The Brattle Group

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April 25, 2011

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*
Second 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 second 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. The IAM must also 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.

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) (2010). Pursuant to the March 2011 Order, *Brattle*, as the IAM, hereby submits 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:

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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
c: All Parties (with public version of Exhibit A)

Exhibit A

Independent Auction Monitor's Second Annual Report

(Public Version — Redacted)

PUBLIC VERSION — REDACTED

The Brattle Group

Second Annual Report for The Southern Companies' Energy Auction February 16, 2010 to February 15, 2011

Submitted by

The Brattle Group
Independent Auction Monitor

April 25, 2011

Prepared for

The Federal Energy Regulatory Commission

PUBLIC VERSION — REDACTED

Second Annual Report
for
The Southern Companies' Energy Auction
February 16, 2010 to February 15, 2011

Docket No. ER09-88-000

April 25, 2011

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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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I. INTRODUCTION AND OVERVIEW

This is the second Annual Report reviewing Southern Company Services Inc.'s ("SCS's" or "the Company's") Day-Ahead Energy (DAE) and Hour-Ahead Energy (HAE) auctions (collectively the "Energy Auctions"). It has been prepared by *The Brattle Group (Brattle)*, which serves as the Independent Auction Monitor (IAM). Broadly, the IAM is responsible for monitoring for and 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.[1] The IAM also is responsible specifically to monitor SCS's compliance with relevant Tariff requirements regarding the Auctions, including SCS's offers into the Energy Auctions (Available Capacity and Seller Offer Price); to respond to questions from bidders and regulators regarding the integrity of the auction process; and to confirm that any transmission service necessary to accommodate a purchase under the Energy Auctions is not unreasonably withheld.

The IAM is obligated to report annually to the Federal Energy Regulatory Commission (FERC) regarding the functioning of the Energy Auctions. Such report must at a minimum include the following: (a) the clearing price for each energy auction; (b) the amount of energy offered and sold by each seller in each energy auction; (c) the amount of energy bid on and purchased by each buyer in each energy auction; and (d) any instances where the auction monitor was unable to verify SCS's Available Capacity calculations or inputs used in those calculations, or 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 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. The review period for this Second Annual Report, February 16, 2010 through February 15, 2011, falls entirely within Phase II of the Auction.[2] The review of auction performance and the issues discussed in this report relate to our daily monitoring of the Energy Auctions throughout the review period, and retrospective reviews of relevant topics.

Over the past year, we met with Commission Staff in June 2010 to review the previous Annual Report, and in January 2011 we gave Staff an interim update on the progress of the auctions and the monitoring process as of that point in time. Our interactions with SCS have included conference calls approximately once weekly, frequent communications via email and phone regarding data updates and particular issues as they have arisen, and two site visits. In June 2010, an IAM team visited SCS in Birmingham, AL, and in September 2010 an SCS team visited *Brattle* in Cambridge, MA. We provided a draft of this report to SCS approximately one month

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1 SCS's Tariff consists of several 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. We refer to these documents collectively as the Tariff.

2 In this report we often refer to the current review period as "Year 2" and to the previous review period as "Year 1."

before it was finalized and invited SCS to check the report for accuracy and completeness; while we invited and received comments from SCS, this report represents our independent opinion.

During the review period for this report, auction participation was quite limited and only a small number of auctions cleared.[3] Out of a total of 8,760 HAE auctions, five cleared; in four of these, SCS was the buyer and in one it was the seller. Of a total of 257 DAE auctions, eight cleared for Firm LD Energy, and none cleared Recallable Energy. In six of these eight cleared auctions, SCS was the buyer; for the remaining two it was the seller. For the vast majority of auctions, the reason no energy was cleared is because 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).

We have found no evidence to suggest that SCS has attempted to evade the Tariff requirements or compromise the Auction's performance, either intentionally or through negligence. Further, 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 facilities and personnel as we have requested. We do note that the frequency of at least two types of non-compliant events has decreased. There were only three clear instances of prohibited bilateral sales transactions in this review period, as compared with 17 in the previous review period. Similarly, we observed a significant decline in failed offer curve submissions. Since our First Annual Report, there was only one new such instance. The frequency of other types of non-compliant events does not appear to differ meaningfully from the previous review period. We have also found no evidence of attempts to manipulate the auction by third-party participants.

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 explains the IAM's verification process, including the protocols we follow in monitoring the auctions. 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.[4] Section V provides a more detailed examination of the results of DAE and HAE Energy 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, and a limited review of third-party participation in the Auction. 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, who assisted in monitoring compliance with the data restrictions laid out in the Tariff. Lastly, Section VII provides conclusions and a summary of our observations.

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

[4] There have been many instances of apparent anomalies or incomplete information that were investigated but ultimately were not determined to involve Tariff non-compliance. We do not describe all such instances in this report, as that would be extraordinarily voluminous and unproductive.

II. DESCRIPTION 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 winning bidders pay the uniform auction clearing price; winning bidders are responsible for arranging transmission.

For the entire review period of this report, the auctions have operated under the "Phase II" Tariff, under which third parties are allowed to offer as well as bid (this allows SCS to bid as well as to offer). This makes the Energy Auctions a matching mechanism between multiple buyers and sellers rather than simply a mechanism to sell SCS power. The Phase II rules included several relatively minor changes: (1) altering the timing of the auctions from Phase I; (2) eliminating implied heat rate as the unit of price in the DAE auction, replacing it with dollars per megawatt-hour; (3) establishing an Independent Auction Administrator (SCS has contracted with TranServ International to perform certain Auction Administrator duties); (4) incorporating an administrative fee on all cleared and matched transactions; (5) eliminating some restrictions on revising offer curves during the Lock-Down Period. The role of the IAM remained fundamentally unchanged.

II.A. DAE AUCTION

The DAE auctions consist 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 condition of individual units. Generally, the lowest cost portion of the Available Capacity is offered as Recallable Energy, and the balance is offered as Firm LD.[5] During the current review period, 257 DAE auctions were held, and SCS offered capacity in all of these DAE auctions.[6]

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[5] 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.

[6] Although SCS offered capacity in all DAE auctions, it failed to submit an offer curve for Firm LD energy for April 1, 2010. This instance, due to a bug in SCS's SOP Tool, was reported in our first Annual Report. In another instance, SCS was unable to update its offer curve because an error by the Independent Auction Administrator caused the auction to be closed prematurely, prior to SCS's update. This event was also reported in our first Annual Report.

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, 8,760 HAE auctions were held, and SCS offered capacity into all but ten of these.[7]

Figure II-1 and Figure II-2 illustrate the timing of the DAE and HAE auctions, showing the delivery periods and the bid 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
DAE Energy Auction Timing

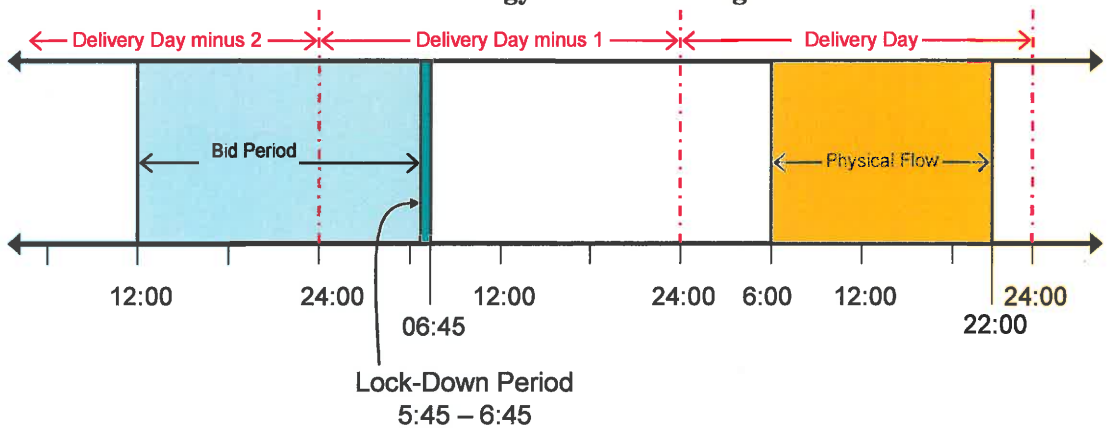
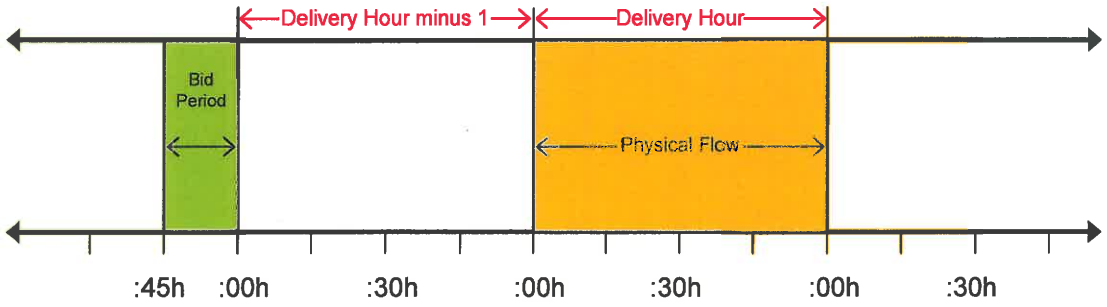


Figure II-2
HAE Energy Auction Timing



[7] SCS failed to submit offer curves into ten HAE auctions due to a problem with the OATI communication software. Nine of these instances were previously reported in our first Annual Report. The last instance occurred in hour ending 20 on November 29, 2010 and is explained further in Section IV.G.

III. THE IAM'S 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 Tariff. The largest single part of this task is to verify whether SCS offers all of its Available Capacity, as defined by the Tariff, in each daily and hourly auction at prices not in excess of those allowed by the Tariff. Doing this involves collecting and manipulating a vast amount of input data as well as output data from the Company's operational tools and models, to verify that SCS's daily and hourly offer curves were constructed properly. It is often impossible (and almost always impractical) to trace each of these parameters back to its point of origination and independently verify its accuracy. This makes it impossible for us to have absolute confidence that no input parameter was altered to affect the resulting supply curve.

Accordingly, in Year 2 we continued verifying SCS's compliance with the Tariff under the same general monitoring philosophy that was stated in our First Annual Report. 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*.[8] Further, rather than attempting to independently verify each input parameter 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 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 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 characterizing 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 cost, *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 every day whether load forecast errors are within the historic norm and that those unit characteristics which are expected to be relatively stable are not 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 to operational constraints is consistent with available information. For this report,

[8] In Year 2, we used the same general monitoring processes and set of tools we created in Year 1. We have improved our tools to more efficiently monitor Tariff compliance, but our general process and level of oversight remain at a level comparable to our Year 1 monitoring.

we performed the trends analysis over the full review period, February 16, 2010 through February 15, 2011.

III.B. VERIFICATION PROTOCOLS

Our processes and accompanying "tools" that make the needed calculations to validate Available Capacity, Seller Offer Prices, and the auction 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 Energy Auction. The current versions of our nine protocols are shown in Appendix A.[9] 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 transmission services for purchases for energy sold in the Energy Auction

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 during a supply-side disruption in compliance with Tariff. Protocol VIII verifies that auction clearing prices and quantities are determined accurately by the auction clearing software.[10] Protocol IX establishes a procedure to examine the availability of Southern Company's transmission services for energy purchased from the Energy Auction.

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

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

Almost all of these protocols call for daily monitoring, with the exception of Protocol IV, Protocol IX, some components of Protocol VIII, in which we perform periodic reviews as needed.

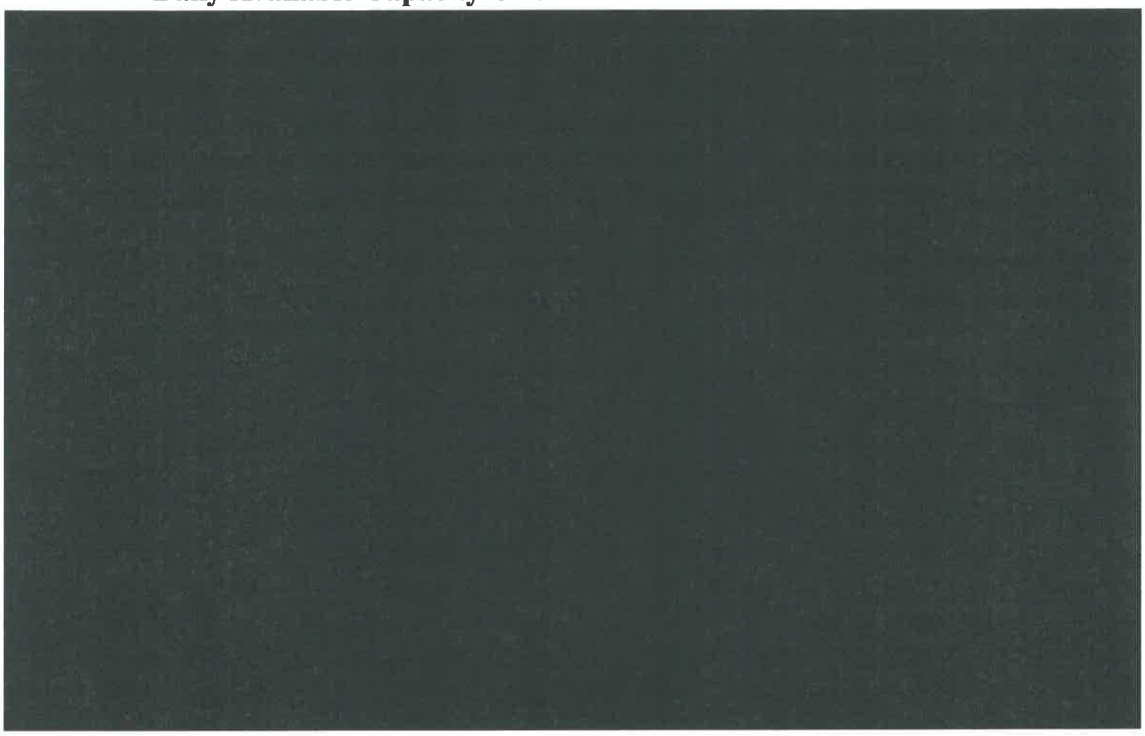
Our protocols are living documents that are modified as needed. Several issues arose in Year 2 that created such need. Figure III-1 summarizes the main changes to each of the protocols. In the rest of this section, we explain in further detail these changes, as well as the current status of each protocol. As shown in Figure III-1, several of our protocols remained essentially unchanged. So that this report will be self-contained, some of the discussion in the remainder of this section repeats material from our First Annual Report.

Figure III-1
Summary of Changes to IAM Protocols in Year 2

Protocol	*Changes in Year 2*
Load Forecasting	Status quo
Load Forecasting Uncertainty	Status quo
Purchases and Sales	Added periodic audits
Outages	Status quo
Day-Ahead Unit Commitment	Eliminated as a standalone protocol; merged into DA Available Capacity and SOP Verification Protocol
DA Available Capacity and SOP Verification	Small improvements to verification process
HA Available Capacity and SOP Verification	Improvements to verification process and input data provided by SCS
Recallable Energy Verification	Status quo (not active in Year 2)
Auction Clearing Price Verification	Status quo
Assessment of Transmission Services for Energy Auction Purchases	Status quo (not active in Year 2)

Figure III-2 illustrates our daily process of verifying Available Capacity and SOP for the DAE auction. The light green boxes in this figure illustrate inputs provided by SCS that we use to verify SCS's Available Capacity and SOP calculations. Blue boxes represent the tools we developed to perform the daily verification process. Lastly, purple boxes designate the protocols and associated daily reports that we use to verify SCS's compliance with the Tariff.

Figure III-2
Daily Available Capacity Offer Curve Verification Process Flow



Our daily process starts with the compilation of all inputs used in the calculations, including generating unit characteristics and other inputs used for day-ahead commitment (*e.g.*, fuel prices, emission permit prices, *etc.*), SCS's results of the day-ahead unit commitment, list of units at risk of becoming unavailable, SCS's Available Capacity and SOP calculations from its [redacted] and [redacted] tools,[11] data on bilateral purchases and sales, and forecasted and actual load data.

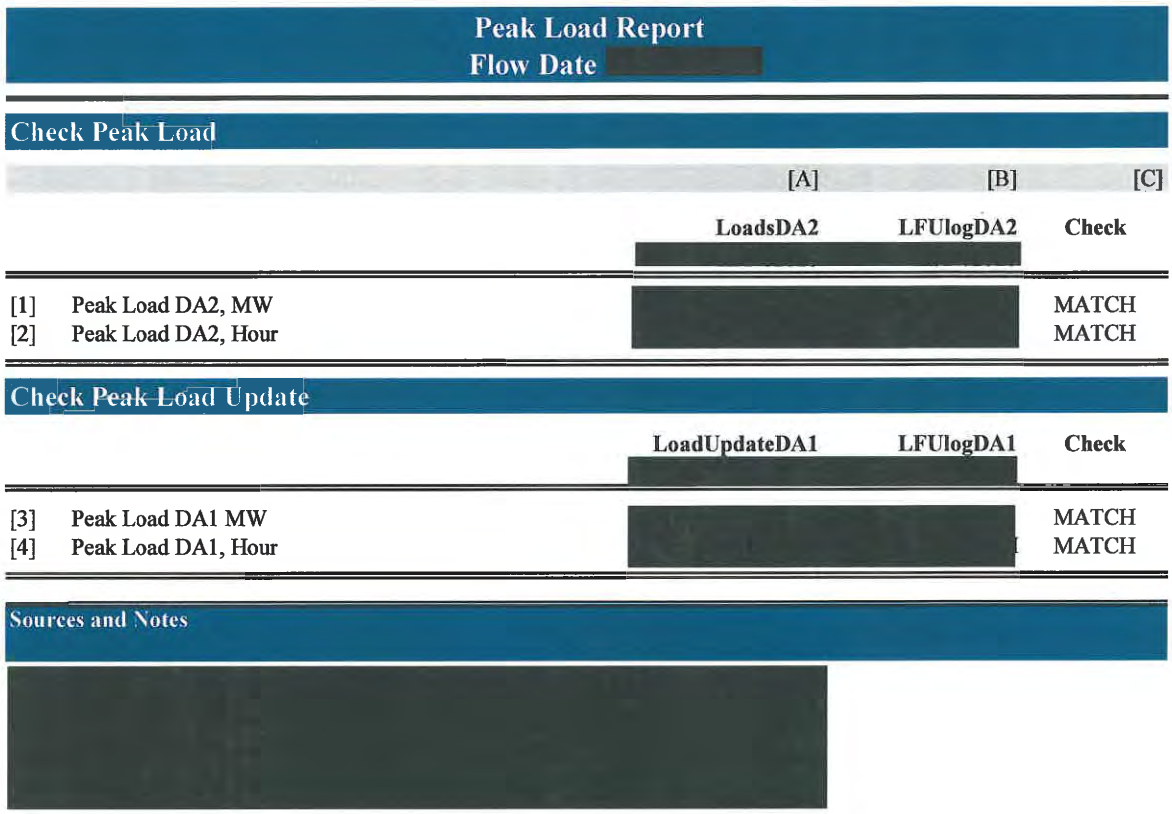
Protocol I — Daily Load Forecast Report and Load Forecast Protocol

This protocol was not substantially changed in Year 2. On a daily basis we continued to verify that SCS's official peak load forecasts used in [redacted] are the same as those used in the [redacted] model. In addition, we check that the peak load forecast data is correctly used within to calculate Load Forecast Uncertainty (LFU) and Available Capacity. Specifically, for each DAE auction, [redacted] uses the two-day-ahead (DA2) and one-day-ahead (DA1) peak load forecasts to estimate the associated amounts of LFU for use in SCS's DA2 and DA1 Available Capacity calculations; thus, we generate a daily peak load report that verifies that the DA2 peak load forecast input into [redacted] and the actual peak load used by [redacted] for the DA2 LFU calculation are consistent. This check for consistency is illustrated in the top panel of Figure III-3. Similarly, the bottom panel of Figure III-3 presents our comparison between the DA1 peak load forecast input with the value used in [redacted] DA1 LFU calculation. This

11 [redacted]

report also identifies whether DA2 and DA1 peak load hours differ, which allows us to monitor changes in DA2 and DA1 Available Capacity calculations.

Figure III-3
Sample Peak Load Report



Furthermore, the load forecast protocol requires that we evaluate SCS's load forecast 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 forecasts (OF) based, in part, on [redacted] load forecasts using the [redacted] and [redacted]. For this reason, we screen for any abnormalities in SCS's load forecasts by comparing its OF with its [redacted] for both two-days ahead (DA2) and one day-ahead (DA1) for DAE auctions. Additionally, we observe a change in OF from DA2 to DA1 as well as a forecast error between DA1 OF and actual load (AL). Flags are generated when one of the following conditions are satisfied:

Condition 1

[redacted]

Condition 2

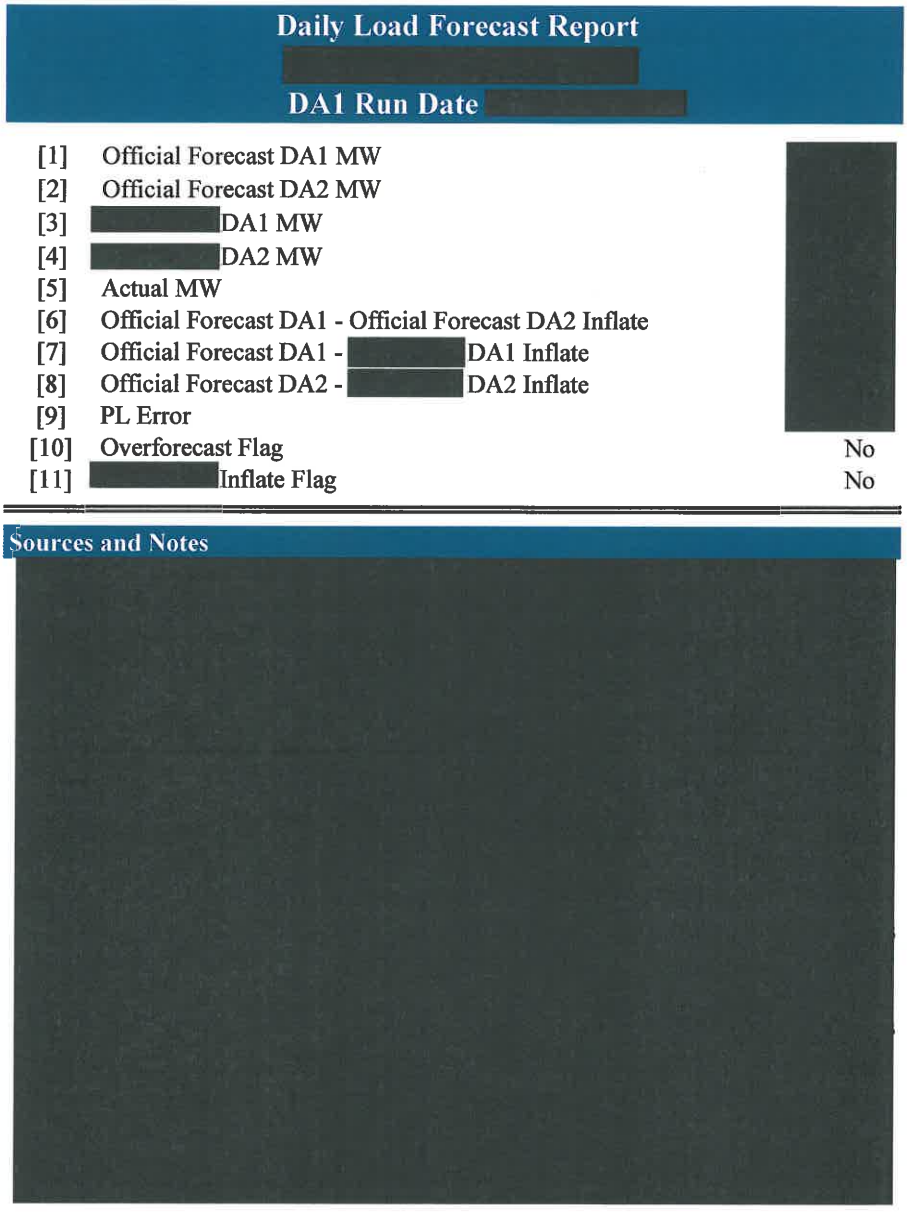
[redacted]

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

In other words, our internal software will issue an alert in the event that SCS's (relative) adjustment of the [redacted] forecasts to create the official forecast adds more load than two standard deviations of the same adjustment made historically for either a two-day-ahead or a day-ahead forecast. In addition, under Condition 2, the software alerts us when significant over-forecasting is observed between the DA1 and DA2 official load forecasts, and between the official forecast relative to the actual load.

A sample of our Daily Load Forecast Report is included as Figure III-4 below. It contains DA1 and DA2 official and [redacted] load forecasts, actual load, as well as flags indicating when the official load forecast significantly increases from one day to the next, or significantly deviates from the [redacted] load forecast or the actual load.

Figure III-4
Sample Daily Load Forecast Report



Daily Load Forecast Report
[redacted]
DA1 Run Date [redacted]

[1]	Official Forecast DA1 MW	[redacted]
[2]	Official Forecast DA2 MW	
[3]	[redacted] DA1 MW	
[4]	[redacted] DA2 MW	
[5]	Actual MW	
[6]	Official Forecast DA1 - Official Forecast DA2 Inflate	
[7]	Official Forecast DA1 - [redacted] DA1 Inflate	
[8]	Official Forecast DA2 - [redacted] DA2 Inflate	
[9]	PL Error	
[10]	Overforecast Flag	No
[11]	[redacted] Inflate Flag	No

Sources and Notes
[redacted]

We report load forecast flags observed in Year 2 in Section IV.A and provide further observations regarding load forecasting in Section V.

