted]
January 5, 2012	51 MW mismatch in adjusted fixed schedules in LFU Log and corresponding calculation based on input data to [redacted]

IV.D.3 Available Capacity and Seller Offer Price Curve Reports

For the majority of DAE auctions, we were able to corroborate that SCS's calculation of DAE Available Capacity was in full compliance with the Tariff. Figure IV-9 shows that in Year 3 we observed two types of issues related to the calculation of day-ahead Available Capacity.[25]

Figure IV-9
Day-Ahead Capacity Calculation Discrepancies

Issue	*Day(s) or Period Affected*
Failure to offer uncommitted units	3/10/2011; 3/29/2011; 5/3/2011; 5/18/2011; 8/22/2011; 11/17/2011; 12/13/2011; 2/15/2012; 2/21/2012; 2/29/2012; 3/5/2012; and 4/23/2012
[redacted] unit start-up cost calculation error	October 13, 2011 – October 31, 2011

The first type of issue occurred sporadically throughout the year, and was the result of a discrepancy between the commitment status of certain units as indicated in [redacted], versus their status indication in [redacted]. For each of the delivery dates indicated in Figure IV-9, [redacted] reflected that the affected units were committed to serve SCS's native load, while our own review of the [redacted] commitment schedules indicated that these units were in fact uncommitted. Because [redacted] treated these units as committed, they were excluded from SCS's Available Capacity calculations, and consequently not offered into the DAE auction. This issue had not been observed previously, but affected 12 DAE auctions in Year 3. The largest amount of capacity excluded from the DAE auction was 1,250 MW on December 13, 2011. SCS informed us that under some indeterminate conditions, the [redacted] tool uses outdated unit commitment information to determine Available Capacity. SCS has been unable to replicate these errors or determine their root cause, despite having undertaken extensive measures to diagnose and prevent such discrepancies once they had been identified. SCS notified us in April 2012 that they had decided to re-write some sections of [redacted] code in an attempt to correct the problem, and that these changes had been implemented as of the filing of this report. SCS also noted that if these measures are not effective, more extensive re-writes may be necessary. Due to the nature of the problem, SCS has declared Force Majeure with regard to these events, which is an excused non-compliance under the Tariff.

The second type of issue observed in Year 3 was related to the start-up costs included in the DAE offer prices of [redacted]. The affected units are controlled by SCS under a contract which specifies a fixed dollar amount per start as the start-up charge. Since [redacted] requires an input in terms of start-up fuel (in MMBTUs), SCS converts the start-up charge into a corresponding start-up fuel quantity on a daily basis, using the then-applicable fuel price. In the process of this conversion, an error occurred where the initial conversion to start-up fuel quantity used natural gas prices, while oil prices were used to calculate the DAE offer prices. This resulted in start-up costs that exceeded the contract start-up charge by a factor of six.

[25] We list those instances of noncompliance that occurred or were detected during the Year 3 review period in Appendix B.

Consequently, SCS offered the capacity of these units into the DAE auction at a price in excess of the SOP specified by the Tariff. For details on this issue, see Appendix B.

IV.E. Recallable Energy Protocol

Since none of the DAE auctions for Recallable Energy cleared during the review period, there were no compliance issues regarding Recallable Energy.

IV.F. Purchases and Sales Protocol

The objectives of our Purchases and Sales protocol are twofold: first, to verify that SCS's purchases and sales are properly accounted for in the calculation of Day-Ahead Available Capacity and the Hour-Ahead Residual Supply Curve. Second, this protocol verifies that SCS does not execute bilateral sales of power into the Southern BAA during the relevant bid period for the DAE or HAE auctions, in accordance with the Tariff restrictions. With regard to the first objective, the effect of purchases and sales on the capacity offered in the DAE Auctions is discussed in Section IV.D.2 as part of the larger process of verifying DAE Available Capacity. Their effect on the HAE Auctions is part of the process of verifying the HAE Residual Supply Curve.

As described in our first two annual reports, to check for bilateral transactions executed within the prohibited bid period, we perform two levels of screening. First, we check in the daily transfer of trader data for relevant transactions that are time stamped within the corresponding bid period, for both hour-ahead and day-ahead transactions. Because the time stamps do not always precisely reflect the timing of transactions, we also review, on a quarterly basis, the trade records (trader voice recordings and instant messages) of a sample of sale transactions.

In Year 3, we found no instances where SCS traders engaged in prohibited bilateral sales in either the DAE or the HAE bid periods (in Year 1 we identified 17 such noncompliant bilateral transactions; in Year 2 we identified three). The technical and institutional mechanisms that SCS has put in place and revised over time appear to be successful in ensuring compliance with this Tariff provision. In the third quarterly trade record review of Year 3, we did note some deterioration in the quality of the trade records that SCS provided to us (several of the records were incomplete), which made it more difficult to verify compliance with the trade restrictions. We communicated our concerns regarding the information completeness to SCS, who reported that the issues were due in part to technical issues with the recording system, which it was addressing. SCS assured us that it understood our concern and would take appropriate steps to ensure complete data was provided. The information provided for the subsequent (fourth) quarterly trade record review was free of such data quality problems.

IV.G. Verification of Available Capacity and SOP Submission to OATI

In addition to the DAE and HAE Available Capacity and SOP verifications, we check on a daily basis that (a) SCS submits an offer curve into each Energy Auction and (b) that the submitted curves are accurate. In Year 3, there were 23 instances in which SCS's SOP curves were not uploaded to OATI's webMarket. Figure IV-10 lists each instance of failed offer curve submission, including the cause of error. In most of these instances, SCS did in fact develop the required SOP curves, but some system problem prevented their successful uploading to OATI.

Figure IV-10
Instances of Failed SOP Submissions

Delivery Date	*Delivery Hours Ending*	*Cause of Error*
5/10/2011	10-11	Implementation of large hourly deal in [redacted]
5/24/2011	19-21	3rd party [redacted] software failure
5/26/2011	7	Release of new version of [redacted]
9/15/2011	19-24	Unreliable [redacted] data feeds
9/16/2011	1-7	Unreliable [redacted] data feeds
10/19/2011	22-23	Lost connectivity to WebMarket
10/20/2011	1	Lost connectivity to WebMarket
4/21/2012	11	Critical database outage

The number of failed submissions was greater in Year 3 than in Year 2 when there were 11 such instances, though still below the 35 failed submissions in the first review period. We should note however, that the number of independent causes of failed offer curve submissions is much lower than the number of failed submissions, since the problems experienced in Year 3 usually affected multiple delivery hours. For example, a single computer systems failure resulted in failed offer curve submissions for 13 consecutive HAE Auctions on September 15 and 16, 2011. In all 23 HAE Auctions where SCS failed to submit an offer curve, the ultimate outcome of the auction was unaffected, since no bids were submitted by any third party.

Failed offer curve submissions are usually caused by a failure of computer equipment, software, or a database. As such, for all of the cases reported in Figure IV-10 SCS declared Force Majeure, which is an excused non-compliance under the Tariff. SCS identified the cause of the error and implemented a fix for all these issues, except the [redacted] failure affecting the HAE Auctions of September 15 and 16, 2011. While we did not participate in developing or evaluating the particular solutions implemented, the same issues have not recurred to date.

For each DAE and HAE Auction in Year 3, we verified that every successfully submitted offer curve was in fact accurate, with the exceptions of the specific instances of non-compliance reported in this Section IV and detailed further in Appendix B.

Lastly, we observed another minor instance of non-compliance of a different sort. SCS self-reported that a minor configuration error occurred for the DAE Auction for delivery on Tuesday, March 8, 2011, causing the bid period to open 29 minutes late. According to the Tariff, the bid period should have opened at 12 pm on Friday, March 4. Given that this configuration error shortened the bidding period by only a fraction of an hour, and that the auction was otherwise implemented properly, it is very unlikely that this affected any auction participant. No third-party bids or offers were submitted into this DAE auction.

IV.H. Hour-Ahead Available Capacity Verification Protocol

Our hour-ahead verification consists of confirming that the HAE Seller Offer Price is calculated correctly and that SCS offers all of its Available Capacity into the HAE Auction. For each HAE Auction, we replicate the cost calculations for all units offered into the Energy Auction. We

report cost discrepancies that exceed a specified threshold.[26] In addition, we verify that given each unit's current-hour and next-hour operating status, it is offered into the HAE Auction unless it is excluded for a legitimate reason.

During the review period, we were able to replicate all HAE offer curves with the exceptions listed below. Figure IV-11 contains a summary of non-compliant incidents that were identified as part of our hour-ahead protocol.

Figure IV-11
Hour-Ahead Capacity Calculation Discrepancies

Issue	*Hour(s) or Period Affected*
Improper offer curves due to use of test data	March 17, 2011 HE 12 March 22, 2011 HE 16-17
Combined cycle HAE SOP discrepancies	May 18, 2011 to June 8, 2011
[redacted] operating status discrepancies	July 11, 2011 to July 12, 2011

The first issue occurred during the testing of an enhancement to [redacted] by SCS's IT personnel. An error occurred during this process which resulted in test data being written into the production system, directly affecting SCS's HAE Available Capacity and SOP calculations. While SCS was using "live" data for testing, the Available Capacity calculations did not include "live" [redacted] user edits, which resulted in SCS offering less than its Available Capacity in the three affected HAE Auctions.

The second issue in Figure IV-11 affected the SOP calculations for several combined cycle units in a total of 72 HAE Auctions, and resulted in 132 instances when the HAE SOP exceeded the offer cap allowed by the Tariff. These discrepancies were the result of [redacted] assigning a heat rate to these units that was inconsistent with their next-hour operating status. For example, [redacted] assigned the higher [redacted] heat rate to some units when in fact they were operating in a [redacted] mode, and the lower [redacted] heat rate should have been used.

SCS's investigation revealed that this [redacted] implementation error was caused by the release of a new version of [redacted] that included additional data fields in one of the tables.[27] Once SCS reverted back to the previous version of [redacted], these cost discrepancies were no longer generated. The outcome of all these 72 HAE Auctions was unaffected by these instances of non-compliance, since no third-party bids were submitted into any of those auctions. Because of the nature of the cause, SCS declared Force Majeure on these events, which is an excused non-compliance under the Tariff.

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[26] During Year 3, we flagged cost discrepancies that exceeded a [redacted] threshold.

[27] These additional data fields were added to [redacted] at our request, with a purpose of enhance our ability to monitor the HAE Auctions.

The third issue reported in Figure IV-11 affected four contracted combustion turbines in 14 HAE Auctions, resulting in 26 instances of available units being excluded from the HAE Auctions. These units were labeled as unavailable by [redacted] to account for the contractual operational constraint that a maximum of two of the [redacted] units could be brought online in time for the HAE Auction. However, in each affected auction, only the capacity of [redacted] unit was offered, despite [redacted] being available. SCS explained that there was a gap in the Residual Supply Curve (RSC) logic that accounted for the contractual constraint. On or about June 8, 2011, a technical solution was implemented to address the problem, and thereafter it has not recurred. Our review showed that the outcome of the 14 HAE Auctions was not affected, because no third-party bids were submitted in any of those auctions.

SCS calculates Available Capacity every hour not only for the next HAE Auction, but also for the following five hours. Curves developed for the hours beyond the next HAE delivery hour represent so-called "contingency" offer curves, whose purpose is to guard against situations where a fully updated offer curve may be unavailable in the HAE Auction due to a process failure. In Year 2 we concluded that the benefit of having contingency curves available to ensure that an offer curve can be submitted likely outweighs any potential harm that might result from the occasional accidental submission of an offer curve based on outdated data, particularly given that the overall frequency of contingency curve submissions was very low. In Year 3, we continued to monitor this, and found that the frequency of contingency curve submissions continues to be very low. We therefore maintain our view that the occasional submission of contingency curves is in compliance with the Tariff.

As noted in Section IV.G. Verification of Available Capacity and SOP Submission to OATI, during the Year 3 review period there were 23 HAE Auctions for which SCS failed to submit offer curves. For these auctions, SCS also did not provide us with the input data that we normally use to verify offer curves, and we were thus unable to determine what SCS's Available Capacity would have been in those instances. However, the outcomes of these auctions were unaffected by the failed offer curves submissions, since no third-party bids were submitted.

IV.I. Auction Clearing Protocol

The purpose of the Auction Clearing Protocol is to verify that the Energy Auctions cleared appropriately, with the proper clearing price and quantity of cleared energy. In principle, an auction may clear if the highest bid price matches or exceeds the lowest offer price. In the DAE Firm LD Auctions for this review period, the highest bid exceeded the lowest offer in six auctions, and all of these auctions cleared. For each of these auctions, we were able to verify that the clearing price and the quantity of energy cleared were determined in accordance with the Tariff. In all other DAE Firm LD Auctions, and in all the DA Recallable Energy Auctions, the highest bid price (if any) was below the lowest offer price.

In the HAE Auctions during this review period, the highest bid exceeded the lowest offer in a total of four HAE Auctions, but none of these auctions cleared. As shown in Figure IV-12, the auctions software did not allow matching the highest bid(s) to the lowest offer(s) because they were made by the same participant (SCS in all four cases).

Figure IV-12
Hour-Ahead Auctions with Maximum Bid Price Higher than Minimum Offer Price

[redacted]	[redacted]	*Did Auction Clear?*	[redacted]
		No	
		No	
		No	
		No	

IV.J. Assessment of Transmission Services for Energy Sold in the Energy Auction

No complaints were received regarding the provision of transmission services for energy sold through the Energy Auction; therefore it was not necessary to review Southern Company's provision of transmission services.

IV.K. Monitoring of Third-Party Participation in the Energy Auction

Since the Commission's March 24, 2011 Order on Compliance Filing,[28] we implemented our third-party monitoring protocol to screen for non-competitive behavior by all Energy Auction participants. As discussed in Section III.B, our corresponding protocol includes, but is not limited to, a range of activities designed to detect potentially problematic behavior. In performing these activities, we primarily rely on data generated in the Energy Auction.

Third-party bidding activity was very limited in Year 3. Altogether [redacted] third-party bids were submitted into [redacted] auctions, consisting of [redacted] Firm LD bids in [redacted] DAE Auctions, [redacted] Recallable Energy bids in [redacted] DAE Auctions, and [redacted] hourly bids in [redacted] HAE Auctions. [redacted]

[redacted]

[28] Docket No. ER09-88-004.

[redacted]

Lastly, we did not receive any complaints against any Energy Auction participant, nor are we aware of any communication between Auction participants that could be for the purpose of facilitating collusion or undermining competition.

V. ANALYSIS OF DAE AND HAE AUCTIONS

This section of the report contains a detailed review and analysis of the outcomes of the DAE and HAE auctions held during the review period. Section V.A includes information about the Energy Auctions that we are required to provide according to the Tariff. Sections V.B through V.G include the results of our detailed analysis of DAE and HAE offers and Available Capacity calculations. While not all of these analyses are required by the Tariff or our protocols, we conduct them to be able to observe trends in Available Capacity and Seller Offer Price calculations and thereby implement our general approach to monitoring in the absence of complete auditing of input data, as explained in Section III.A.

V.A. INFORMATION REQUIRED FOR FERC REPORTING

The Tariff requires the Independent Auction Monitor to include in its Annual Report certain information, including the following: (1) the clearing price for each Energy Auction; (2) the amount of energy offered and sold by each seller (identified by name) in each Energy Auction; and (3) the amount of energy bid on and purchased by each buyer in each Energy Auction.[29] In addition, the IAM is required to report any instances where we were unable to verify SCS's Available Capacity calculations and inputs, or where issues arose involving availability or the terms of transmission service needed to accommodate an Energy Auction purchase.[30] Figure V-1 lists the 23 registered auction participants, including SCS.

V.A.1. Energy Auction Offerors

Figure V-2 lists the 23 registered Auction participants (unchanged from Year 2) and the number of auctions in which each participant submitted an offer during the review period, for both the HAE and the DAE auctions. Three participants, including SCS, offered hour-ahead energy in at least one HAE auction, compared with eight participants in Year 2. Two participants, including SCS, offered Firm LD Energy in at least one DAE auction, while in Year 2 seven participants did so. Only SCS offered Recallable Energy during the review period, whereas in the second review period, a second participant also did.

