
**MONTHLY AUDIT REPORT ON THE
SOUTHEAST ENERGY EXCHANGE MARKET**

**FOR
December 2023**

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I. OVERVIEW

This is the Auditor report for the month of December 2023 on the Southeast Energy Exchange Market (SEEM). SEEM is a regional energy market that uses a centralized intra-hour energy exchange to create bilateral trade among its trading participants every 15 minutes. It uses available transmission capability (ATC) of the SEEM members under a transmission service designed for SEEM called Non-Firm Energy Exchange Transmission Service (NFEETS). It has operated since December 2022 and now has 24 members.¹

Trading volumes increased slightly from 72,000 MWh in November to 73,000 MWh in December and were substantially above the market-to-date monthly average of 55,000 MWh. Trading among SEEM members relies on individual transmission segments connecting the members and trade may span multiple segments. Transmission availability on individual segments varied widely. For many segments capacity is available in every interval. For other segments, availability is zero in many intervals. Considering all intervals and segments, ten percent of the time availability was zero. Due to transmission constraints, transmission loss costs, and participant-specific constraints, about 15,000 MWh of potential economic exchanges were left uncleared in December. As explained herein, these are uncleared offers and bids in the same interval where the offer price was less than the bid price by more than the average cost of losses.

SEEM is governed by the SEEM Membership Board. The automated architecture of SEEM was developed and is operated by Hartigen, who also serves as the SEEM Administrator. Our auditing role is directed by the Membership Board in accordance with elements specified in the Market Rules as developed by the Membership Board and approved by the Federal Energy Regulatory Commission (FERC). The results of our auditing are reported to the Membership Board through submission of this Monthly Report. We also have a duty under the Market Rules to respond to inquiries made by regulators and other oversight authorities, including FERC. We received no such inquiries during the period of this report.

The SEEM auditing framework is based on the provisions of the SEEM Market Rules Section VI.D. (Auditing Process). These duties are in four main categories. The first duty is to analyze SEEM input, constraints, and matching results to determine if SEEM operates in

¹ The initial 18 members are: Alabama Power Company; Georgia Power Company; Mississippi Power Company; Associated Electric Cooperative, Inc.; Dalton Utilities; Dominion Energy South Carolina, Inc.; Duke Energy Carolinas, LLC; Duke Energy Progress, LLC; Louisville Gas & Electric Company and Kentucky Utilities Company; North Carolina Municipal Power Agency Number 1; PowerSouth Energy Cooperative; North Carolina Electric Membership Corporation; Tennessee Valley Authority; Georgia System Operations Corporation; Georgia Transmission Corporation; Municipal Electric Authority of Georgia; Oglethorpe Power Corporation; and South Carolina Public Service Authority. The Florida member joining in June 2023 are: Seminole Electric Cooperative; Tampa Electric Company; Duke Energy Florida; Florida Power Corporation; TEA Gainesville Regional Utilities; and TEA JEA.

accordance with the SEEM Rules (SEEM Rules Sections VI.D.1, VI.D.1.4). This is the main day-to-day auditing work and represents most of the activities reported herein.

A second auditing responsibility is ensuring participants have access to SEEM data in accordance with the SEEM Rules (Sections VI.D.2). Access to SEEM data involves allowing each SEEM participant to review its own bids and offers and to view matches made by the system. We are in receipt of the bid and offer data and have verified that this data is available daily.

A third area of responsibility is to report to the Membership Board regarding (1) the reliability and accuracy of the SEEM System, and (2) any complaints received from a Participant to the Membership Board and to investigate further any such complaint at the Board's direction (SEEM Rules Sections VI.D.3, VI.D.1.5). Section II of this report fulfills our responsibility to report on the reliability and accuracy of the SEEM system to the Board. Regarding complaints from participants to the Board, we were not directed by the Board to investigate any such complaints during the period of this report.

Finally, we have the duty to respond to written questions from Participants, FERC, NERC, state commissions in the region, Tennessee Valley Authority's Inspector General, and any other applicable regulators that oversee the electric operations of any Member regarding the integrity of the matching process (SEEM Rules Sections VI.D.6). We received no inquiries in December. An inquiry concerning data confidentiality was received in October and was resolved satisfactorily in early December.

In the remainder of the report (Section II), we provide the results of our analysis of the first main area of responsibility: to analyze of input, constraints, and matching results to determine whether SEEM operates in accordance with the SEEM Rules. This is in two main parts. First, we review various daily screens that ensure specific inputs, constraints, and energy exchanges have met certain validation metrics. Second, we review the economic activity in SEEM to provide insight into its functioning and performance.

II. AUDITING RESULTS

In this section, we discuss the results of our monthly auditing. In subsection A, we show the results of our daily screening. In subsection B, we present an overview of the economic activity.

A. Market Operation Screens

We calculate screens, metrics, and other analyses on a daily basis using market data and other data to meet the auditing obligations in the Market Rules. The screens and metrics are developed in accordance with specific Market Rules requirements and are divided into three main categories:

- Verification of bid/offer parameters;
- Evaluation of SEEM matching; and
- Verification of SEEM System Constraints.

The following three subsections describe the screens used for our auditing. Unless otherwise indicated, these screens are calculated daily for all fifteen-minute intervals.

1. Bid/Offer Parameters

The following screens audit the information provided in participant bids and offers.

- Offers (bids) from a participant must have Participant-Specific Constraints identifying at least three other non-affiliated Participants that can be matched as counterparties;
- All offers and bids properly must include a source or sink;
- Each offer and bid must have a delivery interval;
- Bids and offers must be 4 MW increments;
- “All or Nothing Selection” must be indicated; and
- The Network Map must be accurate (monthly).

2. Matching

The following screens are used to audit the SEEM matches:

- Match price must not exceed the bid price and must be greater than the offer price;
- Buyer and seller must be distinct participants;
- Participant-specific constraints must be check for any changes (monthly);
- SEEM benefit calculation must be verified;
- Any maximum offer price declared must bind the transaction; and
- Each match must have a NERC Tag.

3. Constraints

The following screens audit the SEEM constraints.

- Transaction volume must not exceed offer or bid volume;
- The SEEM algorithm must only make energy exchanges that yield positive benefits to both buyer and seller; and
- Transaction volume over each segment must not exceed the segment ATC.

We have data transfer and storage architecture in place to receive SEEM data that supports the calculation of these screens. Apart from screening the network map and the participant-specific constraints (described below), the screens are calculated daily, and we have developed data processing procedures for each of the daily screens. We applied the screens to the December SEEM data and found that in all intervals the screens have indicated that requirements have been met.

For the monthly audit of the network map, we use the initial map developed by Hartigen and the SEEM working groups as a basis for comparing subsequent maps. This map is an electronic file of all sources, sinks, balancing areas, and SEEM transmission segments that comprise the SEEM system. A SEEM segment is an interface between two balancing areas and in many cases is synonymous with the path used by the system. In some cases, the segments are linked together to allow SEEM matches across multiple systems, forming a multi-segment path. The SEEM model allows any number of SEEM segments to be linked in order to find a beneficial trade.