Protocol II — Load Forecast Uncertainty (LFU) Protocol

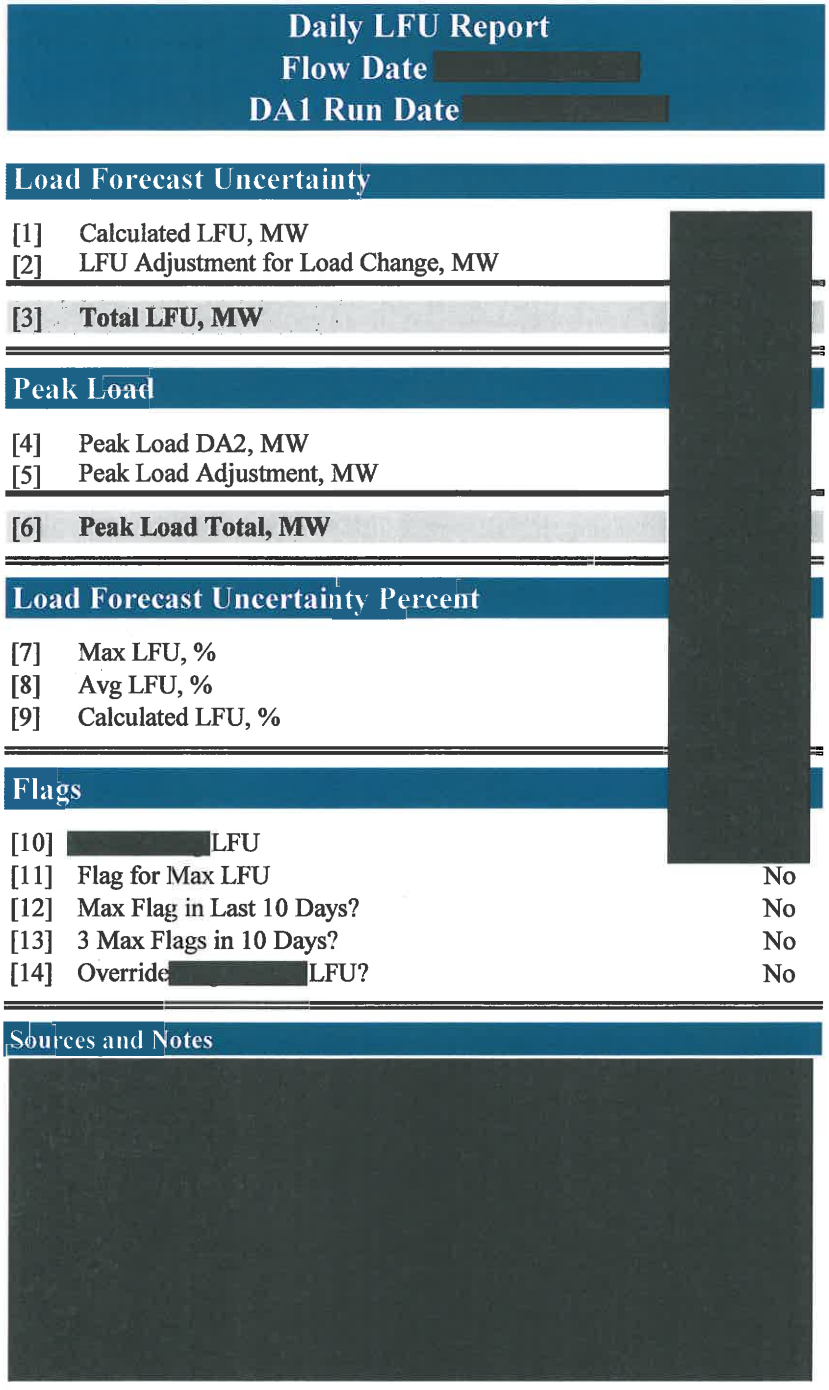
Due to the inherently uncertain nature of load forecasting, for each DAE auction, SCS reserves some of its uncommitted capacity for unforeseen load increases. This capacity (LFU) provides a cushion for SCS to be able to meet its native load and other obligations in the event that load

exceeds the forecast. The proper LFU amount is in general a function of how far in advance of the delivery day the load forecast is made (*i.e.*, the farther in advance the forecast is made, the higher the LFU amount). For the purpose of calculating Available Capacity for the DAE auction SCS uses [redacted] as a percentage of the load forecast. In situations of extreme load forecast uncertainty, to protect system reliability SCS may also use [redacted], although it has not exercised this option during the current review period.

The initial (DA2) LFU amount is calculated based on the DA2 load forecast, and is adjusted to incorporate changes in the load forecast and the latest available information on outages. The Daily Load Forecast Uncertainty Report, shown as Figure III-5, summarizes the initial value of LFU, and adjustments to LFU due to load forecast changes between DA2 and DA1, peak load forecast and any adjustments between DA2 and DA1, and whether the [redacted] was used.

During Year 2, SCS revised the LFU percentage values for use in the DAE auction, starting with the DAE delivery for [redacted]. We independently verified these values and incorporated them into our tool that generates the Daily Load Forecast Uncertainty Report. Our findings regarding this protocol are reported in Section IV.B.

Figure III-5
Sample Daily Load Forecast Uncertainty Report



Daily LFU Report
Flow Date [redacted]
DA1 Run Date [redacted]

Load Forecast Uncertainty

[1]	Calculated LFU, MW	[redacted]
[2]	LFU Adjustment for Load Change, MW	
[3]	**Total LFU, MW**	

Peak Load

[4]	Peak Load DA2, MW	
[5]	Peak Load Adjustment, MW	
[6]	**Peak Load Total, MW**	

Load Forecast Uncertainty Percent

[7]	Max LFU, %	
[8]	Avg LFU, %	
[9]	Calculated LFU, %	

Flags

[10]	[redacted] LFU	
[11]	Flag for Max LFU	No
[12]	Max Flag in Last 10 Days?	No
[13]	3 Max Flags in 10 Days?	No
[14]	Override [redacted] LFU?	No

Sources and Notes

[redacted]

Protocol III — Purchases and Sales Protocol

The objectives of this protocol are twofold. First, it is to verify that SCS's purchases and sales are properly accounted for in the calculation of Day-Ahead Available Capacity and Hour-Ahead

Residual Supply Curve. We do this by verifying that SCS's purchases and sales data used in their unit commitment process is consistent with the data used in [redacted] for the calculation of Available Capacity. Second, it is to verify that SCS does not execute bilateral sales of power into the Southern BAA during the bid period of the applicable DAE or HAE auction, as restricted by the Tariff.

As part of Protocol III's first objective, we prepare daily Purchases and Sales Update Reports[12] to verify that any bilateral purchases and sales between DA2 and DA1 time frames were correctly calculated and accounted for in the Available Capacity calculations in [redacted]. As presented in Figure III-6 below, the report contains two columns of values which are cross-checked to ensure consistency between the changes made to [redacted] raw input files and the changes actually implemented in [redacted] and used to calculate Available Capacity. In this particular example, we see that a decrease in net fixed schedules[13] of [redacted] is correctly implemented in [redacted] for the Available Capacity calculation. We present the findings of our daily verification on this component in Section IV.D.2.

[12] This report is also referred to as the "LFU Log Check" Report. This header was in effect for reports prepared during Phase I of the Energy Auction.

[13] Technically, "Fixed Schedule Total" is not just the difference between purchases and sales, but also includes other fixed schedules, such as [redacted].

Figure III-6
Sample Purchases and Sales Update Report

Purchases + Hydro + PS Gen, and Sales + Derates + PS Pump Update Report
Flow Date [redacted]

Check Fixed MW Update

		Total Resources MW [A]	LFUlogDA1 [redacted] [B]	Check
[1]	Fixed Schedule Total (*FixedMWDA2*)	[redacted]		-
[2]	Purchases			-
[3]	Sales			-
[4]	Fixed Schedule Total (*FixedMWupdateDA1*)			-
[5]	Purchases			-
[6]	Sales			-
[7]	Adjusted Fixed Schedule Total			MATCH

Sources and Notes

[redacted]

As for the second objective of Protocol III, we generate the Daily [redacted] Deals Report[14] to detect any potential instances of non-compliance with this aspect of the Tariff. The Energy Auction Tariff[15] restricts SCS's ability to make bilateral sales of energy within the Southern BAA within the bid period. Specifically, within the DAE bid period SCS is not allowed to engage in a bilateral sale of day-ahead energy that has terms comparable to the DAE product. Similarly, SCS is prohibited to sell hour-ahead energy in its BAA within the HAE bid period. Our Daily [redacted] Deals Report, shown in Figure III-7, summarizes the number of bilateral transactions that were flagged as potentially non-compliant. On this particular day, no such deals were flagged; had there been, we would have investigated and followed up with SCS.

14 "[redacted]" is SCS's database that contains records of all bilateral purchases and sales.

15 Section 3.1 of the Phase II Participation Rules.

Figure III-7
Sample [redacted] Deals Report

[redacted] Deals Report
Flow Date [redacted]

[1]	Total Potentially Non-compliant DAE Transactions	0
[2]	Total Potentially Non-compliant HAE Transactions	0

Sources and Notes

[redacted]

During Year 2, we have made several changes to our Purchases and Sales Protocol. First, we added a quarterly sampling of bilateral sales transaction records to supplement our daily monitoring. For every deal in each quarterly sample, we request all trading records (*e.g.*, phone conversations, instant messages between traders, *etc.*), which we independently review to determine whether a deal was compliant. This change to our protocol was necessitated by the fact that the timestamp recorded for each deal may not be an accurate record of when a deal was consummated. In [redacted], the transaction timestamp reflects the time when a deal was entered into the trading system, not the time when the deal was consummated. As a result, it may happen that a deal is consummated during the bid period in violation of the Tariff, but our daily tool may not detect this as non-compliance if the deal is entered, and thus timestamped, after the close of the bid period. In Year 2, our quarterly samples included up to 30 bilateral sales.

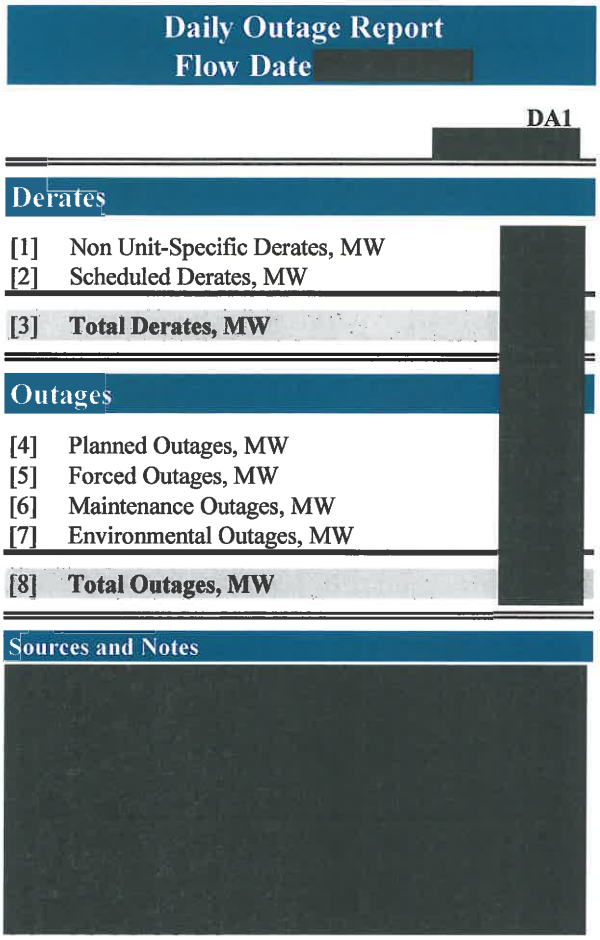
In addition to quarterly sampling, we modified our protocol to request a retrospective download of all [redacted] deals for the previous quarter. This change was prompted by the realization that some deals had been omitted from our daily data transfers (more discussion on this issue is provided in Section III.C). Our quarterly audit includes a comparison of all deals from the retrospective download against the data that was transferred to us on a daily basis. We also compare data in the retrospective download against bilateral transaction data that SCS submitted to Platts. Any discrepancies between these three data sets may result in a further investigation.

Protocol IV — Daily Generating Unit Outages Report and Protocol

Another important input used for Available Capacity calculations is data on derates, planned, maintenance and forced outages. We did not make any changes to this protocol in Year 2. We continued to observe the total amount of non-unit specific derates, scheduled unit-specific derates, planned, forced, maintenance, and environmental outages using our Daily Outage Report, shown in Figure III-8 below.[16]

[16] Environmental outages refer to units that are unavailable during part of the year due to environmental regulations.

Figure III-8
Sample Daily Outage Report



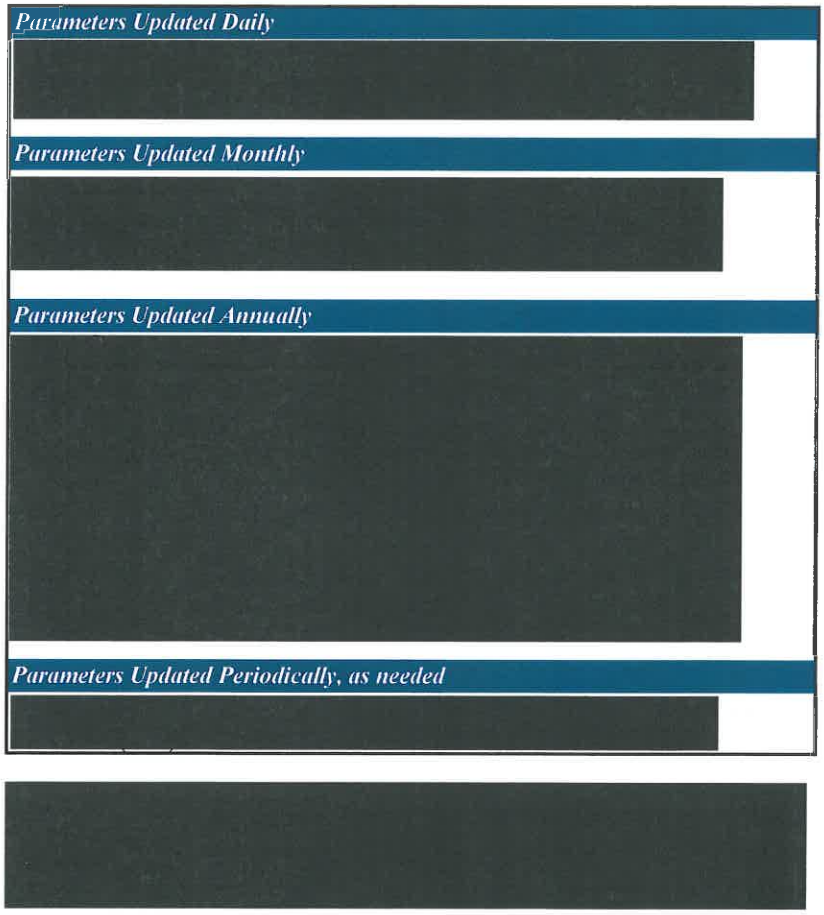
We receive this data directly from SCS and monitor it on a daily basis. Data on unit outages is essentially taken as given in performing our daily verification of Available Capacity. However, each day we observe the total amount of outages used to calculate Available Capacity for each DAE and HAE auction, and request explanation from SCS when the aggregate outage capacity is unusual relative to SCS's total capacity or peak load.

In addition, as part of our daily process, we verify that no planned outages, , occurred during the summer period (mid-May to mid-September). On a quarterly basis we verify that outage and derate data used in , , and are consistent with , one of SCS's internal reporting tools regarding unit availability. At our discretion, we also perform periodic spot checks of the actual outage data associated with selected unavailable or derated units. We may request information to substantiate those outages, which may include one or more of the following: (1) SCS energy logs; (2) NERC GADS Reports; (3) records; (4) voice and/or electronic communications; and (5) commercial availability records. We report our audit results in Section IV.C.

Protocol V — Compilation of Unit Characteristics Database and Daily Fixed Baseline Report

The first step in our daily monitoring process is to construct a unit characteristics database based on our Fixed Baseline Database (FBD). The FBD contains unit characteristics (*e.g.*, capacity ratings, heat rates, parameters on operational constraints, *etc.*) on every generating unit that SCS owns or contractually controls, totaling approximately 230 units with a total summer capacity of about 48,000 MW. The purpose of establishing the FBD was to serve as a reference database that gives us the ability to observe changes to key inputs used in the daily Available Capacity and SOP calculations (*e.g.*, unit ratings), while avoiding unnecessary (daily) monitoring of those variables that are expected to change frequently (*e.g.*, natural gas prices). In the initialization phase of our engagement, we established, in collaboration with SCS, the expected frequency of updates for each unit characteristics variable, as shown in Figure III-9.

Figure III-9
Expected Frequency of Updates of Unit Characteristics



Given the expected frequency of updates, we treat each unit characteristics variable as follows:

- *Variables that change daily:* Because some [redacted], typically change on a daily basis, we use the same inputs as those used for day-ahead unit commitment in [redacted]. Similarly, due to the irregular schedule of changes in

units' [redacted] we also use [redacted] unit-specific [redacted] for our daily verification calculation.

- *Variables that change monthly:* We typically update [redacted] at the beginning of each month when SCS provides us with data updates.

- *Variables that change periodically* (*e.g.,* seasonally or annually): We use the initial set of unit characteristics provided to us by SCS and update them with any notifications of changes that we receive from SCS. The updated values are kept in our FBD until we receive a notification from SCS of any further changes.

On a given day all unit characteristics that change less frequently than on a daily basis are considered to be "fixed" variables. We monitor changes in these "fixed" variables on a unit-by-unit basis using the daily Fixed Baseline Discrepancy Report. Figure III-10 includes an illustrative sub-sample of the Fixed Baseline Discrepancy Report.[17] For each unit and each monitored "fixed" variable it shows the discrepancies between the "Fixed Value" from the FBD and the "[redacted] Value" from [redacted]. As shown in the report in Figure III-10, on this particular day there were no discrepancies in either unit-level capacities or variable O&M cost, but there was one discrepancy in heat rates. However, that particular discrepancy occurred due to a missing update to our FBD. Furthermore, it had no impact on the auction, [redacted].

As already discussed in Section III.A, we monitor unit characteristics of contracted units differently than units owned by SCS. For these units, some parameters that we would normally consider "fixed" may change more frequently than listed in Figure III-9. For example, a contract may specify that the unit's start-up cost is fixed in dollar terms. [redacted] In cases like this, we do not flag frequent changes in parameter values, but instead verify that the parameter values used in the Energy Auction are consistent with the relevant contract.

[17] Note that the actual report is much larger as it includes all "fixed" variables.

Figure III-10
Sample Daily Fixed Baseline Discrepancy Report

Daily Fixed Variable Report for Max (MW)
[redacted] Run Date [redacted] Flow Date [redacted]

Unit ID_Mode	Type	Unit Description	Fixed Value	[redacted]	Value	Difference	% Change

Daily Fixed Variable Report for Average Heat Rate at Full Load
[redacted] Run Date [redacted] Flow Date [redacted]

Unit ID_Mode	Type	Unit Description	Fixed Value	[redacted]	Value	Difference	% Change
[redacted]							

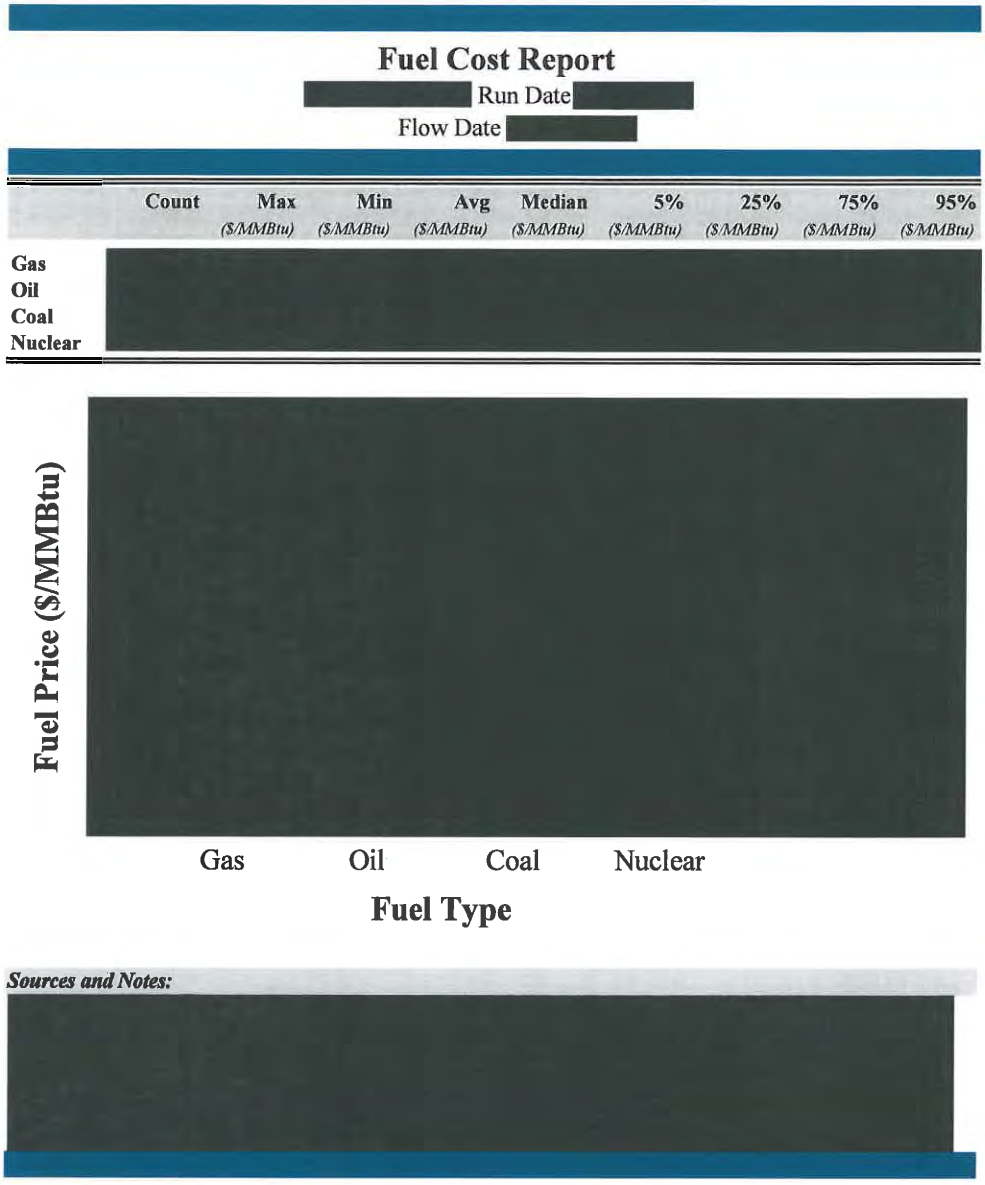
Daily Fixed Variable Report for VOM + FH ($/MWh)
[redacted] Run Date [redacted] Flow Date [redacted]

Unit ID_Mode	Type	Unit Description	Fixed Value	[redacted]	Value	Difference	% Change

Some unit characteristics, [redacted] are not monitored on a unit-by-unit basis in the daily Fixed Baseline Discrepancy Report. Rather, we observe daily summary statistics of these values. For example, the ranges, averages, median and quartile values of the Company's fuel prices are reported on a daily basis in our Daily Fuel Price Report, shown in Figure III-11.[18]

[18] Only the format of this report changed slightly in Year 2; the content remains the same as in Year 1.

Figure III-11
Sample Daily Fuel Price Report



Protocol V — Compilation of SCS's Unit Commitment Schedule

In Year 1, we maintained a separate protocol for monitoring day-ahead unit commitment. The main purpose of this protocol was to verify that 1) the amount of capacity committed by [redacted] is approximately the same as the amount of SCS's initial peak load forecast for a given DAE delivery day, and 2) the input data used in [redacted] is consistent with the input data used in the Available Capacity and Seller Offer Price calculations. The first objective was accomplished by generating the Daily Unit Commitment Report, shown in Figure III-12. The

second task was already performed by replicating DAE offer curves, which is part of current Protocol V. Therefore, we decided to include the Daily Unit Commitment Report in Protocol V (Day-Ahead Available Capacity and Seller Offer Prices Verification), and eliminate the Day-Ahead Unit Commitment Protocol as a standalone protocol.

Figure III-12
Sample Daily Unit Commitment Report

Unit Commitment Protocol C.1: Load Forecast and Electrical Products Comparison
Flow Date [redacted] **DA1 Date** [redacted]

[redacted] **Run Time Stamp** [redacted]

Panel A - Adjusted Peak Load

Date	Hour	Peak Load *(MW)*	Peak-Up *(MW)*	Elec Prod Power *(MW)*	Elec Prod Reserves *(MW)*	Regulation Up Target *(MW)*	Synchronous Reserves Target *(MW)*	Operating Reserves Target *(MW)*	Power - Load Difference *(MW)*	% Diff
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
[redacted]										

Panel B - Unadjusted Peak Load

Date	Hour	Peak Load *(MW)*	Peak-Up *(MW)*	Elec Prod Power *(MW)*	Elec Prod Reserves *(MW)*	Regulation Up Target *(MW)*	Synchronous Reserves Target *(MW)*	Operating Reserves Target *(MW)*	Power - Load Difference *(MW)*	% Diff
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
[redacted]										

Sources and Notes:

[redacted]

Protocol V – Day-Ahead Available Capacity Verification

For every DAE auction, we use our Available Capacity calculation tool to verify [redacted] Day-Ahead Available Capacity and the SOP. This tool relies on inputs, such as the unit characteristics database, load forecast uncertainty, and outage data. To ensure that SCS's final SOP Curve submitted to the Auction Administrator, via OATI's webMarket application, is compliant with the Tariff, we compare SCS's submitted SOP Curve to the SOP cap, separately for Firm LD and Recallable Energy.

Our daily reports include a chart comparing our replicated offer curves against offer curves calculated by [redacted], as well as offer curves that were submitted to OATI for the auction clearing process. Figure III-13 contains a sample Seller Offer Price Curve Report that we use to visually compare the three offer curves. The bottom half of Figure III-13 shows the deviations between our replicated offer curve and the offer curve that SCS submitted to OATI. In general, discrepancies between our curve and [redacted] are small, [redacted]

Figure III-13
Sample DAE Seller Offer Price Curve Report

[redacted]

Figure III-14
Sample Daily Report on Projected Load and Resources

In addition to the offer curve report shown in Figure III-13, every day we prepare a comprehensive report showing the balance between SCS's daily load and obligations, and controlled resources, as illustrated in Figure III-14. On this particular day we observed no discrepancies between SCS's offer curve and our replication. Section IV.D describes the results of this monitoring step in more detail.

We also prepare unit-level reports that show any differences between SCS's DAE SOP and Available Capacity calculations in [redacted] and our own. Small discrepancies may occur even when the offer curves are very similar to each other, as are the curves in Figure III-13. We investigate all of the significant discrepancies we observe. As shown in Figure III-15, on this particular day, we did not observe any significant discrepancies in Available Capacity or SOP calculations.