Figure V-3 shows the corresponding amounts of energy offered into the HAE and DAE auctions by each participant. Across all the auctions, approximately 106.2 TWh of energy was offered, with over half through the HAE auctions. SCS accounted for the vast majority of offered energy in each of the auctions — over 99% of both the DAE and HAE offered energy. The average amount offered into the DAE auctions was [redacted] of Firm LD, and [redacted] of Recallable Energy. In Year 2, SCS offered on average [redacted] of Firm LD and [redacted] of Recallable Energy. For the HAE auction, an average of [redacted] was offered. These amounts are generally comparable to the volumes offered in Year 2, which is not surprising since in both years SCS's obligatory offers comprised the vast majority of energy offered in the Auctions.

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29 Auction Rules, Section 4.3.4.

30 These instances are discussed in Section IV.

Figure V-1
Registered Auction Participants

Company Acronym	*Company Name*
AECI	Associated Electric Cooperative, Inc.
AEM	ArcLight Energy Marketing, LLC
CALPINE	Calpine Energy Services, L.P.
CARGILL	Cargill Power Markets, LLC
CONOCO	ConocoPhillips Company
CONSTELL	Constellation Energy Commodities Group
CPL	Progress Energy Carolinas, Inc.
DUK	Duke Energy Carolinas, LLC
EDF	EDF Trading North America, LLC
FEMT	BNP Paribas Energy Trading GP
FPC	Progress Energy Florida, Inc.
JPMVEC	JP Morgan Ventures Energy Corporation
MERRILL	Merrill Lynch Commodities Inc.
OPC	Oglethorpe Power Corporation
PPLE	PPL EnergyPlus, LLC
REMC	Rainbow Energy Marketing Corporation
SCEG	South Carolina Electric & Gas Company
SOCO	Southern Company Services, Inc.
TEA	The Energy Authority
TENASKA	Tenaska Power Services Co.
TVA	Tennessee Valley Authority
UPP	Union Power Partners, LP
WRI	Westar Energy, Inc.

Since SCS is required to offer its Available Capacity into each DAE auction, there should be offers for Firm LD and Recallable Energy in all auctions. As shown in Figure V-2 below, this was the case in Year 3. Across all the DAE auctions, there were third-party offers in about 15.5% of the Firm LD auctions, and no third-party offers in any of the Recallable Energy auctions. This represents a decrease in third-party participation since Year 2, when third-party offers were submitted in 31.1% of the Firm LD and 0.8% of the Recallable Energy auctions. Similarly, since SCS is required to offer its full residual supply curve into each HAE auction, there should be offers in all HAE auctions. As implied by Figure V-2, there were 23 exceptions to this, out of 10,368 total HAE auctions. In those instances, various events limited SCS from being able to offer its residual capacity into the HAE auction, as discussed in Section IV.G (there were also no third-party offers in any of those 23 auctions). Only two HAE auctions included any third-party offers; both were during peak periods.

Figure V-2
Number of DAE and HAE Auctions with Offers, by Registered Participant

Participant	*HAE*	*DAE*	
		Firm LD	*Recallable*
SOCO	10,368 (99.8%)	303 (100.0%)	303 (100.0%)
[redacted]			
Total Auctions With Offers	**10,368 (99.8%)**	**303 (100.0%)**	**303 (100%)**
Total Auctions With Third-Party Offers	**2 (0.0%)**	**47 (15.5%)**	**0 (0.0%)**
Total Auctions	**10,391 (100%)**	**303 (100%)**	**303 (100%)**

* Figures in parentheses show percent of total auctions

Figure V-3
Cumulative Quantity of Energy Offered in DAE and HAE Auctions (MWh)

Participant	*HAE*	*DAE*	
		Firm LD	*Recallable*
SOCO	54,315,063 (100.00%)	45,467,200 (99.61%)	6,252,000 (100.00%)
[redacted]			
Total	**54,315,173**	**45,644,000**	**6,252,000**

* Figures in parentheses show percent of total energy offered

V.A.2. Energy Auction Bidders

Figure V-4 shows the number of auctions during the review period in which each registered participant submitted a buy bid for the HAE and the DAE auctions. Three participants, including SCS, bid in at least one HAE auction. In the DAE auctions, two participants bid in at least one Firm LD auction, and only SCS bid for Recallable Energy. (For comparison, in Year 2 nine participants submitted bids in at least one HAE auction, six for Firm LD and two for Recallable Energy.)

Figure V-5 shows the corresponding MWh quantities of energy bids in the HAE and DAE auctions, by participant. Across all the auctions, approximately 1.5 TWh of energy bids were submitted, with 70% of this volume submitted through the HAE auctions. SCS accounted for over 97% of bid volume overall in the auctions. The average amount of bids into the DAE auctions was [redacted] of Firm LD and [redacted] of Recallable Energy (in Year 2, these values were [redacted] and [redacted], respectively). For the HAE auction, the average amount of bids was [redacted], versus [redacted] in Year 2.

Figure V-4
Number of DAE and HAE Auctions with Buy Bids, by Registered Participant

Participant	*HAE*	*DAE*	
		Firm LD	*Recallable*
[redacted]			
Total Auctions With Bids	**4,661 (44.9%)**	**110 (36.3%)**	**2 (0.7%)**
Total Auctions With Third-Party Bids	**9 (0.1%)**	**13 (4.3%)**	**2 (0.7%)**
Total Auctions	**10,391 (100%)**	**303 (100%)**	**303 (100%)**

* Figures in parentheses show percent of total auctions

Figure V-5
Cumulative Quantity of Energy Bids in DAE and HAE Auctions (MWh)

Participant	*HAE*	*DAE*	
		Firm LD	*Recallable*
[redacted]			
Total	**1,087,541**	**454,400**	**7,200**

* Figures in parentheses show percent of total energy bid

V.A.3. Cleared DAE Auctions

During the review period, six DAE auctions cleared (*i.e.*, matched at least one buyer's bid with at least one seller's offer), all for Firm LD Energy, as described in Figure V-6. A total of 11.2 GWh cleared through the DAE auctions and resulted in transactions (compared to 13.6 GWh in Year 2), with individual auctions transacting 50 to 200 MW at clearing prices that ranged from $35.50/MWh to $62.15/MWh. The number of winning bids and bidders in the DAE auctions was usually one (in one case there were two winning bids from the same bidder); across all DAE auctions, the number of bidders ranged from zero to two.

Figure V-6
DAE Cleared Auctions: Clearing Price and Quantity

Delivery Date	Product	Offer MW	Bid MW	Lowest Offer ($/MWh)	Highest Bid ($/MWh)	Cleared MW	Clearing Price ($/MWh)	Winning Bidders	Total Number of Bidders	Winning Offerors
6/9/2011	Firm LD	5,600	300	57.00	64.15	150	62.15	[redacted]	1	SOCO
6/14/2011	Firm LD	5,250	300	48.00	50.00	100	48.00	SOCO	1	[redacted]
8/11/2011	Firm LD	4,800	200	40.00	40.00	100	40.00	SOCO	1	
8/12/2011	Firm LD	4,500	350	40.00	40.00	200	40.00	SOCO	1	
8/30/2011	Firm LD	5,650	250	44.00	44.00	50	44.00	SOCO	1	
9/22/2011	Firm LD	6,900	500	35.00	36.00	100	35.50	SOCO	2	

V.A.4. Cleared HAE Auctions

During the review period, no HAE auctions cleared. The total number of bidders in all HAE auctions ranged from zero to two.

V.A.5. Posting Historical Bid and Offer Information

Section 4.2.4 of the Auction Rules provides that:

> By the end of each calendar month, the Auction Administrator will post all Bid Information and Offer Information for such Energy Auctions that occurred during the sixth months prior to that calendar month (*e.g.*, by the end of July, the aforementioned information for January will be posted), subject to the protection of Bidder and Offeror identities in accordance with the confidentiality provisions set forth herein.

As of the submission of this report, SCS has posted bid and offer information on its Energy Auction website for the months of July 2009 through November 2011, as required by the Tariff.[31]

V.B. Analysis of DAE Capacity and Seller Offer Prices

The total amount of capacity offered into the DAE auctions is typically far more than the total quantity of buy bids, reflecting the fact that SCS must offer all of its Available Capacity into the auction, while buyer participation is voluntary. Total offered capacity in the DAE auction includes both Firm LD and Recallable Energy.

V.B.1. Firm LD Energy

Figure V-7 shows the total daily quantities of offers and bids for Firm LD Energy in the review period. On average, approximately [redacted] per day of Firm LD Energy was offered into the DAE auction during the review period (in Year 2, Firm LD Energy offers averaged [redacted]). The offered capacity ranges from a minimum of about [redacted] to a maximum of [redacted].[32] The high degree of variability in the total offered Firm LD Energy largely reflects

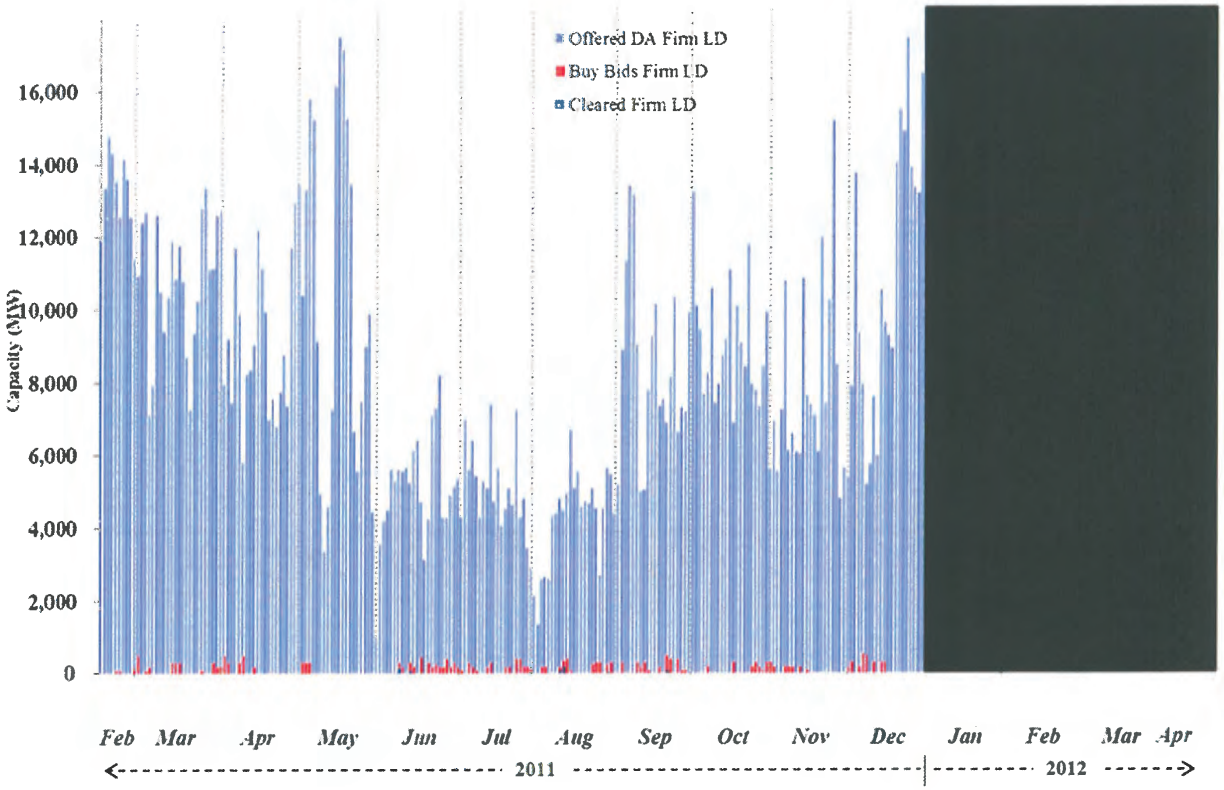
[31] http://www.southerncompany.com/energyauction/historical.aspx.

[32] The least amount of Firm LD energy, [redacted], was offered for [redacted]. The most Firm LD energy, [redacted], was offered for [redacted].

variation in SCS's total load obligations, as well as variations in other factors such as: (1) capacity unavailable due to planned, maintenance, and forced outages; (2) capacity unavailable due to operational constraints (*e.g.*, start-up time and minimum downtime constraints); and (3) capacity offered as Recallable Energy. Section V.D contains our analysis of these factors and their impact on SCS's Available Capacity. [redacted] — on average, there were [redacted] per day of third-party Firm LD offers across all auctions ([redacted] averaged over just those days with some third-party offers). In Year 2, third-party offers averaged [redacted] per day.

Total bid quantities (including SCS bids) averaged [redacted] over the 110 days with some bids, and ranged from [redacted] when present. Bidding volumes have declined since Year 2, when bids averaged [redacted] per day across all auctions ([redacted] on days with some bids). Bids from parties other than SCS were made in [redacted] of the 303 DAE auctions, with the average third-party bid quantity being [redacted] on days with third-party bids.

Figure V-7
Daily Offered, Bid, and Cleared Day-Ahead Firm LD Energy



V.B.2. Recallable Energy

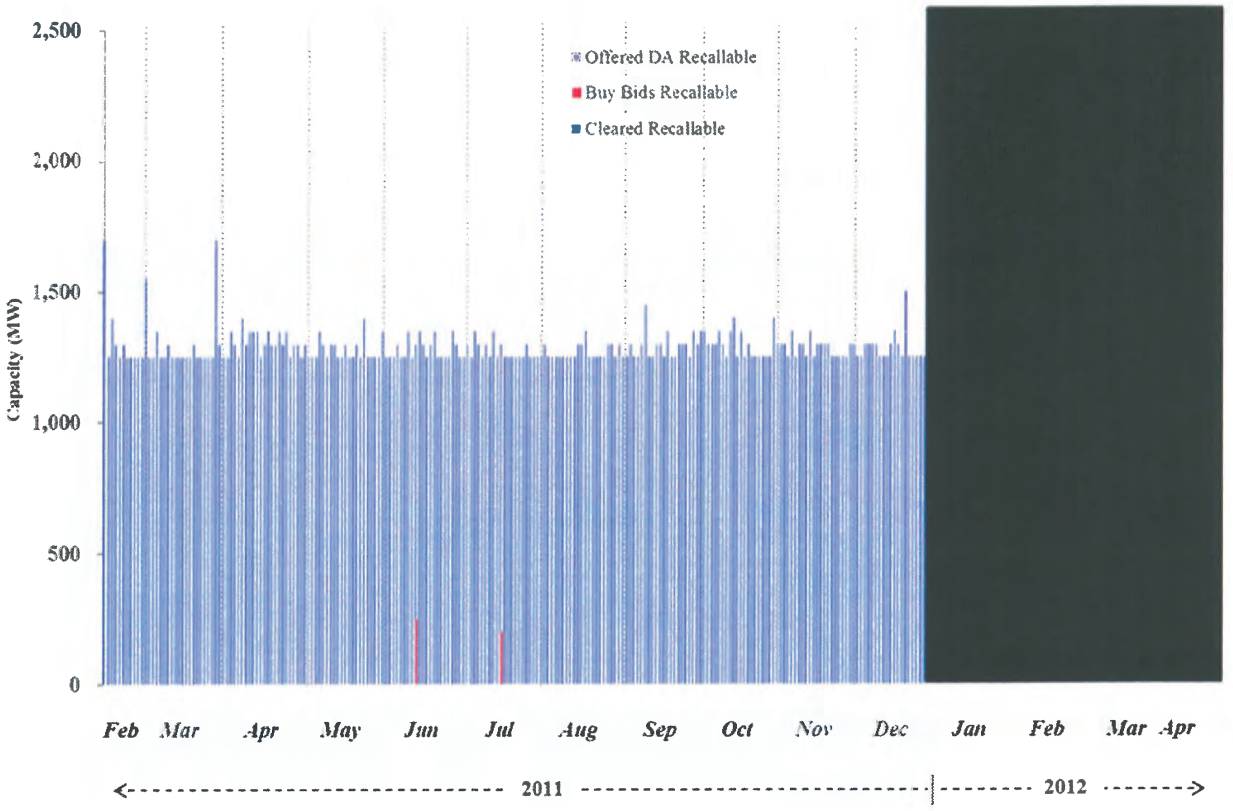
Figure V-8 below shows the total daily quantities of offers and bids for Recallable Energy during the review period. Recallable Energy offers exhibit much less variability than offered Firm LD Energy. The Tariff specifies the amount of Recallable Energy that should be offered through the DAE Auction: (i) generating units online, but indicating potential for unexpected outage; (ii) generating units offline, scheduled to return, but indicating potential for delayed return; and (iii) other generating units that cannot reasonably be offered except as Recallable Energy without impairing reliability. This last category includes an amount of replacement capacity that SCS must hold, in accordance with NERC requirements, in the event circumstances require it to dispatch capacity held as Operating Reserves. The minimum amount of Recallable Energy offered in any DAE auction was 1,250 MW, reflecting the amount of capacity required to be held in order to replenish operating reserves in the event of their deployment. On average, approximately [redacted] of Recallable Energy was offered.