By using this initial map as a basis of comparison, we will take advantage of the lengthy technical process used by SEEM and the SEEM members to develop the map and assume it is accurate. It would not be practicable to replicate this initial map. To monitor the map over time, we use the SEEM model's static path configuration database that is used by the model to assess possible paths associated with the sources and sinks offered and bid in each interval. We save a snapshot of this database and compare it to the path configuration database used at the start of each month. We identify and evaluate any changes. We found no changes in December and therefore we conclude the network map is accurate for the current sources and sinks participating in SEEM.

In a similar fashion, we evaluate changes to participant-specific constraints. These are counterparties and balancing areas acceptable to each participant for trades in SEEM, as well as any maximum price constraints. In each interval SEEM uses a set of participant-specific constraints for all participant bids and offers. We check each participant for any excluded sellers or buyers and any max price constraints and identify any constraints that changed during the month. There was a minor change to participant-specific constraints between two participants in December to temporarily avoid trades between them.

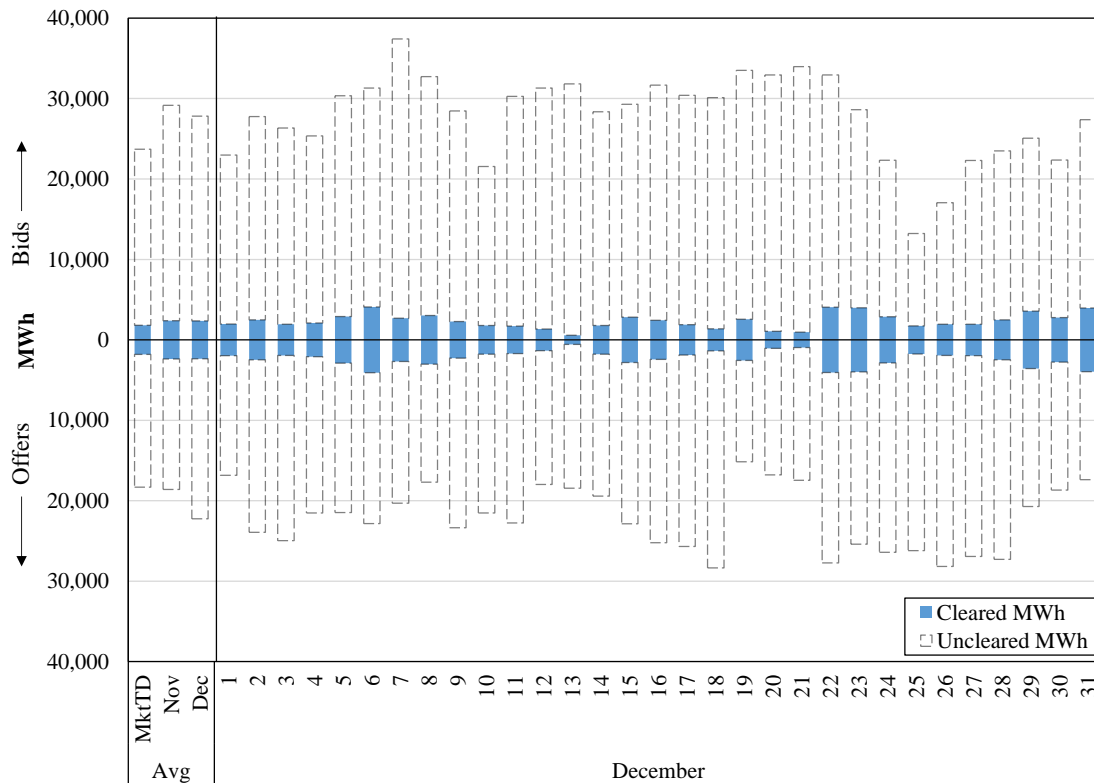
B. Market Activity

In this section, we summarize and discuss SEEM operations and outcomes to illuminate any potential operating or market issues. Our evaluation is in two principal areas. First, is an overall review of the market trading, including volumes, prices, and characteristics of participation. Second is an evaluation of network usage, focusing on the key transmission paths and constraints.

1. Market Outcomes

SEEM cleared 73,000 MWh of energy in December, averaging approximately 2,400 MWh per day. Figure 1 shows the daily SEEM bids and offers for December. Each bar represents the daily total MWh volume of SEEM activity. The bids and offers are divided between cleared bids to buy (blue bar above the x axis) and cleared offers to sell (blue bars below the x axis). The transparent bar stacked above the bids and below the offers are the uncleared bids and offers. The left side columns show activity relative to the previous month and relative to the market to date (MktTD). MktTD is the monthly average of all months since SEEM began in November 2022 (i.e., the November 2022 – December 2023 average).

Figure 1: Daily Bids and Offers
December 2023

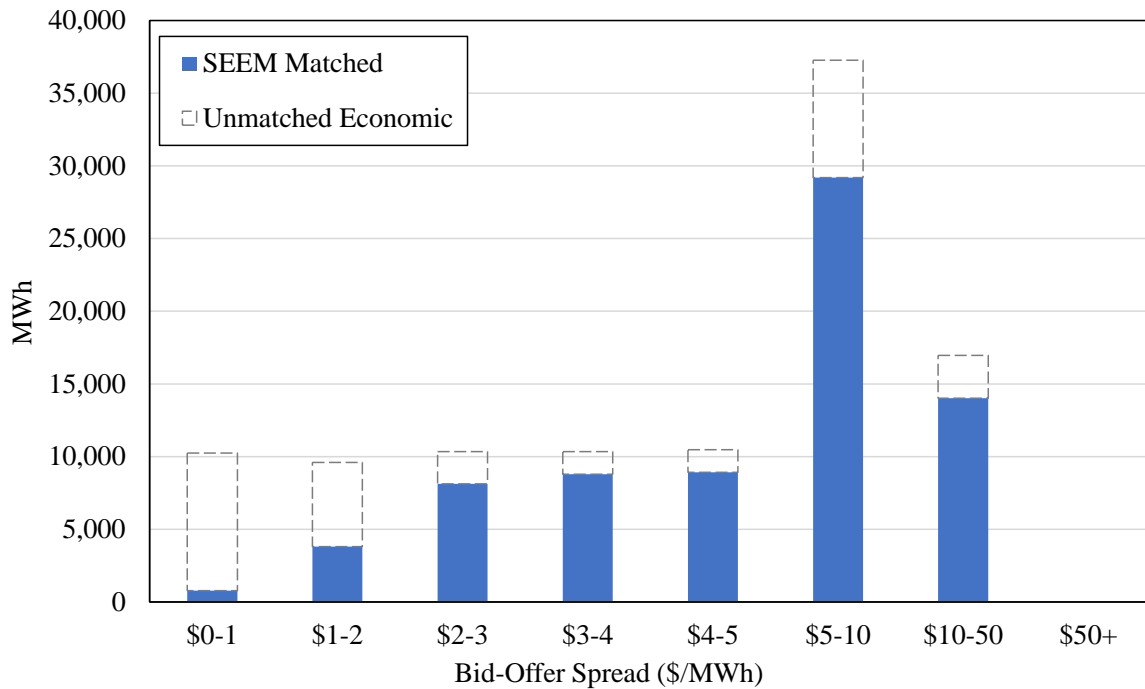


The average daily bid and offer quantities are comparable between December and November and higher than the MktTD average. Much of the volume increase relative to MktTD is linked to the

new participants that started trading at the end of June. As the left-side monthly and MktTD bars show, total liquidity (cleared and uncleared bids and offers) between November and December was roughly equal, but December was greater than MktTD monthly average.