Figure III-15
Sample Day-Ahead Available Capacity and SOP Discrepancy Report

Discrepancies in Uncommitted Available Capacity in DAE for [redacted] Run [redacted] for [redacted] Delivery Using [redacted] Input Files

Unit ID	Mode	Unit Name	Unit Type	Fuel Type	TBG (MW)	[redacted] (MW)	% Deviation From TBG

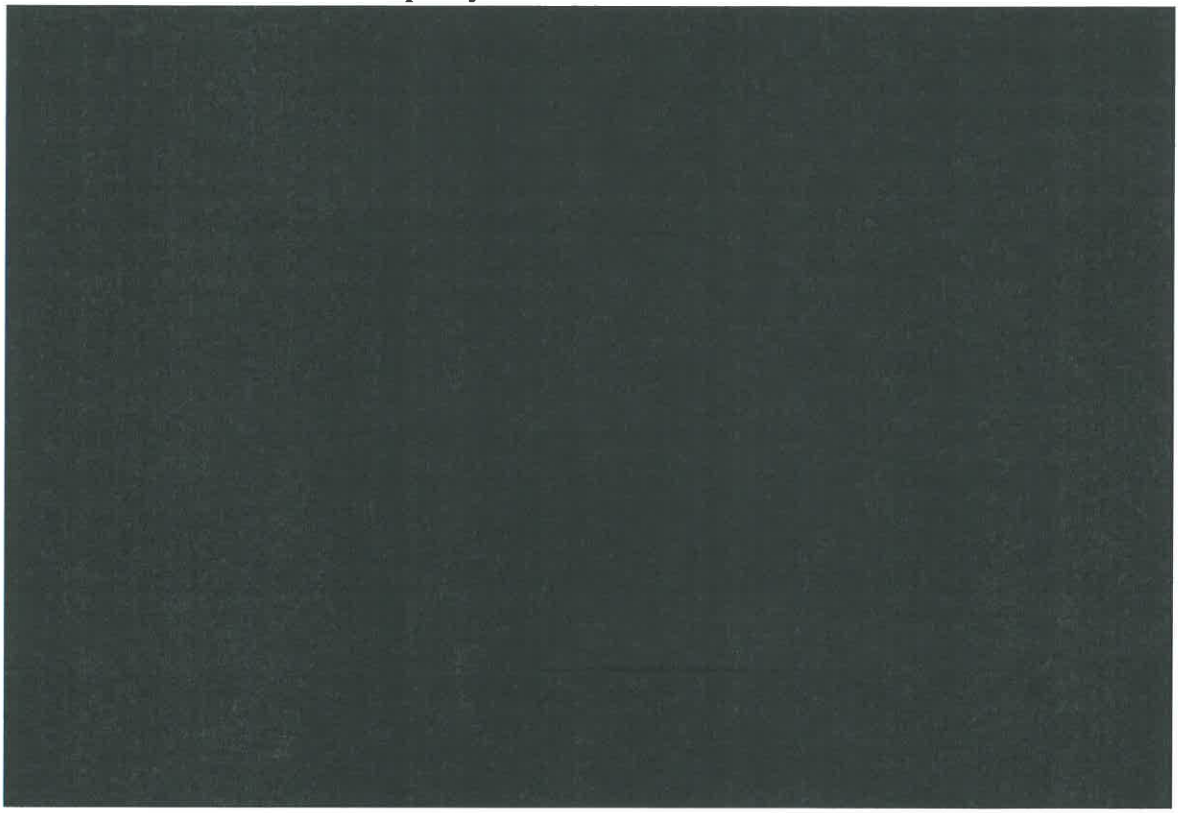
Discrepancies in Seller Offer Price in DAE for [redacted] Run on [redacted] for [redacted] Delivery Using [redacted] Input Files

Unit ID	Mode	Unit Name	Unit Type	Fuel Type	Max (MW)	TBG SOP ($/MWh)	[redacted] SOP ($/MWh)	% Deviation From TBG			
								Total Cost	Average Variable Cost	Start-Up Cost	No-Load Cost

Protocol VI — Hour-Ahead Available Capacity Verification

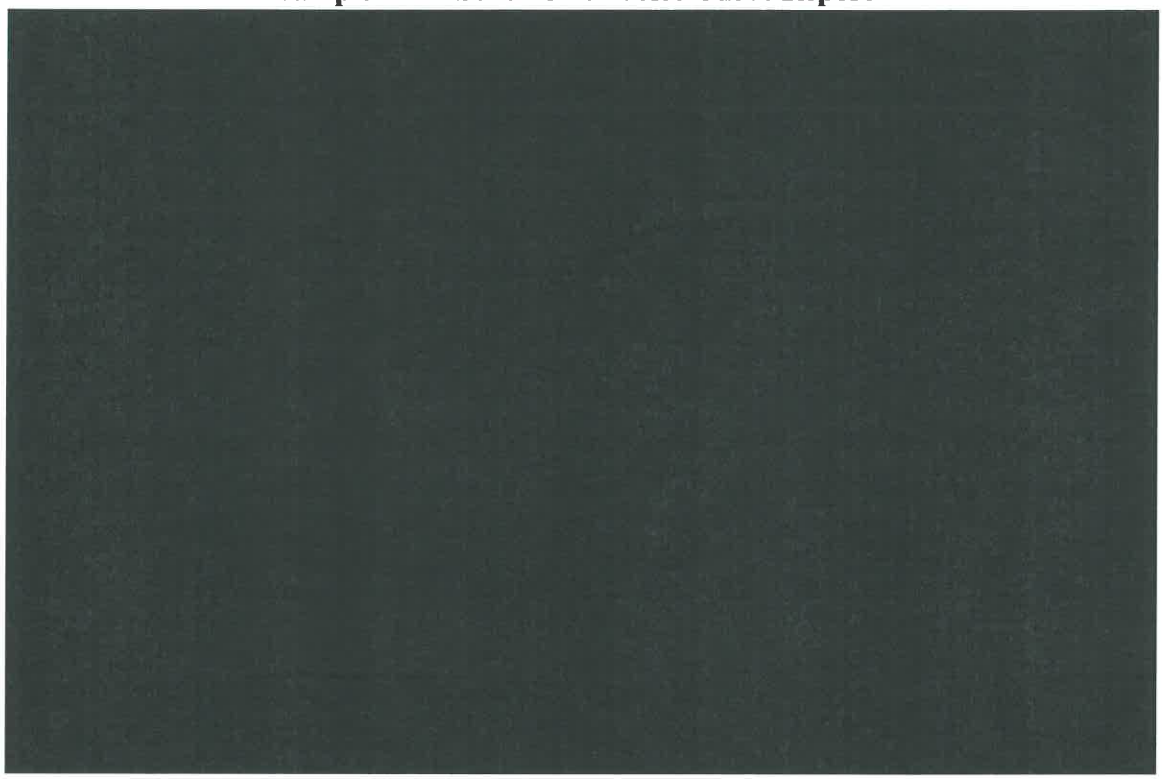
On a daily basis, we verify [redacted] Residual Supply Curve (RSC) using our hour-ahead RSC replication tool. Figure III-16 illustrates our process of hour-ahead Available Capacity and SOP verification. The process starts with the compilation of all inputs used for the calculations, from both [redacted]. This includes unit characteristics and day-ahead commitment schedules, other inputs used for hour-ahead verification (*e.g.*, fuel prices, capacity ratings, *etc.*), list of units excluded from the HAE auction, SCS's Available Capacity and SOP calculations from [redacted], SOP edits, and data on forecasted load. The result of the hour-ahead verification process is a collection of reports, including the HAE Seller Offer Price Curve Report, Hour-Ahead Cost Discrepancy Report, and Hour-Ahead Status Discrepancy Report.

Figure III-16
Hour-Ahead Available Capacity and Seller Offer Price Verification Process Flow



On a daily basis, we verify [redacted] RSC by replicating the cost calculations for all units offered in the HAE auction, while taking each unit's Available Capacity as given. We also compare [redacted] RSC to the HAE offer curve that was submitted via OATI's webMarket application. As shown for a sample hour in Figure III-17, our replication of the hour-ahead RSC curve ("TBG Hour Ahead Curve") perfectly overlaps the RSC curve developed in SCS's [redacted] tool ("[redacted] Hour Ahead Curve").

Figure III-17
Sample HAE Seller Offer Price Curve Report



In addition to the RSC curves, our hour-ahead report also includes diagnostic reports to identify any differences in the calculated incremental costs or any unexplained unit status changes, as illustrated in Panel A of Figure III-18. During the particular hour shown in the figure, there were no cost discrepancies. Since we take Available Capacity as given when comparing HAE Seller Offer Price curves, we perform an additional verification step to check that, based on each unit's hour-ahead status, all Available Capacity is offered into the HAE auction. The purpose of the Unit Status Discrepancy Report is to screen for units that should have been offered in an HAE auction, based on their current online status, particularly for a combined cycle unit. On this particular day we did not observe any status discrepancies. Any discrepancy in unit status would be reported in the Unit Status Discrepancy Report, shown in Panel B of Figure III-18.

Figure III-18
Panel A: Sample of an Hour-Ahead Cost Discrepancy Reports

Report on Positive Cost Discrepancies Above 3%
Hour-Ahead Auction for [redacted]

DateTime	Log ID	Unit ID	Unit Name	Unit Type	Total MW with Cost Discrepancies	Total MW Offered	Minimum % Discrepancy	Average % Discrepancy	Maximum % Discrepancy

Panel B: Sample of an Hour-Ahead Unit Status Discrepancy Report

Report on Units' Status Discrepancies
Hour-Ahead Auction for [redacted]

DateTime	Log ID	Unit ID	Unit Name	Unit Type	[redacted] Hour Ahead Status	Current Status	Hour Ahead Status	Available Capacity to Offer (MW)	Time to Delivery Hour (Min)	Reason for Discrepancy

In Year 2, SCS made several improvements to the [redacted] input data that is provided to us for verification purposes. These improvements made our process of investigating discrepancies more efficient, without significantly changing our hour-ahead protocol. The improvements include the following:

- Starting in July 2010, SCS began recording the reason of every instance when [redacted] marks a unit unavailable for the HAE auction. This information was previously unavailable to us; [redacted] was making a determination regarding each unit's status without recording the reason behind the decision.

- Starting in late August 2010, SCS began including "time of data refresh" in the daily data transfers. This information allows us to more efficiently investigate cost discrepancies by providing us additional information on the vintage of input data used for offer price calculations.

- In late October 2010, SCS begin providing us "time in state" information, which is useful when attempting to verify the unavailability of a unit due to the operational constraints.

- In December 2010, SCS started including the number of starts for each unit in the daily data transfers. In some cases, combustion turbines are limited to a few starts a day. After they reach this limit they may not be started up again for the rest of the day, and [redacted] will mark these units unavailable for the HAE auction.

Protocol VII — Recallable Energy Verification

SCS offers Recallable Energy through a DAE auction separate from the DAE auction for the Firm LD product. Although no Recallable Energy was purchased in the review period, and therefore no recalls could have occurred, we continue to maintain the following protocol in the event such a sale occurs.

According to the Tariff, SCS has the right, but not the obligation, to recall some or all of the Recallable Energy transactions in the event of a supply-side disruption affecting Available Capacity. On a daily basis we verify that the quantity of Recallable Energy offered is the greater of (i) the amount of Contingency Reserves specified by the Southern BAA, or (ii) the capacity of units 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.

Additionally we verify that SCS recalls Recallable Energy in accordance with the Tariff (*i.e.*, only if SCS experiences a supply-side disruption), that it curtails according to the pre-established priority order, and that it honors a curtailed Recallable Energy buyer's request to "buy-through" in situations where the buy-through option is available (*i.e.*, there is no adverse impact on system reliability).[19] Finally, at the beginning of each quarter, SCS provides a curtailment log of Recallable Energy blocks for the previous quarter. Should any recall occur, we would verify that any such curtailment was called in a manner consistent with the Tariff and the curtailment priority list.

Protocol VIII — Auction Clearing Protocol

The auction clearing protocol verifies the auction clearing prices and that DAE and HAE energy bids and offers are cleared according to the Tariff.[20] To perform this task, we developed several tools to visualize and verify the DAE and HAE auction results. These tools rely on reports that were developed by OATI for use by the IAM and the Auction Administrator and are contained in the webMarket application.

Our monitoring of auction clearing did not change significantly in Year 2. We continued using the same set of tools and reports as in Year 1 to verify that auctions cleared in accordance with the Tariff. Additionally, we verified on a quarterly basis that the auctions which did not clear either (a) did not have a crossover point (*i.e.*, offer and bid curves did not intersect); or (b) there was a crossover point, but the auction could not clear due to a matching constraint (*e.g.*, credit, same-seller-buyer constraint, *etc.*).

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[19] See Section 4.2.3 of the Participation Rules.

[20] With respect to Phase II of the Energy Auction, the protocol only verifies the amount of MW eligible for matching. See the discussion of the Phase II auction clearing algorithm in Section IV.I.

Protocol IX — Assessment of Transmission Services for Energy Sold in the Energy Auction

This protocol does not include any regular daily activities or reports. Under this protocol, we will investigate the availability of transmission services for energy sold in the Energy Auction whenever we receive a complaint from an auction participant.

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, in Year 2 we received all data needed to perform our monitoring tasks, with two specific exceptions noted below.

The most significant data issue that we encountered in Year 2 was related to the daily transfer of SCS's bilateral purchases and sales. This data is used to generate the [redacted] Deals Report and perform other monitoring activities within the Purchases and Sales Protocol (Protocol III), as described in the previous section. The issue was discovered after SCS self-reported a non-compliant bilateral sale on August 4, 2010.[21] During the course of attempting to verify the reported transaction, we realized that the particular deal was not contained in our database. After we contacted SCS, they assured us that they were striving to ensure that we would receive all bilateral transactions data. On September 17, 2010, SCS re-queried and sent us all bilateral transactions from February 15, 2010 through September 10, 2010. In the meantime, SCS continued its investigation to identify the root cause of the problem. On October 18, 2010, SCS sent us another after-the-fact download of all relevant day-ahead and hourly trade data for the period from September 11, 2010 through October 14, 2010. SCS also informed us that they had put a new query in place on October 15, 2010 to ensure that the daily transfers include all the relevant bilateral trade data.

On November 19, 2010, SCS informed us that they had discovered that the updated query was implemented on a different timing than what had been tested. This error resulted in the exclusion of additional bilateral trade data from the daily transfers. To correct for this error, the timing of the query was changed immediately after the issue was discovered. SCS further stated that they felt confident that the new implementation of the query was properly timed. On November 30, 2010, SCS provided us another after-the-fact download of bilateral trade data for the period from October 15, 2010 through November 20, 2010.

Using bilateral trade data received in the daily transfers and the three sets of after-the-fact downloads, we performed an analysis to investigate the extent of the problem. By comparing the various data sets, we found that the daily transfers had been missing a significant number of transactions. Approximately 28% of bilateral trade data was not included in our daily transfers during the period from February 15, 2010 through November 20, 2010.

The issue of missing bilateral trade data affected our Purchases and Sales Protocol in a several ways. First, since our daily screening for non-compliant bilateral sales relies on data that is transferred to us a on a daily basis, transactions on which data was not transferred escaped our

[21] The sale was made for HE 19 on May 24, 2010. Further details on this transaction are provided in Section IV.F.

scrutiny. Second, even some of our periodic activities, such as the quarterly sampling of bilateral sales, rely on the data that is transferred to us on a daily basis, since we warehouse this data in our in-house database. Given the fact that a signification portion of data was not transferred to us, our quarterly sampling was incomplete.

To mitigate these two impacts on our monitoring, we took the following one-time measures:

- Following the receipt of after-the-fact downloads, we performed the same verification on the data as we normally do using our Daily [redacted] Deals Report (*i.e.*, check whether a deal is potentially non-compliant by screening for deals that were timestamped within the bid period).

- We performed an ad-hoc supplemental sampling on the transactions whose records had been absent from the daily transfers. For the sampled transactions, we requested all trading records from SCS and verified whether they were compliant with the Tariff.

Going forward, we modified our Purchases and Sales protocol to include a new quarterly activity; on a quarterly basis, we request an after-the-fact download of the bilateral transactions data for the previous quarter and compare them to the data received in the daily data transfers, including bilateral transactions data that SCS submits to Platts. Any discrepancies will warrant further inquiries.[22] Given the assurance from SCS that the errors in data transfer have been remedied, and our own review of the after-the-fact download of bilateral trade data through the end of Year 2, we believe that the problem with data transfers has been solved and has no compliance implications.

We experienced another relatively minor data issue related to the HAE auction in hour ending [redacted]. We did not receive data in the [redacted] RSC Resource file for five units [redacted]. The [redacted] RSC Resources typically contains information, such as current-hour and next-hour status, current-hour and next-hour scheduled output, which we use to replicate the hour-ahead offer curves. After notifying SCS of the missing data, they responded that the requested data did not exist for the hour in question. Their investigation revealed that the five units were not only excluded from the data transfer, but were also excluded from the actual [redacted] run as a result of the database retrieval error. Given that we did not receive all the data for this HAE auction, we were unable to fully verify SCS's Available Capacity and SOP calculations. SCS considered this to be a Force Majeure event, in which case SCS would be excused from non-compliance.[23]

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

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[22] No such discrepancies were found for the 4th quarter of Year 2, the first quarter in which this regular monitoring activity was in place.

[23] Section 6.1 of the Participation Rules provides that: "Southern Companies shall be excused from non-compliance with the Auction Rules and the Participation Rules, and associated Appendices, to the extent such non-compliance is the result of an event of Force Majeure or otherwise necessary to maintain system reliability or to reliably serve load." We do not attempt to conclude whether any particular incident should be considered an event of Force Majeure.

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, 2010 through February 15, 2011. Of course, our monitoring continues beyond this period; issues that have arisen after February 15, 2011 will be included in the next Annual Report.

IV.A. LOAD FORECASTING PROTOCOL

On a daily basis, we verified that SCS's DA2 and DA1 official peak load forecasts were the same as those used for the Available Capacity calculations. We found four incidents when the peak load forecasts were not properly updated. In one of these cases the error resulted in an increase in Available Capacity, and therefore had no potentially adverse impact on Auction bidders. The other three incidents resulted in a DAE offer curve that contained less offered capacity than SCS's Available Capacity. We briefly describe these incidents below; a more detailed discussion of these issues can be found in Appendix B.

June 3, 2010 – We noted a difference between SCS's official DA1 peak load forecast and the value used to adjust SCS's Available Capacity shortly before the DAE auction. The official DA1 peak load forecast was lower than the official DA2 projected peak load by 1,047 MW, but in the process of constructing SCS's offer curve, this decrease in peak load forecast was erroneously treated as an increase. As a result, SCS offered 2,136 MW less capacity [redacted] into the DAE auction than its Available Capacity. SCS confirmed that this incident was the result of human error. The precise impact on the DAE auction is difficult to determine because the set of units offered into the DAE auction would have changed substantially in the absence of this error. However, given the submitted DAE bids, and assuming that the capacity of the units actually offered would have been priced at the allowable SOP, the auction would not have cleared even if the Available Capacity had been computed correctly. SCS made a disclosure associated with this issue on its Energy Auction website on February 3, 2011.

August 3, 2010 – We found a discrepancy between SCS's official DA1 peak load forecast and the peak load forecast used in SCS's Available Capacity calculations. The DA1 peak load forecast was lower than the official DA2 projected peak load by 37 MW. However, when constructing its offer curve, SCS did not take this decrease in peak load between DA2 and DA1 into consideration. This resulted in SCS reducing its Available Capacity by nearly 38 MW [redacted]. As a result, SCS offered one 50 MW DAE block less into the auction. There were bids only for Firm LD Energy. The lowest offer price [redacted] would have been higher than the highest third-party bid price of [redacted] even if Available Capacity had been calculated correctly, and therefore the outcome of the

DAE auction was not affected. SCS does not consider this issue to be non-compliant, explaining that a valid offer curve had been submitted and attention to system operations prevented SCS from making the update.

December 2, 2010 – We flagged a discrepancy between SCS's official DA1 peak load forecast and the peak load forecast actually used in SCS's Available Capacity calculations. The DA1 peak load forecast was [redacted] higher than the DA2 peak load forecast. The accompanying increase in LFU was approximately [redacted]. While the correct Available Capacity therefore decreased by 931 MW, SCS's calculations showed a decrease in Available Capacity of 969 MW, and SCS offered one 50 MW DAE block fewer into the auction. There were no third-party bids in this DAE auction, so the error in updating the peak load forecast did not affect the outcome of the DAE auction. SCS made a disclosure associated with this issue on its Energy Auction website on February 3, 2011.

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 error or its adjustments to the computer-generated [redacted] load forecasts are high relative to their respective historical norms.[24]

Day-ahead load forecast flags are summarized in Figure IV-1. During the Year 2 review period, we observed 41 flags on 39 days. This represents an increase compared to Year 1 when we observed 29 flags on 26 days (though the Year 1 review period covered less than a full year). Furthermore, as explained in the discussion of our load foresting protocol in Section III.B, the presence of load forecast flags does not necessarily indicate that SCS failed to comply with the Tariff. Instead, these flags are meant to alert us to periods where load forecasting errors are unusual, thereby allowing us to watch for patterns and anomalous relationships.

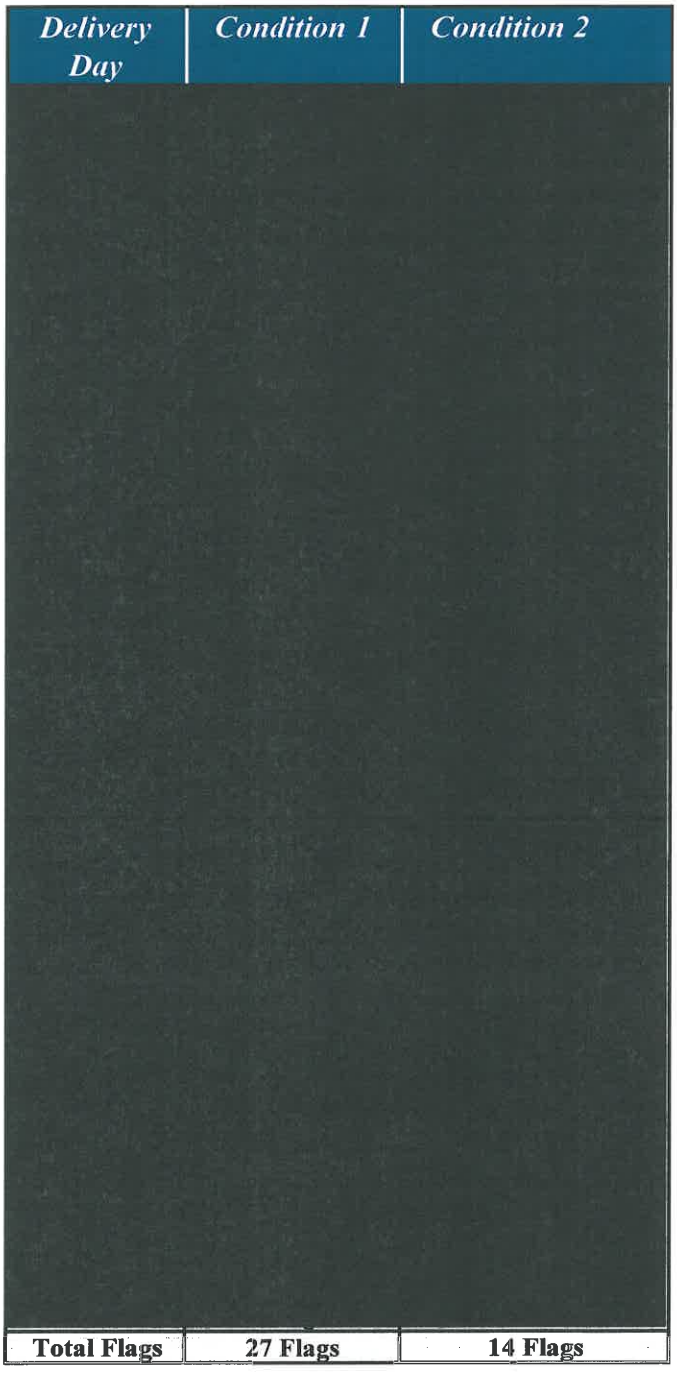
About two thirds of the day-ahead load forecast flags were Condition 1 flags [redacted]. We observed Condition 2 flags [redacted] on 14 days; the majority of these flags represented moderate load forecast errors ("flag 1 alerts") of up to approximately [redacted] for a DA1 load forecast.[25] We observed higher load forecast errors ("flag 2 alerts") on five days.[26] On two of these days, [redacted], both Condition 1 and Condition 2 ("flag 2 alerts") were triggered.

[24] 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.

[25] For DA2 to DA4 load forecasts, the thresholds range from [redacted]

[26] These occurred on [redacted].

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



The majority of the load forecast flags do 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. Below we summarize those day-ahead load forecast flags in Year 2 that we

pursued with additional inquiry. For each of these, we also provide a summary of SCS's explanation:

[redacted] – The official DA1 load forecast exceeded the actual load by about [redacted]. The official DA1 load forecast was a bit higher than the [redacted] DA1 forecast, but the Condition 1 flag was not triggered. SCS responded to our inquiry by providing a complete analysis of temperature and load forecasts for [redacted] increased [redacted] temperature forecasts from DA2 to DA1 based on the expectation that a warm front would be moving into the area. This resulted in a relatively large increase between DA2 load forecast and DA1 load forecast. In real time, the warm front did not materialize as quickly as [redacted] anticipated and therefore actual load was significantly less than expected.

[redacted] – The DA1 official peak load forecast was [redacted], however the actual load was [redacted]. SCS explained that actual temperatures varied as a result of unexpected cloud cover in the region. The uncertainty in forecasting loads on this day was associated with weather conditions in the eastern part of SCS's service territory. [redacted] SCS usually considers [redacted] as well as other variables, when developing its official load forecast. On this day, SCS ended up developing an official load forecast that was [redacted].

[redacted] – Both Condition 1 and Condition 2 ("flag 2 alert") flags were triggered [redacted]. The load forecast errors were [redacted]. The flags were triggered shortly after SCS (proactively) notified us of a "potentially volatile nature of weather forecasting" in [redacted]. SCS explained that their weather forecaster informed them that it was possible for temperatures to be lower than the temperature forecast [redacted]. Therefore, SCS's official load forecast did reflect this uncertainty to ensure the system would be adequately prepared to reliably serve load. SCS explained that [redacted]. Given this notification from SCS, we did not initiate further inquires into these load forecast errors.

As shown in Figure IV-2, hour-ahead load forecast flags were triggered for 92 hours, which represents about 1% of all HAE auctions in Year 2, an increase compared to Year 1 (when 42 hours were flagged). [redacted] We do expect to see more load forecast flags on these days because the information used for load forecasting tends to be [redacted].