On a few days, the quantity of Recallable Energy offered by SCS was substantially above the average, which normally would reduce the amount SCS offered as Firm LD. For example, on [redacted], SCS offered [redacted] of Recallable Energy, since [redacted]. This led to a larger than usual amount of capacity being offered as Recallable Energy, and a correspondingly smaller amount offered as Firm LD, which is allowed by the Tariff.[33]

In this review period, there were only two bids for Recallable Energy, one each in two DAE auctions, for [redacted]. Both of these Recallable Energy bids were made by parties other than SCS.

[33] In addition to this day, there were five additional instances in [redacted] when the amount of offered Recallable Energy significantly exceeded 1,250 MW. [redacted]

Figure V-8
Daily Offered, Bid, and Cleared Day-Ahead Recallable Energy



V.B.3. Seller Offer Prices

The DAE SOP is the price at which SCS offers each block of day-ahead energy into the DAE auction. The SOP consists of two cost components: (1) average variable costs and (2) commitment costs. Variable costs include the marginal replacement cost of fuel, variable operation and maintenance expenses, in-plant fuel handling costs, and emission allowance replacement costs. In order to calculate the average variable cost for each unit, SCS uses the unit's average, rather than its incremental, heat rate, and adjusts this to account for incremental transmission losses. Commitment costs include start-up costs and no-load costs. Commitment costs are determined at the lowest-cost operating mode, and are spread across the Available Capacity of each unit over the 16-hour delivery period. The maximum allowable SOP price is 110% of this calculated cost, plus a demand charge adder of $21.43/MWh.

Figure V-9 shows the range of SOP offers and bids for Firm LD Energy, including minimum, maximum, and median values. Firm LD offer prices span a wide range, reflecting the fact that SCS must offer its entire fleet of Available Capacity, which includes units with very different cost characteristics, into the DAE auction. DAE bids for Firm LD Energy exhibit a much lower degree of dispersion than Firm LD offers.

When SOP offer prices depart substantially from typical or historic levels we investigate these deviations by analyzing SOP cost components, comparing them against typical or expected values, and current and past cost data provided by SCS. In the current review period there were

[redacted]. In response to our inquiry, SCS informed us [redacted]

Figure V-9
Daily Firm LD Offer and Bid Prices

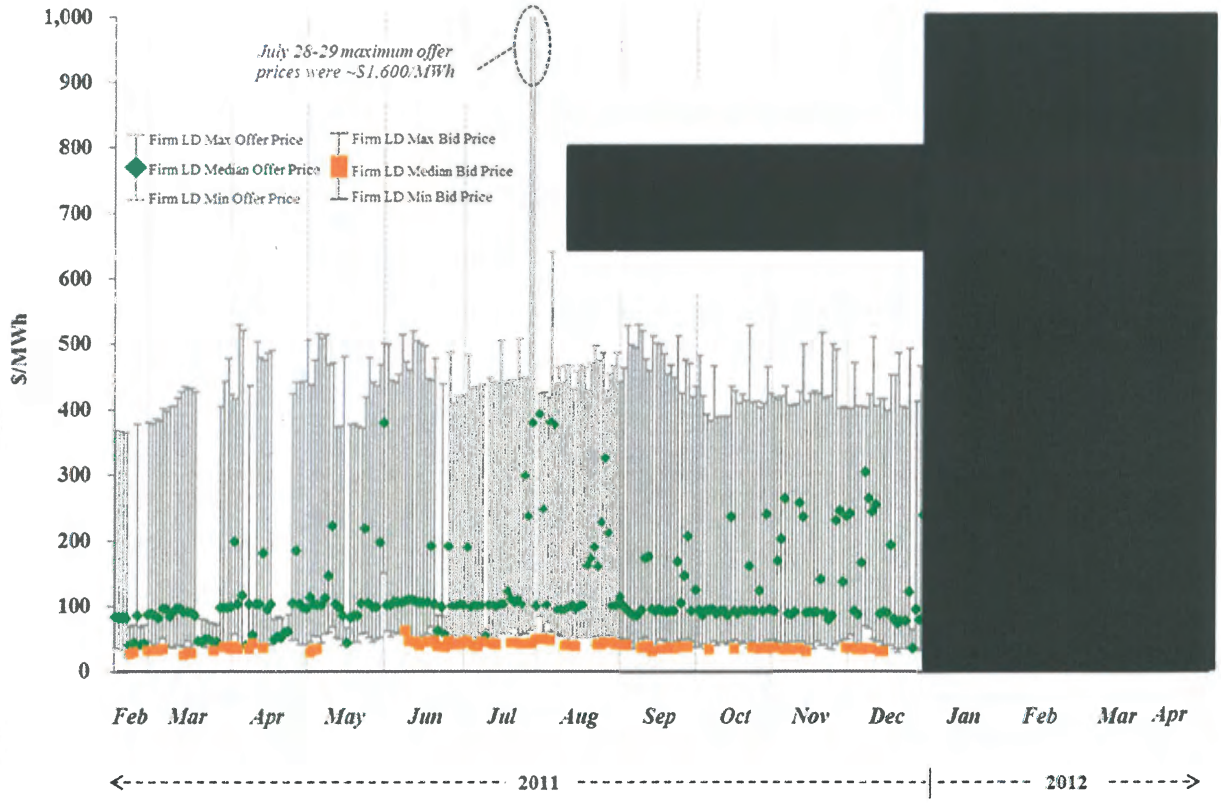


Figure V-10 shows the same offer and bid price data, but with greater detail on the minimum offer price and the maximum bid price, since these are, of course, most relevant to whether an auction clears. The quantity of offered Firm LD capacity in each auction is shown on the right-

hand scale. Offer prices were significantly above bids in most auctions, with the minimum offer price averaging about [redacted] above the maximum bid. This spread was about [redacted] lower than in Year 2.

Figure V-10 highlights the six instances where the minimum offer price was below the maximum bid price. As discussed above, the DAE auction cleared in all six of these instances.

High minimum offer prices for Firm LD Energy were observed in some circumstances; not surprisingly, this occurred primarily in [redacted] relatively high minimum offer prices were due to [redacted].[34] The minimum offer price was above [redacted] only once in Year 3, [redacted], compared to five such days in Year 2.[35] This high minimum offer price was due to [redacted]

[34] The cost of "spare capacity" is often lower than the cost of other Available Capacity, because spare capacity does not include commitment costs in the calculation of the SOP.

[35] As shown in Figure V-10, the minimum Firm LD offer price was near, but did not exceed, [redacted]

Figure V-10
Minimum Daily Firm LD Offer and Maximum Bid Prices

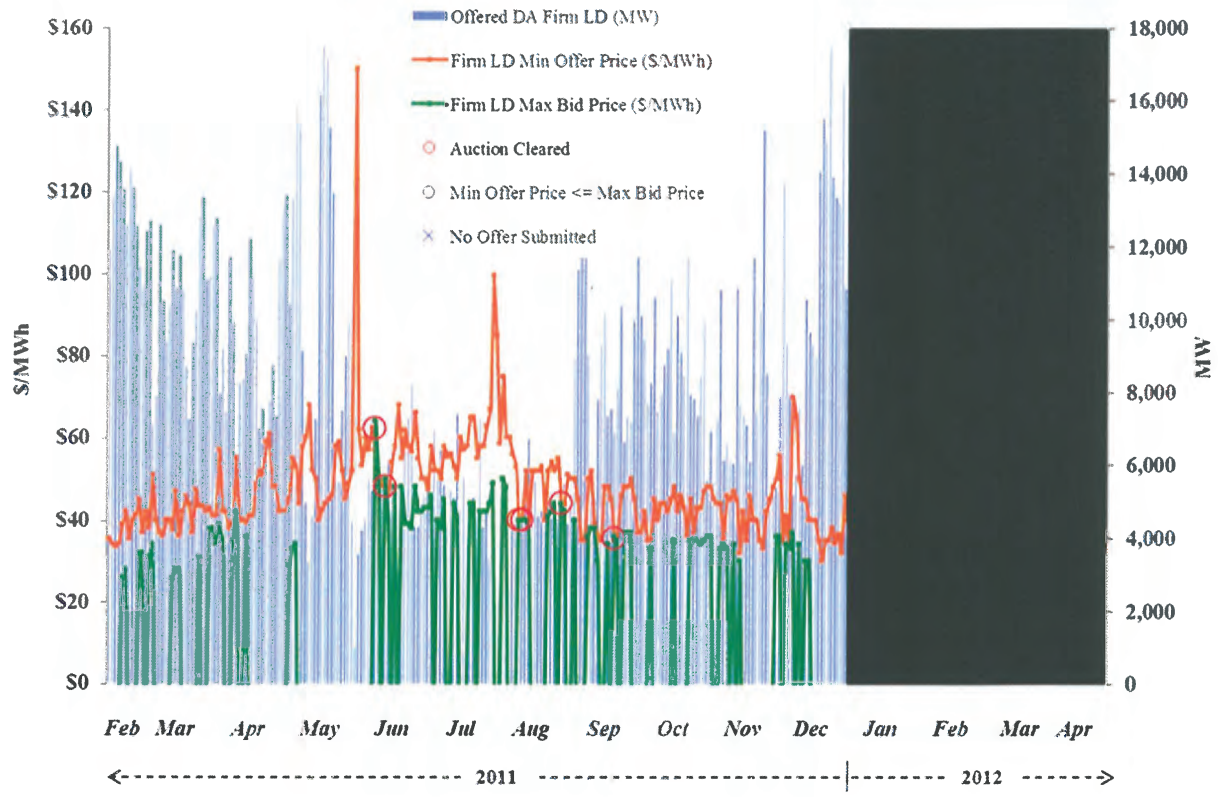


Figure V-11 shows the range of SOP offers and bids for Recallable Energy, including minimum, maximum, and median values. Recallable Energy offer prices do not range as widely as Firm LD offer prices, since they are generally determined by lower-cost units, and they show distinct seasonality, with generally higher offer prices in summer, for reasons discussed above. The average maximum offer price was [redacted] than in Year 2, while the average minimum offer price was [redacted] Year 2. The high maximum and minimum offer prices on a few days [redacted] are driven by several factors. The highest maximum offer price [redacted], the high offer prices were caused by [redacted], high offer prices were the result of [redacted].

As shown in Figure V-11, there were only two days with any Recallable Energy bids at all. In both instances, the bid price was below the lowest offer price, and therefore no Recallable Energy auctions cleared.

Figure V-11
Daily Recallable Energy Offer and Bid Prices

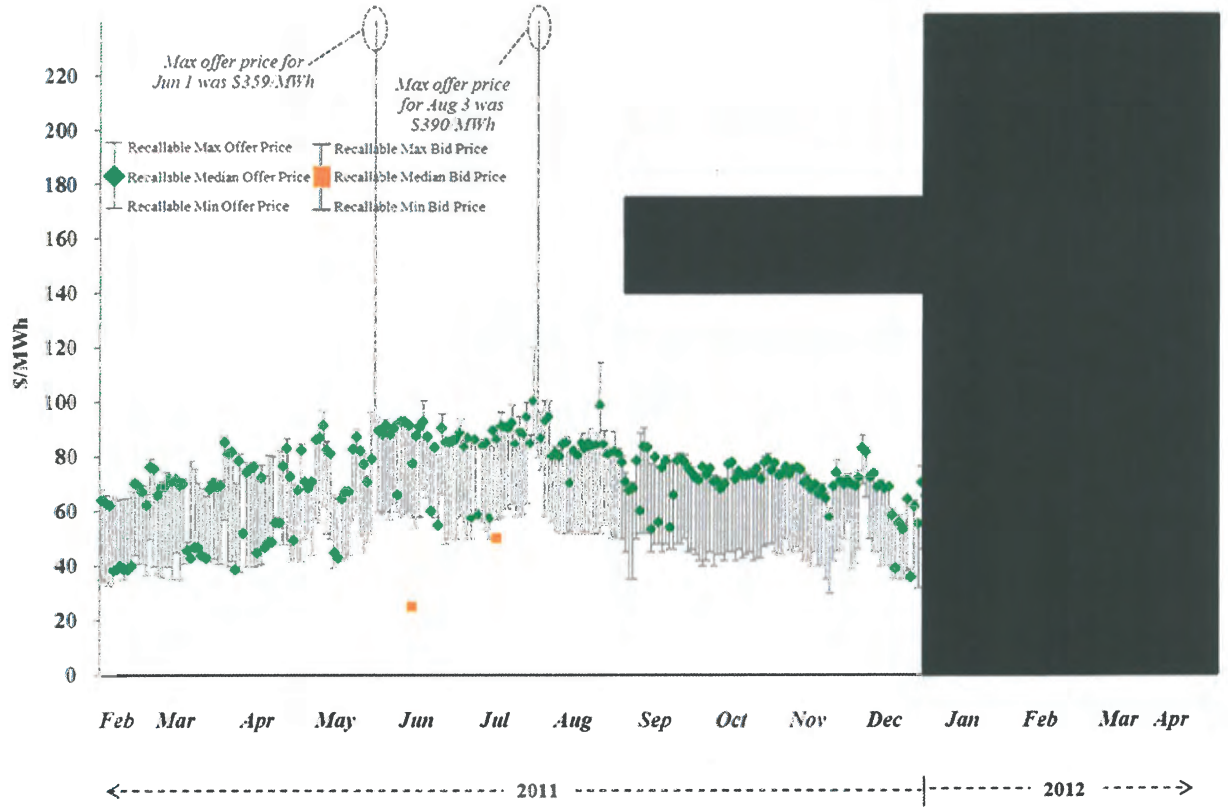
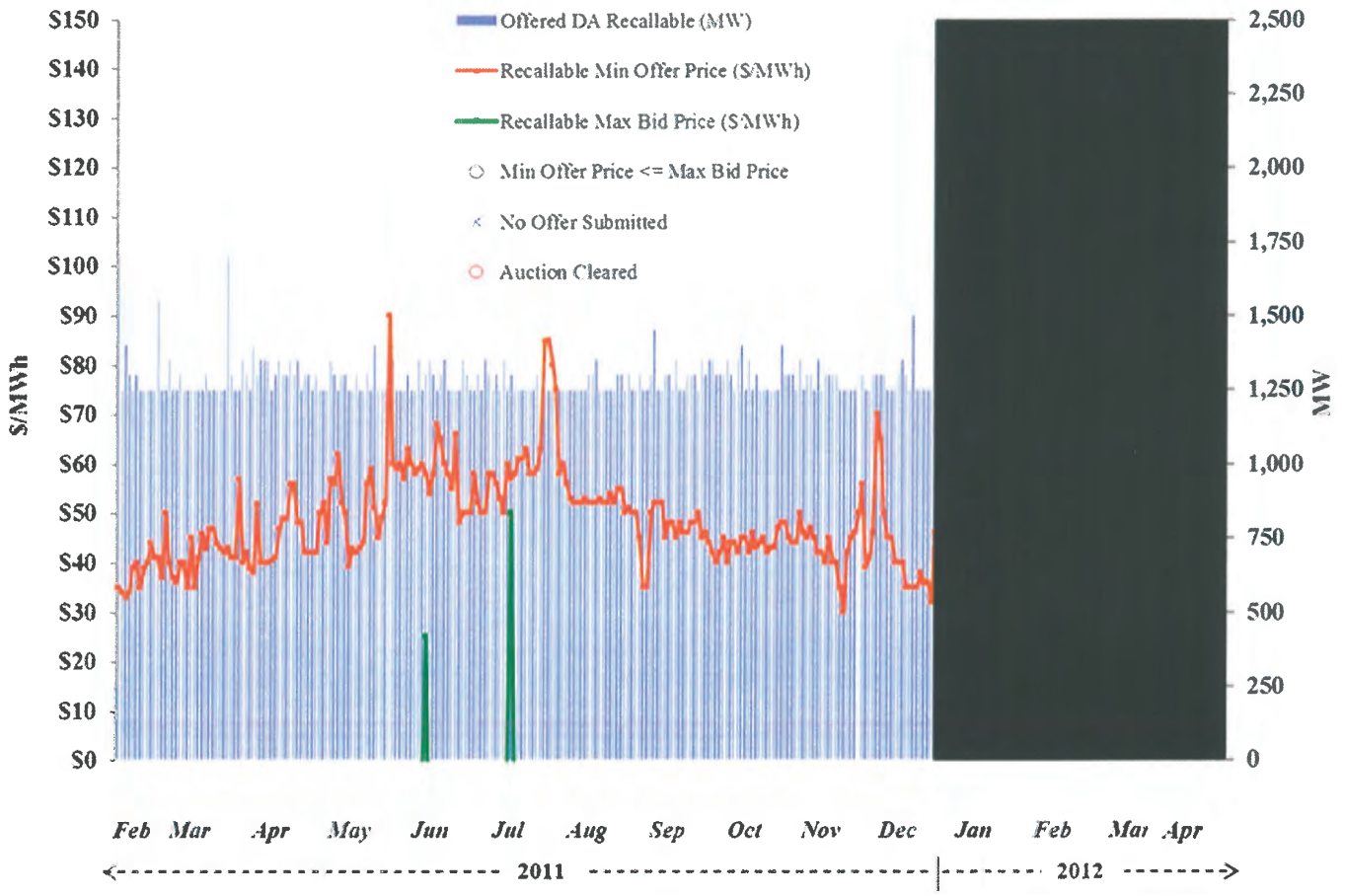


Figure V-12 shows the same Recallable Energy offer and bid price data, but with greater detail on the minimum offer price and the maximum bid price. In Year 3, the minimum offer price for Recallable Energy never exceeded [redacted], compared to Year 2 when it exceeded [redacted] on three days. The highest minimum offer price occurred [redacted], caused by [redacted].