Like in previous months, we evaluated the uncleared bids and offers and found a notable volume of uncleared bids and offers with economic overlap in the sense that in an interval there were uncleared bids whose bid price was greater than some uncleared offer prices in the same interval. Of course, most economic uncleared matches have a small bid-offer spread, and likely are not matched due to transmission losses that render the trade uneconomic. However, there are some economic uncleared matches with substantial spreads. Figure 2 shows a summary of the cleared and uncleared matches. Each stacked bar shows the SEEM matches (blue bar) and the economic unmatched (transparent bar) at the given bid-offer spread. For example, the first blue bar shows SEEM matches where bids exceed offers by up to \$1 (very few), while the transparent box shows considerable uncleared economic bids and offers that did not clear at spreads up to \$1.

Figure 2: Cleared and Uncleared Economic Matches
December 2023



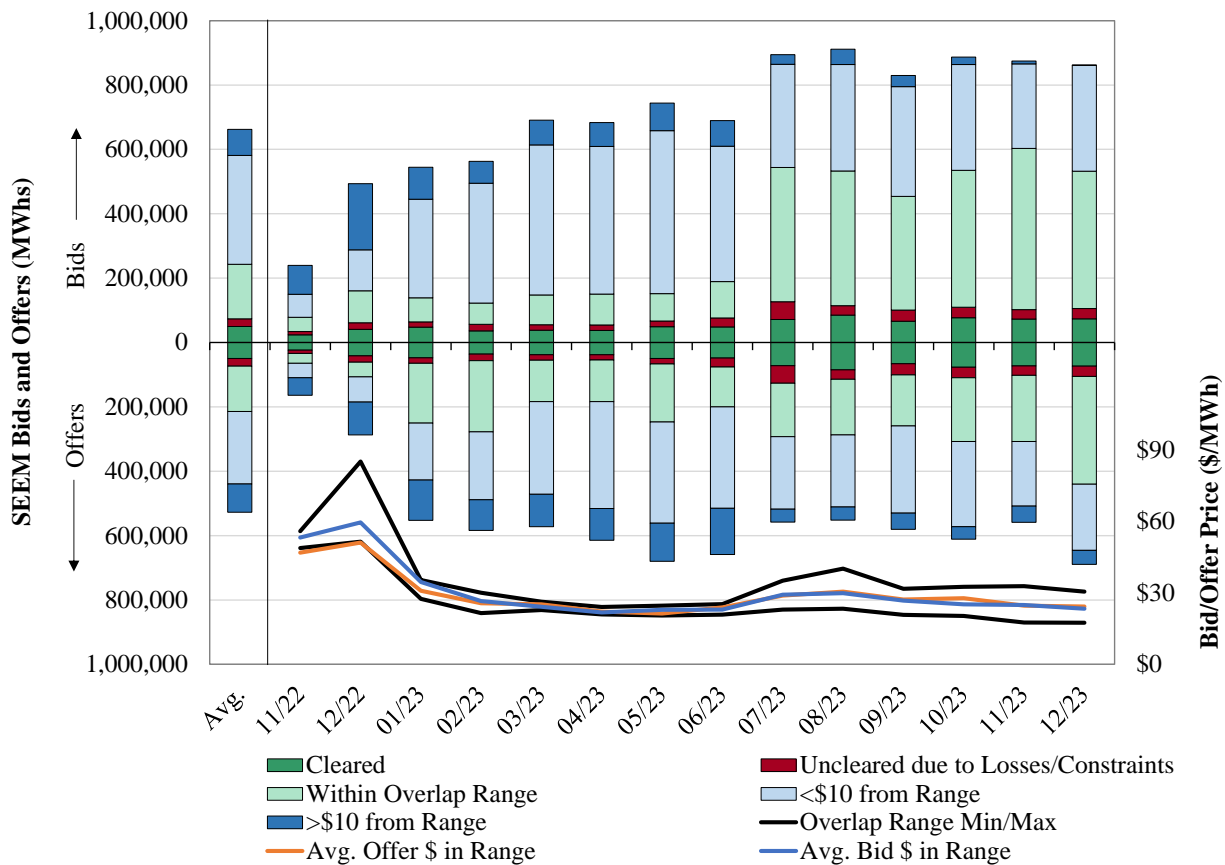
The average cost of losses the SEEM system is about \$2/MWh. About 15,000 MWh of uncleared bids/offers could settle at a price that could pay the average \$2/MWh losses (the sum of the transparent bars for spreads greater than \$2). In November, the amount was 13,000 MWh. Without a complex simulation, there is not a straightforward way to determine why these bids and offers did not clear. Among the possibilities are transmission constraints and the need to use

segments that had higher-than-average cost of losses. Counterparty constraints could also explain unmatched bids and offers.

There are also rare instances when transactions are matched but fail to clear the transmission scheduling process. These instances are attributable to occasional delays in approving transmission service requests (TSRs), so the tag is denied for being late. It may also result from insufficient ATC when the TSR is processed. SEEM downloads ATC values from OASIS twice an hour, so it is possible that real-time changes occur that result in insufficient ATC by the time the TSR is submitted. These failed transactions were less than 1/10 percent of the total bid/offered quantities.

Our next evaluation is a monthly comparison of bids, offers, and prices and is shown in Figure 3.