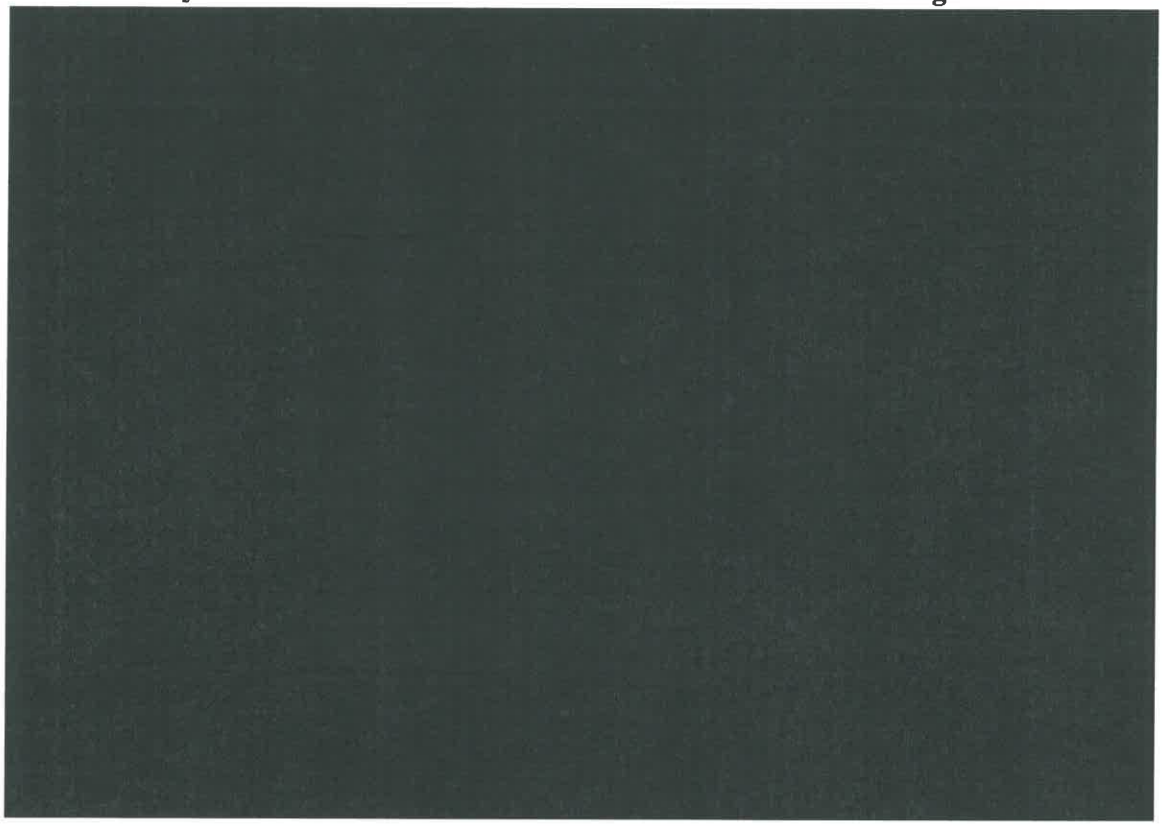
Figure IV-2
Hourly Load Forecast Flags by Delivery Date and Trigger Condition

Delivery Day	*Delivery Hour (hour beginning)*	*Condition 1*	*Condition 2*
[redacted]			
Total Flags		**26 Flags**	**69 Flags**

In response to the increased frequency of day-ahead and hour-ahead load forecast flags observed in [redacted] we sought further explanation from SCS regarding the reasons for the increase in load forecasting inaccuracies. SCS provided general explanations of why load forecasting tends to be more volatile in the winter months, explaining that the primary factor behind the difficulty in load forecasting is unusual weather conditions. [redacted]

[redacted]

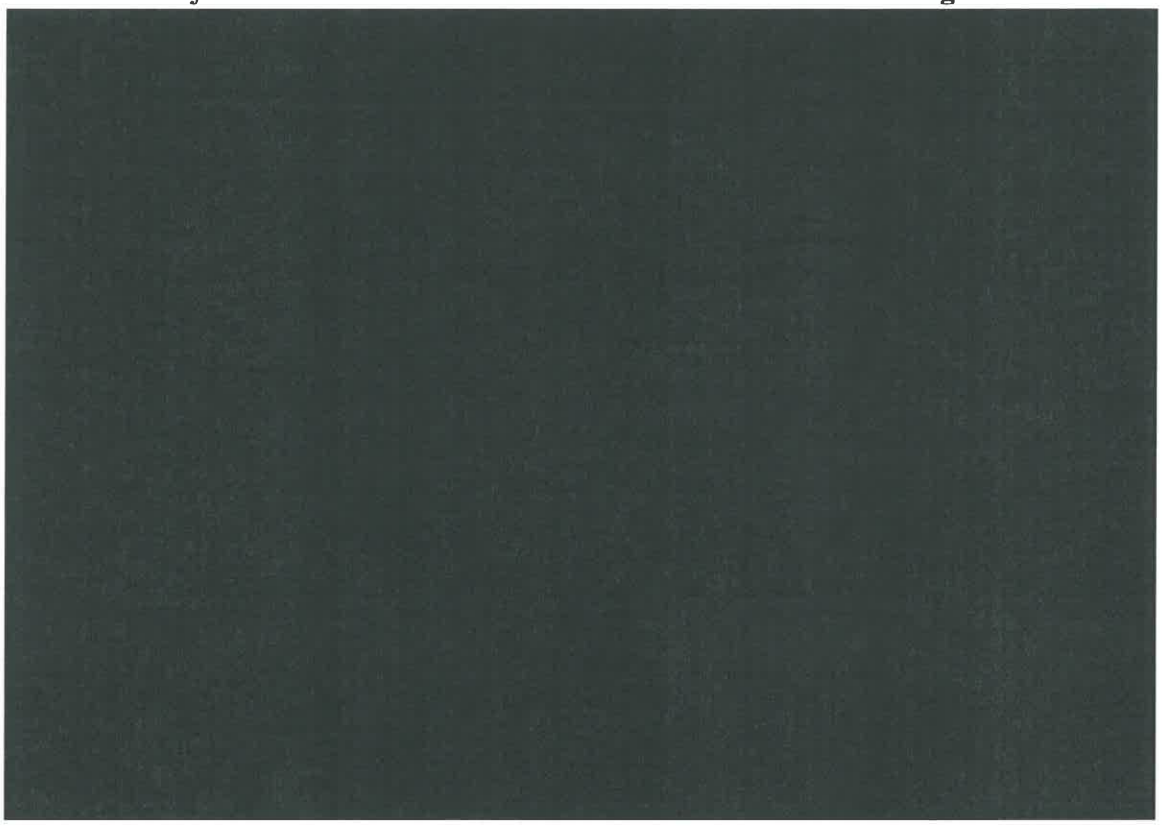
Figure IV-3
Day-Ahead and Hour-Ahead Condition 1 Load Forecast Flags[27]



With respect Condition 2 flags [redacted], shown in Figure IV-4, the picture is somewhat mixed. For hour-ahead forecasts, the frequency of Condition 2 flags is lower since the beginning of the Auction for [redacted] (down from about 4.4 to 3.6 per month), though it does not appear to differ appreciably for other months. Day-ahead peak load forecasting accuracy is greater since the start of the auction, for both summer and winter months. SCS seems to be making more adjustments to the day-ahead [redacted] forecasts in developing their official forecasts since the start of the Energy Auctions, and they have been more accurate in forecasting peak load on a day-ahead basis.

[27] 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



The load forecasting protocol identified a handful of update errors that appear unintentional and had no impacts on the result of the auctions. The higher level of load forecast flags appears to be due to [redacted], and does not appear to be a cause for concern.

IV.B. Load Forecasting Uncertainty Protocol

The primary purpose of this protocol is to verify that the allowance for load forecast uncertainty (LFU) used in the DAE Available Capacity calculations does not differ from the LFU baselines that SCS has established based on historical load forecast error statistics. LFU is calculated as a percentage of the peak load forecast.[28] SCS established baseline LFU percentages prior to the start of the Energy Auction. These values are a function [redacted]. The initial baseline LFU percentages were in effect from the first DAE auction held for April 27, 2009 through [redacted], SCS informed us that they would revise the LFU percentages effective with the DAE auction held for [redacted]. SCS provided us with the new LFU percentage tables based on their most recent LFU study, including the

[28] At its discretion, SCS may use either the [redacted] to calculate the LFU.

methodology used to derive those values.[29] We replicated the new LFU percentages and compared them to the previous sets of values. On average the LFU percentages did not change significantly. [redacted].

Figure IV-5
Load Forecast Uncertainty Percentages Used in Year 2

[redacted]

On a daily basis we monitor whether SCS uses the established LFU baseline percentages, and also whether there is one or more occurrence of maximum LFU overrides within a rolling ten-day window. We verified that in Year 2 SCS never exceeded the [redacted] LFU percentage values from the historical baselines.[30] Figure IV-5 below illustrates the actual LFU percentages used in Available Capacity calculations against the baseline [redacted] percentages. As shown, the relevant baseline LFU percentages [redacted]. The further out a forecast is made, the greater the load forecasting uncertainty, and therefore the higher the LFU percentage. On a monthly basis, the LFU percentages tend to be the highest [redacted]

[29] SCS's LFU study was based on daily peak load values from [redacted]. The actual daily peaks were compared to the forecasted peak loads from [redacted].

[30] We found that on three days, [redacted], SCS used a lower LFU percentage than the applicable average LFU percentage for those days, which is in full compliance with the Tariff.

[redacted], which is consistent with our observations regarding SCS's load forecasting, discussed in Section IV.A.

IV.C. UNIT OUTAGES PROTOCOL

As explained in Section III.B, our primary approach to monitoring is to look for anomalies in the input data used by SCS. This approach translates into the monitoring of unit outages as well. 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 comparison 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 2. These audits consist of comparing unit outage data used for Available Capacity calculations against SCS's [redacted] outage database. 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] and [redacted]/RSC Tool against a similar outage event in the [redacted] database. During these inquires SCS informed us of the limitations of using the [redacted] outage information:

- [redacted] is not SCS's official database of outages, but rather is one of SCS's internal reporting tools for unit availability. Therefore, it may occur that some outage events assumed in Available Capacity calculations are not listed in [redacted]. While SCS strives to ensure that [redacted] contains accurate and up-to-date outage information, the accuracy of the [redacted] data is dependent upon the efforts at the various plants to keep the information updated and accurate.

- Data in [redacted] may not line up precisely with the outage data used in [redacted] or [redacted], because actual outage start and stop times may be different from what was originally planned.

- [redacted] does not contain outage information for contracted units.

- The official record of outages is GADS, although even that information is subject to human error (as one of the examples below illustrates).

Recognizing these limitations, we have still found that the overwhelming majority of outages used for Available Capacity calculations are listed in [redacted], and therefore our quarterly audits do serve their intended purpose of providing the initial basis for cross-checking input data.

In April 2010, we inquired about several outages where we found discrepancies between the [redacted] reports and outages used in Available Capacity calculations (*i.e.*, there were no similar outage events listed in [redacted]). These events involved one coal-fired unit [redacted] and two combined cycle units [redacted]. Below we summarize each of these outages, including SCS's response to our inquiry:

[redacted]

[redacted]

As noted above, occasionally we perform ad-hoc investigations into individual outage events. [redacted]

IV.D. Day-Ahead Available Capacity Verification Protocol

IV.D.1. Fixed Baseline Discrepancy Report

As explained in Section III.B, 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. As discussed in Section III.B, we establish the Fixed Baseline Database (FBD), which characterizes SCS's generating units with parameters that can change daily, monthly, seasonally, and annually, for use in a baseline DAE Available Capacity and SOP calculation. We then compare these parameter values with those present in the daily [redacted] input files. By comparing the two sets of parameter values (FBD and [redacted] inputs), we can evaluate the impact of unit characteristics changes on Available Capacity and SOP.

Another purpose of the Fixed Baseline Discrepancy Report is to monitor whether the unit characteristics change more frequently than expected. The Fixed Baseline Discrepancy Report does not flag changes in unit characteristics for which SCS provides advance notification. In Year 2 we found that, compared to Year 1, SCS's timely advance notifications reduced the number of discrepancies we observed. The number of observed discrepancies was also reduced by our better understanding of fixed parameters of contracted units. [redacted] In August 2010, we conducted a review of SCS's power purchase agreements, and incorporated this information into our daily monitoring.

In addition to daily monitoring of changes in fixed unit characteristics, we performed an after-the-fact annual review of the frequency of changes in these parameters during Year 2. The purpose of this analysis was to identify whether any parameters change more frequently than expected over the entire review period. Figure IV-6 below summarizes our findings.[31]

As shown in Figure IV-6, fixed unit characteristics did not change more frequently than expected for the vast majority of the units. We reviewed on a case-by-case basis those units that had one or more fixed parameters change more often than expected. We found that none of these parameters seem to have been altered for strategic reasons that would have adversely affected the Energy Auctions. The main reasons for these changes include:

[redacted]

[31] In order to focus on the most significant changes, in this analysis we only reviewed parameter value changes that exceeded a 5% threshold.

Figure IV-6
Expected and Observed Frequency of Updates to
Unit Characteristics during the Review Period

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

[redacted], we observed more than the expected number of changes to several fixed parameters [redacted] of a combined cycle unit [redacted]. After reviewing SCS's prior notifications, we identified several different factors that explain these changes, including: (1) [redacted] that made the unit unavailable in its standard (combined cycle) operating mode; (2) expiration of the PPA resulting in a change [redacted]; and (3) [redacted]:

1. On [redacted], SCS informed us that the unit experienced [redacted] associated with the unit's steam turbine. [redacted] and SCS stated that it would offer [redacted] into the DAE auction whenever [redacted] available. In order to appropriately treat this situation, SCS had to make several modeling changes for the DAE auction starting on [redacted], including: (a) treating the [redacted] unit as outaged; and (b) [redacted]

. SCS informed us that since the notification time to start due to the non-standard operation of the facility, the would not in general be available for the HAE auction. , and the system operators would manually determine whether can be offered into the HAE auction. SCS's expectation was that would not be offered into the auction in any of the hours, however we observed were actually offered in some of the hours. Following the repair of , the unit returned to its normal operations on .

2. Until , the unit was contracted under a PPA . SCS models contracted units . These changes in modeling approach affected some of the unit's fixed parameters.

3. , SCS notified us that there was , and as a result the unit could only be operated at its contracted output level . In order to appropriately model the unit under these circumstances, some temporary changes to its low and high operating limits were required. In SCS informed us that the unit returned to normal operations, and the temporary changes to fixed parameters were reversed.

We flagged another instance of relatively frequent changes in high operating limits at . These changes started in , during a period for which SCS provided a notification that the plant was subject to . The plant was forced to . SCS informed us that these events could not be managed through its established outage and derate reporting mechanisms, and instead they would send us updates on a daily basis, as determined by the plant. In addition, . SCS continued to provide us frequent updates on its operating plan . At the end , SCS informed us that at that time no units were constrained .

Yet another instance of modeling change, and an accompanying change in fixed parameters, was caused by . On , SCS informed us that, going forward, it would not be offering into the DAE auction. This was because . SCS had previously been offering the unit into the auction based on the expectation that

[redacted]. As a result, SCS decided not to offer the [redacted] unit into the DAE auction starting with the [redacted] delivery day. On the same day, SCS notified us that [redacted]. The exclusion of this capacity from the DAE auction was modeled by listing [redacted] as being on maintenance outage.

On [redacted], we interviewed [redacted]. Based on SCS's initial description of the problem, and the interview with [redacted], we accepted that [redacted] does not allow the unit in question to be offered into the auction [redacted].

On [redacted], SCS notified us that they decided to change some of the unit's parameters (including high and low limits). [redacted] SCS stated that they would not offer the unit into the DAE Auction because [redacted]. In [redacted], SCS resumed offering the uncommitted portions of the unit into the Energy Auction.

On [redacted], SCS informed us that until further notice, one of its [redacted] requested an increase in its minimum downtime [redacted]. SCS explained that the plant was [redacted]. The temporary increase in this parameter remained in effect until the [redacted] DAE delivery day.

In some cases, the changes in parameter values occurred due to an error in data entry; however, none of these errors had a negative impact on the Energy Auction. Starting with the October 7, 2010 DAE delivery day, we noticed an increase in the value of the [redacted] input for a combustion turbine. This change appeared anomalous because the [redacted] value was higher than the [redacted] value (we expect to see the opposite). SCS explained that their official database had the incorrect value for the [redacted] for this unit, and this value was used to update the [redacted] database. Since from a day-ahead perspective a combustion turbine is never scheduled with a [redacted], this error did not affect auction performance, and had no implications as to Tariff compliance.

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 run. 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 number to the value used by SCS. Any discrepancy between the two values is flagged on a daily basis.

During this review period, we found three incidents that triggered flags in our Purchases and Sales Update Report. These incidents, summarized in Figure IV-7, appear to be sporadic and the result of human error. We find no unusual or anomalous behavior with respect to this aspect of the Energy Auction.

Figure IV-7
Purchases and Sales Update Report Flags

DAE Delivery Day	*Description*
October 29, 2010	26 MW mismatch in adjusted fixed schedules in LFU Log and corresponding calculation based on input data to [redacted]
January 4, 2011	623 MW mismatch in adjusted fixed schedules in LFU Log and corresponding calculation based on input data to [redacted]
January 14, 2011	4 MW mismatch in adjusted fixed schedules in LFU Log and corresponding calculation based on input data to [redacted]

October 29, 2010 – For the DAE delivery day on October 29, 2010 we noted a discrepancy in the updated fixed schedules. As a result, SCS's Available Capacity was reduced by 26 MW, which translated into offered capacity being lower by one DAE block (50 MW) than it should have been. SCS responded to our inquiry, confirming the discrepancy, and stating that the member of the [redacted] personnel who was responsible for the calculations could not recall how he came to the adjusted fixed schedule value. SCS believes that this was an inadvertent and unintentional data entry or transcription error on the part of the [redacted] personnel. SCS made a disclosure associated with this issue on its Energy Auction website on November 10, 2010. Since there were no bids submitted, the outcome of the DAE auction was not affected.

January 4, 2011 – For the DAE delivery day on January 4, 2011, we noted a discrepancy in adjusted fixed schedules of 623 MW. As a result, 623 MW was excluded from Available Capacity and capacity offered into the DAE auction was

lower by at least four 50-MW blocks (200 MW) than it should have been. SCS explained that this discrepancy was caused by a human error. There were no bids submitted into this DAE auction, and SCS made a disclosure associated with this issue on its Energy Auction website on February 3, 2011.

January 14, 2011 – For January 14, 2011 DAE delivery, we noted a difference in adjusted fixed schedules of 4 MW. SCS explained that the discrepancy was an inadvertent typographical error. Given that the minimum size of DAE blocks is 50 MW, this small discrepancy did not ultimately affect the amount of offered capacity or the price of offered capacity in the DAE auction, and therefore it did not constitute non-compliance. SCS made a disclosure associated with this issue on its Energy Auction website on January 20, 2011.

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

Issues related to the calculation of Day-Ahead Available Capacity that we observed in Year 2 are summarized in Figure IV-8 and are discussed in more detail below.[32] For the majority of the DAE auctions, we were able to corroborate that SCS's calculation of DAE Available Capacity was in full compliance with the Tariff.

Figure IV-8
Day-Ahead Capacity Calculation Discrepancies

Issue	*Day(s) or Period Affected*
Failure to offer contracted combined cycle unit*	February 2, 2010 - March 23, 2010
SOP non-compliance due to excessive no-load cost for [redacted]	July 27, 2009 – November 9, 2009
Reduced Available Capacity due to [redacted] rating discrepancy	May 13 – 17, 2010
New contract unit start-up cost calculation error	June 12, 2010 – July 6, 2010
[redacted] SOP non-compliance due to heat rate discrepancy	June 28, 2009 – September 30, 2009 and May 1, 2010 – July 7, 2010
Failure to offer the [redacted] unit's available capacity	August 25, 2010
[redacted] unit start-up cost calculation error	October 12, 2010 – October 27, 2010
Failure to submit proper DAE offer curve	January 3, 2011

* Issue was reported in the First Annual Report

May 2010 – Starting in the beginning of May 2010, we noticed unusually high minimum (lower) operating limits for a number of units. SCS explained that the higher ratings were being used to reflect [redacted]. Under these [redacted], minimum ratings are typically set

[32] We list those instances of non-compliance that occurred or were detected during the Year 2 review period.

to [redacted] of the unit's maximum rating. Subsequent analysis showed that in some cases, these higher than normal minimum ratings were used to calculate commitment (no-load) costs for certain units. Specifically, this issue affected two units and 13 delivery days between July 27, 2009 and November 9, 2009. SCS acknowledged that [redacted] (SCS's tool to calculate day-ahead Available Capacity) had failed to reset the minimum operating limits to the normal minimum limits for the purpose of calculating offer prices for the DAE auction. This issue constitutes a non-compliance, since SCS did not use appropriate minimum ratings in the calculation of no-load costs, which resulted in a seller offer price higher than that allowed by the Tariff. SCS made a disclosure associated with this issue on its Energy Auction website on May 17, 2010. SCS implemented a correction to the tool on May 17, 2010. We have continued to monitor whether adjustments to minimum operating limits for [redacted] inappropriately affects DAE offer prices, and have found no more such cases during the remainder of the review period.

May 13-17, 2010 – Our Fixed Baseline Discrepancy Report detected an unexpected (4 MW) decrease in the maximum rating of the [redacted] coal-fired unit starting with DAE delivery day on May 13, 2010. SCS explained that the discrepancy was the result of an error in the [redacted] data; when the [redacted] plan at [redacted] was implemented (*i.e.* the minimum rating was set to [redacted] of the unit's maximum rating), the maximum rating was also inadvertently set at [redacted] of normal full-load rating. This was corrected and was reflected in the [redacted] input files starting with the delivery day on May 18, 2010. Because of the error, 4 MW of Available Capacity were excluded form the day-ahead unit commitment, which may have resulted in less Available Capacity being offered into the DAE auctions for delivery on May 13-14 and May 17, 2010. SCS made a disclosure of this issue on its Energy Auction website on May 17, 2010.

June 1-July 6, 2010 – We were unable to validate [redacted] start-up cost calculations against the contract information provided to us by SCS. [redacted] Shortly after that we observed that on a number of days, [redacted]-calculated start-up costs were higher than the start-up costs calculated based on the contract formulas provided by SCS. SCS explained that there was a problem with the [redacted] setup tool, which resulted in the start-up costs of these units being incorrectly reflected in [redacted]. This error was corrected by the DAE auction held for July 6, 2010. This issue affected [redacted] from June 1, 2010 through July 6, 2010, and another [redacted] from June 17, 2010 through July 6, 2010. SCS also informed us that in addition to the problem with the [redacted] setup tool, the contract formulas for [redacted] units were modified after June 1, 2010; the variable component of the start-up cost formulas that were originally provided was an initial estimate, and

shortly after the implementation of the PPA, project managers associated with the PPA determined that the variable component of the start-up costs were higher. SCS provided updated values for the variable component of the start-up cost calculations for the PPA [redacted] units on July 20, 2010. SCS implemented a permanent solution to the issue on July 3, 2010. SCS made a disclosure of this issue on its Energy Auction website on July 7, 2010.

July 2010 – On July 9, 2010 our Fixed Baseline Discrepancy Report identified a discrepancy in heat rates for the Full Pressure (FP) and Power Augmentation (PA) modes of two combined cycle units [redacted]. [redacted] apparently used [redacted] heat rates for the FP and the PA modes even though the units were [redacted]. SCS's investigation determined that [redacted] was pulling the heat rate information for FP and PA modes for these two units from an incorrect field in SCS's [redacted] database. As a result, [redacted] did not accurately update the FP and PA heat rates when those heat rates were revised in the [redacted] database. The incorrect heat rates were used not only in the day-ahead unit commitment process, but also in the offer price calculations for the DAE Auction. The incorrect FP mode heat rates used in the cost calculations were lower than the actual FP mode heat rates (provided to us by SCS in an earlier notification), thus the calculated offer prices were lower than they would have been if the correct heat rate were used, and therefore these discrepancies are, in our opinion, not a non-compliance. The PA heat rate values used in the cost calculations, however, were higher than the actual PA heat rates. Our analysis shows that the offer prices for these two units exceeded the offer price cap allowed by the Tariff. Based on the relative position of these units in the supply curve, we did not see the need to research whether the SCS offer prices [redacted]. For the same reason, we believe that the outcome of the Auction was likely not affected. SCS informed us that this problem was corrected on July 14, 2010, and it made a disclosure of this instance of non-compliance on its Energy Auction website on July 21, 2010.

August 25, 2010 – On August 25, 2010, we discovered that SCS inappropriately excluded the capacity of a coal-fired unit [redacted] from the DAE auction. Based on the day-ahead unit commitment schedules, the unit was committed at full capacity through [redacted] on August 25, 2010, and therefore the unit should have been made available for the DAE auction. However, the [redacted] tool inappropriately excluded this unit from SCS's Available Capacity based on an incorrect conclusion that it did not meet its minimum downtime requirement. SCS confirmed that the exclusion of this unit was not appropriate, and further explained that it occurred as a result of a technical problem in [redacted]

[redacted] SCS informed us that the problem was fixed on August 31, 2010. SCS posted a disclosure associated with this issue in its Energy Auction website on September 2, 2010. This issue affected only one unit and only one DAE auction.

October 12-27, 2010 – Starting with the October 12, 2010 DAE delivery day, we noticed an increase in the start-up costs of four contracted combustion turbine units [redacted]. The contract for these units specifies a fixed start-up charge of [redacted] per start. However, DAE offer prices of these units included a commitment (start-up) cost adder in excess of [redacted] per start. SCS explained that that the start-up costs for the [redacted] units are part of the input data that are automatically loaded into [redacted] from various upstream sources, and the high start-up costs were caused by a bug in the upstream data pull and the data conversion process. SCS also stated that necessary measures would be taken shortly to fix the problem. We verified that the error was corrected starting with the DAE auction for delivery on October 28, 2010. SCS made a disclosure associated with this issue on its Energy Auction website on November 2, 2010. This issue was an instance of non-compliance since the offer prices of the [redacted] units exceeded the SOP allowed by the Tariff.