Figure V-12
Minimum Daily Recallable Offer and Maximum Bid Prices



In accordance with Appendix DA-2 of the Participation Rules, the DAE SOP must not exceed the sum of 110% of the associated unit's average variable cost, including commitment cost where relevant, plus a demand charge of $21.43/MWh. As part of our daily monitoring, we verified SCS's SOP calculation for each unit offered into each DAE auction for Firm LD and Recallable Energy. To the extent any discrepancies occurred or the SOP appeared to exceed the above limit, we requested an explanation from SCS. With the exception of the non-compliant events discussed in Section IV.D and reported in Appendix B, we were able to successfully verify SCS's SOP calculation for each DAE auction during the review period.

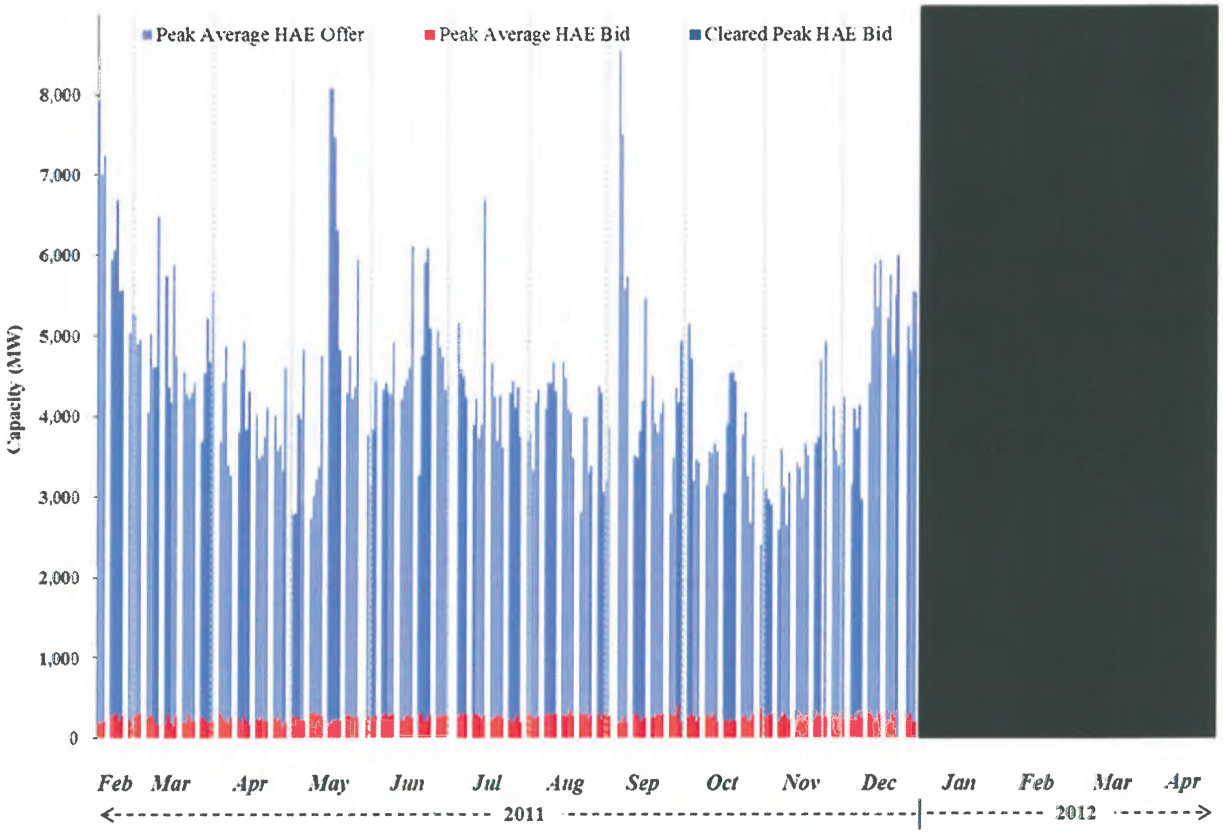
V.C. Analysis of HAE Capacity and Seller Offer Prices

Similar to the DAE auctions, the total amount of capacity offered into the HAE auctions is typically far more than the total quantity of bids, again reflecting that SCS must offer all of its hour-ahead Available Capacity into the HAE auction, while buyer participation is voluntary. Because there is an HAE auction for every hour of every day (10,391 hours in the current review period), it is difficult to display results for every auction in a comprehensible fashion. For that reason, we aggregate the HAE results for display purposes into daily peak and off-peak

periods.[36] Figure V-13 shows the daily on-peak averages for offered, bid, and cleared energy quantities in the HAE auctions. The daily average quantity of energy offered in the on-peak HAE auctions was [redacted], ranging from [redacted]. Bid amounts were [redacted], with a daily on-peak average of [redacted] (including only hours with bids), ranging from [redacted]. Compared to Year 2, average on-peak HAE offers were [redacted], while average bids [redacted].

Figure V-13 shows median on-peak daily HAE offer prices were typically around [redacted], and offers ranged from [redacted] to a daily maximum [redacted]. The highest HAE offer prices were fairly consistent, usually [redacted]. As in previous review periods, these high maximum offer prices were driven primarily by [redacted].

Figure V-13
Daily Average of Offered, Bid, and Cleared Hour-Ahead Energy, On-Peak Hours



[36] For this analysis, we define on-peak hours as those for which DAE is traded; *i.e.* hour ending 7 AM to hour ending 22 PM on non-holiday weekdays.

Figure V-14
Hour-Ahead Energy Bid and Offer Prices, On-Peak Hours

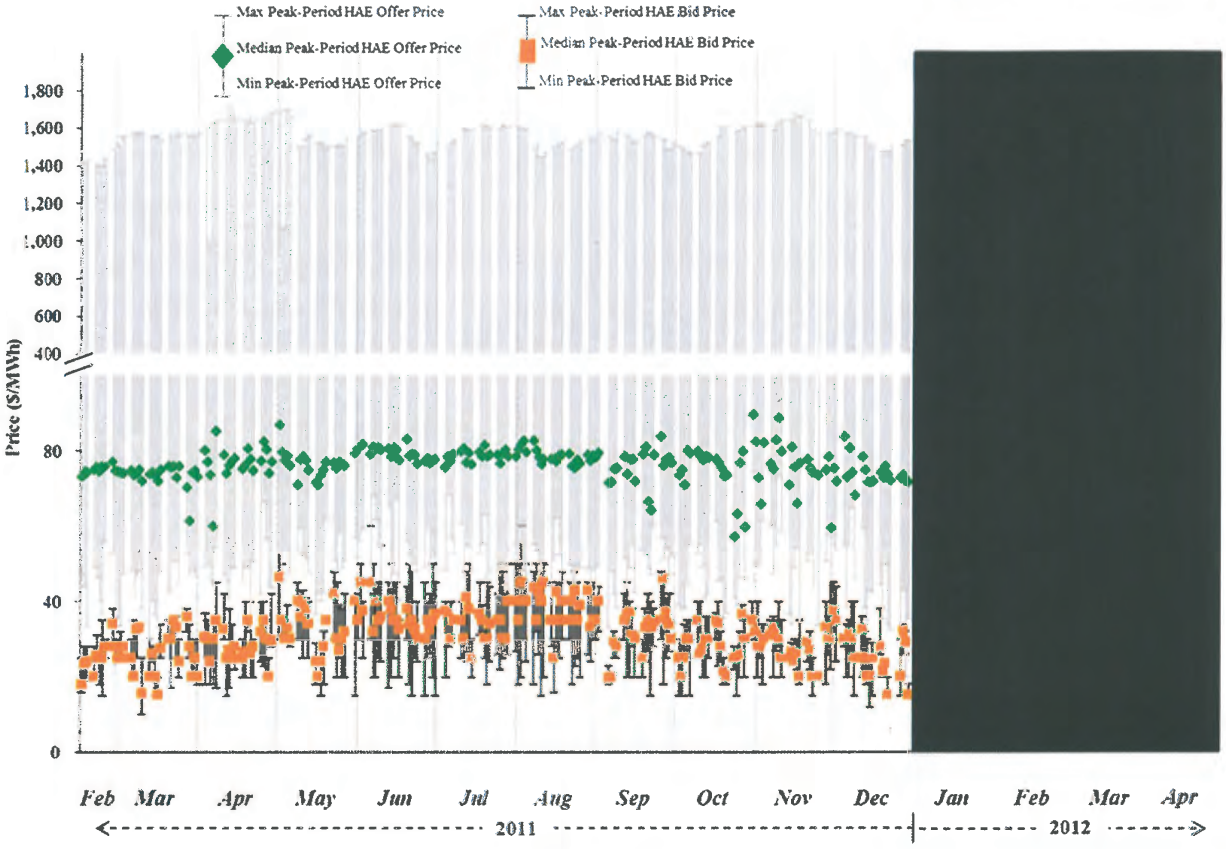


Figure V-15 and Figure V-16 show the analogous information for off-peak periods. The average quantity of energy offered off-peak was [redacted], ranging from [redacted] (when bids were submitted). Compared to Year 2, average off-peak HAE offers were [redacted], while average off-peak HAE bids [redacted]. The median off-peak daily HAE offer prices were typically [redacted], very similar to the values observed in Year 2. [redacted][37]

[37] Offer prices of [redacted] occurred only in [redacted] We observed a similar pattern for [redacted] in 2009 and 2010.

Figure V-15
Daily Average of Offered, Bid, and Cleared Hour-Ahead Energy, Off-Peak Hours

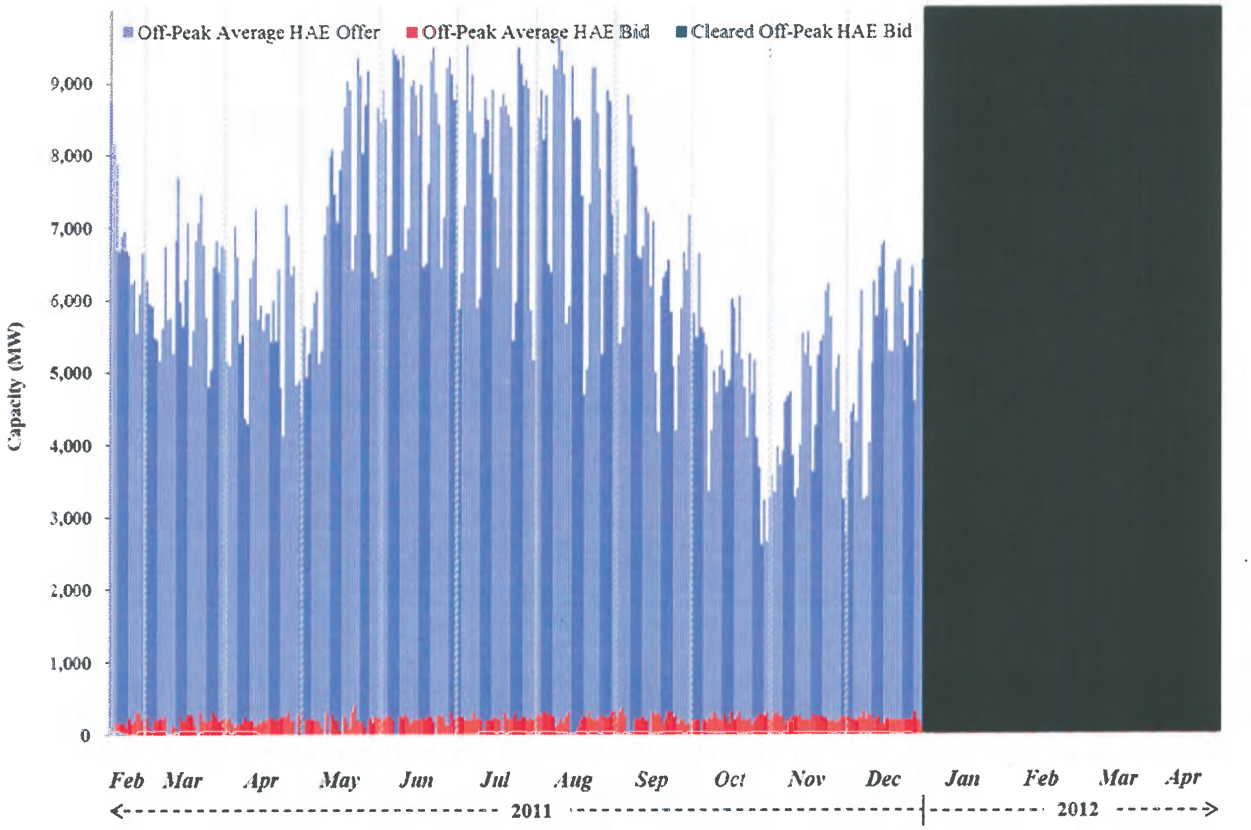
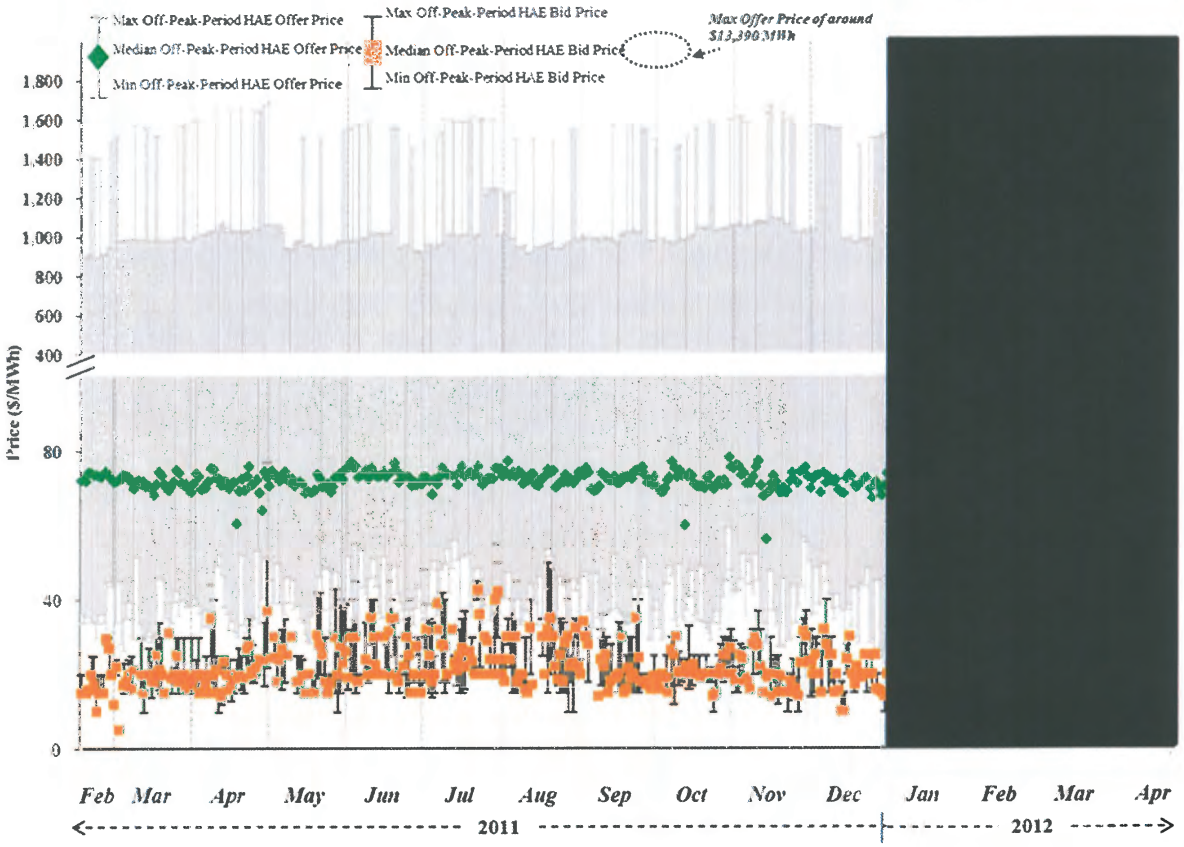
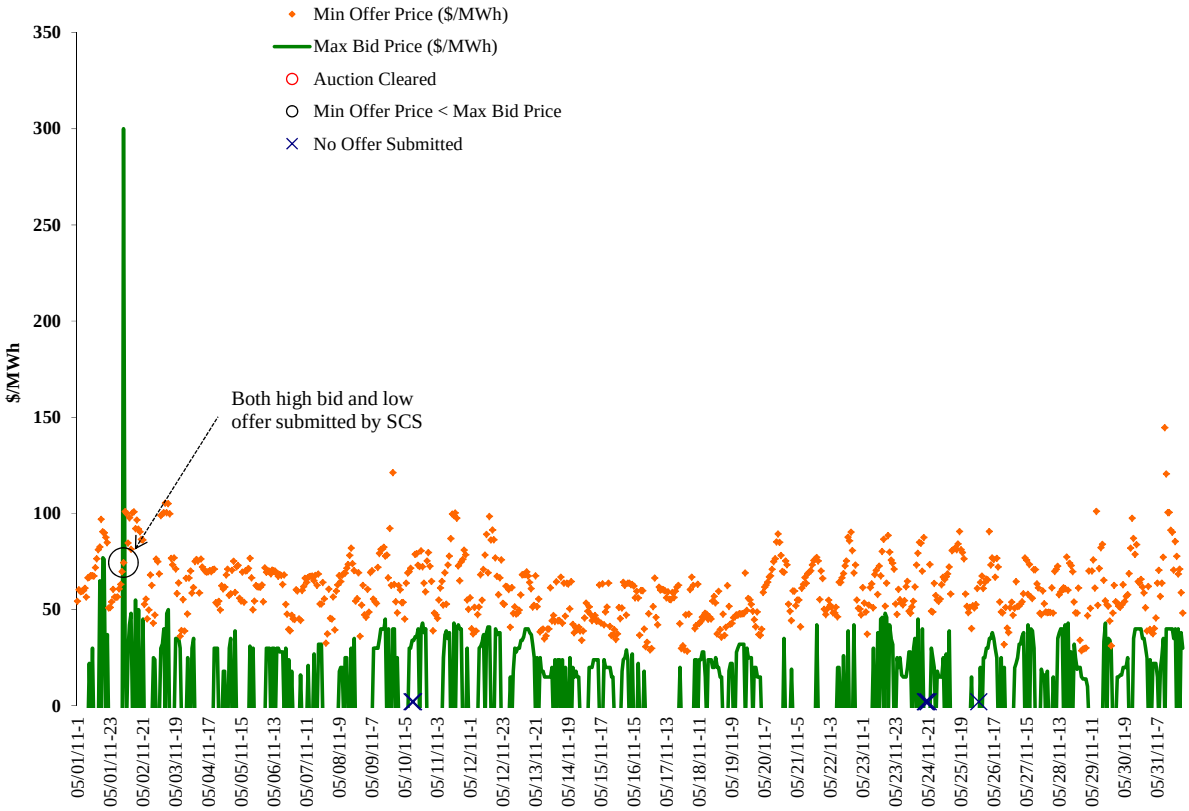