Figure 3: Bid and Offer Evaluation



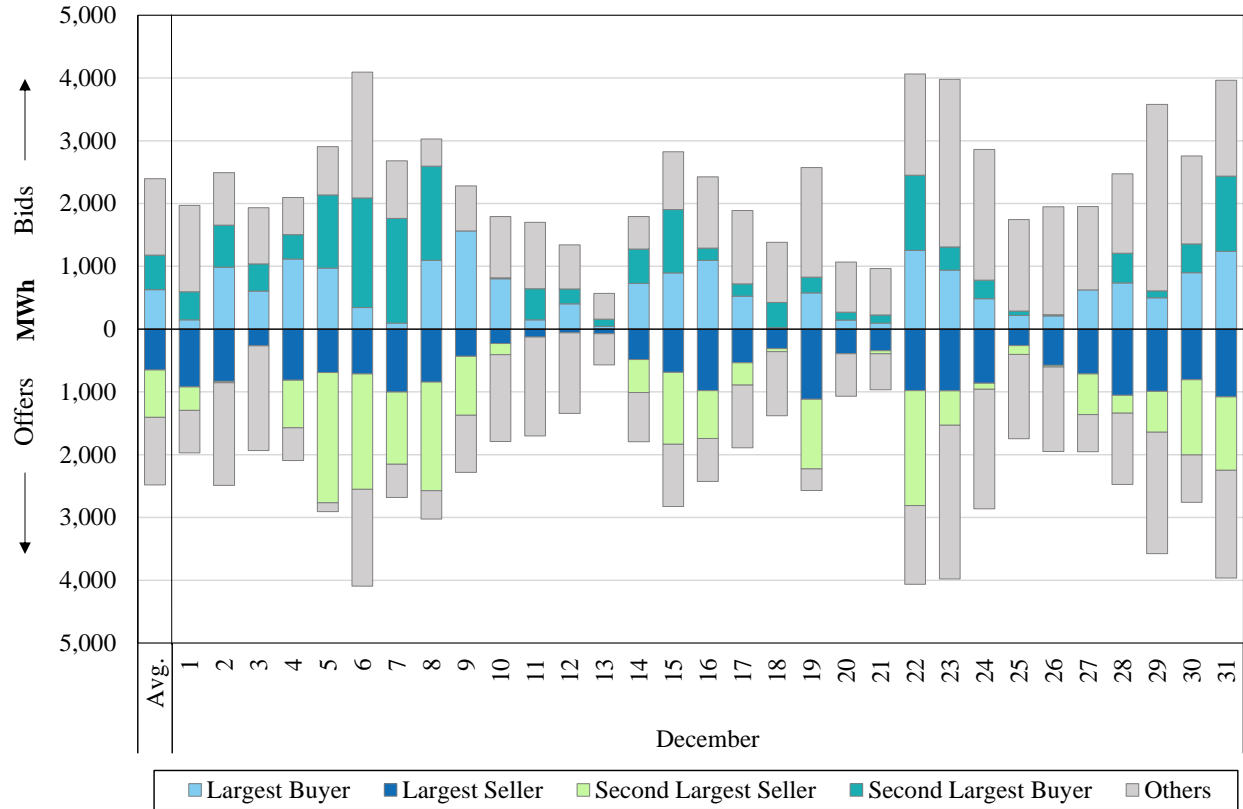
Each bar is divided to show volume of cleared bids/offers (dark green) and various categories of uncleared bids and offers. The red segment shows uncleared economic bids and offers. These are the uncleared bids and offers identified in Figure 2. The light green bars show bids and offers that were not cleared but were within the indicated cleared bid-offer spread – i.e., bids that are higher

than the lowest cleared bid and offers that are lower than the highest cleared offer. In this group, there are no corresponding counterparties that would comprise an economic match in an interval even though the participant's bid (offer) is greater (less) than an offer (bid) matched during the interval. These cases arise due to an economic counterparty having already been matched to another counterparty with greater savings. For example, consider an interval where the lowest-matched offer was \$30 and the highest-matched bid was \$45. An offer of \$40 may remain unmatched because a bid of \$43 was matched to an offer of \$39. Ignoring loss costs and SEEM constraints, an offer of \$40 would be matched to a bid of \$43. But SEEM would match the \$43 offer to \$39 bid instead.

The light blue bars show bids/offers within \$10 of the overlap range (\$10 or less outside the cleared bid-offer range). The dark blue bars show bids/offers greater than \$10 of the overlap range – participants likely do not expect these to clear. The bid-offer spread is shown in the black lines in the bottom panel of the figure along with lines showing the averages of bid and offers in the cleared range. Because the bulk of uncleared bids and offers are separated by wide spreads (light green, light blue, and dark blue), liquidity will improve if these spreads close.

Figure 4 shows more detail on the matched bids and offers by showing the matches by the largest market participants. Like the prior figure, the bars above the x axis are cleared bids and the bars below are cleared offers. The bars in this figure are divided by the top two participants and then all the rest.