January 3, 2011 – On January 6, 2011, SCS notified us that it failed to submit proper offer curves for Firm LD and Recallable Energy into the DAE auction for delivery on January 3, 2011. At the time [redacted] data [redacted] was used to construct the offer curves, which SCS subsequently submitted to OATI. Since the submitted offer curves reflected neither SCS's Available Capacity nor the offer prices (per Tariff), this incident constitutes a non-compliance. However, the outcome of the DAE auctions was not affected since no bids were submitted for Firm LD or Recallable Energy. SCS made a disclosure associated with this issue on its Energy Auction website on January 7, 2011.

The Tariff allows SCS to include commitment costs in its offer prices. Commitment costs are defined in the Tariff as "the cost to start or change operating modes of a generating unit."[33] Furthermore, Appendix DA-2 states that day-ahead commitment costs may include (1) start-up costs; and (2) no-load cost.[34]

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[33] Participation Rules, Appendices DA-2 and HA-2.

[34] No-load costs are defined as "If the unit has a minimum run time such that it must operate beyond the 16-hour sale period, then Commitment Costs shall also reflect the expected increase in production cost associated with running the unit in subsequent hours."

In its implementation of the Tariff, SCS implemented two types of no-load costs for the DAE auction: (1) a post-delivery no-load cost adder to ensure that the unit can recover its running costs associated with its minimum runtime (*i.e.*, when minimum runtime is such that the unit cannot be shut down at the end of the DAE delivery period, and the unit will incur additional operating costs after DAE delivery); and (2) a pre-delivery no-load cost associated with units that are scheduled to shut down between the time the DAE auction clears and the start of the DAE delivery period. In the latter case, there may be two options available: (a) assume the unit will be shut down and include the start-up costs (to re-start the unit) in the commitment cost adder; or (b) assume the unit will continue to operate at minimum load between its scheduled shut-down hour and the start of the DAE delivery period, and include the associated running costs in the commitment cost adder. (In some cases, option (a) is not available because if the unit is shut down, it would not meet its minimum downtime requirement by the start of the delivery period.)

We believe, and SCS agrees, that when both options are available (shutdown and subsequent start-up *versus* minimum load operation in the interim), the less costly option should be assumed and factored into the DAE offer prices. However, during the course of our monitoring, we observed that option (b) appeared to be chosen in all cases, even if option (a) appeared to be available. In late January 2011, we analyzed the effect of this on offer prices, and found that in many cases option (a) would have been more economic; *i.e.*, it would have resulted in significantly lower offer prices.[35] We discussed this issue with SCS and provided specific examples. SCS concurred with our analysis and informed us that it had always been their intention to apply the option (b) treatment only when option (a) was unavailable. Upon further investigation, SCS informed us that they believed a software bug was most likely responsible for all of those instances, and that the bug was corrected on February 8, 2011. We have not observed a recurrence of this issue.

IV.E. Recallable Energy Protocol

Since none of the DAE auctions for Recallable Energy cleared during the review period, there have not been any compliance issues regarding Recallable Energy.

IV.F. Purchases and Sales Protocol

As discussed in Section III.B, the objectives of the 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 Section IV.D.2 as part of the larger process of verifying DAE Available Capacity. Their effect on the HAE Auctions is discussed in Section IV.H as part of the process of verifying the HAE Residual Supply Curve.

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[35] This was the case only for combustion turbines, which have shorter minimum downtimes and start-up hours than coal-fired units. The largest impact occurred when no-load operation was assumed over weekends.

As described in Section III.B, to check for bilateral transactions done within a bid period, our protocol involves two levels of screening. First, we check in the daily transfer of trader data for relevant transactions that are timestamped within the corresponding bid period, for both hour-ahead and day-ahead transactions. But since SCS's implementation of a lockout function that prevents a trader from entering a deal during the prohibited window, trades normally cannot have a timestamp within the bid window (an exception is discussed below). However, the timestamps do not precisely reflect the timing of transactions. This is due to a delay that can be up to several minutes between the actual consummation of the transaction and the time it is entered by the trader into the electronic deal capture system (the timestamp corresponds to the time the deal is entered into the deal capture system, not when it is actually agreed). To account for this, we also reviewed, on a quarterly basis, the trade records (trader voice recordings and instant messages) of a sample of transactions from the review period.

Since the beginning of the Energy Auction, SCS has put into place several technical and institutional mechanisms to prevent prohibited sales during the bid window. These include training on this issue for its traders, the implementation of a visual reminder on traders' monitor screens that appears during the prohibited window to remind them to avoid prohibited sales, and a system feature that warns the trader if they attempt to enter a sale for delivery into the BAA during the prohibited window, and ultimately will not allow the deal to be entered. SCS's Risk Control group also reviews transactions for sales during the prohibited window. During the review period for this Report, SCS instituted further protections, including synchronizing time sources, modifying its disclaimer notice on its instant messenger application, and providing additional direction to its traders. This included implementing a new business practice [redacted].

These protections appear to have been relatively successful, reducing the number of prohibited sales transactions from 17 in the period covered by the First Annual Report, to three in this period. We detected no prohibited day-ahead transactions during the corresponding DAE bid period in this review period. We did identify three hour-ahead sales transacted during the HAE bid window, one of which had been previously identified in our First Annual Report. One of these three instances of non-compliance, which was identified and self-reported by SCS, involved a transaction that was timestamped after the close of the prohibited bid window, but was actually agreed earlier, within the prohibited window. The two transactions that were actually timestamped within the prohibited bid period, and were identified by our daily screen of trade timestamps, occurred due to an unusual sequence of events that allowed them to escape SCS's preventive measures, as described below in the summary of each event. These three instances of non-compliance appear to be due ultimately to trader error, reflecting that even with recent enhancements to the technical and institutional systems for preventing such errors, perfection is difficult to achieve.

Figure IV-9 lists the non-compliant bilateral sales during this review period that we identified. Following that is a brief summary of each of these non-compliant transactions; additional detail is provided in Appendix B.

Figure IV-9
Non-Compliant Bilateral Sales

Deal Number	*Date*	*Hour*	*Initiated Inquiry*
[redacted]	3/1/2010	HE7	Brattle
	5/24/2010	HE19	Southern
	12/1/2010	HE7	Brattle

- [redacted], for March 1, 2010 HE7. This transaction was screened as part of our daily review of bilateral sale transactions. This sale was performed and timestamped during the prohibited bid period. SCS's mid-office review failed to identify this because, while the deal had been originally negotiated in the bid period, it was subsequently renegotiated and modified outside the bid period, though SCS agrees that the original transaction did occur during the prohibited bid period. This non-compliant event was previously identified in the First Annual Report. SCS made a disclosure associated with this event on its Energy Auction website on April 1, 2010.

- [redacted], for May 24, 2010 HE19. This sale was made shortly after the start of the prohibited bid window, and was self-reported by SCS. Despite screening for such non-compliant transactions, we had not identified this sale as problem because this transaction had been missing from the data that was provided to us. Subsequent investigation showed that a substantial amount of trade data had been missing from the data provided to us, due to a data transfer problem that has now been resolved. SCS made a disclosure associated with this issue on its Energy Auction website on August 4, 2010. See below for further discussion of this data transfer problem.

- [redacted], for December 1, 2010 HE7. This transaction was identified in our daily monitoring of bilateral sale transactions, with a timestamp within the prohibited bid window. The trader was reportedly under the mistaken impression that a sale was not prohibited if the negotiation was initiated prior to the bid period, even if the transaction was completed within the bid period. Further, the trader had utilized an automated deal entry feature that automatically fills in many transaction details. Because the counterparty [redacted]. The delivery point error was later identified and corrected, but by then it was beyond the system's preventive check.

[redacted]

[redacted]

The non-compliant sale involving deal [redacted], discussed above, was self-reported by SCS on August 4, 2010. Investigating this issue in August 2010, we realized that there had been no record of this sale in the regular daily data transfer, although the daily data should include all relevant trade data. We subsequently requested and received a retrospective download of all trade data since the start of this review period (February 15, 2010), and found from this that a substantial share of trades had not been included in the regular daily data transfers over most of that timeframe (from October 15, 2010 through November 20, 2010, over 28% of transactions had been missing from the daily data; the proportion missing varied considerably across shorter sub-periods). Upon its own investigation, SCS reported that the missing trade data was due to a problem with the data query that pulled the trade data for transfer to us. SCS implemented a correction to the query on October 15, 2010, and reported that the corrected data query was working properly and that all relevant trades were by then being included in the daily data transfer going forward. However, on November 19, 2010, SCS contacted us again to report that once more, some trade data was not being included in the daily data transfers. After further investigation, SCS reported that this second incident stemmed from an inadvertent change in the timing of the data query that had occurred with the change from Daylight Savings Time to Standard Time. Subsequently, SCS assures us that the daily data query is functioning properly, and that we have now received all relevant trade data for the full review period, through retrospective data downloads if not in the daily data transfers. We have reviewed all of that trade data, and we continue to request retrospective transfers of the trade data to verify that the daily data transfers have included all relevant trade data. Of the three non-compliant sales transactions discussed above, two had appeared in the daily data transfer, and one was a deal that had not

been provided in the initial daily data transfer, but for which data was received in a retrospective download of all the trade data.

IV.G. VERIFICATION OF AVAILABLE CAPACITY AND SOP SUBMISSION TO OATI

In addition to the DAE and HAE Available Capacity and SOP verification, we verify 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 2, there were 11 instances in which SOP curves were not uploaded to OATI's webMarket, and since there were no third-party offers either, the Energy Auctions in these instances did not clear.[36] All but one of these instances were already reported in our First Annual Report. Figure IV-10 lists each instance of failed offer curves submission, including the cause of error.

Figure IV-10
Instances of Failed SOP Submissions

No.	*Delivery Date*	*Delivery Hour Ending (for HAE auction)*	*Cause of Error*
1*	3/13/2010	15	OATI Server Hang Up**
2*	3/15/2010	19	OATI Server Hang Up**
3*	3/25/2010	18	OATI Server Hang Up**
4*	3/26/2010	5	OATI Server Hang Up**
5*	3/26/2010	6	OATI Server Hang Up**
6*	3/26/2010	7	OATI Server Hang Up**
7*	3/26/2010	8	OATI Server Hang Up**
8*	4/1/2010	Firm LD DAE	SCS SOP Tool bug
9*	4/10/2010	7	OATI Server Hang Up**
10*	4/16/2010	21	OATI Server Hang Up**
11	11/29/2010	20	OATI Software Update

Notes:
* Incident was already reported in Year 1 annual report.

The one as-yet unreported instance of failed offer curve submission in Year 2 occurred on November 29, 2010.

November 29, 2010 – On November 30, 2010, SCS notified us that they failed to submit the HAE offer curve for HE 20 on the previous day. SCS explained that a software update issue at OATI impacted SCS's ability to upload its offers. The software update took longer than expected, and the issue was resolved once the update was completed. SCS also provided emails from TranServ Support and OATI explaining the issue.

Since SCS did not submit its offers in accordance with the Tariff, this issue constitutes a non-compliance. SCS explained that this event was

[36] SCS in fact developed the requisite SOP curves; the identified issue prevented them from being uploaded.

caused by a system failure and as such, considered it to be a case of Force Majeure, in which case SCS would be excused from non-compliance. SCS made a disclosure associated with this issue on its Energy Auction website on December 1, 2010.

Inaccuracies in Submitted Offer Curves

There were instances when SCS did submit its offer curves, however those curves were not accurate. These instances are described below.

July 22, 2010 – We observed a discrepancy between the [redacted] and OATI SOP DAE offer curves for delivery on July 22, 2010. The problem occurred due to aggregation of a number of 50 MW blocks into larger blocks in the OATI curve. This resulted in offer prices for the first 50 MW of these aggregated blocks that were higher than what is allowed by the Tariff. SCS explained that the issue was due to a problem in its SOP tool related to circumstances when an offer block was made up of the last portion of one unit's capacity and a portion of the next unit. The block was linked to the next higher block in the stack, and the SOP tool was giving it the same price as the next block due to the linkage. SCS stated that as a short-term fix to this problem, its traders would inspect the SOP curve each day and manually correct the offer prices, while it worked on correcting the SOP tool for a permanent solution. SCS implemented a permanent solution to this issue on August 10, 2010, and made a disclosure associated with this issue on its Energy Auction website on August 17, 2010.

This issue mostly affected the DAE auction, because [redacted]. The issue likely affected other days, but it was unlikely to have affected any of the auctions. The affected blocks are typically located at steep portions of the offer curve (*i.e.* where the offer prices of adjacent blocks differ significantly and Available Capacity of several units is blended to create a 50 MW offer block). Given that this issue most likely did not affect the outcome of any auctions, we did not perform a similar analysis for other days.

December 15, 2010 – We observed a discrepancy between [redacted] and OATI SOP DAE offer curves that appeared to be the same issue as described above. SCS responded to our inquiry with the explanation that the issue occurred due to an IT implementation glitch. An old version of the SOP tool was pushed to production [redacted]. SCS informed us that the issue was discovered during the post-production check-out, and the correct version of the SOP tool was immediately pushed to production. We performed a detailed (block-by-block) analysis of the DAE offer curves for the affected delivery day and found that in the case of certain offer blocks the SOP Tool inflated the offer price to a level that exceeded the offer price that was calculated by [redacted] and what is allowed by the Tariff, and therefore we concluded that was a non-compliance. SCS considered this issue to be a case of Force

Majeure, in which case it would be excused from non-compliance, and made a disclosure associated with this issue on its Energy Auction website on March 15, 2011.

IV.H. Hour-Ahead Available Capacity Verification Protocol

Our hour-ahead verification consists of verifying 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 certain threshold,[37] as discussed in Section III.B. During the review period, we were able to resolve all observed discrepancies with the exceptions listed below. Figure IV-11 contains a summary of non-compliant incidents that were identified as part of our HA protocol.

Figure IV-11
Hour-Ahead Capacity Calculation Discrepancies

Issue	*Hour(s) or Period Affected*
CT status discrepancies	September 2009 – April 2010
HAE auction heat rate discrepancies for certain CCs	June-July 2010
Contingency curve submission on August 10, 2010	HE 24, August 10, 2010
Contingency curve submission on October 26, 2010	HE 12, October 26, 2010
[redacted] heat rate discrepancy	HE 16-23, July 14, 2010 HE 15-21, July 19, 2010 HE 15-18, July 20, 2010

As briefly discussed in our First Annual Report, we were unable to fully verify every unit's status for every HAE auction. As discussed in Section III.B, our daily reports identify any unexplained changes in unit status and screen for units that we initially believed should have been offered in the HAE auction but were not. In Year 2, we continued to observe units that were marked unavailable for the HAE auction, but, given the data we received from SCS, we were unable to corroborate that such exclusions were appropriate.

We shared our list of observed status discrepancies,[38] most of which affected combustion turbines, with SCS. Through this process, SCS thoroughly reviewed its RSC logic and stated that they believed the logic was sound and properly implemented. Most of the exclusions were determined to be justified once they were examined more closely. However, SCS was not able to

[37] During Year 2, we flagged cost discrepancies that exceeded a 1%-3% threshold.

[38] A status discrepancy occurs when [redacted] marks a unit unavailable for the auction, but we have no information to corroborate such determination.

explain a few cases in which some units were marked as unavailable. They suggested that there might have been a problem with the underlying data that somehow suggested the unit was either online or recently online. SCS identified several issues that explained most discrepancies, as well as the difficulty in identifying the exact reasons for exclusion:

1. *SCS did not maintain a record of why the RSC tools marks a unit as unavailable* — This was the primary reason why it was difficult for both us and SCS to explain the exclusion of these units from the Energy Auction. SCS implemented an enhancement to [redacted] to reflect this information in July 2010.

2. *Some events that occur within one hour may not be reflected in the data* — [redacted] uses snapshots of input data taken at specific intervals to determine each unit's current-hour status. As a result, some events may not be reflected in the data. For example, if a combustion turbine starts and stops within the same hour, it may not show up as a change in the unit's output, but the unit's time in status will change. As a result the unit may not meet its minimum downtime, and the RSC tool may mark it unavailable for the auction. Similarly, if a combustion turbine trips offline but restarts shortly, its output change may not be reflected in the data; however it may be unavailable for the auction if it reaches its maximum number of starts per day constraint. SCS implemented an enhancement to [redacted] to reflect the number of CT starts for a given day in December 2010.

3. *Underlying input data may be unreliable* — Underlying [redacted] data may not reflect the unit's actual status (possibly because of a loss of data feed from the plant). SCS implemented an enhancement to [redacted] to reflect the time status in October 2010.

4. *Timing issues regarding the refresh of the data between the different data systems* — There are several data sources and applications involved in the process of constructing HA offer curves, some of which are not under SCS's direct control (*e.g.*, [redacted]), and the timing of data refresh between these components may occasionally be out of sync. SCS implemented an enhancement to [redacted] to reflect the time of data refresh in August 2010.

5. *The RSC Tool did not accurately consider the units' time in status when determining whether they met their minimum downtime constraint* — This issue is explained in more detail below.

The last issue listed above was determined to be a modeling error that arose as a result of the Phase I – Phase II transition and the change in the bid period. The manner in which the RSC tool calculated the minimum downtime for combustion turbines resulted in some units being inappropriately excluded from the HAE auction. [redacted] We concluded that this flaw

resulted in a non-compliance, because some combustion turbine units were inappropriately excluded from the HAE auction. In response to our inquiry, SCS corrected the modeling error in the RSC tool on May 20, 2010. Starting on July 22, 2010 SCS also started providing us a reason for each unit excluded from the auction; thus better enabling us to verify the HAE Available Capacity.

Another issue we observed in Year 2 is related to the timing of the HA offer curves. [redacted]

We analyzed all HAE offer curves since the beginning of the Energy Auctions through the end of the Year 2 review period [redacted].

[redacted] We

39 [redacted]

40 [redacted]

41 [redacted]

consider these events, explained below, to be instances of an inadvertent technical non-compliance, without apparent strategic motive.

[redacted]

Ultimately, we believe that the benefit of having [redacted] available to ensure an offer curve can be submitted probably outweighs any harm that might result from [redacted]. Still, we will continue to monitor the frequency of offer submissions [redacted].

Other instances of non-compliance related to the HAE auction occurred for various reasons, including the use of incorrect unit status, incorrect heat rates, and other inputs used in hour-ahead Available Capacity and Seller Offer Price calculations.

June – July, 2010 – In July 2010, we alerted SCS to several costs discrepancies for some combined cycle (CC) units in the HAE auction that were apparently caused by the RSC tool assigning heat rates that did not correspond to the unit's projected operating mode in delivery hour. Furthermore, in some cases, [redacted] did not take into account the unit's projected status or operating mode, but instead relied on its current status or mode. SCS responded

saying that they would work on determining the cause of the error, but in the meantime, a manual mitigation would be implemented in the SOP tool in order to prevent future non-compliance with the Tariff. SCS informed us later that a permanent fix to this problem was implemented on August 10, 2010. We concluded that this issue constitutes a non-compliance, since in several HAE auctions Available Capacity was offered at prices that exceeded the SOP cap allowed by the Tariff. SCS made a disclosure associated with this issue on its Energy Auction website on August 4, 2010.

June 14-20, 2010 – We identified heat rate discrepancies for the Full Pressure (FP) and Power Augmentation (PA) modes of the [redacted] combined cycle unit. The [redacted]/RSC Tool apparently used [redacted] heat rates for the FP and the PA modes when in fact the unit was operating [redacted]. A similar issue had occurred earlier in the DAE auction, where [redacted] was pulling the heat rate information for FP and PA modes for two units from an incorrect field in the SCS heat rate database. However, SCS noted that this was a separate issue because the [redacted] setup process (used for the DAE auction) is completely separate from the [redacted] processes (used for the HAE auction). SCS later determined that [redacted] was pulling the heat rates from an incorrect location. SCS explained that there is a primary and a secondary data location that links to [redacted], and the tool was inadvertently pulling the heat rates from the secondary source. When [redacted] heat rates were updated, the updates were made only to the primary location. On July 21, values in the secondary location were corrected. On August 5, 2010, a permanent solution was implemented. We consider this issue a non-compliance as the offer prices for this unit exceeded the offer price cap allowed by the Tariff. However, since the corrected offer price was always above the highest bid in all affected hours, the outcome of the Auction was not affected. SCS made a disclosure associated with this issue on its Energy Auction website on July 21, 2010.

During the Year 2 review period, there were only four hours in which SCS made an SOP edit to its hour-ahead offer curves.[42] We verified, using the bilateral sales data, that each of the adjustments to hour-ahead Available Capacity were backed up by non-prohibited bilateral sales.

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 HAE auctions during this review period, the highest bid exceeded the lowest offer in a total of eight HAE auctions. Five of these auctions cleared, and in these five instances, we were able to verify

[42] SOP edits account for non-prohibited bilateral sales that reduce hour-ahead Available Capacity between the time the offer curve is constructed and the HAE auction clearing.

that the clearing price and the amount of energy cleared were determined according to the Tariff. The other three HAE auctions with the highest bid above the lowest offer did not clear. In one instance, a credit restriction between the bidder and offeror precluded a transaction. In the other two, the same party (in both cases, SCS) submitted both the highest bid and the lowest offer; the auction clearing software does not allow matching a bid and offer from the same participant. In all other HAE auctions, the highest bid price (if any) was below the lowest offer price. Figure IV-12 shows HAE the auctions in which the highest bid exceeded the lowest offer, whether the auctions cleared, and the reason if not.

In the DAE Firm LD auctions for this review period, the highest bid exceeded the lowest offer in nine auctions. Eight of these nine cleared, and we were able to verify that the clearing price and the amount of energy cleared were determined according to the Tariff. In the one case that did not clear, both the high bid and low offer were submitted by the same party (again, SCS). Again, the Tariff prohibits matching a DAE bid and offer from the same participant. 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. Figure IV-13 shows DAE the auctions in which the highest bid exceeded the lowest offer, whether the auctions cleared, and the reason if they did not.

Figure IV-12
Day-Ahead Firm LD Auctions with Maximum Bid Price Higher than Minimum Offer Price

Delivery Date	*Did Auction Clear?*	*Reason for No Match*
3/2/2010	No	Both high bid and low offer submitted by SCS
3/31/2010	Yes	
5/21/2010	Yes	
5/26/2010	Yes	
6/30/2010	Yes	
7/22/2010	Yes	
7/27/2010	Yes	
7/30/2010	Yes	
8/5/2010	Yes	

Figure IV-13
Hour-Ahead Auctions with Maximum Bid Price Higher than Minimum Offer Price

Delivery Date	*Delivery Hour Ending*	*Did Auction Clear?*	*Reason for No Match*
3/10/2010	14	Yes	
4/20/2010	3	No	Both high bid and low offer submitted by SCS
5/16/2010	13	Yes	
5/18/2010	13	Yes	
5/19/2010	17	No	[redacted]
8/22/2010	22	No	Both high bid and low offer submitted by SCS
12/1/2010	19	Yes	
12/9/2010	13	Yes	

There was also one instance during the review period in which an auction was not closed in compliance with the Tariff — the DAE auction for delivery Tuesday, March 9, 2010. An error on the part of the Independent Auction Administrator allowed the auction to close on Saturday, prior to SCS's submission of its updated offer curve, rather than on Monday as it should have. No bids were submitted for this auction. This incident was previously reported in the First Annual Report.

We have observed that under some highly constrained conditions, the Phase II Auction Clearing Process may result in an inefficient clearing solution, such that some bids and offers might not be matched even if the bid price exceeds the offer price. This could happen because the auction clearing process tests bids and offers for clearing in ranked price order, but does not allow for "skipping" an unmatchable block to test whether a match might be possible with another block "further down in the stack." SCS has actively studied this issue and has developed a proposal for a revised clearing process that it believes would address this potential weakness. SCS discussed its proposal for a revised clearing process in an Energy Auction Technical Conference in June 2010, and invited us to comment on its proposal, which we did. Since that time, we understand that SCS has reviewed the feasibility and implementation costs [redacted]. Given this disparity in costs and benefits, SCS has elected to postpone any such alteration until such time as the activity levels in the auction may warrant further consideration. We concur that despite the potential theoretical weakness in the auction clearing process, we have not detected any instance in which the auction result actually failed to match any bids and offers that should have been matched.

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

Because there were no complaints regarding the provision of transmission services for energy sold through the Energy Auction by a third party, we did not review Southern Company's transmission services.

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; (3) the amount of energy bid on and purchased by each buyer in each Energy Auction.[43] 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.[44] As clarified in the Commission's Order on Compliance Filing of March 24, 2011, the IAM is also required to monitor and identify suspected Tariff violations and/or violations of Commission approved rules and regulations related to the Auction, including suspected Auction manipulation, by any Auction participant. Figure V-1 lists the 23 registered auction participants, including SCS.

V.A.1. Energy Auction Offerors

In Phase II, the Auction was expanded to include additional sellers other than SCS. Figure V-2 lists the registered Auction participants and the number of auctions in which each participant submitted an offer during the review period, for both the HAE and the DAE auctions. Eight participants, including SCS, offered hour-ahead energy in at least one HAE auction. Seven participants, including SCS, offered Firm LD Energy in at least one DAE auction, and two offered Recallable Energy at least once. Figure V-3 shows the corresponding amounts of energy offered into the HAE and DAE auctions by each participant. Across all the auctions, approximately 84.6 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. For the HAE auction, an average of [redacted] was offered.

[43] Auction Rules, Section 4.3.4

[44] 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, with one exception. On April 1, 2010, a software failure resulted in SCS failing to submit a Firm LD offer, though it did submit a Recallable offer (discussed in Section IV.G). There were no third-party offers submitted into this DAE auction. Across all the DAE auctions, there were third-party offers in about 31.1% of the Firm LD auctions, 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 shown in Figure V-3 there were 10 exceptions to this. In those 10 instances, SCS was unable to offer its residual capacity into the HAE auction (see Section IV.G); there were also no third-party offers in any of those auctions. Only about 1.2% of the HAE auctions included any third-party offers. Approximately [redacted] of the HAE auctions that did include third-party offers were during peak periods, with the remaining [redacted] during off-peak periods.

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

Participant	*HAE*	*DAE*	
		Firm LD	*Recallable*
SOCO	8,750 (99.9%)	256 (99.6%)	257 (100.0%)
[redacted]			
Total Auctions With Offers	**8,750 (99.9%)**	**256 (99.6%)**	**257 (100%)**
Total Auctions With Third-Party Offers	**101 (1.2%)**	**80 (31.1%)**	**2 (0.8%)**
Total Auctions	**8,760 (100%)**	**257 (100%)**	**257 (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	46,058,127 (99.97%)	32,736,000 (99.01%)	5,472,000 (99.97%)
[redacted]			
Total	**46,072,828**	**33,064,000**	**5,473,600**

* Figures in parentheses show percent of total energy offered

V.A.2. Energy Auction Bidders

Figure V-4 shows the number of auctions in which each participant submitted a buy bid during the review period, for both the HAE and the DAE auctions. Nine participants, including SCS, bid in at least one HAE auction. In the DAE auctions, the numbers of participants bidding in at least one auction were 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 2.2 TWh of energy bids were submitted, with just under half this volume submitted through the HAE auctions. SCS accounted for over [redacted] 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. For the HAE auction, the average amount of bids was [redacted].