Figure V-16
Hour-Ahead Energy Bid and Offer Prices, Off-Peak Hours



Although the hourly data is too voluminous to display in its entirety, we also examined the minimum offer price and the maximum bid price individually in each HAE auction. During the review period [redacted]. Figure V-17 shows the minimum offer price and the maximum bid price for a sample month (May 2011).

Figure V-17
HAE Maximum Bid and Minimum Offer Prices, May 2011



In accordance with Appendix HA-2 of the Participation Rules, the HAE SOP must not exceed the sum of 110% of the associated unit's incremental variable cost, including commitment cost where relevant, plus a demand charge of $21.43/MWh. As part of our daily monitoring, we verified SCS's SOP calculation for each unit offered into each HAE auction. To the extent any discrepancies occurred or the SOP appeared to exceed the above limit, we requested explanation from SCS. Within the limits of our overall verification process as discussed in Sections III and IV, and with the exception of the non-compliant events discussed in Section IV.H, we were able to verify SCS's SOP calculation for each HAE auction during the review period.

V.D. Analysis of DAE Available Capacity

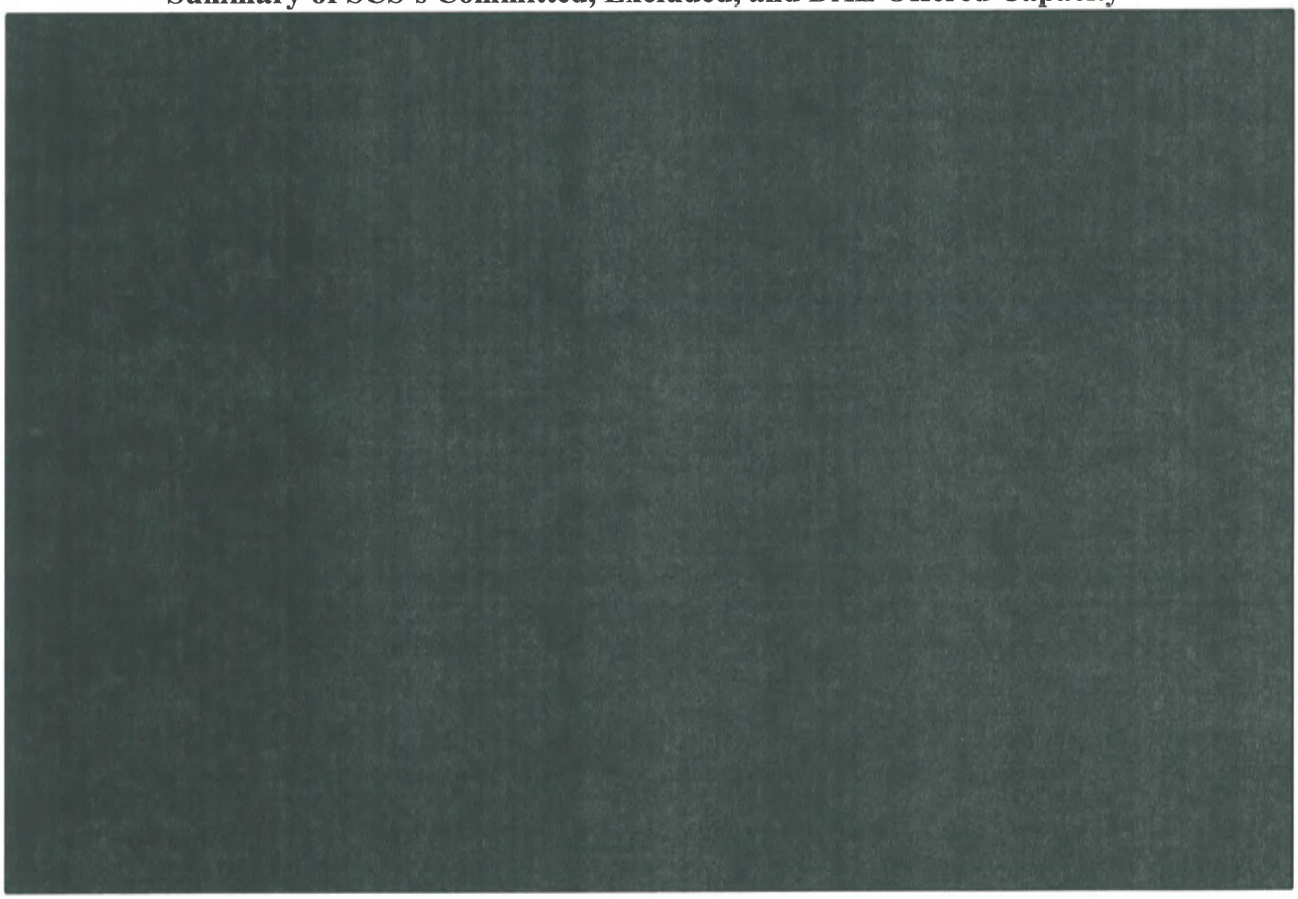
According to Appendix DA-1 of the Participation Rules, Available Capacity to be offered into the DAE auction is determined as follows:

1. Total capacity owned or contractually controlled by SCS (including steam and combined cycle units, combustion turbines, scheduled hydroelectric generation, and third-party purchases); *minus*
2. Capacity committed to meet SCS's total obligations; *minus*
3. Capacity reserved for load forecast uncertainty (LFU); *minus*
4. Capacity unavailable due to outages and derates; *minus*

5. Capacity of uncommitted units not available due to operational constraints (*e.g.*, insufficient time for start-up, unit has not met its minimum downtime requirement, *etc.*), including energy-limited resources (such as unscheduled hydro units); *minus*
6. Capacity committed for Operating Reserves and regulation requirements, as part of SCS's reliability obligation within the Southern BAA.

In order to implement this provision of the Participation Rules, SCS developed its [redacted] that calculates each unit's Available Capacity and its associated average cost (SOP). Figure V-18 shows the disposition of SCS's capacity over Year 3, including capacity committed for SCS's obligations, capacity reserved or excluded for one of the other reasons described above, and ultimately, SCS's remaining Available Capacity and how that is offered into the DAE auctions as Recallable and Firm LD Energy.

Figure V-18
Summary of SCS's Committed, Excluded, and DAE Offered Capacity



SCS owns or contractually controls about 48,000 MW of generating capacity (summer rating). This capacity varies slightly over time with seasonal changes in capacity ratings, as the capacity ratings of units are updated, as new units come online or retire, and as power purchase agreements come into force or expire. In some circumstances, the capacity ratings for particular units that SCS uses in its commitment and operations calculations are adjusted to account for operational issues. This accounts for much of the apparent day-to-day variability in total capacity in Figure V-18. Some changes occur as a result of unit additions and retirements, or changes in

the way SCS models these units. For example, [redacted][38]

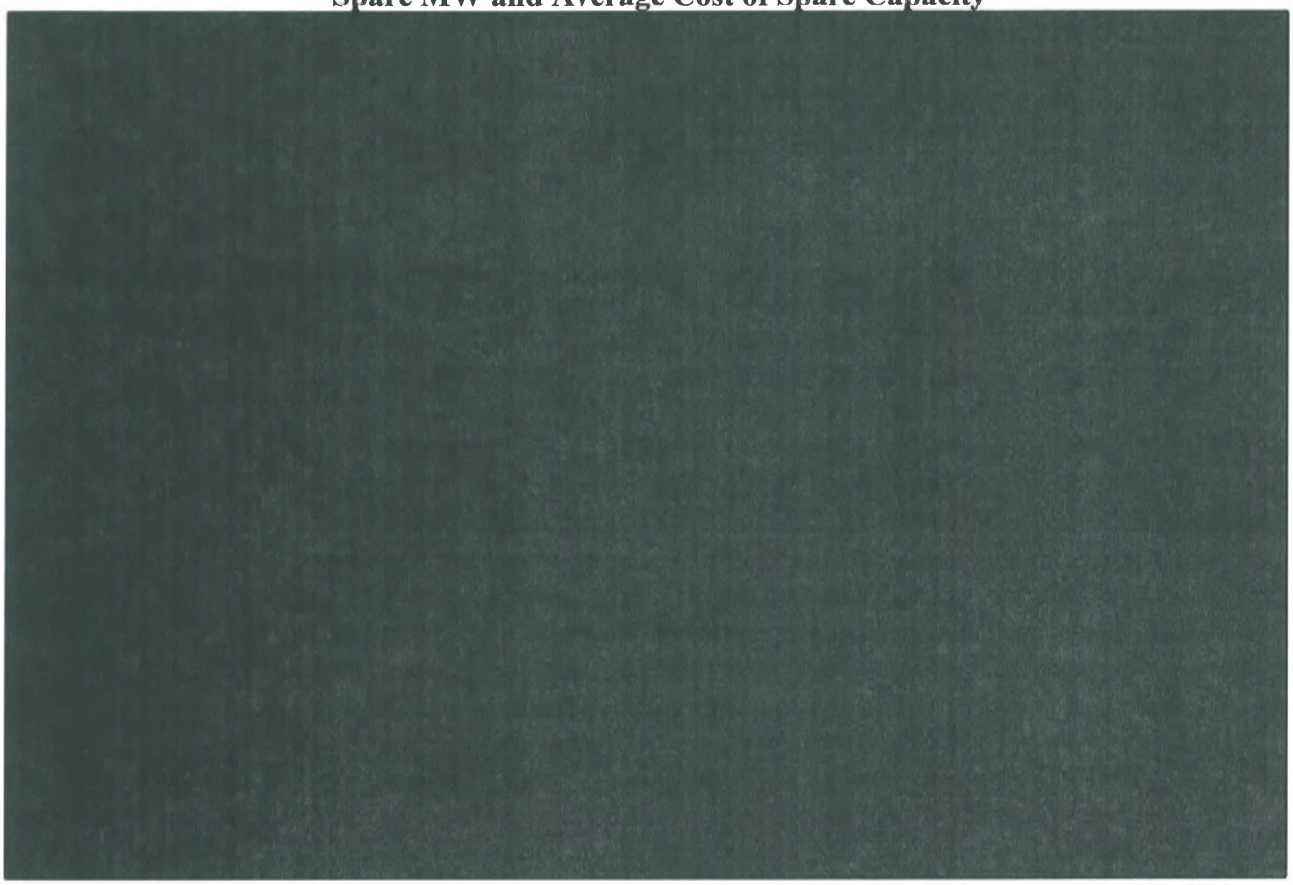
As part of our daily monitoring, we verified SCS's Available Capacity calculations for the DAE auctions. To the extent any discrepancies occurred, or Available Capacity appeared to be smaller than expected, we requested explanation from SCS. With the exception of the non-compliant events discussed in Section IV, we were able to verify SCS's Available Capacity calculation for each DAE auction during the review period.

Day-ahead unit commitment may not fully schedule units up to their seasonal capacity. As a result some units may be partially committed for SCS's obligations, leaving some "spare" capacity available that can be offered into the Energy Auction. Units with spare capacity tend to have the lowest-cost Available Capacity, since the cost for such capacity does not reflect commitment costs. SCS includes such spare capacity in the Available Capacity for the DAE auction. Figure V-19 shows the quantity of spare capacity that was included in the Available Capacity and the average cost of such capacity. During the review period, the amount of daily spare capacity ranged from [redacted]; in Year 2 the maximum spare capacity offered was [redacted]. The average cost of units with spare capacity (weighted by their MW contribution in the spare energy blocks) is shown. [redacted]

[38] Note that Figure V-18 excludes [redacted].

[39] This is the average calculated cost of spare capacity, and does not include either the 10% adder or the demand charge of $21.43 that are allowed to be included in the SOP.

Figure V-19
Spare MW and Average Cost of Spare Capacity



V.E. Analysis of Changes in Available Capacity from DA2 to DA1

For each DAE auction SCS must submit its final offer curve by 6:45 AM one business day prior to the delivery day. [redacted], Available Capacity calculations rely primarily on the inputs and the solution of the unit commitment performed one business day prior the auction day (*i.e.*, two business days before the delivery day, or "DA2"). In order to incorporate changes in the load forecast, the latest available information on outages and changes in purchases and sales between DA2 and the submission of its offer, SCS adjusts its DA2 Available Capacity amount shortly before offer curves are submitted.

SCS provides us with these DA1 updates to the DA2 inputs. These inputs include the following DA1 adjustments to the Available Capacity:

- Increase or decrease to the forecasted load,
- Change in LFU amount due to the change in load forecast,
- Changes in fixed-schedule generation (*e.g.*, hydroelectric and pumped storage plants) and additional purchases and sales,
- Additional unit outages and derates that occur between DA2 and DA1.