Figure 4: Volumes of Matched Bids and Offers
December 2023

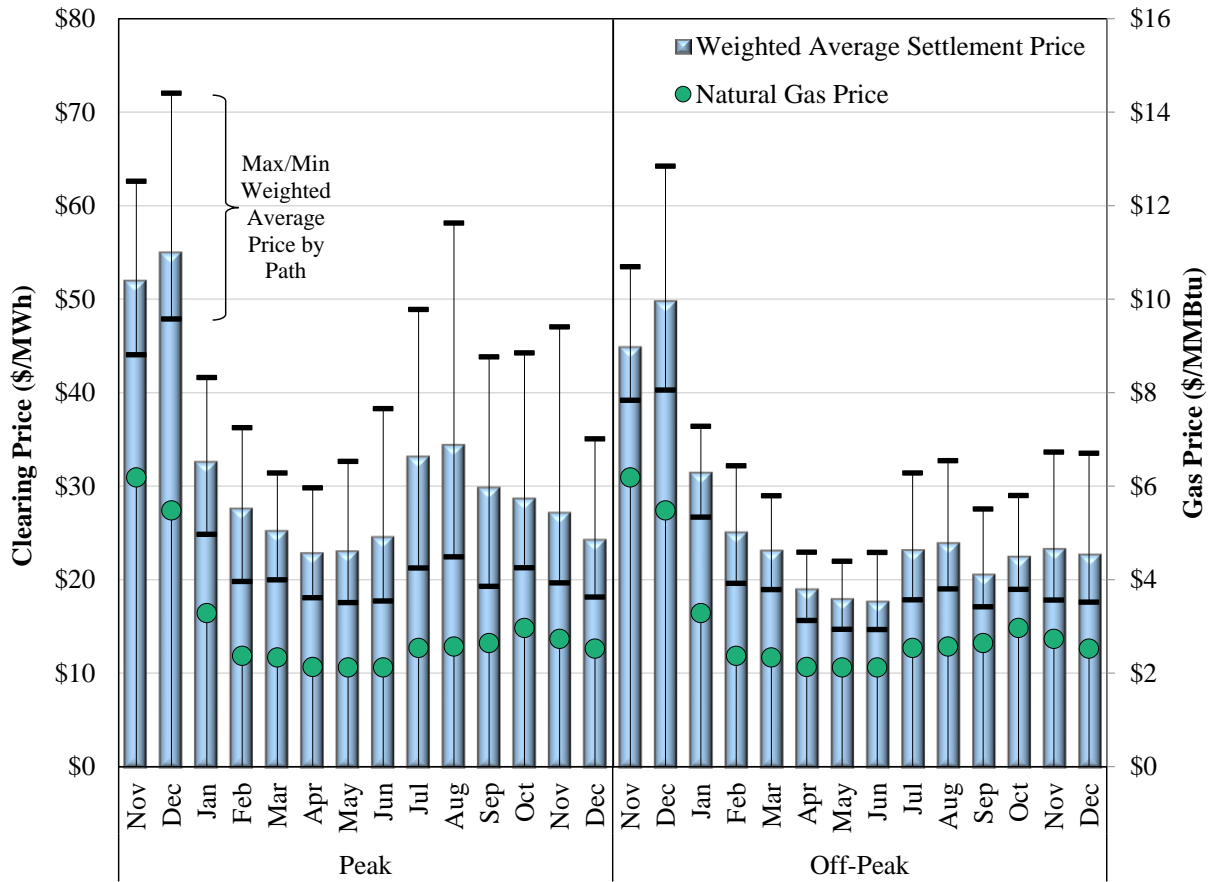


The figure shows certain buyers and sellers comprise significant shares of the transaction activity. Twenty-six percent of the sales were made by a single seller and 27 percent of the purchases were made by a single buyer. With the addition in June of new participants these concentration statistics have fallen.

2. Network Usage

In this subsection, we report on the usage of the SEEM network. Figure 5 shows monthly SEEM clearing prices, natural gas costs, and average daily minimum and maximum prices in peak and off-peak hours during the month. The figure shows that prices are correlated with natural gas costs, which is the marginal fuel in many hours and strongly influences the value of power in many hours. The superimposed lines over the bars show the price spread over each month.

Figure 5: Monthly Clearing Prices and Natural Gas Costs



We evaluate the price spreads in more detail in the following two figures. Figure 4 shows the average daily peak-hour prices for December and the prices on the highest-priced and lowest-priced paths for each day. Figure 7 is the same figure but for off-peak hours. The figures shown in the left column are the December prices compared to the previous month. It shows the average prices are slightly lower than the prices in November and lower than the average prices since market opening.

Figure 6: Average SEEM Clearing Prices: System-Wide and by Path
Peak Hours – December 2023

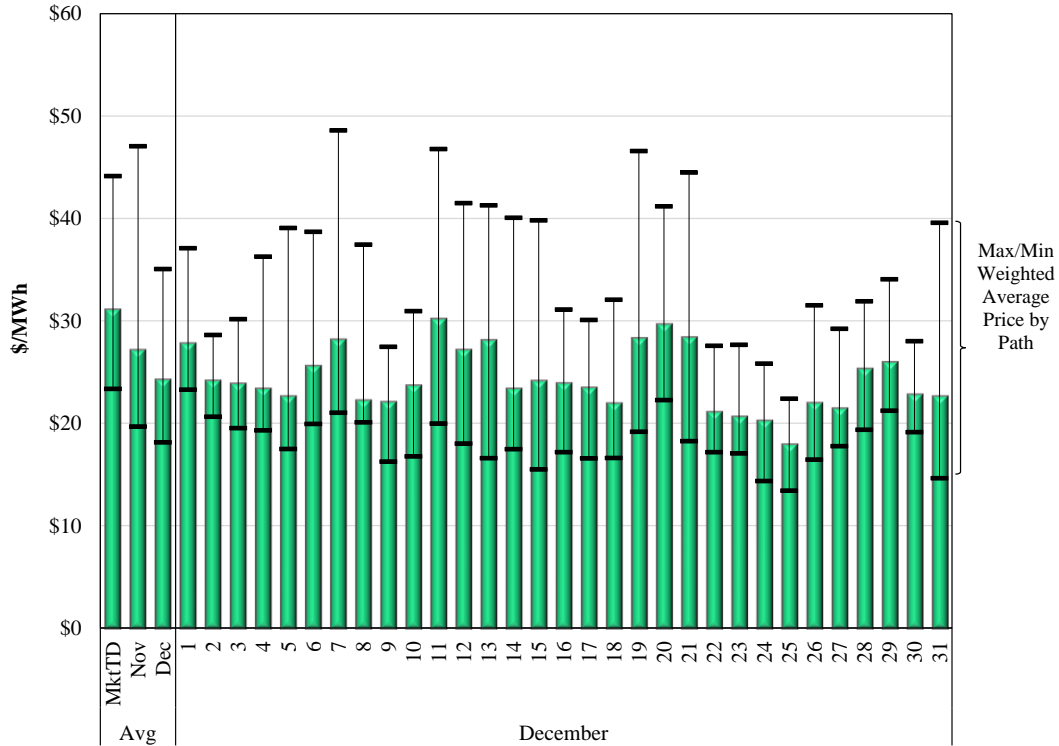
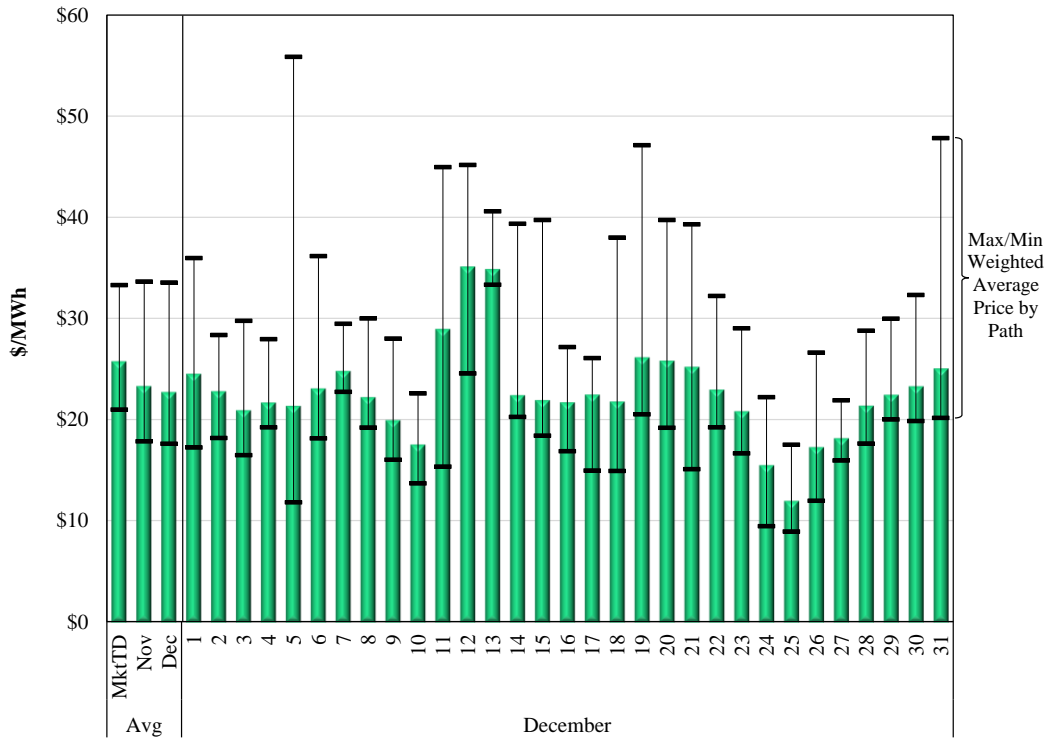


Figure 7: Average SEEM Clearing Prices: System-Wide and by Path
Off-Peak Hours – December 2023



The two figures show that the value of transactions can vary significantly by path, mainly because transmission constraints can contribute to higher prices between different locations. If a constraint prevents higher total flows between two (beneficial trading) areas, the average transaction price will be higher than if sufficient transmission capability was available to allow all beneficial trades to clear between the areas.