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	**4,249 (48.5%)**	**211 (82.1%)**	**5 (1.9%)**
Total Auctions With Third-Party Bids	**99 (1.1%)**	**50 (19.5%)**	**4 (1.6%)**
Total Auctions	**8,760 (100%)**	**257 (100%)**	**257 (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	**1,066,647**	**1,118,400**	**11,200**

* Figures in parentheses show percent of total energy bid

V.A.3. Cleared DAE Auctions

During the review period, eight DAE auctions cleared (*i.e.*, matched at least one buyer with at least one seller), all for Firm LD Energy, as described in Figure V-6. A total of 13.6 GWh cleared and was transacted through the DAE auctions, with individual auctions transacting 50 to 200 MW at clearing prices that ranged from $33.00 to $67.55. The number of winning bidders in the DAE auctions was usually one (in one case there were two), while the total number of bidders in cleared auctions ranged from one to five (across all DAE auctions, the number of bidders ranged from zero to six).

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
3/31/2010	Firm LD	8,650	200	32.50	35.00	50	33.00	SOCO	1	[redacted]
5/21/2010	Firm LD	10,850	1,250	36.00	36.00	100	36.00	[redacted]	5	SOCO
5/26/2010	Firm LD	8,350	950	42.75	44.15	100	43.00	[redacted]	4	SOCO
6/30/2010	Firm LD	7,400	700	43.72	44.00	100	44.00	SOCO	2	[redacted]
7/22/2010	Firm LD	2,300	650	56.95	57.00	50	57.00	SOCO	2	
7/27/2010	Firm LD	4,250	200	53.75	54.00	100	54.00	SOCO	1	
7/30/2010	Firm LD	1,500	500	53.75	55.00	200	55.00	SOCO	1	
8/5/2010	Firm LD	3,350	500	67.15	68.00	150	67.55	SOCO	1	

V.A.4. Cleared HAE Auctions

During the review period, five HAE auctions cleared, as described in Figure V-7. A total of 267 MWh cleared and was transacted through the HAE auctions, with individual auctions transacting 5 to 154 MW at prices that ranged from $25.00 to $54.38. The number of winning bidders in the HAE auctions was always one, while the total number of bidders ranged from one to three.

Figure V-7
HAE Cleared Auctions: Clearing Price and Quantity

Delivery Date	Hour Ending (CPT)	Offer MW	Bid MW	Lowest Offer ($/MWh)	Highest Bid ($/MWh)	Cleared MW	Clearing Price ($/MWh)	Winning Bidders	Total Number of Bidders	Winning Offerors
3/10/2010	14	3,890	500	35.00	35.00	50	35.00	SOCO	2	[redacted]
5/16/2010	13	5,362	100	10.00	25.00	10	25.00	SOCO	1	
5/18/2010	13	2,566	270	40.00	42.00	5	42.00	SOCO	3	
[redacted]							54.38	[redacted]	[redacted]	SOCO
							30.00	SOCO		[redacted]

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 September 2010, as required by the Tariff.[45]

V.A.6. Monitoring Auction Behavior of All Participants

In its March 24, 2011 Order on Compliance Filing, the Commission clarified that our responsibilities include monitoring the behavior of all Auction participants: "we emphasize herein and reiterate our earlier requirement that we expect the Independent Auction Monitor to monitor all Auction participants and promptly notify and/or refer questionable behavior to the Commission's Office of Enforcement." The short time available between this clarification of our responsibilities and the filing date of this report has limited our analyses of the behavior of auction participants other than SCS. However, as explained below, our initial review of the very modest Auction activities of third parties has not raised any concerns.

The Auction Tariff focuses primarily on defining the structure of the Auctions and establishing the requirements that govern how SCS shall administer and participate in the Auctions. It imposes extensive requirements on SCS's participation; among other obligations, SCS is required to offer into the Auction its Available Capacity, at a price not to exceed a cost-based price cap, with the Tariff specifying how quantity and offer price shall be determined. In contrast, the Tariff imposes few obligations or limitations on bidders (including SCS) and third-party offerors; their participation in the Auctions is voluntary.[46] Nonetheless, we are able to observe several dimensions of third-party participation in the Auctions. Of course, we can see whether a given party participates in each auction, as a bidder and/or offeror, and if so, their bid/offer prices and quantities. We can also observe any matching constraints that any offering Participant imposes on other participants including explicitly blocking a transaction with another participant. Section 4.4 of the Auction Rules allows an offeror to identify which bidders it is willing to transact with. Offerors can also set credit requirements that bidders must meet as a condition of transacting with them.

We have conducted an initial review of third-party participants' bids and offers for anomalous or suspicious behavior. Any attempt to detect patterns in third-party bid/offer data is made difficult by the infrequency and thinness of third-party participation. It is further complicated by the fact that system conditions are highly variable from one day and hour to the next, and so the quantities and prices that third-parties have to offer or may be interested to purchase are also likely to vary substantially. Within these limitations, we have not detected anything anomalous or suspicious in third parties' bid/offer behavior.

We also performed an initial review of the counterparty limitations that third parties specified — their specified willingness to transact with particular other parties and the credit that they required. Although it is theoretically possible that these limitations could be used as a means to

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

[46] The Participant Agreement does create limited obligations for third-party participants — *e.g.*, requiring them to maintain confidentiality of information, limiting their use of the Auction System and data, and requiring Participants to coordinate with their matched counterparty to finalize the transaction if their bid or offer is matched.

manipulate the Auction, we see no evidence of such behavior. In Year 2, only one HAE auction (for HE17, on May 19, 2010) failed to clear as a result of a matching constraint.[47] In that auction, the bidder who would have been matched with the offeror had $0 available credit with that offeror, and so the match was not made and the auction did not clear. It is fairly common for third-party bidders to have no credit established with numerous other third-parties, and so the failure of this one matching due to a lack of credit does not appear to be a cause for concern.

Finally, we note that SCS conducted an "Auction Emphasis Week," May 17-21, 2010, to encourage participation in the Auctions. Third-party participation during and around this week appeared to be somewhat higher than normal, though the increased participation was not sustained in the longer term. One DAE Firm LD auction and one HAE auction cleared during the Auction Emphasis Week.

We intend to focus further on monitoring all parties' participation in the Auction. We may perform additional review of past third-party participation, and will also put in place additional monitoring going forward. If appropriate (*i.e.*, if any anomalous or suspicious past behavior on the part of third-party participants is detected), we will notify the Commission promptly as directed in the March 24th Order.

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. SCS's total Available Capacity normally exceeds by a large margin the amounts of energy that potential buyers may want to purchase. Total offered capacity in the DAE auction includes both Firm LD and Recallable Energy.

V.B.1. Firm LD Energy

Figure V-8 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. The offered capacity ranges from a minimum of about [redacted] to a maximum of [redacted].[48] The high degree of variability in the total offered Firm LD Energy largely reflects 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 (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. Smaller quantities were offered by

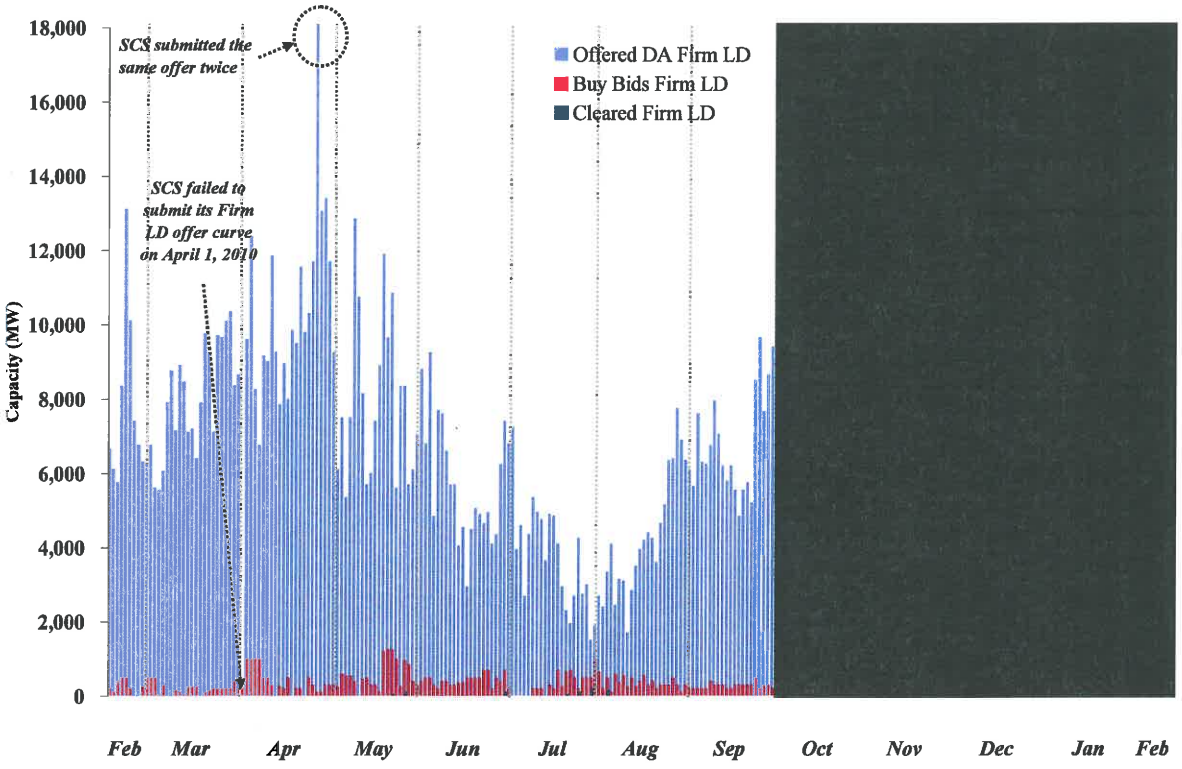
[47] In three other instances (the HAE Auctions for 4/20/2010 HE3 and 8/22/2010 HE22, and the day-ahead Firm LD auction for 3/2/2010), auctions did not clear despite the highest bid being above the lowest offer; these auctions failed to clear because the relevant bids and offers were from the same participant (in all these cases, SCS was both the bidder and offeror).The auction clearing process does not allow the matching of bids and offers submitted by the same party.

[48] This minimum excludes the DAE auction for April 1, 2010 when SCS failed to offer capacity into the Firm LD auction, as discussed in Section IV.G. The maximum value on April 27, 2010 was exceptionally high; SCS appears to have submitted the same offer curve twice resulting in a total offer that was twice its actual Available Capacity.

participants other than SCS — on average, there were [redacted] per day of third-party Firm LD offers across all auctions ([redacted] on those days that had some third-party offers).

Bid quantities averaged [redacted] overall ([redacted] on those days that had some bids), and ranged from [redacted] to [redacted]. Bids from parties other than SCS were made in 50 of the 257 DAE auctions, with the average third-party bid quantity being [redacted] (averaging [redacted] on those days that had third-party bids). We noted in the First Annual Report that buyer interest appeared to drop off in the latter part of Phase I of the Auction, and picked up again with the start of Phase II of the Auction, shortly before the end of the previous review period. While some buyer interest, as measured by total bid quantity, has remained, it appears to have subsided in the latter half of the current review period.

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



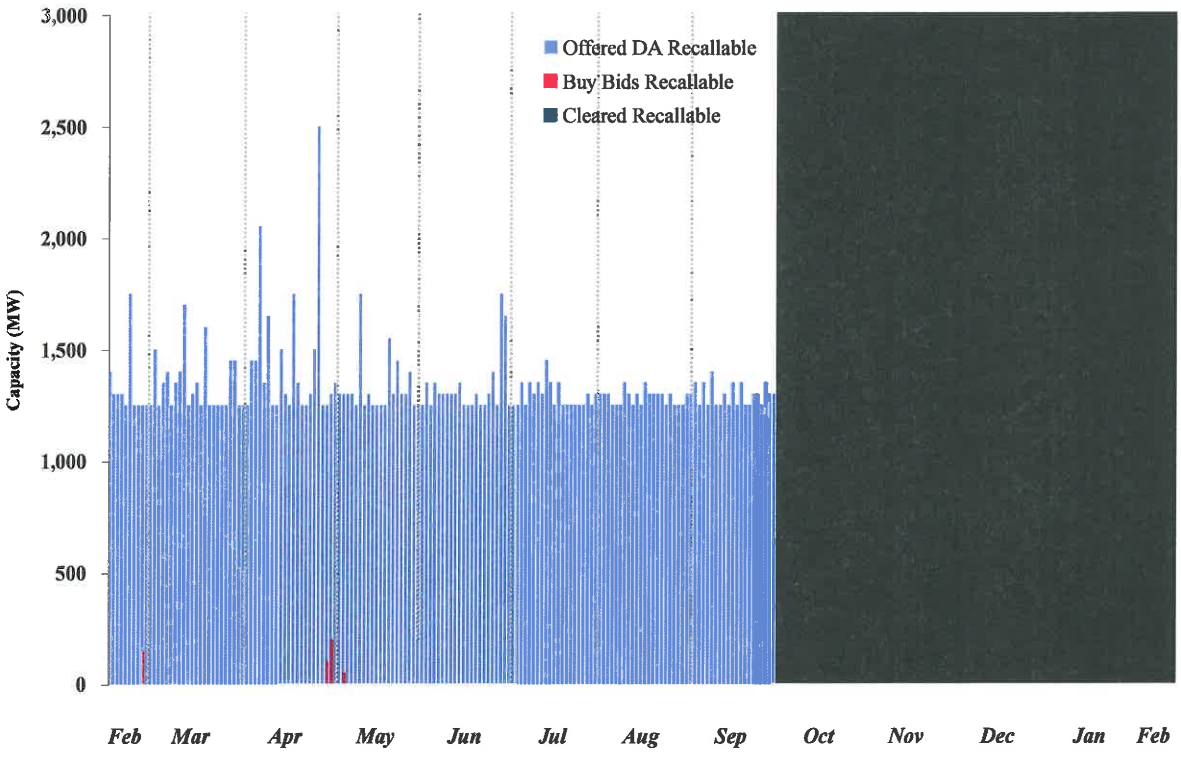
V.B.2. Recallable Energy

Figure V-9 below shows total the 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 that the amount of Recallable Energy offered should be essentially the maximum of SCS's operating reserve requirement, which is 1,250 MW, or the total capacity of generating units that are "at risk" for being unable to perform reliably during the delivery period (*i.e.*, units that are in one of the following categories: (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). The minimum amount of Recallable Energy offered in any DAE auction was 1,250 MW; 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 a total of [redacted] was considered "at risk" due to risk of [redacted] (this was rounded up to the nearest 50 MW increment). 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. However, the largest amount of Recallable Energy offered, [redacted], was apparently due to SCS submitting the same SOP curve twice into the DAE auction, which resulted in the doubling of both Firm LD and Recallable offers (this is not a Tariff violation since SCS offered more than its Available Capacity).

In this review period, there were only five bids for Recallable Energy in five DAE auctions, ranging from [redacted] to [redacted]. Bids for Recallable Energy from parties other than SCS were made in four of the 257 DAE auctions.

Figure V-9
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. Average 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 addition, the average variable cost calculated by summing up the above components is grossed up to account for transmission losses. In order to calculate the average variable cost for each unit, SCS uses the unit's average rather than its incremental heat rate. 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-10 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]; we analyzed these [redacted] events.[49] SCS informed us that during these periods [redacted] While we did not attempt to verify these [redacted] directly, we did confirm that these were the same [redacted] that SCS used to commit and dispatch its system for its own load obligations, and are therefore appropriate for determining offers into the Energy Auctions.

[49] The ten dates are 12/14/2010 through 12/17/2010, 1/12/2011 through 1/14/2011, 1/17/2011, 2/11/2011 and 2/14/2011.

Figure V-10
Daily Firm LD Offer and Bid Prices

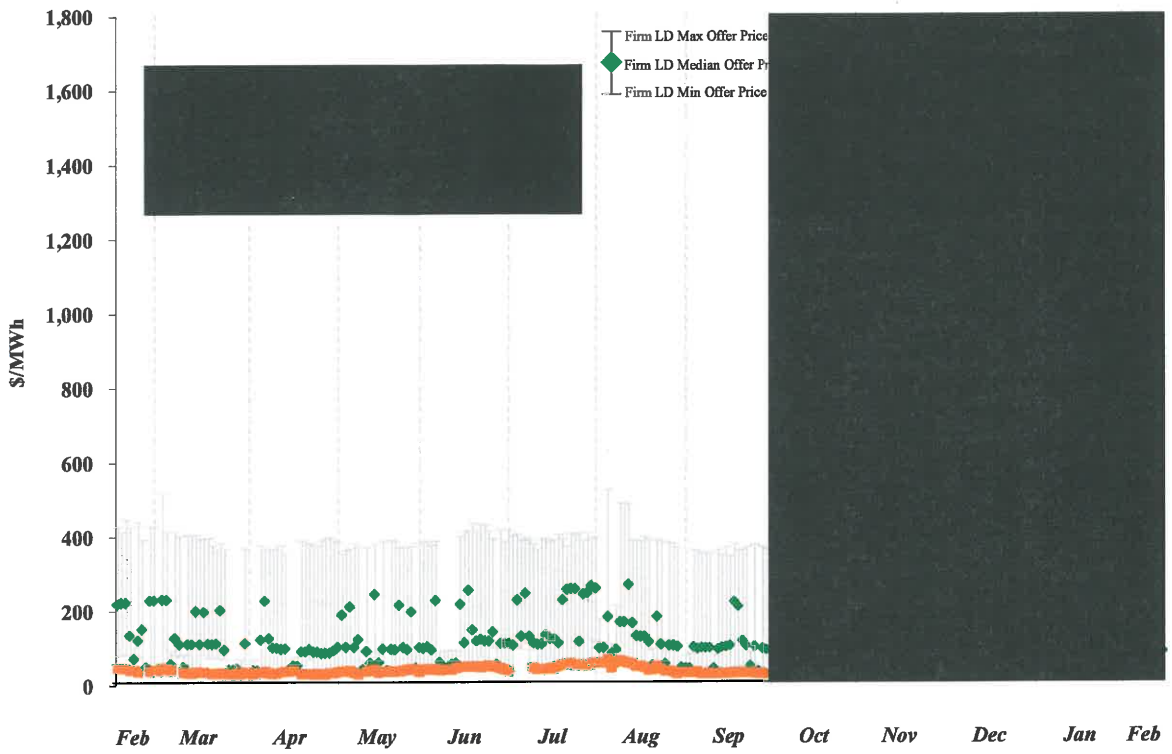


Figure V-11 shows the same offer and bid price data, but with greater detail on the minimum offer price and the maximum bid price, since these are, of course, most relevant to whether an auction clears. The quantity of offered Firm LD capacity in each auction is shown on the right-hand scale. Offer prices were significantly above bids in most auctions, with the minimum offer price averaging about [redacted] above the maximum bid. The figure highlights the instances where a minimum offer price was below the maximum bid price. As discussed above, the DAE auction cleared in eight of these instances. In one instance, the auction did not clear because it was impossible to match any bid with any offer (all bids and offers that might otherwise have been matched had been submitted by the same participant).

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], as well as relatively [redacted]. Minimum offer prices were above [redacted] in five instances in [redacted]. The highest minimum offer price was [redacted]. This was due to a [redacted] This [redacted] reduced the amount of Available Capacity, raising the

price of Available Capacity on that date. This also explains the unusually high minimum Recallable offer price observed on this date.

Figure V-11
Minimum Daily Firm LD Offer and Maximum Bid Prices

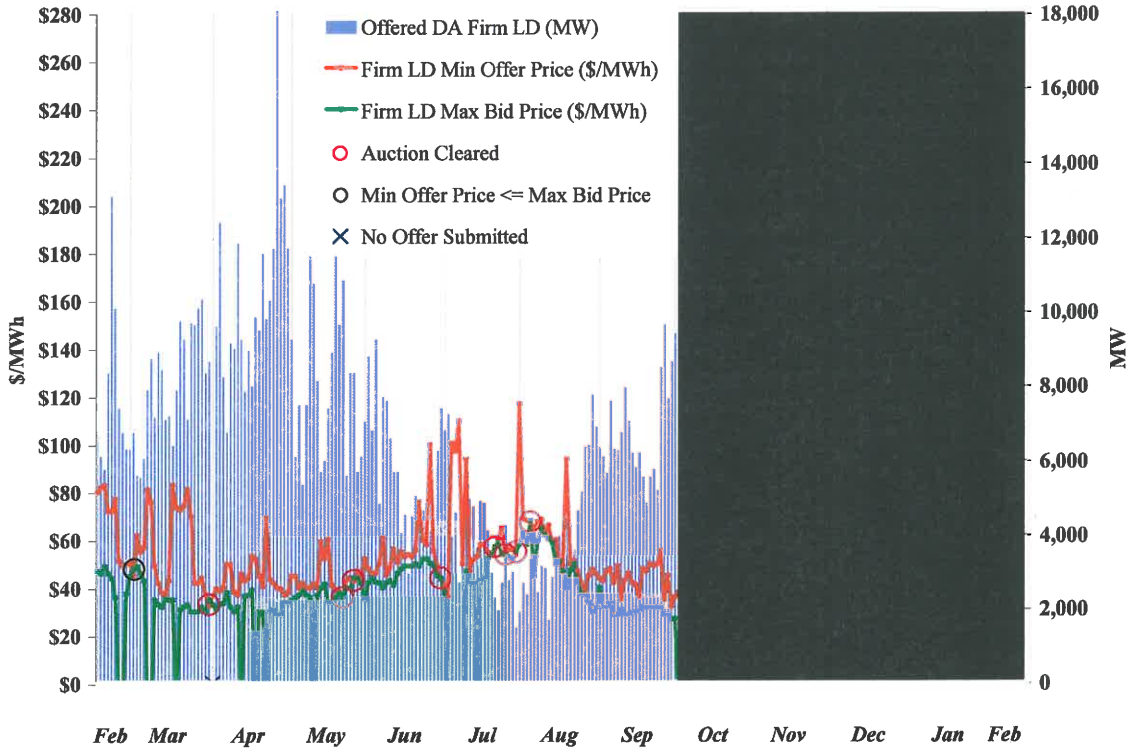


Figure V-12 shows the range of SOP offers and bids for Recallable Energy, including minimum, maximum and median values. Recallable Energy offer prices do not range as widely as Firm LD offer prices, since they are generally determined by lower-cost generators,

As shown in Figure V-12, there were only five days with any Recallable Energy bids at all. In all these instances, the highest bid price was below the lowest offer price, so no Recallable Energy auctions cleared.

Figure V-12
Daily Recallable Energy Offer and Bid Prices

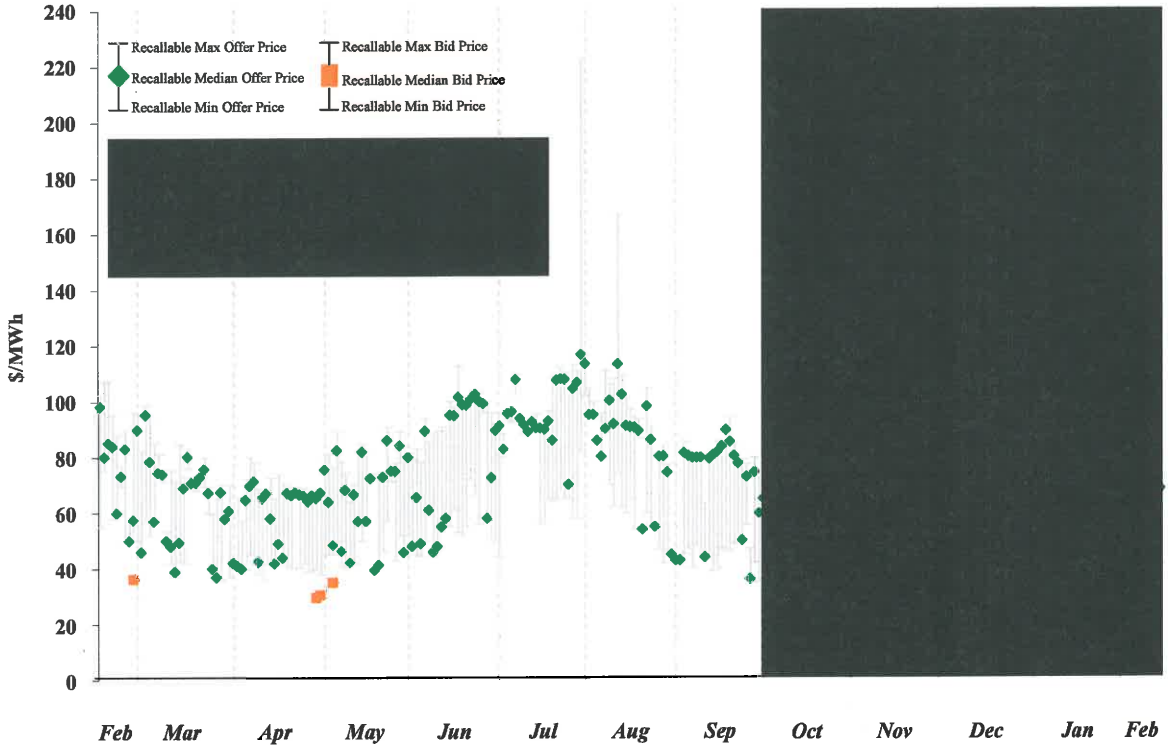
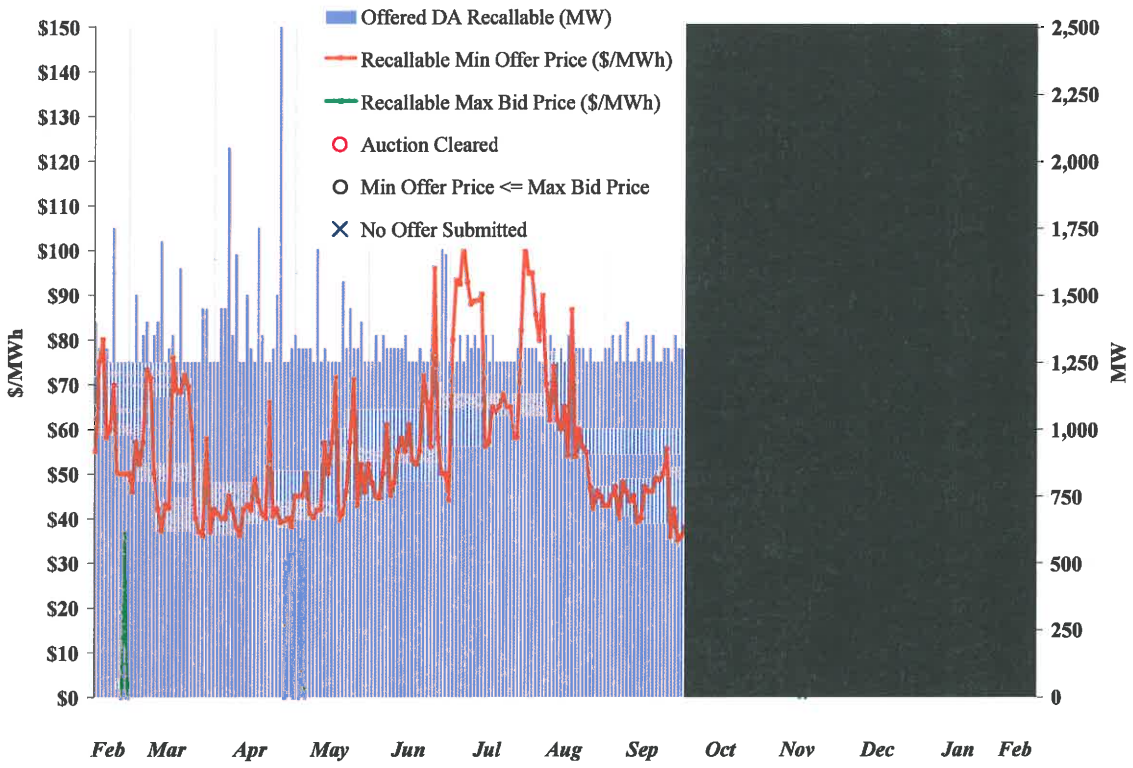


Figure V-13 shows the same Recallable Energy offer and bid price data, but with greater detail on the minimum offer price and the maximum bid price.