The bottom panel of Figure V-20 illustrates the net DA1 adjustments to Available Capacity during the review period (*i.e.*, the total, including the initial DA2 LFU amount). The top panel shows the breakdown of these components by type. The net DA1 adjustment to Available Capacity is volatile; it is driven by the many factors that affect the final calculation. On average it was [redacted], ranging from [redacted]. Note that the net DA1 adjustment may be negative if the net changes between DA2 and DA1 are negative and greater than the initial DA2 LFU amount. This may be the case if, for example, the DA1 forecasted peak load is substantially below the DA2 forecast. As discussed in Section IV.B, when the DA1 update is greater than the original LFU amount, SCS will move one or more units from Committed to Uncommitted status in order to make additional capacity available. However, [redacted]

The initial DA2 Load Forecast Uncertainty quantity has been fairly stable, averaging [redacted] over the review period. In comparison, in Year 2 the average DA2 Load Forecast Uncertainty was [redacted]. The DA2-to-DA1 changes in the peak load forecast are the main drivers of the volatility of the DA1 adjustments. About half the time, the load forecast has increased between DA2 and DA1, and about half the time it has decreased. Increases have been [redacted], with decreases [redacted]. Each increase or decrease in the peak load forecast also triggers a corresponding increase or decrease in the amount of capacity reserved for Load Forecast Uncertainty, and of course, an increase in peak load forecast leads to a decrease in Available Capacity.

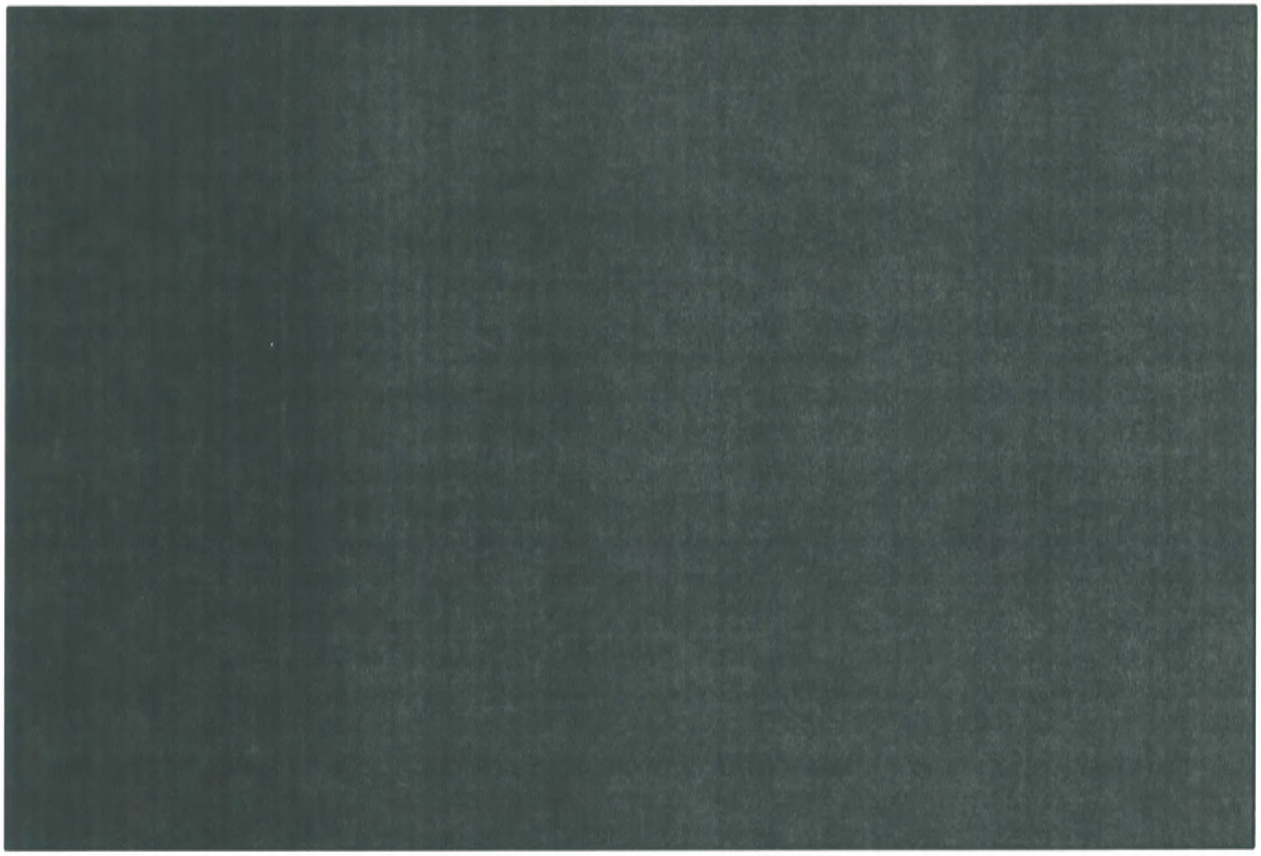
Changes to fixed-schedule generation (*i.e.*, hydro units) and additional purchases and sales of energy impacted the DA1 adjustments on most of the days in the review period, although usually to a lesser extent than load forecast changes. DA1 adjustments for higher fixed-schedule generation or higher purchases/lower sales increased Available Capacity [redacted]. On these days, the adjustment resulted in an average [redacted] increase in Available Capacity, with the largest single upward adjustment being [redacted]. DA1 adjustments for lower fixed-schedule generation or lower purchases/higher sales decreased Available Capacity [redacted]. On these days, the downward adjustment averaged [redacted]; the largest downward adjustment was [redacted]. In comparison, in Year 2 fixed schedules increased Available Capacity on average by [redacted], and decreased Available Capacity on average by [redacted], out of a total of 257 DAE auction days.

The DA1 adjustments further reduce Available Capacity if any unit committed during the DA2 commitment process subsequently becomes unavailable, due to an unexpected outage or an operational issue. This occurred during [redacted] the review period. The reductions on these days averaged [redacted], with the largest reduction [redacted]. In Year 2, DA1 adjustments for outages occurred [redacted], averaging [redacted].

Lastly, SCS adjusts Available Capacity to account for changes to the unit commitment designation of specific units relative to their DA2 schedules. For example, if the load forecast increases, SCS may commit additional units that had not been committed in the DA2

commitment. Such adjustments were made on [redacted] during the review period, with an average adjustment of about [redacted] on these days. The opposite adjustment may be made when the load forecast decreases, and some of the units committed in the DA2 process are moved to the Available Capacity stack; this adjustment averaged [redacted] during the review period. In Year 2, such adjustments increased Available Capacity [redacted] by an average of [redacted], and decreased Available Capacity [redacted], by an average of [redacted].

Figure V-20
Load Forecast Uncertainty and Other Manually Excluded Capacity



V.F. OUTAGES

The Available Capacity calculations exclude the capacity of generating units that are unavailable due to an outage. There are three basic types of generator outages: (1) planned outages; (2) forced outages; and (3) maintenance outages. In addition to outages, generating units may experience a capacity derate — a temporary reduction in the usable capacity of the unit.

SCS schedules planned outages months ahead of time, [redacted]. The impact of planned outages on Available Capacity is therefore [redacted]. Because planned outages often involve [redacted]. The largest amount of capacity excluded due to planned outages at any one time was [redacted].

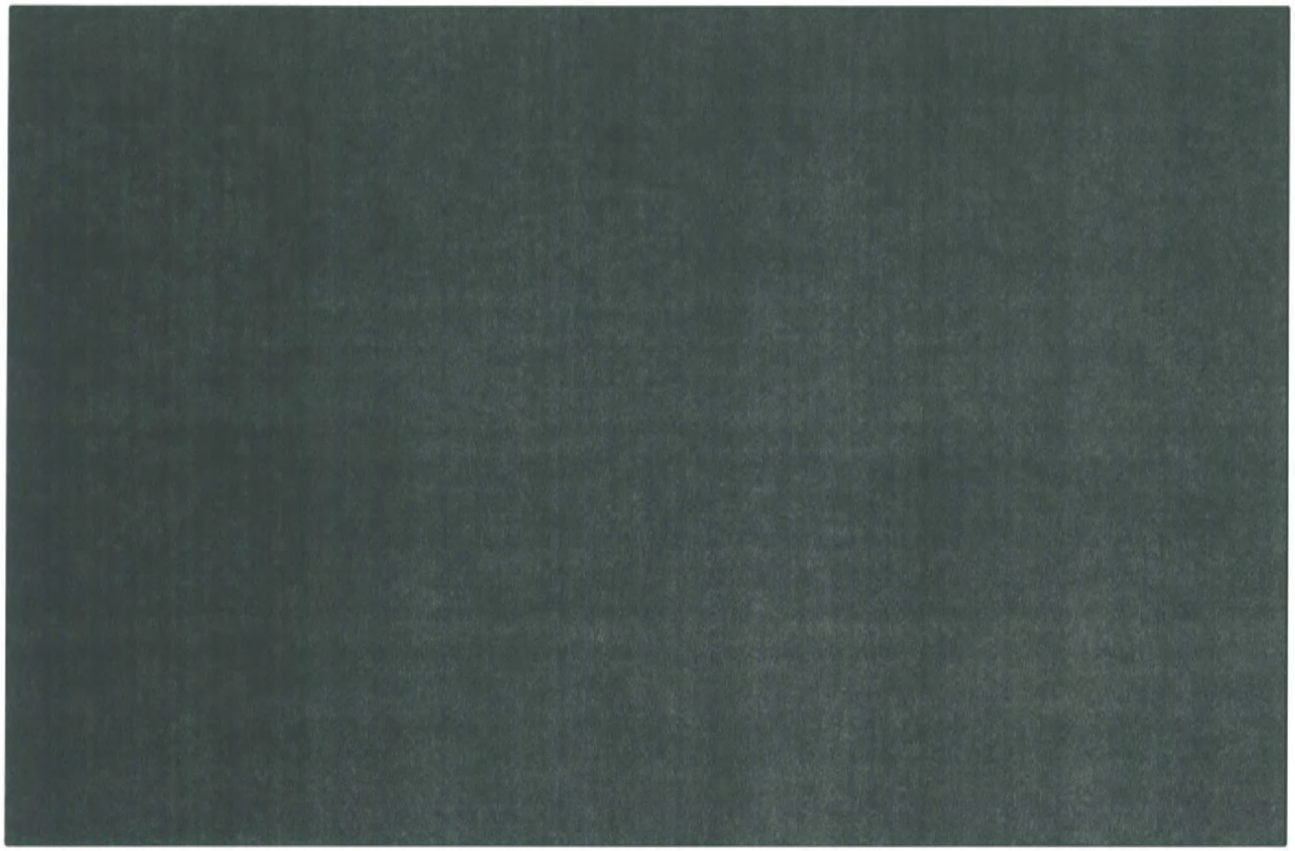
Maintenance outages are outages that are requested or required by the plant operator and are typically scheduled on a much shorter time horizon than planned outages. Maintenance outages may occur to address foreseen but shorter term operational or maintenance issues [redacted], or for unforeseen operational or maintenance issues that do not force an immediate outage. Maintenance outages occurred throughout the review period. Across all days in the review period, the average amount of capacity excluded from Available Capacity due to a maintenance outage was about [redacted], compared with an average of [redacted] in Year 2. The largest amount of capacity on maintenance outage at one time was [redacted].

Forced outages occur due to equipment failure or other similar uncontrollable circumstances that force an immediate shutdown of a unit for repairs. Forced outages affected Available Capacity on [redacted]. The largest amount of capacity excluded due to a forced outage was [redacted] and was the result of [redacted]. In Year 2, forced outages affected Available Capacity [redacted], and the largest amount of capacity excluded due to forced outages was [redacted].

Unit derates are short-term, temporary reductions in the usable capacity of a specific unit. Derates can be caused by operational or maintenance issues [redacted]. There were some unit derates on [redacted] during the review period, averaging [redacted] on these days, with a maximum of [redacted]. In Year 2, unit derates averaged [redacted]. In addition to unit-specific derates, for modeling purposes, SCS typically reserves [redacted]

Lastly, [redacted] Figure V-21 shows the capacity unavailable due to all these types of outages during the review period.

Figure V-21
Capacity Excluded Due to Outages



V.G. OPERATIONAL CONSTRAINTS

The final component of capacity excluded from DAE Available Capacity is that due to operational constraints, which can affect whether an uncommitted unit can be online by the start of the delivery period. Unit-specific operational constraints include: (1) for a unit not running, insufficient time to start the unit between auction clearing and the start of delivery; and (2) for a unit that has shut down recently, insufficient time for the unit to meet its minimum downtime. These two constraints primarily apply to large steam units, especially coal-fired generators. Such generators typically require a start-up time in excess of [redacted]. They can also have minimum downtime ranging from [redacted]. SCS uses the day-ahead unit commitment solution to determine whether either of these operational constraints will prevent any of the generating units from being available for the Auction. If there are any changes that result in additional operating constraints, SCS will manually exclude the capacity of such units from Available Capacity.

Figure V-22 illustrates the amounts of capacity excluded due to insufficient start-up time, units not meeting their minimum downtime, and manually excluded capacity. Some capacity was excluded for insufficient start-up time on [redacted]; on those days the average excluded capacity was [redacted], with a maximum of [redacted]. In Year 2, some capacity was excluded for insufficient start-up time on roughly the same number of days, [redacted]

[redacted]

[redacted][41]

Section 1.3 of Appendix DA-1 of the Participation Rules allows SCS to exclude capacity located outside the Southern BAA from its Available Capacity. [redacted][42]

[redacted]

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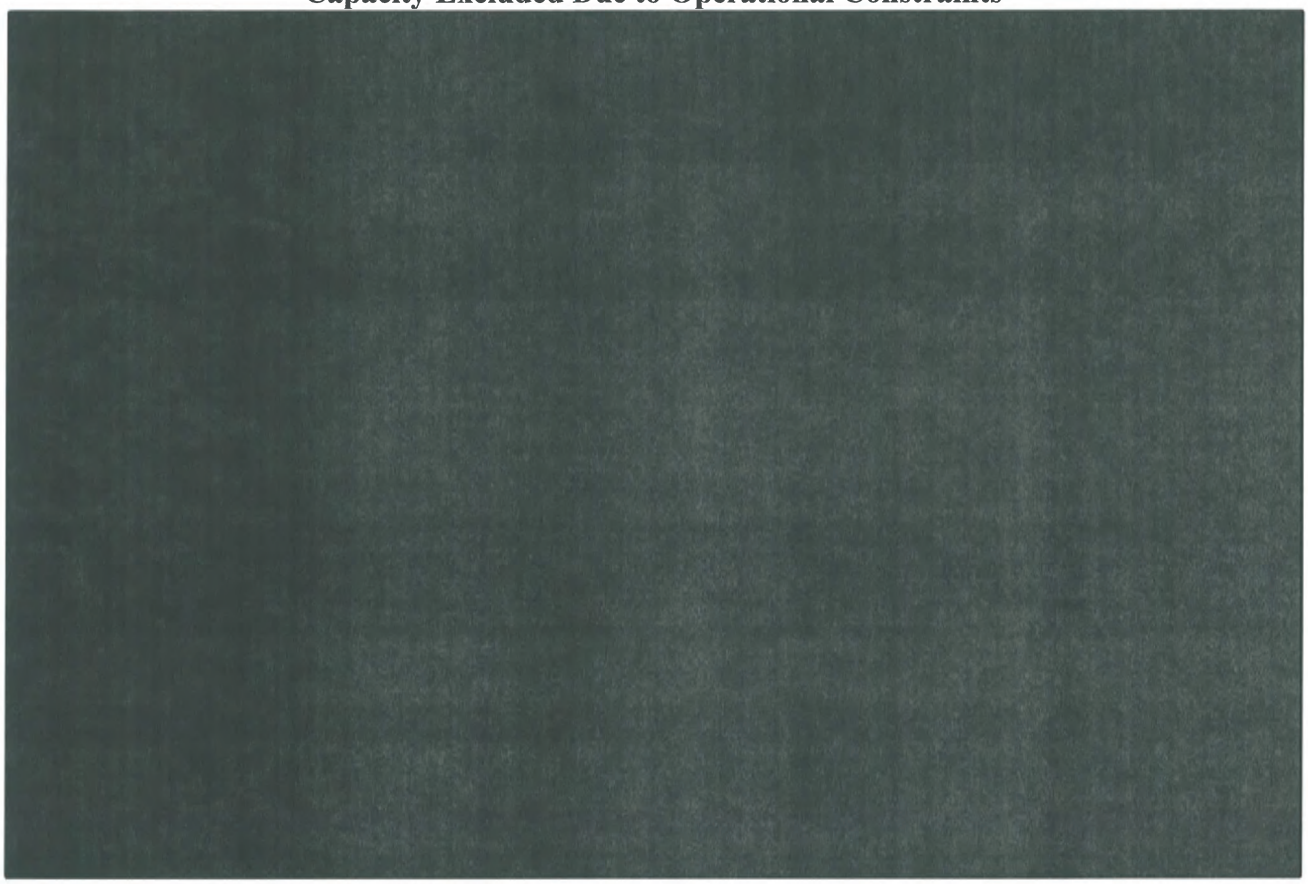
40 [redacted]

41 [redacted] is not shown in Figure V-22.