Accordingly, we evaluate SEEM transactions by path segments. SEEM trades among participants using ATC. We gathered ATC and trading statistics for all SEEM segments available to the model. There are 240 unique segments used in SEEM. We evaluated data including the median, maximum, and minimum ATC values over all intervals for each segment, as well as the total MWh that cleared over each segment. We calculate a “loading factor” based on the scheduled transactions and ATC on the segment during each 15-minute interval. It is the portion of the path used in that interval relative to the maximum amount that could have been used based on the ATC.

In addition to the ATC and schedule volumes, we also calculate how each segment was utilized by interval during the month, *to wit*, the interval was either:

- (1) Partially used (MWs cleared were less than ATC);
- (2) Fully Used, ATC was used up for the interval;²
- (3) Unavailable, no ATC;³ and
- (4) Uncleared (no schedules on the segment).

In reporting the usage of each segment, we refer to a “segment-intervals” which is an observation in a single interval on one segment. Table 1 shows an excerpt of our statistics. The table displays the 41 segments that had more than 1,000 MWh of transactions scheduled during the month. The full data for all segments is provided in Appendix A.

² ATC less the MW schedule was less than 4 MW (i.e., no additional SEEM transaction could be cleared).

³ ATC was less than 4 MW at the start of the interval.

Table 1: Statistics for Most Utilized SEEM Segments
December 2023

Segment	ATC			Loading		Partially Used		Fully Used		Unavailable		Uncleared	
	Min	Median	Max	MWhs	Factor	Intervals	%	Intervals	%	Intervals	%	Intervals	%
F/TEC/TEC-FPC//	282	2,208	2,877	20,302	0.012853	1,909	64%	0	0%	0	0%	1067	36%
F/FPC/FPC-SOCO//	0	200	356	19,218	0.156023	867	29%	103	3%	768	26%	1238	42%
F/FPC/TEC-SOCO//	0	200	356	15,002	0.121795	1,483	50%	0	0%	768	26%	725	24%
S/SC/SOCO-SC//	60	1,332	2,321	14,011	0.013994	1,073	36%	0	0%	0	0%	1903	64%
SS/SOCO/FL-SC/MULTIPATHALIAS//	1	208	465	12,983	0.077764	909	31%	108	4%	41	1%	1918	64%
SS/SOCO/FL-SOCO//	189	939	1,364	11,773	0.017113	911	31%	0	0%	0	0%	2065	69%
F/JEA/SOCO-JEA//	0	548	869	10,219	0.025363	1,247	42%	0	0%	4	0%	1725	58%
SS/SOCO/TVA-SOCO//	623	1,439	1,502	7,271	0.006971	216	7%	0	0%	0	0%	2760	93%
S/TVA/TVA-SOCO//	0	2,910	3,000	7,234	0.003640	211	7%	1	0%	140	5%	2624	88%
S/CPL/DUK-CPLE//	306	3,524	8,120	6,312	0.002311	344	12%	0	0%	0	0%	2632	88%
F/FPC/TEC-FPC//	331	2,257	2,926	5,300	0.003279	1,018	34%	0	0%	0	0%	1958	66%
S/TVA/TVA-DUK//	0	430	430	4,639	0.016064	124	4%	0	0%	236	8%	2616	88%
SS/SOCO/SOCO-FL//	369	1,432	1,599	4,094	0.003967	483	16%	0	0%	0	0%	2493	84%
S/DUK/TVA-CPLE//	0	692	692	3,550	0.007090	130	4%	0	0%	17	1%	2829	95%
S/CPL/CPLE-SC//	0	4,352	4,428	3,301	0.001256	252	8%	0	0%	7	0%	2717	91%
S/SC/CPLE-SC//	40	1,891	3,206	3,301	0.002323	252	8%	0	0%	0	0%	2724	92%
S/SCEG/DUK-SCEG//	0	325	328	2,977	0.012936	285	10%	0	0%	42	1%	2649	89%
S/CPL/CPLE-DUK//	126	5,831	7,959	2,839	0.000726	204	7%	0	0%	0	0%	2772	93%
S/DUK/SOCO-SCEG//	0	261	264	2,795	0.018027	245	8%	13	0%	471	16%	2247	76%
S/DUK/CPLE-SOCO//	203	2,105	2,335	2,608	0.001682	197	7%	0	0%	0	0%	2779	93%
S/SC/DUK-SC//	1,039	2,151	3,030	2,104	0.001388	271	9%	0	0%	0	0%	2705	91%
SS/SOCO/FL-DUK/MULTIPATHALIAS//	74	746	1,035	2,044	0.003949	206	7%	0	0%	0	0%	2770	93%
S/TVA/SOCO-TVA//	0	2,606	3,000	1,943	0.001038	118	4%	0	0%	8	0%	2850	96%
S/MEAG/FPC-MEAG//	0	134	224	1,600	0.016452	144	5%	5	0%	42	1%	2785	94%
S/DUK/SOCO-CPLE//	0	1,833	2,220	1,569	0.001286	224	8%	0	0%	158	5%	2594	87%
S/DUK/SOCO-SC//	0	1,587	2,220	1,529	0.001378	127	4%	0	0%	126	4%	2723	92%
SS/SOCO/SOCO-SC//	1	208	465	1,497	0.008967	140	5%	5	0%	41	1%	2790	94%
SS/SOCO/SOCO-DUK//	74	784	1,035	1,468	0.002762	218	7%	0	0%	0	0%	2758	93%
S/CPL/TVA-DUK//	96	308	308	1,417	0.006303	73	2%	0	0%	0	0%	2903	98%
S/DUK/CPLW-CPLE//	0	390	1,243	1,417	0.004466	73	2%	0	0%	23	1%	2880	97%
F/FPC/SOCO-FPC//	13	438	491	1,354	0.004533	123	4%	0	0%	0	0%	2853	96%
S/DUK/TVA-DUK//	0	692	692	1,342	0.002781	37	1%	1	0%	75	3%	2863	96%
S/TVA/TVA-CPLW//	0	308	308	1,266	0.006091	43	1%	0	0%	218	7%	2715	91%
SS/SOCO/SOCO-SOCO//	43,371	43,556	43,556	1,176	0.000036	78	3%	0	0%	0	0%	2898	97%
F/JEA/JEA-SOCO//	130	826	1,020	1,161	0.002019	250	8%	0	0%	0	0%	2726	92%

These statistics indicate that among these most utilized segments, ATC remains available for SEEM trades. For example, many of the top paths have over 90 percent of their intervals uncleared. There are, however, numerous instances when segments are constrained. A constrained segment is one where either (1) the segment is completely used by SEEM (“Fully Used” column in the table) or (2) ATC is insufficient (less than 4 MW) prior to SEEM matching (the “Unavailable” column in the table).