Figure V-13
Minimum Daily Recallable Offer and Maximum Bid Prices



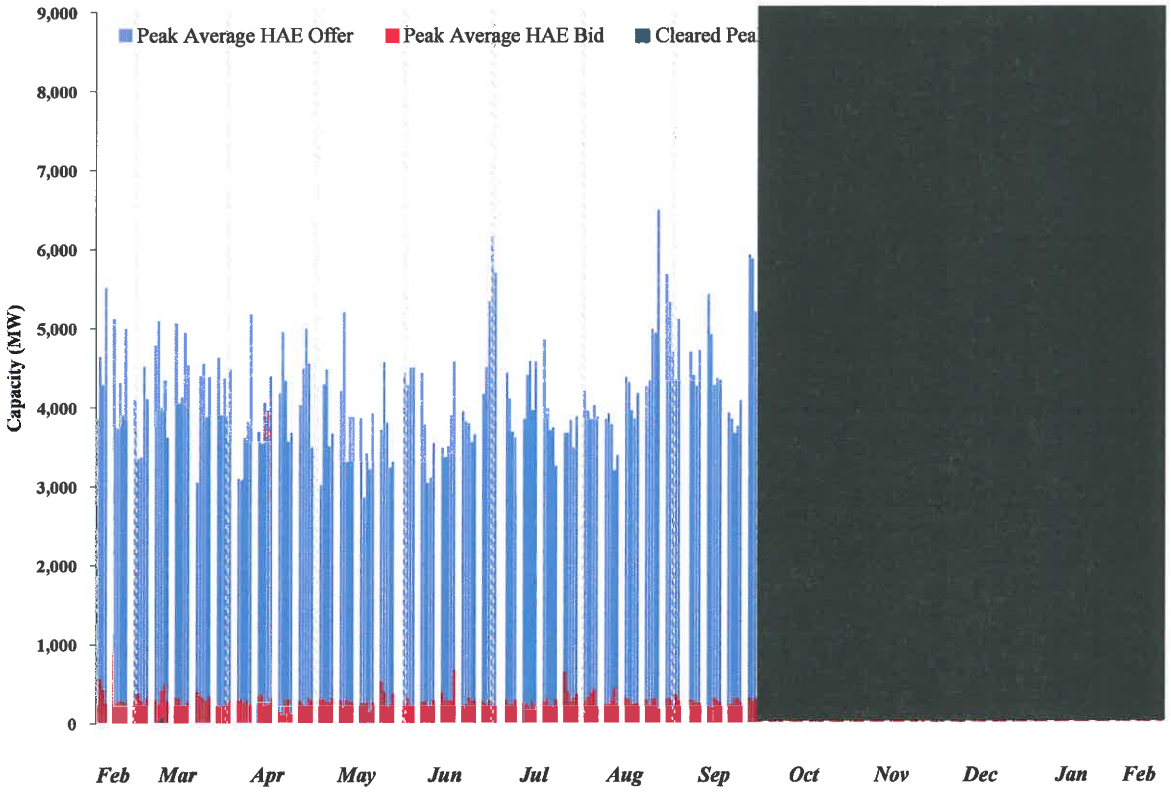
In accordance with Appendix DA-2 to the Participation Rules, the DAE SOP must not exceed the sum of 110% of the associated unit's average variable cost, including commitment cost where relevant, plus a demand charge of $21.43/MWh. As part of our daily monitoring, we verified SCS's SOP calculation for 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, 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 (8,760 hours in the 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.[50] Figure V-14 **shows the average of 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 a low of [redacted] to a high of [redacted]. Bid amounts were much smaller, with a daily on-peak average of [redacted] (including only hours with bids), ranging from [redacted] to [redacted].** Figure V-15 shows median on-peak daily HAE offer prices were typically around [redacted], and offers ranged from a minimum of a little over [redacted] to a daily maximum usually over [redacted]. The highest offer prices were fairly consistent, usually a bit over [redacted]. These were primarily driven by the [redacted].

Figure V-14
Daily Average of Offered, Bid, and Cleared Hour-Ahead Energy, On-Peak Hours



[50] 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-15
Hour-Ahead Energy Bid and Offer Prices, On-Peak Hours

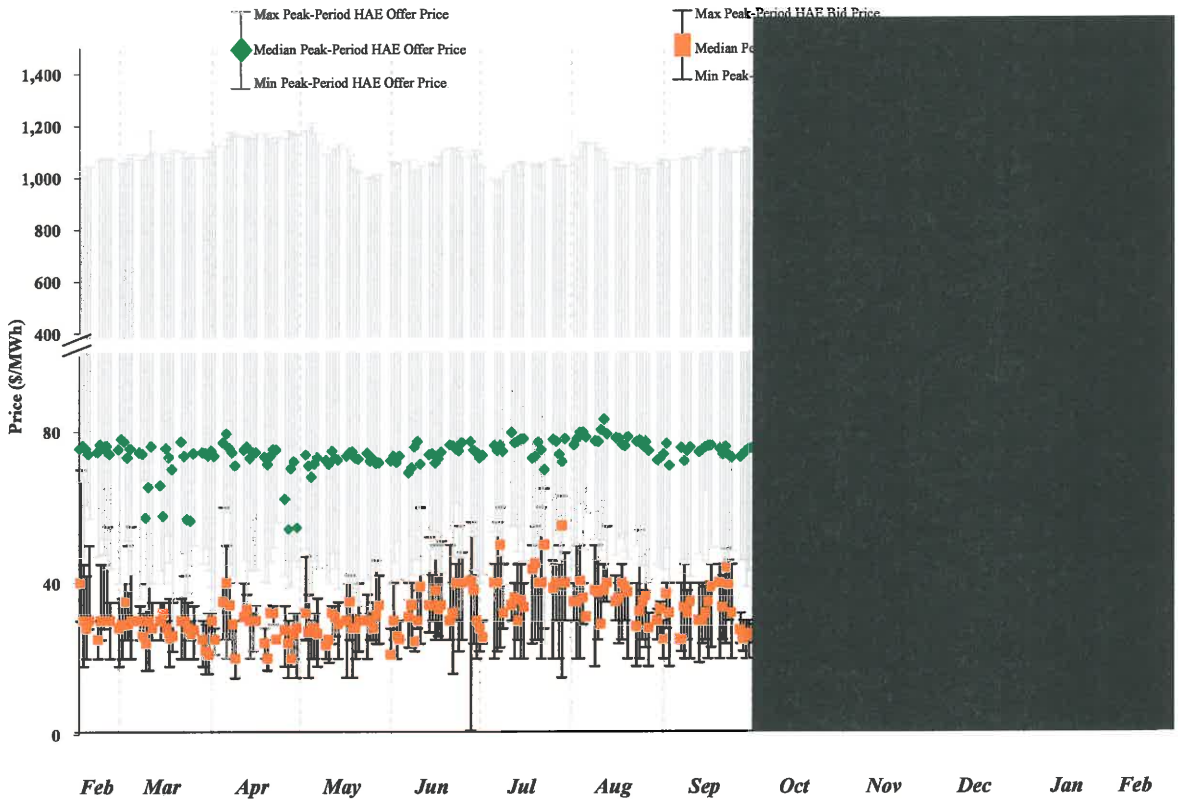


Figure V-16 and Figure V-17 show the analogous information for off-peak periods. The average quantity of energy offered off-peak was [redacted], ranging from [redacted] to [redacted]. Here too the amounts bid were [redacted], averaging [redacted] and ranging from [redacted] to [redacted] (on days when bids were submitted). The median off-peak daily HAE offer prices were typically around [redacted], very similar to the on-peak median price. The range of off-peak offer prices was [redacted] than on-peak, ranging from a minimum of [redacted] to a maximum of around [redacted].[51]

[51] Offer prices of around [redacted] occurred only in hours ending [redacted]. It appears to be related to the issue that occurred on [redacted], discussed in our First Annual Report. For some reason, [redacted] assigned a high limit of 1 MW for these units, which in combination with the incremental cost formula resulted in these high offer prices. SCS claimed that given the data available to [redacted], the offer price calculations were accurate. Excluding these hours, the maximum was [redacted].

Figure V-16
Daily Average of Offered, Bid, and Cleared Hour-Ahead Energy, Off-Peak Hours

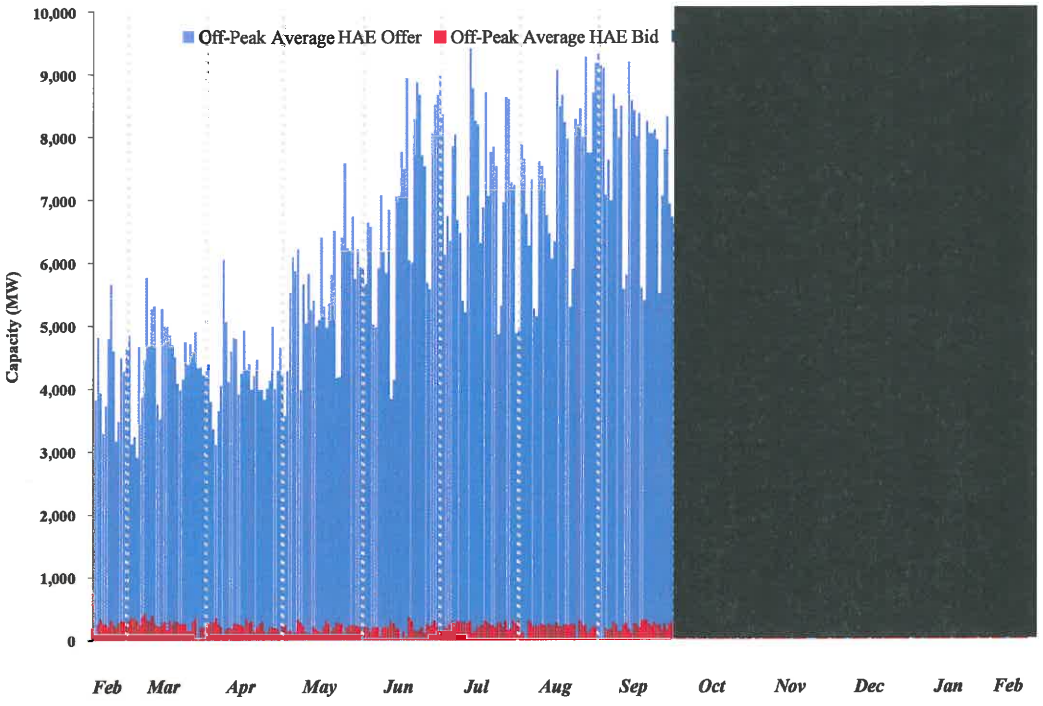
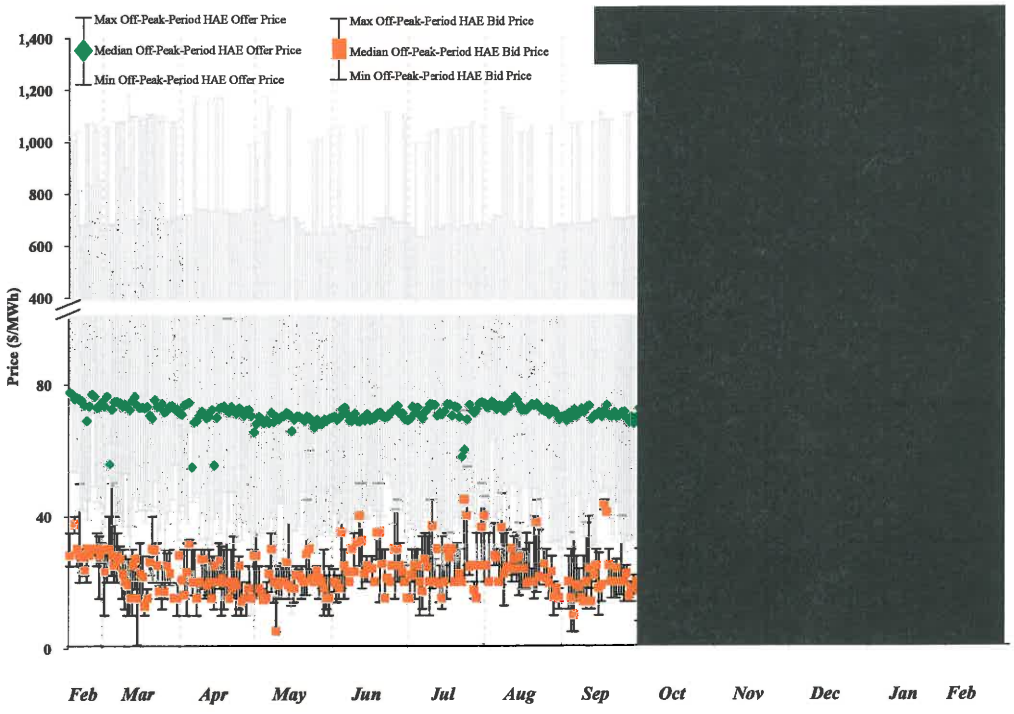
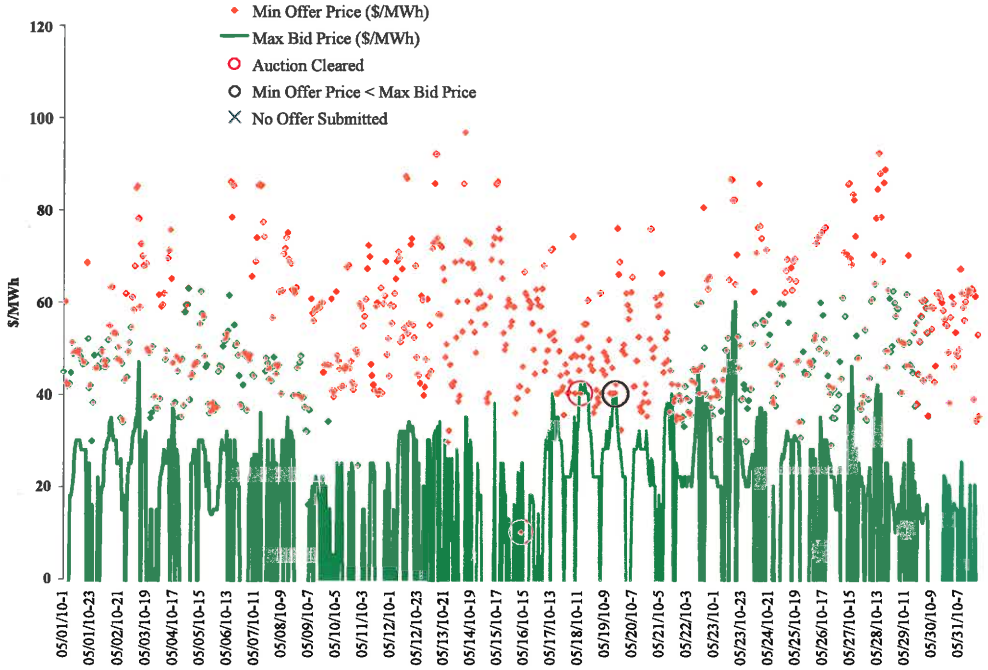


Figure V-17
Hour-Ahead Energy Bid and Offer Prices, Off-Peak Hours



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. As previously discussed, during the review period there were eight HAE auctions in which the maximum bid was above the minimum offer, and five of these instances resulted in the HAE auction clearing. Figure V-18 shows the minimum offer price and the maximum bid price for a sample month (May 2010).

Figure V-18
HAE Maximum Bid and Minimum Offer Prices, May 2010



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 successfully verify SCS's SOP calculation for each HAE auction during the review period.

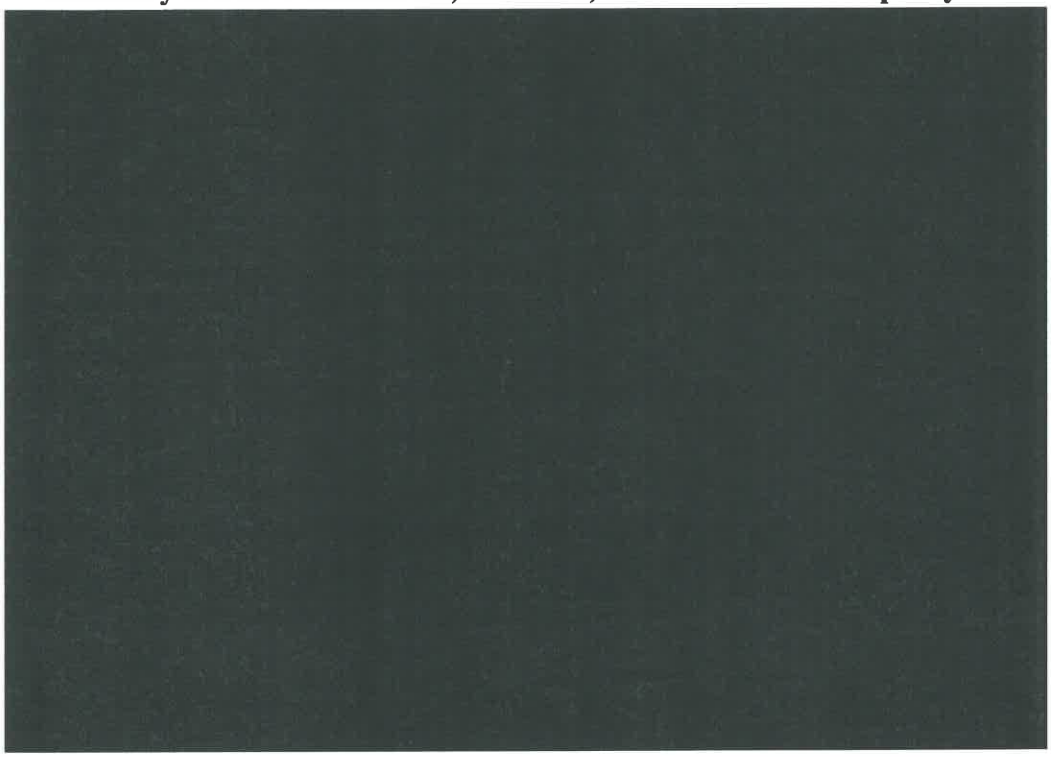
V.D. Analysis of DAE Available Capacity

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-19 below shows the disposition of SCS's capacity over the review period, 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-19
Summary of SCS's Committed, Excluded, and DAE Offered Capacity[52]



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, and as new units come online or retire and 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-19; the figure graphs the capacity rating values used in SCS's commitment calculations rather than the actual unit capacity ratings, which are more stable.[53]

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 successfully verify SCS's Available Capacity calculation for each DAE auction during the review period.

Day-ahead unit commitment may not fully obligate units up to their seasonal capacity. As a result some units may be partially committed for SCS' obligations, with some "spare" capacity available that can be offered into the Energy Auction. SCS includes such spare capacity in the

[52] Total capacity on [redacted], as graphed, is exceptionally high; reaching almost [redacted]. This was the result of SCS offering twice the amount of its Available Capacity [redacted] into the DAE auction on [redacted], as discussed earlier.

[53] Note that Figure V-19 excludes SCS's hydroelectric generating capacity.

Available Capacity for the DAE auction. The objective of the day-ahead unit commitment process is to minimize the total cost of serving SCS's total obligation. In general, this results in the least expensive units being committed first. [redacted] Figure V-20 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] to as high as [redacted]. [redacted] The average cost of units with spare capacity (weighted by their MW contribution in the spare energy blocks) is shown; it has been fairly stable at around [redacted], which is consistent with the variable costs of units committed to serve native load.[54]

Figure V-20
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 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 the 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.

[54] This is the average cost of spare capacity, and does not include either the 10% adder or the demand charge of $21.43 that are allowed for the SOP.

SCS provides us with the DA1 changes to the DA2 inputs in a file called "LFU Log." This log lists not only changes to the Load Forecast Uncertainty (LFU) used in the Available Capacity calculation, but also changes between DA2 and DA1 to the load forecast, purchases and sales, generator outages, and unit commitment. DA1 adjustments to the Available Capacity include:

- Increase or decrease to the forecasted load,
- Change in LFU 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-21 illustrates the net DA1 adjustments to Available Capacity during the review period. The top panel shows the breakdown of these adjustments 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 about [redacted], ranging from a low of [redacted] to a high of [redacted]. Note that the net DA1 adjustment may be negative if the changes between DA2 and DA1 are 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.

The initial DA2 Load Forecast Uncertainty calculation has been fairly stable, averaging about [redacted], ranging from [redacted] to [redacted] over the review period. 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 as high as [redacted], with decreases of as much as [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.

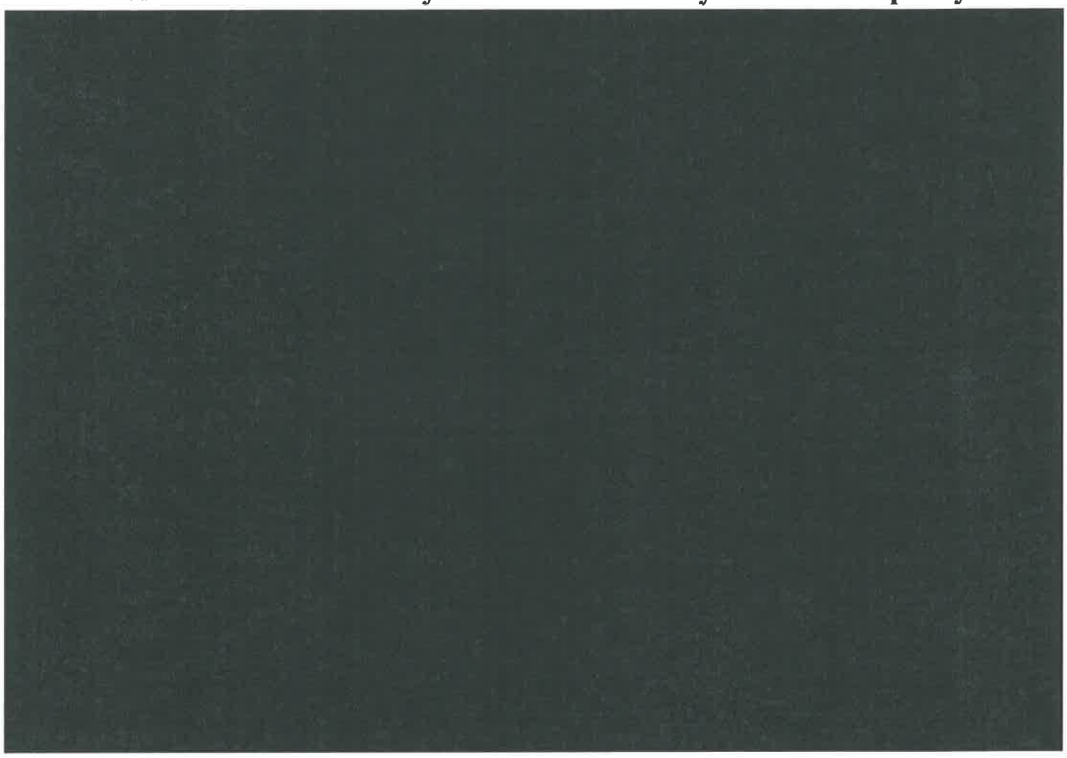
Changes to fixed-schedule generation [redacted] and additional purchases and sales of energy impacted the DA1 adjustments on most of the days in the review period, although usually to a lesser extent than load forecast changes. DA1 adjustments for higher fixed-schedule generation or higher purchases/lower sales increased Available Capacity on 103 days. 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 on 141 days. On these days, the downward adjustment averaged [redacted]; the largest downward adjustment was [redacted].

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 42 days within the review period. The reductions on these days averaged [redacted], with the largest reduction being [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 16 days 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] on 28 days during the review period.

Figure V-21
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]. The largest amount of capacity on maintenance outage at one time was [redacted].