42 Capacity located outside the Southern BAA is also excluded from Figure V-22.

Figure V-22
Capacity Excluded Due to Operational Constraints



V.H. Analysis of HAE Available Capacity

Appendix HA-1 of the Participation Rules defines the Residual Supply Curve (RSC) as the Available Capacity that must be offered by SCS into the HAE auction, calculated as follows:

- Total capacity owned or contractually controlled by SCS (including steam and combined cycle units, combustion turbines, the portion of hydroelectric generation scheduled by SCS for the delivery hour, and third-party purchases); minus
- Capacity unavailable due to existing or planned outages and derates; minus
- Capacity of uncommitted units unavailable due to operational constraints (*e.g.*, insufficient time for start-up, unit has not met its minimum downtime, *etc.*), including energy-limited resources (such as unscheduled hydro units); minus
- Capacity of units that cannot be committed to supply energy for the delivery hour; minus
- Capacity of uncommitted units not located in the Southern BAA; minus
- Capacity committed to meet Southern Companies' hourly instantaneous total obligations; minus
- Capacity committed for operating reserves and regulation requirements, as part of Southern Companies' reliability obligation within the Southern BAA.[43]

[43] *Id.*, Appendix HA-1.

Since much of the excluded capacity described in the above categories is determined as a result of the day-ahead unit commitment, much of the discussion in the previous section also applies to the HAE Available Capacity. In order to calculate the RSC for each HAE auction, SCS extended the capability of its real-time dispatch tool [redacted] to calculate hour-ahead Available Capacity and offer prices. After determining hour-ahead unit commitment based on projected conditions for the delivery hour, [redacted] evaluates each committed unit's residual capacity that can be offered into the HAE auction, and its associated incremental cost. Units that are not committed or dispatched for SCS's obligations ("offline" units) will also be offered in an HAE auction, as long as they have no operational constraints that would prevent them from being available (*e.g.*, quick start units such as combustion turbines that are able to be online for the delivery period will be offered, but units with a longer startup time would not). These units are offered at their variable operating cost plus commitment costs.

In the hour-ahead time frame SCS's capacity can be grouped into the following categories:

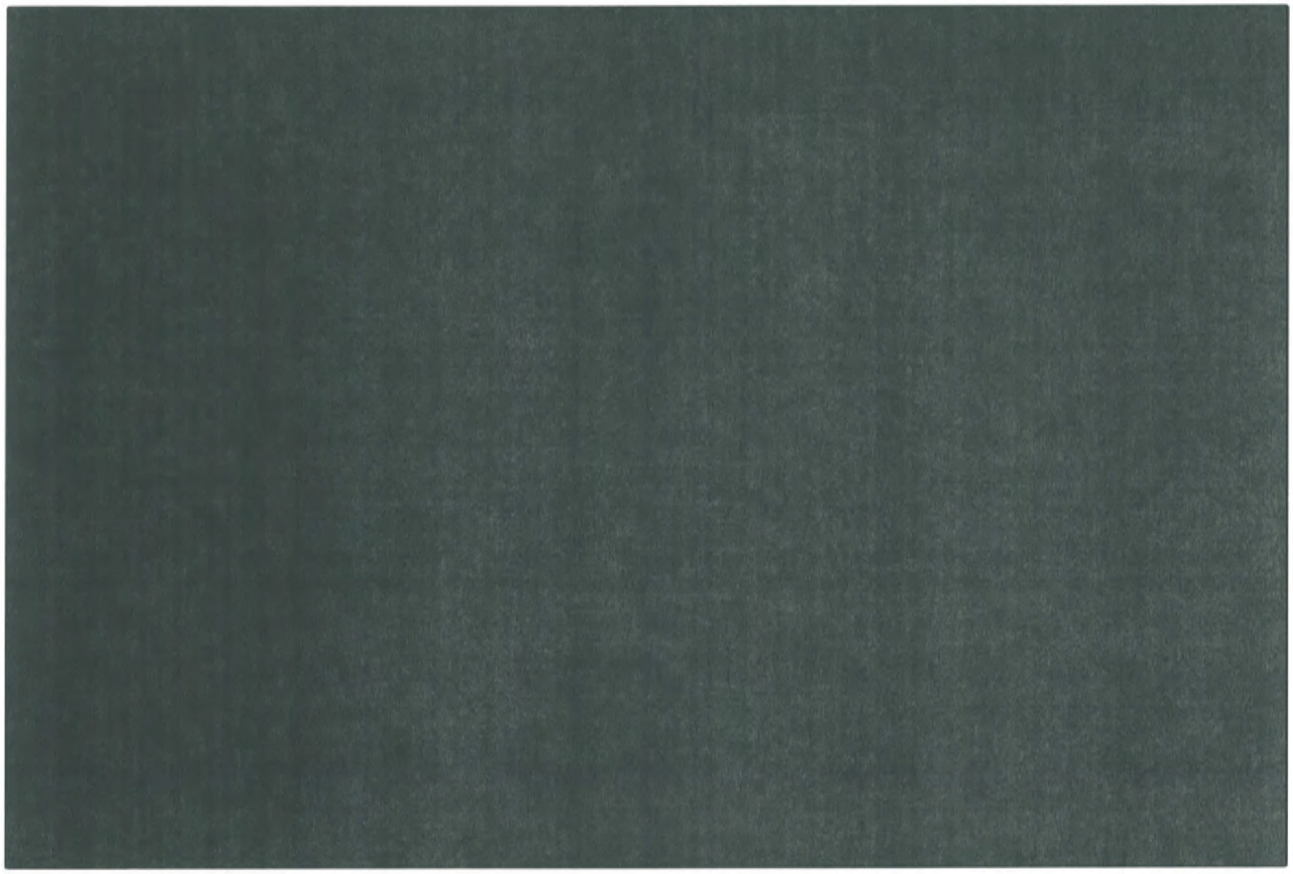
- Capacity committed day-ahead is not available for the HAE auction, unless the unit has some spare capacity;
- Capacity uncommitted by the day-ahead unit commitment process that cannot be committed and dispatched by the hour-ahead commitment process because of long start-up times (*e.g.*, combined cycle or coal-fired units);
- Capacity subject to hour-ahead commitment but not available for the HAE auction due to operational constraints;
- Capacity outside the Southern BAA (that is not required to be offered);
- Capacity of units on outage and capacity derates;
- Capacity of hydroelectric and nuclear units; and
- Capacity offered into the HAE auction.

Figure V-23 and Figure V-24 show these various categories of SCS's capacity, for on-peak and off-peak hours, respectively. These charts differ from Figure V-18 in several ways. First, of course, Figure V-18 shows Available Capacity in the day-ahead time frame, while Figure V-23 and Figure V-24 show Available Capacity in the hour-ahead time frame. Second, Figure V-18 shows Available Capacity based on the peak hour of the 16-hour delivery period, while Figure V-23 and Figure V-24 show Available Capacity during the peak and off-peak hours. There is typically less Available Capacity in the hour-ahead time frame than in the day-ahead time frame simply because there are some types of capacity (*e.g.*, combined cycle plants) that start too slowly for the HAE auction but can be dispatched in time for the DAE auction. This also helps explain the fact that HAE Available Capacity is more stable over time [redacted]. For example, during the review period the highest on-peak and off-peak average of HAE offers was [redacted], while as much as [redacted] was offered in the DAE auction. On average, [redacted] of SCS's capacity was offered into the DAE auction during the review period. [redacted] SCS capacity was offered into the HAE auction. SCS's hour-ahead Available Capacity has been as low as [redacted]). In contrast, the lowest total offered capacity in the DAE auction was [redacted].

Figure V-23[44]
SCS's Committed, Excluded, and Offered HAE Capacity, Peak Hours

[44] The gap in mid-September that is visible in Figure V-23 is due to lack of [redacted] data for that day. As discussed in Section IV.G., SCS experienced a technical systems event on September 15, 2011, and as a result did not submit offer curves for several hours on September 15 and 16. In connection with this event, the relevant hourly data was unavailable. Smaller gaps occur for other periods when [redacted] data was not provided; these correspond to those hours in which SCS did not submit an offer curve and did not provide hourly data.

Figure V-24[45]
SCS's Committed, Excluded, and Offered HAE Capacity,
Off-Peak Hours



[45] See previous footnote.

VI. LEGAL ADVISOR'S REPORT ON COMPLIANCE WITH DATA RESTRICTIONS

The law firm of Van Ness Feldman, P.C. ("Van Ness Feldman") reviewed SCS's compliance with the Tariff's data restrictions related to confidential bid and offer information. This section provides a report from Van Ness Feldman on its review.

The Tariff's data restrictions related to the Energy Auction are contained in the Rules of the Energy Auction and the Rules on Southern Companies' Energy Auction Participation. The most recent versions of these rules became effective on April 26, 2011,[46] and thus covered the bulk of this review period. The prior versions of these rules were in effect at the beginning of the review period.[47]

VI.A. TARIFF REQUIREMENTS ON HANDLING OF BID AND OFFER DATA

The Tariff contains specific requirements on the handling of third-party bid and offer information. Core elements of the Tariff's data restrictions remained unchanged during the course of the review period. The Tariff's Rules of the Energy Auction provide:

> 3.5 All Bid Information and Offer Information submitted to the Auction Administrator shall be used by the Auction Administrator only for auction administration and audit purposes.[48]

The Tariff's Rules on Southern Companies' Energy Auction Participation provide that:

> 2.2 Those employees of Southern Companies directly engaged in wholesale electricity marketing and trading shall not have access to Bid Information or Offer Information for any purpose (except to the extent such information is made available pursuant to Auction Rules Section 4.2.4[49]).[50]

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[46] Alabama Power Company Market Based Rate Tariff, Southern's Tariff Volume No. 4 at Record D, Rules of the Energy Auction, 1.0.0 (effective Apr. 26, 2011) ("Current Rules of the Energy Auction"), and at Record E, Rules on Southern Companies' Energy Auction Participation, 1.0.0 (effective Apr. 26, 2011) ("Current Rules on Southern Companies' Energy Auction Participation").

[47] Alabama Power Company Market Based Rate Tariff, Southern's Tariff Volume No. 4 at Record D, Rules of the Energy Auction, 0.0.0 (effective Sept. 23, 2010) ("2010 Rules of the Energy Auction"), and at Record E, Rules on Southern Companies' Energy Auction Participation, 0.0.0 (effective Sept. 23, 2010) ("2010 Rules on Southern Companies' Energy Auction Participation").

[48] Current Rules of the Energy Auction § 3.5.

[49] Section 4.2.4 of the Rules of the Energy Auction provides for the Auction Administrator to post each month all bid and offer information for the month six months prior, subject to protecting confidentiality of the identity of the offerors and bidders. Current Rules of the Energy Auction, § 4.2.4.

[50] Current Rules on Southern Companies' Energy Auction Participation § 2.2.

> 2.3 In order to ensure that Bid Information and Offer Information is maintained in a manner consistent with the foregoing paragraphs, Southern Companies shall impose internal data control restrictions consistent with those used for Standards of Conduct compliance.[51]

Bid Information is defined as "[t]he prices, terms, and conditions under which a Bidder offers to purchase Energy through the DAE Auction or HAE Auction."[52] Offer Information is defined as "[t]he prices, terms, and conditions under which an Offeror offers to sell Energy through the DAE Auction or HAE Auction."[53]

Several substantive requirements of the Tariff's data restrictions were modified effective April 26, 2011. First, the Rules on Southern Companies Energy Auction Participation were modified so that only Southern Company employees with specified job descriptions were eligible to serve as Auction Administrator.[54] Previously, the Rules simply provided that Marketing Function Employees and Transmission Function Employees could not serve as Auction Administrator.[55] Second, the Tariff was modified to provide that the SCS Auction Administrator may access confidential third-party bid or offer information only "to respond to questions or complaints about a particular Auction or to comply with the posting requirements of Section 4.2.4 of the Auction Rules."[56] Previously, the Tariff also allowed the SCS Auction Administrator to access such data "to enable Southern Companies to ensure that the Auction operates as designed and implemented and in compliance [with] the Auction Rules and Participation Rules."[57] Third, the Tariff was revised to add the requirements that:

> (d) Any information accessed by Southern Companies' Auction Administrator personnel pursuant to Section 2.1B(b) will be stored in a secure physical or electronic location. Southern Companies will report any such access: (a) to the Independent Auction Administrator promptly upon its occurrence and (b) to the Independent Auction Monitor within one (1) business day of its occurrence. The Independent Auction Administrator will document any such access and maintain related documentation.[58]

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51 *Id.* at § 2.3.

52 Current Rules of the Energy Auction § 2.4.

53 *Id.* at § 2.41.

54 Current Rules on Southern Companies' Energy Auction Participation § 2.1.

55 2010 Rules on Southern Companies' Energy Auction Participation § 2.1.

56 Current Rules on Southern Companies' Energy Auction Participation § 2.1B(b).

57 2010 Rules on Southern Companies' Energy Auction Participation § 2.1B(b).

58 Current Rules on Southern Companies' Energy Auction Participation § 2.1B(d).

VI.B. Third Annual Review

Van Ness Feldman's third annual review was conducted in May and early June of 2012. In conducting this review, Van Ness Feldman reviewed responses to written inquiries and requests for documents. Documents reviewed include: protocols and procedures for the Auction Administrators; elements of SCS's contracts with OATI (the contractor that operates the webMarket site) and TranServ (the Independent Auction Administrator); logs of Auction Administrator access to webMarket; a one-month sample of e-mail communications from the SCS employee serving as Auction Administrator to SCS trading function employees[59]; the job description for the SCS Auction Administrator; and materials used to train SCS and TranServ employees regarding the Energy Auction.

Van Ness Feldman also conducted telephone interviews with the SCS Auction Administrator and with three employees of TranServ who have Independent Auction Administrator responsibilities related to the Energy Auction.

SCS has been very cooperative during the third annual review, making employees available, answering questions and timely providing other information throughout the review process. TranServ has also been cooperative in making employees available for interview.

VI.C. Findings

The review conducted by Van Ness Feldman found that SCS has continued to be diligent in its efforts to comply with the requirements related to confidential bid and offer information contained in the Tariff. Van Ness Feldman found no evidence that SCS marketing function employees had any improper access to confidential bid or offer information. Other findings on each of the Tariff requirements are addressed below.

VI.C.1. Appropriate Use of Confidential Bid and Offer Information

The Tariff provides that "[a]ll Bid Information and Offer Information submitted to the Auction Administrator shall be used by the Auction Administrator only for auction administration and audit purposes."[60] The review by Van Ness Feldman found no evidence that any SCS employee designated as an Auction Administrator used restricted data for impermissible purposes during the review period.

The reliance on TranServ, the Independent Auction Administrator, to perform most of the auction administration functions has greatly reduced the use and handling of confidential bid and offer data by the SCS Auction Administrator.[61] The SCS Auction Administrator stated that the only times he had accessed confidential bid or offer information during the review period were

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[59] Van Ness Feldman reviewed e-mail communications from March 2012. Two e-mails were withheld from review on the basis of privilege. Counsel for Southern has reviewed each of the withheld e-mails and represented that neither of those e-mails contained restricted bid or offer data.

[60] Current Rules of the Energy Auction § 3.5.

[61] At the start of this review period, there were two SCS employees serving in the Auction Administrator role. Since early May 2011, there has been only one SCS Auction Administrator.

either in connection with the posting of certain historical bid and offer information provided by TranServ as required by the Tariff, or in connection with the review of a draft of the Second Annual Report, at the request of the Independent Auction Monitor. The logs of Auction Administrator access to the webMarket system (and thus potential access to third-party bid and offer information) show that the frequency of access by the SCS Auction Administrator had declined substantially from prior years.