Table 2 show the summary usage for all segments. During the month, total segment intervals is the product of all 240 segments and the number of intervals during the month. In December, there were 714,240 segment intervals.⁴ The two circumstances (Cases (2) and (3)) when a segment is constrained occurred in over 26,000 segment-intervals and almost always because the ATC was insufficient to schedule (i.e., ATC < 4 MW) rather than because it is fully used by a SEEM match.

⁴ The maximum number of segment intervals in a month is (240 segments x 4 intervals x 24 hours x #days in the month). This is the maximum because occasionally the system requires shutting down for short periods to perform upgrades and other patches. In December, SEEM operated in all intervals, including an extra hour for reversion to standard time.

The most common case in the data was “Uncleared” (Case 4), where ATC was available, but the segment was not used because no beneficial transactions were cleared by the SEEM model over that segment. These cases represent over 670,000 segment intervals or 94 percent of all segment-intervals. The second most common case was case “Unavailable” (Case 3), where ATC was not sufficient to clear any SEEM transactions (26,252 or about four percent of the time). The third most common case was “Partially Used” (Case 1), where the segment was partially used (16,919 or 2 percent of the time). Finally, in a small number of intervals, the Segment ATC was “Fully Used” (Case 2), where the segment was completely scheduled in the interval (266).

Table 2: Summary of All Segments
December 2023

Segment	Case 1		Case 2		Case 3		Case 4	
	Partially Used		Fully Used		Unavailable		Uncleared	
	Intervals	%	Intervals	%	Intervals	%	Intervals	%
All Segments	16,919	2.4%	266	0.0%	26,252	3.7%	670,803	93.9%

Measuring transmission capacity by adding Case 2 and 3, the percentage of constrained segment intervals declined (10 percent in November versus about 4 percent in December).

Further insight on constrained segments can be gained from Table 3. It shows the segments most often unavailable to SEEM (i.e., unavailable at least 20 percent of the intervals). There are some segments where ATC is 0 in many intervals during the month, and so there is no activity occurring. For the other segments, like in previous months, these frequently-unavailable paths are in many intervals unused when they are available (as indicated by the “Uncleared” column).

Table 3: Most Constrained SEEM Segments
December 2023

Segment	ATC			MWs	Loading Factor	Partially Used		Fully Used		Unavailable		Uncleared	
	Min	Median	Max			Intervals	%	Intervals	%	Intervals	%	Intervals	%
F/JEA/SEC-JEA/SSN-JEA/	0	0	0	0	N/A	0	0%	0	0%	2,976	100%	0	0%
S/SCEG/SOCO-SCEG//	0	0	1,866	28	0.004561	3	0%	0	0%	2,950	99%	23	1%
S/MEAG/MEAG-SC//	0	0	52	8	0.012232	0	0%	8	0%	2,586	87%	382	13%
S/TVA/AECI-CPLW//	0	91	308	12	0.000148	3	0%	0	0%	908	31%	2065	69%
S/TVA/AECI-DUK//	0	91	430	44	0.000489	9	0%	0	0%	904	30%	2063	69%
S/TVA/AECI-LGEE//	0	92	473	0	0.000000	0	0%	0	0%	900	30%	2076	70%
S/TVA/AECI-SOCO//	0	92	473	345	0.003684	40	1%	0	0%	856	29%	2080	70%
F/FPC/SEC-SOCO/SSO-SOCO/	0	118	337	0	0.000000	0	0%	0	0%	780	26%	2196	74%
F/FPC/TEC-SOCO//	0	200	356	15,002	0.121795	1,483	50%	0	0%	768	26%	725	24%
F/FPC/FPC-SOCO//	0	200	356	19,218	0.156023	867	29%	103	3%	768	26%	1238	42%
F/FPC/GVL-SOCO//	0	200	356	0	0.000000	0	0%	0	0%	768	26%	2208	74%
F/FPC/SEC-SOCO/SSN-SOCO/	0	200	356	0	0.000000	0	0%	0	0%	768	26%	2208	74%
S/TVA/AECI-TVA//	0	94	473	3	0.000029	1	0%	0	0%	680	23%	2295	77%

III. CONCLUSION

We reviewed the operation of SEEM for December 2023. We have developed operational procedures to validate the market rules and constraints of SEEM. All our screens have been validated and we conclude the SEEM operated within the rules and constraints. We also have evaluated the SEEM outcomes and have not identified significant operating issues.