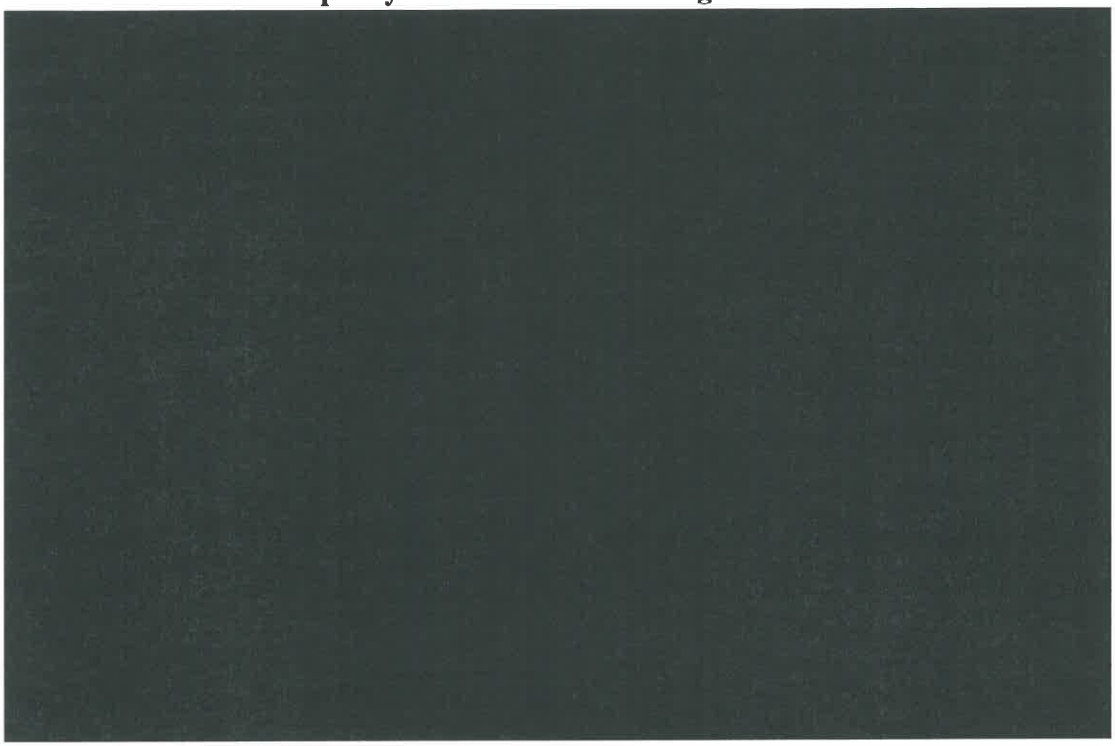
Forced outages occur due to equipment failure or other similar uncontrollable circumstances that force an immediate shutdown of a unit for repairs. Forced outages affected Available Capacity on [redacted]. The largest amount of capacity excluded due to a forced outage was [redacted].[55]

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], with a maximum of [redacted]. In addition, for modeling purposes, SCS typically reserves [redacted] to account for numerous small unit derates that may not be known at the time of unit commitment. On occasion, [redacted].

Lastly, [redacted]. Figure V-22 shows the capacity unavailable due to all these types of outages during the review period.

55 [redacted]

Figure V-22
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. The two main types of such constraints are: (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-23 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].

[redacted].

[redacted]

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][58]

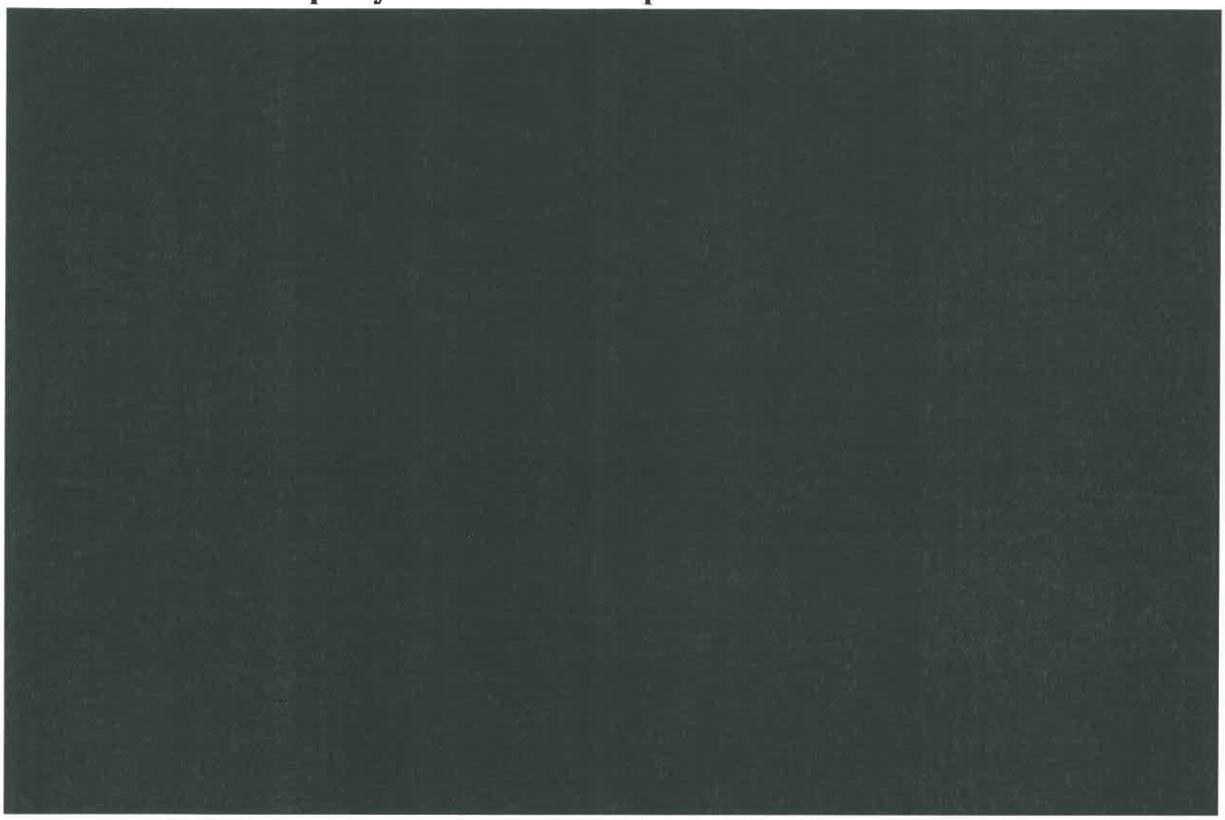
[redacted]

56 [redacted]

57 [redacted].

58 Capacity located outside the Southern BAA is also excluded from Figure V-23.

Figure V-23
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, scheduled hydroelectric generation, 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.[59]

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). These units are offered at their 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 and thus not available for the HAE auction;

- 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-24 and Figure V-25 show these various categories of SCS's capacity, in daily averages for on-peak and off-peak hours, respectively. These charts differ from Figure V-19 in several ways. First, of course, Figure V-19 shows Available Capacity in the day-ahead time frame, while Figure V-24 and Figure V-25 show Available Capacity in the hour-ahead time frame. Second, Figure V-19 shows Available Capacity based on the peak hour of the 16-hour delivery period, while

Figure V-24 and Figure V-25 show Available Capacity during each of the peak and off-peak hours, averaged daily. There is typically less Available Capacity in the hour-ahead time frame

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

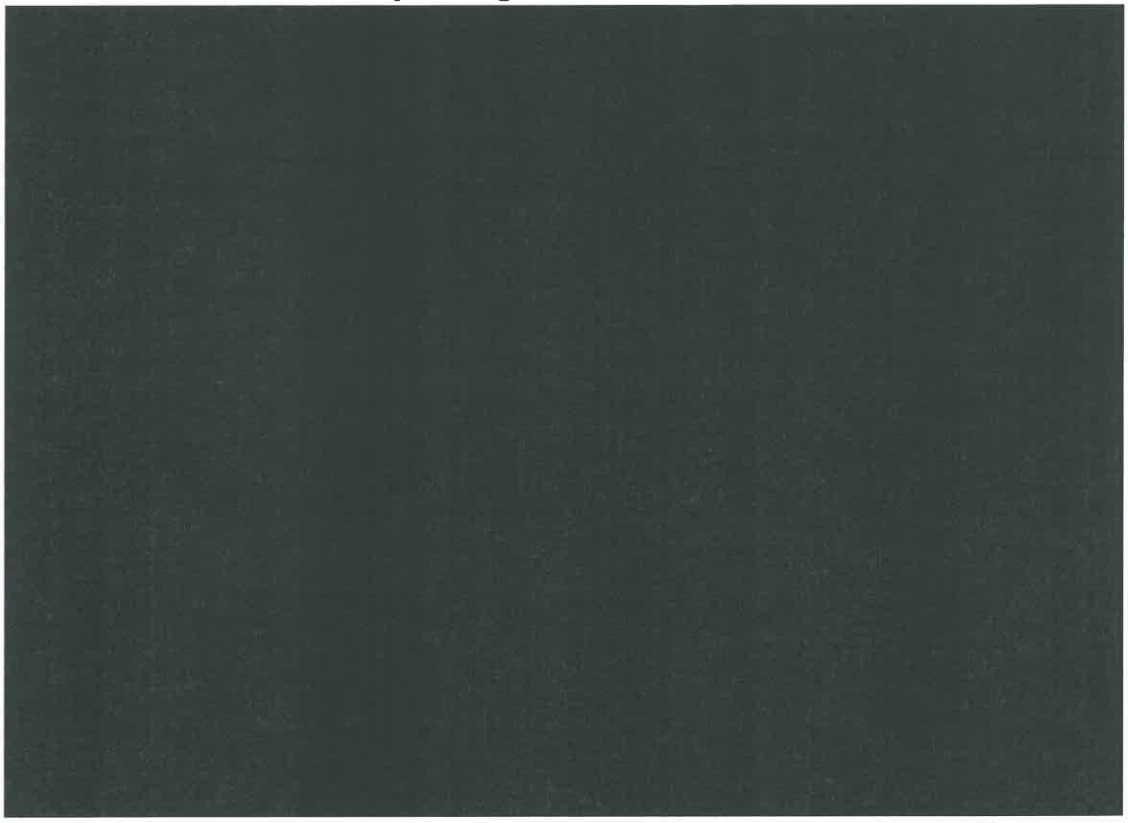
than in the day-ahead time frame simply because there are some types of capacity (*e.g.*, combined cycle plants) that start too slowly for the HAE auction but can be dispatched in time for the DAE auction. This also helps explain the fact that HAE Available Capacity is more stable over time [redacted]. For example, during the review period the highest on-peak average of HAE offers was [redacted], while as much as [redacted][60] was offered in the DAE auction. On average, about [redacted] of SCS's capacity was offered into the DAE auction during the review period. At the daily peak hour, an average of [redacted] of SCS capacity was offered into the HAE auction. SCS's hour-ahead Available Capacity has been as low as [redacted] the lowest total offered capacity in the DAE auction was [redacted].

Figure V-24
SCS's Committed, Excluded, and Offered HAE Capacity,
Daily Average of Peak Hours

[redacted]

[60] This does not count the [redacted] DAE auction when SCS apparently submitted twice the amount of its Available Capacity, representing [redacted].

Figure V-25
SCS's Committed, Excluded, and Offered HAE Capacity,
Daily Average of Off-Peak Hours



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 the Energy Auction. This review covered the period from March of 2010, when the first annual review was completed, through mid-March 2011, when this second annual review was completed. This section provides a report from Van Ness Feldman on its most recent review of compliance with the Tariff's data restrictions.

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

The Tariff contains specific requirements on handling of information related to third-party bids and offers in the Energy Auction. Phase II expanded the Energy Auction to include third-party offers to sell. In addition, it was at that time that an Independent Auction Administrator, TranServ International, Inc. ("TranServ"), assumed a number of the auction administrator functions that Southern employees had performed during Phase I.

The key elements of the Tariff relating to data restrictions are set out below.[61] The Tariff's Rules of the Energy Auction provide that:

> 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.[62]

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

> 2.1 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]
>
> 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

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61 The provisions set out are from the version of the Tariff accepted in the Order Conditionally Accepting Tariff Amendments and Ordering Compliance Filing issued on December 17, 2009, and made effective January 4, 2010.*Southern Company Services, Inc.*, 129 FERC ¶ 61,253 (2009) ("December 2009 Order").This version was the basis for Van Ness Feldman's second annual review. On March 24, 2011, after the second annual review was completed, the Commission conditionally accepted further revised Tariff provisions. *Southern Company Services, Inc.*, 134 FERC ¶ 61,226 (2011) ("March 2011 Order") (conditionally accepting changes effective January 4, 2010).

62 Southern Company Services, Inc. FERC Electric Tariff, Second Revised Volume No. 4 ("SCS Tariff"), Rules of the Energy Auction, Second Revised Sheet No. 13 (effective Jan. 4, 2010).

63 SCS Tariff, Rules on Southern Companies' Energy Auction Participation, Original Sheet No. 20B (effective Jan. 4, 2010).In its March 2011 Order, the Commission accepted changes that revised this section to read: "Any employee of Southern Companies may serve as Auction Administrator provided, however, 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." The March 2011 Order directed Southern to further revise Section 2.1 to "specify more narrowly and in the affirmative who may serve as Southern Companies' Auction Administrator." March 2011 Order at P 31.

any purpose (except to the extent such information is made available pursuant to Auction Rules Section 4.2.4[64]).[65]

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.[66]

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."[67] 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."[68]

VI.B. First Annual Review

Van Ness Feldman conducted a review of SCS's compliance with the Tariff's data restrictions during the first year of the Energy Auction. That review evaluated SCS's compliance with the data restrictions during Phase I. In addition, in March 2010, after Phase II of the Energy Auction was implemented, a further review was conducted of SCS's compliance with data restrictions during the first several months of Phase II implementation.

VI.C. Second Annual Review

For the second annual review, in January-March of 2011 Van Ness Feldman conducted a review of compliance with the Tariff's data restrictions applicable to Phase II of the Energy Auction.

Van Ness Feldman reviewed responses to new written requests for information and document requests, in addition to materials provided by SCS during the first annual review. Materials reviewed included: protocols and procedures for the Auction Administrators; excerpts from the contract with OATI (the contractor that operates the webMarket site) concerning confidentiality and treatment of bid information; a copy of the contract between Southern and TranServ for its Independent Auction Administrator services; job descriptions for the Auction Administrators and certain other employees; materials used to train Southern and TranServ employees regarding the Energy Auction; logs of Auction Administrator's access to the webMarket program; and a one-

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64 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. SCS Tariff, Rules of the Energy Auction, Third Revised Sheet No. 14 (effective Jan. 4, 2010).

65 SCS Tariff, Rules on Southern Companies' Energy Auction Participation, Original Sheet No. 20B (effective Jan. 4, 2010).

66 SCS Tariff, Rules on Southern Companies' Energy Auction Participation, Original Sheet No. 20C (effective Jan. 4, 2010).

67 SCS Tariff, Rules of the Energy Auction, First Revised Sheet No. 9A (effective Jan. 4, 2010).

68 SCS Tariff, Rules of the Energy Auction, Third Revised Sheet No. 12 (effective Jan. 4, 2010).

month sample of e-mail communications from the Southern personnel serving as Auction Administrators to Southern trading function employees.[69]

Van Ness Feldman also interviewed the two Southern employees designated as Auction Administrators and interviewed two employees of TranServ, which acts as the Independent Auction Administrator. Van Ness Feldman conducted a site visit to the Birmingham, AL offices where Southern's Auction Administrators are located on March 9, 2011.

SCS has been very cooperative during the second 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.D. FINDINGS

The review conducted by Van Ness Feldman found that SCS has continued to be diligent in its efforts to comply with the restrictions on bid and offer information contained in the Tariff. Further, Van Ness Feldman found no evidence that Southern marketing function employees had improper access to confidential bid or offer information or had received such data from the Auction Administrators. Other findings on each of the Tariff requirements are addressed below.

VI.D.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."[70] The review by Van Ness Feldman found no evidence that the Southern employees designated as Auction Administrators used restricted data for any purposes other than auction administration and audit purposes. Moreover, the retention of TranServ to perform many of the auction administration functions has reduced the use and handling of confidential bid and offer data by Southern Auction Administrator employees. For instance, while the testing of Energy Auction software was conducted by Southern Auction Administrators during Phase I using actual bid data, software testing during Phase II is being conducted by TranServ. The logs of Auction Administrator access to the webMarket software, and thus possible access to Bid Information and Offer Information, show that the frequency of access by the two Southern Employees designated as Auction Administrators declined substantially when TranServ assumed Independent Auction Administrator functions during Phase I.

VI.D.2. Roles of Auction Administrators

The Tariff provides 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),

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[69] Van Ness Feldman reviewed e-mail communications from November 2010.Thirteen 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 none of those e-mails contained restricted bid or offer data.

[70] SCS Tariff, Rules of the Energy Auction, § 3.5, Second Revised Sheet No. 13 (effective Jan. 4, 2010).

may not serve as Auction Administrator."[71] Van Ness Feldman found that neither of the two Southern employees designated as Auction Administrators served as marketing function employees or transmission function employees. In each case, their Auction Administrator duties constituted only a small part of their jobs, and their other duties are of the type that can be characterized as support or back office functions.

VI.D.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).[72]

As noted above, Van Ness Feldman found no evidence that Southern marketing or trading employees received Bid Information or Offer Information in contravention 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 there are no Southern marketing function employees with that Auction Administrator designation. Southern procedures provide that any printed bid or offer data would be kept in a locked file cabinet in the work space of one of the Auction Administrators (although no such printed material containing confidential bid or offer data has been retained).Limited historical bid and offer data resides on the Southern computer system. This data was used by Southern Auction Administrators for testing during Phase I,[73] and for analysis of the Independent Auction Monitor's First Annual Report in Phase II. This data is stored on a secure read/write protected directory to which only a limited number of non-marketing function employees have access.[74]

Interviews with the Southern Auction Administrators and with TranServ's project manager indicated that they were knowledgeable about the restrictions on access to bid and offer data.

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71 SCS Tariff, Rules on Southern Companies' Energy Auction Participation, § 2.1, Original Sheet No. 20B (effective Jan. 4, 2010).Changes to this provision were directed by the March 2011 Order. March 2011 Order at P 31.

72 SCS Tariff, Rules on Southern Companies' Energy Auction Participation, § 2.2, Original Sheet No. 20B, (effective Jan. 4, 2010).

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

74 The folder in which the Phase I bid data used for testing is stored is accessible by eight Southern employees, none of whom is a wholesale marketing or trading function employee. The folder in which bid and offer data used for analysis of the Independent Auction Monitor's report is stored is accessible by four Southern employees, none of whom is a wholesale marketing or trading function employee.

VI.D.4. 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.[75]

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 two Southern employees are designated as Auction Administrators and thus have access to bid and offer information on the OATI-administered webMarket system. There are protocols for securing any printed bid or offer information if it is created. There is limited historical bid and offer information residing on the Southern computer system, as described above, but access to the directories in which this data is located is restricted to a small number of Southern employees who are not marketing function employees. The Protocol for the Auction Administrators lays out clear guidance on the protection of bid information.[76]

Interviews with the two Southern Auction Administrators showed that both are well versed in the substantive requirements of the Tariff with respect to restricted data. The interview with the project leader for TranServ indicates that he too is well-versed in the data restrictions, and that TranServ employees have been trained on the restrictions.

In the first annual review, Van Ness Feldman identified two areas — access to work space and training — where additional steps could be taken to further reduce risk of inadvertent disclosure.[77] Van Ness Feldman provides the following update on those issues.

VI.D.4.a. Access to Work Space

[redacted]

[redacted]

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75 SCS Tariff, Rules on Southern Companies' Energy Auction Participation, § 2.3, Original Sheet No. 20C (effective Jan. 4, 2010).

76 Energy Auction: Auction Administrator Protocol (undated).

77 [redacted]

[redacted]

One of Southern's Auction Administrators continues to be located on Southern's trading floor. (The other Southern employee who was designated as an Auction Administrator during Phase I and sits on the trading floor was removed from the list of Auction Administrators as of March 2010.) As noted in the First Annual Report, however, the transfer of functions to TranServ (which performs its Independent Auction Administrator functions in restricted access offices located in Minneapolis, MN) has reduced the risk of inadvertent disclosure. For example, this Auction Administrator's use of webMarket has declined substantially during Phase II.[79] The Auction Administrator located on the trading floor spends only a relatively small share of his time (on the order of 1-2 hours per day, on average) on Auction-related job functions, and has other Regulatory Affairs and Energy Policy functions that involve interaction with the traders and other marketing function employees.

VI.D.4.b. Training

[redacted]

78 [redacted]

79 Logs show that this Auction Administrator logged in to webMarket 69 times over the period from January 2010 through January 2011 — a rate of 5.3 logins per month. He logged in only 13 times from July 2010 through January 2011 — a rate of fewer than 2 logins per month. By contrast, he logged in at a rate of 10 logins per month during the last three months of Phase I. Note that logging on to webMarket does not necessarily indicate that the Auction Administrator viewed restricted bid or offer data, but only that he could have viewed such data.

[redacted]

Although the Tariff does not mention training on the data restrictions specifically, Southern's 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."[81]

Interviews with the Southern Auction Administrators and the TranServ project manager indicate that they have a detailed knowledge of the data restrictions in the Tariff. Moreover, Southern's traders and schedulers received training on the Auction which included a reminder on rules concerning confidential bid and offer information in the Spring of 2010.TranServ trains its employees serving Independent Auction Administrator functions on the proper handling of confidential bid and offer data under the Tariff.

VI.E. Review of Tariff Revisions Accepted in March 2011 Order

On January 19, 2010, Southern filed proposed Tariff changes, including the addition of Section 2.1B(b) to the Rules on Southern Companies Energy Auction Participation. As proposed, that section provided that:

> Southern Companies, through the Auction Administrator, shall retain the right to access Bid Information, Offer Information, and other transaction-related information insofar as such access is necessary (i) to enable Southern Companies to ensure that the Auction operates as designed and implemented and in compliance the Auction Rules and Participation Rules and/or (ii) to respond to questions or complaints regarding Auction administration.[82]

On March 24, 2011, the Commission conditionally accepted the revised Tariff sheets with a direction to modify this section "to indicate that Southern Companies' access to [third-party confidential] information is permitted, through the Auction Administrator, only for the specific purpose of addressing questions or complaints about a particular auction."[83] In addition, the Commission directed Southern "to clearly state how the confidential information will be protected by describing when and how Southern Companies' personnel will access and use third-

80 [redacted]

81 Energy Auction: Auction Administrator Protocol at § 1.3 (undated).

82 SCS Tariff, Rules on Southern Companies' Energy Auction Participation, Original Sheet No. 20B.1 – 20B.2 (effective Jan. 4, 2010).

83 March 2011 Order at P 28.

party confidential information and how the Independent Auction Administrator will document such access and use."[84]

As noted above, Van Ness Feldman conducted its second annual review based on the version of the Tariff accepted in the December 2009 Order. Based on that review, Van Ness Feldman found no evidence that the Southern employees designated as Auction Administrators used restricted data for any purposes other than auction administration and audit purposes.[85] For the coming year, Van Ness Feldman will review Southern's compliance with Section 2.1B(b), as conditionally accepted in the March 2011 Order, subject to further changes filed and accepted during the next review year.

[84] *Id.* at P 29.

[85] *See* SCS Tariff, Rules of the Energy Auction, § 3.5, Second Revised Sheet No. 13 (effective Jan. 4, 2010).

VII. CONCLUSION

We have monitored SCS's participation in the Energy Auctions and compliance with the Tariff during the second annual review period, February 16, 2010 through February 15, 2011. As discussed above in Section III.A, we did not independently verify every data element provided to us by SCS; much of it 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 uses to operate its own system. To the best of our ability to ascertain, and with the limitations and exceptions previously identified, we have found that SCS has generally complied with the requirements of the Tariff throughout the review period. Those instances identified in this report where SCS did fail to comply fully with various specific Tariff provisions appear to be unintentional technical and administrative errors. 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.

Overall, this report documents each instance we have identified where, due to technical or administrative errors, SCS's administration of the Auctions and its offers into the Auctions did not occur in full compliance with the Tariff. As stated in the Introduction, we have found no evidence to suggest that SCS has attempted to evade the Tariff requirements or compromise the Auction's performance, either intentionally or through negligence. Further, 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 facilities and personnel as we have requested. We do note that the frequency of at least two types of non-compliant events appears to have decreased. There were only three clear instances of prohibited bilateral sales transactions in this review period, as compared with 17 in the previous review period. Similarly, we observed a significant decline in failed offer curve submissions. Since our First Annual Report, there was only one new such instance. The frequency of other types of non-compliant events does not appear to differ meaningfully from the previous review period. We have also found no evidence of attempts to manipulate the auction by third-party participants.

Since the First Annual Report, we have made several changes and improvements to our monitoring process. We have improved our coordination with SCS regarding changes and updates to unit-level status and operational parameters so that the notification of changes is more prompt and complete. This has enabled us to streamline and improve our verification and reconciliation of these changes, and to implement a more systematic after-the-fact review. For the HAE Auction, we have requested and received additional information in the daily data transfers (primarily updated unit availability and reasons for unavailability), which allows us to better verify SCS's HAE offers and identify any discrepancies. We have also systematized our review of bilateral sales transactions.

Our efforts as IAM have been challenging and rewarding, and we appreciate the Commission's confidence in this important role. 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 Second Annual Report

Exhibit B
Explanation for Redactions in Public Version of the Independent Auction Monitor's Second Annual Report

Explanatory Statement: The table below provides the 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 eight separate 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 Standards of Conduct for Transmission Providers.	44, 45, 46, 90
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.	15, 17, 20, 21, 24, 41, 42, 45, 46, 49, 50, 51, 86, 89, 90, 91, 93, 95, 96, Appendix A, Appendix B
Data reflects system forecast, 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.	9, 11, 12, 13, 14, 15, 17, 19, 20, 22, 23, 24, 27, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50, 51, 58, 59, 60, 61, 62, 74, 75, 77, 78, 79, 80, 81, 82, 83, 84, 86, 87, 88, 89, 90, 91, 92, 93, 95, 96, Appendix A, Appendix B, Appendix C
Data reflects non-public, commercially valuable information relating to activities by Southern Companies in the wholesale energy markets, which is not yet public, and the release of which could negatively impact Southern Companies' ability to transact in the wholesale markets, to the detriment and harm of Southern Companies' retail customers.	15, 20, 24, 50, 51, 53, 54, 55, 93, Appendix A, Appendix B

Justification for privileged treatment under 18 C.F.R. §§ 388.107 and 388.112	Page of Report
Data reflects Energy Auction bid and/or offer information and associated non-public Energy Auction strategies 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.	23, 27, 32, 50, 57, 63, 65, 66, 67, 68, 69, 70, 71, 73, 74, 75, 77, 78, 79, 80, 81, 82, 83, 84, 86, 87, 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.	20, 21, Appendix B
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, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 64, 76, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, Appendix A, Appendix B, Appendix C
Data reflects information contained in the 2010 Annual Report, for which privileged treatment was requested and recognized per 18 C.F.R. 388.112.	101, 102, 103