VI.C.2. Roles of Auction Administrators

The Tariff provides that only SCS employees in specified positions may serve as Auction Administrator. The present Auction Administrator is in the position described as "Project Manager" in section 2.1 of the Tariff's Rules on Southern Companies Energy Auction Participation.[62]

Prior to April 26, 2011, the Tariff provided that "Southern Companies' Marketing Function Employees and Transmission Function Employees, as those terms are defined in 18 C.F.R. § 358.3(d) and (i), may not serve as Auction Administrator."[63] Neither of the two SCS employees who served as Auction Administrator early in this review period was a marketing function employee or transmission function employee. Auction Administrator duties constituted only a small part of their jobs: other duties were of the type that can be characterized as support or back office functions.

VI.C.3. Restricted Access to Confidential Bid and Offer Information

The Tariff provides that "[t]hose employees of Southern Companies directly engaged in wholesale electricity marketing and trading shall not have access to Bid Information or Offer Information for any purpose (except to the extent such information is made available to auction participants pursuant to Section 4.2.4)."[64] Van Ness Feldman found no evidence that SCS marketing or trading employees received third-party bid and offer information in violation of the Tariff, or that they had improper access to such information.

Access to third-party bid and offer data on the webMarket system is available only to those individuals who are designated on webMarket as Auction Administrators (or Independent Auction Monitors), and as described above, the Auction Administrator employed by SCS is not a marketing or trading function employee. SCS procedures provide that any printed bid or offer data would be kept in a locked file cabinet in the workspace of an Auction Administrator, but no printed material containing confidential bid or offer data has been retained.

Limited historical bid and offer data resides on the SCS computer system. This data was used by SCS Auction Administrators for testing during Phase I,[65] and for analysis of the Independent

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62 Current Rules on Southern Companies' Energy Auction Participation § 2.1.

63 2010 Rules on Southern Companies' Energy Auction Participation § 2.1.

64 Current Rules on Southern Companies' Energy Auction Participation § 2.2.

65 During Phase I, bid data was used by the SCS Auction Administrators for testing purposes; however, during Phase II, all software testing has been done by TranServ without the use of actual bid or offer data.

Auction Monitor's First Annual Report. The data is stored on a secure read/write protected directory to which only a limited number of employees, none of whom is a marketing function employee, have access. The number of individuals with access to this directory was reduced from ten to three during this review period. No additional confidential third-party bid or offer data was stored in this directory during this review period.

VI.C.4. Auction Administrator Access to Confidential Bid and Offer Information

The Tariff was amended, effective April 26, 2011, to provide that the SCS Auction Administrator may access confidential third-party bid or offer information only "to respond to questions or complaints about a particular Auction or to comply with the posting requirements of Section 4.2.4 of the Auction Rules," the provision relating to posting of certain bid and offer information after six months.[66] The Tariff was also revised to add the requirements that:

> (d) Any information accessed by Southern Companies' Auction Administrator personnel pursuant to Section 2.1B(b) will be stored in a secure physical or electronic location. Southern Companies will report any such access: (a) to the Independent Auction Administrator promptly upon its occurrence and (b) to the Independent Auction Monitor within one (1) business day of its occurrence. The Independent Auction Administrator will document any such access and maintain related documentation.[67]

The SCS Auction Administrator stated that, since April 26, 2011, he has accessed confidential bid or offer information only for the limited purpose of receiving and posting historical data provided by TranServ on the Southern Company website.68 Access to data for this function is expressly permitted by the Tariff.[69]

With respect to the requirements of section 2.1B(d), the Auction Administrator stated that while there is provision for secure physical storage of any confidential data, physical records of such data have not been created. There is provision for storage of electronic records of confidential bid and offer data on a limited-access directory, but no additional such records have been created since April 2011.

The SCS Auction Administrator stated that because he had not accessed any confidential third-party bid or offer data since April 26, 2011 (except as related to posting historical data), he had not had occasion to report any such access to the Independent Auction Administrator or the Independent Auction Monitor. The Independent Auction Administrator and the Independent

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66 Current Rules on Southern Companies' Energy Auction Participation § 2.1B(b).

67 *Id.* at § 2.1B(d).

68 Historical bid and offer information is posted at: http://www.southerncompany.com/energyauction/historical.aspx.

69 Current Rules on Southern Companies' Energy Auction Participation § 2.1B(b).

Auction Monitor each indicated that they had not received any reports of access to confidential data from the SCS Auction Administrator.[70]

The SCS Auction Administrator stated that he had accessed confidential data for the purpose of commenting on a draft of the Second Annual Report prior to that report's submission on April 25, 2011. Access to confidential data for this purpose was permitted by the Tariff.[71]

VI.C.5. Internal Data Control Restrictions Consistent with Standards of Conduct

The Tariff provides that "[i]n order to ensure that Bid Information and Offer Information is maintained in a manner consistent with the foregoing paragraphs, Southern Companies shall impose internal data control restrictions consistent with those used for Standards of Conduct compliance."[72] Van Ness Feldman found that SCS has taken reasonable steps to ensure that marketing function employees do not have access to restricted bid and offer information.

Only one SCS employee is presently designated as an Auction Administrator on the OATI-administered webMarket system, and only users designated as Auction Administrators (or Independent Auction Monitors) have access to confidential third-party bid and offer information on webMarket. SCS has protocols for securing any printed bid or offer information if it is created. There is limited historical bid and offer information residing on the SCS computer system, as described above, but access to the directories in which this data is located is restricted to a small number of SCS employees who are not marketing function employees.

The SCS Auction Administrator Protocol provides that "[t]he Auction Administrator and all personnel undertaking wholesale electricity marketing and trading activities for Southern Companies shall be familiar with this Auction Administrator Protocol and the data control restrictions set forth in this section."[73]

The interview with the SCS Auction Administrator showed that he continues to be well versed in the substantive requirements of the Tariff with respect to restricted data. SCS produced an

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[70] The TranServ employees interviewed by Van Ness Feldman seemed unaware of the Tariff requirement for the Independent Auction Administrator to document any reports from the SCS Auction Administrator related to his accessing of confidential third-party bid or offer data, and to retain such documentation. TranServ explained, however, that any such report would be documented and retained electronically, consistent with the TranServ's general practices concerning documentation of inquiries related to the Auction.

[71] *See* 2010 Rules on Southern Companies' Energy Auction Participation § 2.1B(b) and 2010 Rules of the Energy Auction § 4.3.3. Note that the Auction Administrator's access to confidential data for purposes of reviewing or validating information in any future draft annual reports would be governed by the applicable data restrictions as revised in the current Tariff. SCS has indicated that the SCS Auction Administrator has followed these revised Tariff procedures in reviewing drafts of this report.

[72] Current Rules on Southern Companies' Energy Auction Participation § 2.3.

[73] Energy Auction: Auction Administrator Protocol at § 1.3 (undated).

updated version of Procedures for Southern Company Energy Auction Administrators in June 2011, reflecting the changes in the Tariff made in April 2011.[74]

During this review period, SCS has supplied refresher training to marketing and trading employees on various aspects of the Energy Auction, including the proper treatment of bid and offer information. In addition, SCS is developing a market-based rate tariff training program, which will include annual training for employees on topics including the treatment of bid and offer information. SCS plans to implement this training program in the latter half of 2012.

In early April of 2012, the SCS Auction Administrator delivered an in-person training to the majority of the TranServ staff involved in Independent Auction Administrator functions. This training, and the accompanying training materials, covered the functioning of the SCS Energy Auction generally, and the rules on treatment of confidential bid and offer data in particular.

Although the SCS Auction Administrator continues to be located on SCS's trading floor, the transfer of many auction administration functions to TranServ (which performs its Independent Auction Administrator functions in access-restricted offices located in Minneapolis, MN) has substantially reduced any risk of inadvertent disclosure to SCS trading or marketing employees. As described above, the Auction Administrator's need to access confidential third-party bid and offer data has been very limited during this review period. The SCS Auction Administrator's frequency of access to webMarket has continued to decline. Between March of 2010 and January of 2011, the SCS Auction Administrator logged in to webMarket 77 times. Between February of 2011 and April of 2012, the SCS Auction Administrators logged in to webMarket 25 times.[75]

VI.C.6. Summary of Findings

Based on its review, Van Ness Feldman found that SCS has continued to be diligent in its efforts to comply with the requirements related to confidential bid and offer information contained in the Tariff. Van Ness Feldman found no evidence that SCS marketing function employees had any improper access to confidential bid or offer information, and as discussed above, found no other violations of the data restrictions contained in the Tariff.

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[74] Southern Company Generation, Procedures for Southern Company Energy Auction Administrators, version 2.0, § 7 (June 2011).

[75] Note that logging on to webMarket does not indicate that the Auction Administrator viewed restricted bid or offer data, but only that he could have viewed such data.

VII. CONCLUSION

We have monitored SCS's participation in the Energy Auctions and compliance with the Tariff during the third annual review period, February 16, 2011 through April 23, 2012.[76] As discussed in Section III.A above, we did not independently verify every data element provided to us by SCS; much of this information must be accepted as provided. However, we have verified that the parameters used as the basis for SCS's offers into the Auction are the same parameters that SCS has used to operate its own system.

This report documents each instance during the review period where we have found that SCS's administration of the Auctions and its offers into the Auctions did not occur in full compliance with the Tariff. To the best of our ability to ascertain, and with the limitations and exceptions previously identified, we have found that SCS has complied with the requirements of the Tariff throughout the review period. We have found no evidence that SCS has attempted to evade the Tariff requirements or compromise the Auction's performance, either intentionally or through negligence. We also found no evidence of attempts to manipulate the auction by third-party participants.

SCS has provided the data and information necessary for us to adequately monitor its participation in the Auctions, and has given us access to its personnel as we have requested. Those instances identified in this report where SCS did fail to comply fully with specific Tariff provisions appear to be the result of unintentional technical and administrative errors or system failures. It is probably unrealistic to expect that a complex administrative process such as the Auction, which is overlaid on the even more complex process of managing SCS's power system, could be implemented perfectly, without any errors.

Auction participation by third parties, both as bidders and offerors, has continued to decline in this review period, relative to the already low participation in previous review periods. The frequency of auction clearing has also declined somewhat. The frequency of two types of non-compliant events appears to have decreased from the previous review periods. First, we identified no instances of prohibited bilateral sales transactions in this review period, as compared with three such prohibited transactions identified in the second review period and 17 in the first. Second, we observed a decline in instances of non-compliance related to the use of peak load forecasts in Available Capacity calculations. In the current review period there have been no such non-compliant instances, while there were three such instances in the second review period and two in the first. There was an increase in the total number of failed offer curve submissions, though these resulted from a smaller number of discrete events, with a single event accounting for 13 of the 23 total Year 3 failed submissions. The frequency of other types of non-compliant events does not appear to differ meaningfully from the previous two review periods.

Since the second Annual Report, our basic monitoring philosophy and practices have not changed, though we have continued to update our monitoring process to improve the quality of

[76] The review period for this report exceeds one calendar year in order to cover the entire remainder of the original 3-year operational period of the Energy Auction.

monitoring and streamline the workflow, and to accommodate changes in SCS's processes and the Commission's guidance. Some of the changes we have implemented include formalizing our monitoring of third-party participation in the Auctions, within our limited ability to monitor this behavior, and additional load forecast monitoring.

We appreciate the Commission's continued confidence in our role as Independent Auction Monitor, and we look forward to receiving the Commission's feedback and guidance in the coming year.

APPENDIX A

IAM PROTOCOLS

This appendix contains our complete set of protocols, as described in Section III of our report. IAM protocols are living documents that are updated periodically as we gain experience in our monitoring role. This appendix includes the current version of each protocol, but we keep older versions on file, and will be able to provide them to the Commission, if requested.

THE REMAINDER OF THIS APPENDIX IS REDACTED

APPENDIX B

IAM ISSUE TRACKING FORMS

THE REMAINDER OF THIS APPENDIX IS REDACTED

Appendix C

LOAD FORECASTING UNCERTAINITY PERCENTAGES

This appendix contains the load forecast uncertainity average and maximum percentages calculated by SCS. These numbers were updated and the new load forecast uncertainity numbers were implemented in [redacted] for flow date [redacted] onwards.

Original Average LFU Percentages
(Used through DAE delivery day [redacted])

Month	DA0	DA1	DA2	DA3	DA4	DA5	DA6	DA7
Jan	[redacted]							
Feb								
Mar								
Apr								
May								
Jun								
Jul								
Aug								
Sep								
Oct								
Nov								
Dec								

Updated Average LFU Percentages
(Used from DAE delivery day [redacted])

Month	DA0	DA1	DA2	DA3	DA4	DA5	DA6	DA7
Jan	[redacted]							
Feb								
Mar								
Apr								
May								
Jun								
Jul								
Aug								
Sep								
Oct								
Nov								
Dec								

Original Maximum LFU Percentages
(Used through DAE delivery day [redacted])

Month	DA0	DA1	DA2	DA3	DA4	DA5	DA6	DA7
Jan	[redacted]							
Feb								
Mar								
Apr								
May								
Jun								
Jul								
Aug								
Sep								
Oct								
Nov								
Dec								

Updated Maximum LFU Percentages
(Used from DAE delivery day [redacted])

Month	DA0	DA1	DA2	DA3	DA4	DA5	DA6	DA7
Jan	[redacted]							
Feb								
Mar								
Apr								
May								
Jun								
Jul								
Aug								
Sep								
Oct								
Nov								
Dec								

Exhibit B

Explanation for Redactions in Public Version of the Independent Auction Monitor's Third Annual Report

Exhibit B

Explanation for Redactions in Public Version of the Independent Auction Monitor's Third Annual Report

Explanatory Statement: The table below provides justifications for the redactions of confidential and privileged information that have been made to the public version of the Report. In the first column of the table, Southern Companies have grouped the justifications for confidential and privileged treatment into five categories. In the second column, Southern Companies have listed the Report page numbers that contain such information. Because confidential and privileged information permeates virtually all aspects of the Appendices, Brattle and Southern Companies agreed that those portions of the Report should be redacted in their entirety.

In developing this table, Southern Companies have endeavored to provide the requisite specificity expected by the Commission for assertions of privileged and confidential treatment. Should the Commission have any question regarding the information contained in this table or its application to the public version of the Report, or if the Commission desires further clarification or elaboration as to any of the justifications described, Southern Companies welcome the opportunity to assist.

Justification for privileged treatment under 18 C.F.R. §§ 388.107 and 388.112	**Page of Report**
Release of data/information could constitute a violation of the Commission's market-based rate affiliate restrictions and the Separation of Functions and Communications Protocol applicable to Southern Power Company and its subsidiaries, as set forth in Southern Companies' market-based rate tariff.	21, 22, 23, 53, 54, 55, 57, 58, 61, 62, 63, 64, Appendix A, Appendix B
Data reflects system forecast, planning, generator or other equipment-specific information, which are commercially valuable, necessary to Southern Companies' participation in the marketplace, not yet public, and the release of which could give others in the marketplace a competitive advantage against Southern Companies, to the detriment and harm of their retail customers.	8, 9, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 29, 30, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 53, 54, 56, 57, 58, 59, 60, 61, 62, 63, 64, Appendix A, Appendix B, Appendix C
Data reflects Energy Auction bid and/or offer information and related non-public Energy Auction information related to one or more Energy Auction participants (including Southern Companies), which are commercially valuable and not yet public, which could be used to the competitive disadvantage of Energy Auction participants, and which Southern Companies are obligated to keep confidential in accordance with their market-based rate tariff and applicable orders of the Commission regarding the Energy Auction.	31, 33, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 53, 54, 55, 56, 63, Appendix B
Data/information reflects generator reference prices and generator-specific cost and/or cost inputs, which are commercially valuable, necessary to Southern Companies' participation in the marketplace, not yet public, and the release of which could give others in the marketplace a competitive advantage against Southern Companies, to the detriment and harm of their retail customers.	Appendix B

Justification for privileged treatment under 18 C.F.R. §§ 388.107 and 388.112	Page of Report
Data/information reflects Southern Companies' internal, trade secret and proprietary systems and processes and other intellectual property, which are commercially valuable, necessary to Southern Companies' participation in the marketplace, not yet public, and the release of which could give others in the marketplace a competitive advantage against Southern Companies, to the detriment and harm of their retail customers.	8, 9, 10, 11, 12, 13, 14, 16, 17, 19, 20, 21, 22, 23, 25, 26, 28, 29, 30, 32, 49, 54, 55, 56, 58, 59, 60, 62, Appendix A, Appendix B, Appendix C