Appendix A
SEEM Path Usage -- December 2023

Segment	ATC			Loading MWhs	Loading Factor	Partially Used		Fully Used		Unavailable		Uncleared	
	Min	Median	Max			Intervals	%	Intervals	%	Intervals	%	Intervals	%
F/TEC/TEC-FPC//	282	2,208	2,877	20,302	0.012853	1,909	64%	0	0%	0	0%	1067	36%
F/FPC/FPC-SOCO//	0	200	356	19,218	0.156023	867	29%	103	3%	768	26%	1238	42%
F/FPC/TEC-SOCO//	0	200	356	15,002	0.121795	1,483	50%	0	0%	768	26%	725	24%
S/SC/SOCO-SC//	60	1,332	2,321	14,011	0.013994	1,073	36%	0	0%	0	0%	1903	64%
SS/SOCO/FL-SC/MULTIPATHALIAS/	1	208	465	12,983	0.077764	909	31%	108	4%	41	1%	1918	64%
SS/SOCO/FL-SOCO//	189	939	1,364	11,773	0.017113	911	31%	0	0%	0	0%	2065	69%
F/JEA/SOCO-JEA//	0	548	869	10,219	0.025363	1,247	42%	0	0%	4	0%	1725	58%
SS/SOCO/TVA-SOCO//	623	1,439	1,502	7,271	0.006971	216	7%	0	0%	0	0%	2760	93%
S/TVA/TVA-SOCO//	0	2,910	3,000	7,234	0.003640	211	7%	1	0%	140	5%	2624	88%
S/CPL/DUK-CPLE//	306	3,524	8,120	6,312	0.002311	344	12%	0	0%	0	0%	2632	88%
F/FPC/TEC-FPC//	331	2,257	2,926	5,300	0.003279	1,018	34%	0	0%	0	0%	1958	66%
S/TVA/TVA-DUK//	0	430	430	4,639	0.016064	124	4%	0	0%	236	8%	2616	88%
SS/SOCO/SOCO-FL//	369	1,432	1,599	4,094	0.003967	483	16%	0	0%	0	0%	2493	84%
S/DUK/TVA-CPLE//	0	692	692	3,550	0.007090	130	4%	0	0%	17	1%	2829	95%
S/CPL/CPLE-SC//	0	4,352	4,428	3,301	0.001256	252	8%	0	0%	7	0%	2717	91%
S/SC/CPLE-SC//	40	1,891	3,206	3,301	0.002323	252	8%	0	0%	0	0%	2724	92%
S/SCEG/DUK-SCEG//	0	325	328	2,977	0.012936	285	10%	0	0%	42	1%	2649	89%
S/CPL/CPLE-DUK//	126	5,831	7,959	2,839	0.000726	204	7%	0	0%	0	0%	2772	93%
S/DUK/SOCO-SCEG//	0	261	264	2,795	0.018027	245	8%	13	0%	471	16%	2247	76%
S/DUK/CPLE-SOCO//	203	2,105	2,335	2,608	0.001682	197	7%	0	0%	0	0%	2779	93%
S/SC/DUK-SC//	1,039	2,151	3,030	2,104	0.001388	271	9%	0	0%	0	0%	2705	91%
SS/SOCO/FL-DUK/MULTIPATHALIAS/	74	746	1,035	2,044	0.003949	206	7%	0	0%	0	0%	2770	93%
S/TVA/SOCO-TVA//	0	2,606	3,000	1,943	0.001038	118	4%	0	0%	8	0%	2850	96%
S/MEAG/FPC-MEAG//	0	134	224	1,600	0.016452	144	5%	5	0%	42	1%	2785	94%
S/DUK/SOCO-CPLE//	0	1,833	2,220	1,569	0.001286	124	8%	0	0%	158	5%	2594	87%
S/DUK/SOCO-SC//	0	1,587	2,220	1,529	0.001378	227	4%	0	0%	126	4%	2723	92%
SS/SOCO/SOCO-SC//	1	208	465	1,497	0.008967	140	5%	5	0%	41	1%	2790	94%
SS/SOCO/SOCO-DUK//	74	784	1,035	1,468	0.002762	218	7%	0	0%	0	0%	2758	93%
S/CPL/TVA-DUK//	96	308	308	1,417	0.006303	73	2%	0	0%	0	0%	2903	98%
S/DUK/CPLW-CPLE//	0	390	1,243	1,417	0.004466	73	2%	0	0%	23	1%	2880	97%
F/FPC/SOCO-FPC//	13	438	491	1,354	0.004533	123	4%	0	0%	0	0%	2853	96%
S/DUK/TVA-DUK//	0	692	692	1,342	0.002781	37	1%	1	0%	75	3%	2863	96%
S/TVA/TVA-CPLW//	0	308	308	1,266	0.006091	43	1%	0	0%	218	7%	2715	91%
SS/SOCO/SOCO-SOCO//	43,371	43,556	43,556	1,176	0.000036	78	3%	0	0%	0	0%	2898	97%
F/JEA/JEA-SOCO//	130	826	1,020	1,161	0.002019	250	8%	0	0%	0	0%	2726	92%
S/DUK/DUK-SOCO//	137	2,077	2,335	974	0.000646	199	7%	0	0%	0	0%	2777	93%
P/LGEE/LGEE-TVA//	0	1,623	4,036	973	0.000738	119	4%	0	0%	260	9%	2597	87%
S/SCEG/SC-SCEG//	424	984	6,152	970	0.000694	84	3%	0	0%	0	0%	2892	97%
S/DUK/SOCO-DUK//	0	1,751	2,220	822	0.000724	89	3%	0	0%	189	6%	2698	91%
S/MEAG/DUK-MEAG//	65	139	226	783	0.006795	66	2%	0	0%	0	0%	2910	98%
SS/SOCO/DUK-SOCO//	155	930	1,042	741	0.001116	46	2%	0	0%	0	0%	2930	98%
S/SC/SOCO-SCEG//	61	1,228	2,018	724	0.000777	63	2%	0	0%	0	0%	2913	98%
SS/SOCO/FL-TVA/MULTIPATHALIAS/	189	939	1,364	623	0.000906	61	2%	0	0%	0	0%	2915	98%
S/MEAG/SOCO-MEAG//	2,672	3,021	3,253	613	0.000274	45	2%	0	0%	0	0%	2931	98%
S/DUK/DUK-SC//	0	2,077	2,880	607	0.000411	156	5%	0	0%	3	0%	2817	95%
F/TEC/FPC-TEC//	0	1,910	2,783	590	0.000433	57	2%	0	0%	12	0%	2907	98%
F/FPC/FPC-TEC//	0	1,950	2,823	550	0.000395	53	2%	0	0%	12	0%	2911	98%
SS/GTC/DUK-GTC//	4	630	655	547	0.001259	29	1%	0	0%	0	0%	2947	99%
S/MEAG/MEAG-JEA//	0	200	304	540	0.003996	73	2%	0	0%	1	0%	2902	98%
S/TVA/LGEE-SOCO//	0	2,910	3,000	513	0.000245	54	2%	0	0%	28	1%	2894	97%
S/SCEG/CPLE-SCEG//	0	475	549	513	0.001473	56	2%	0	0%	2	0%	2918	98%
SS/SOCO/DUK-FL/MULTIPATHALIAS/	155	917	1,042	476	0.000727	89	3%	0	0%	0	0%	2887	97%
S/CPL/CPLE-SCEG//	0	476	484	440	0.001355	46	2%	0	0%	10	0%	2920	98%
S/AECI/AECI-TVA//	0	114	601	404	0.003030	43	1%	7	0%	183	6%	2743	92%
S/MEAG/MEAG-DUK//	0	111	196	368	0.005518	39	1%	7	0%	232	8%	2698	91%
SS/GTC/SOCO-GTC//	12,532	13,321	14,358	365	0.000037	26	1%	0	0%	0	0%	2950	99%
SS/SOCO/TVA-FL/MULTIPATHALIAS/	369	1,391	1,500	352	0.000360	42	1%	0	0%	0	0%	2934	99%
S/TVA/AECI-SOCO//	0	92	473	345	0.003684	40	1%	0	0%	856	29%	2080	70%
SS/GTC/GTC-FPC//	272	959	1,009	341	0.000495	25	1%	0	0%	0	0%	2951	99%
S/AECI/TVA-AECI//	0	802	949	282	0.000557	30	1%	0	0%	110	4%	2836	95%

Appendix A (continued)

Segment	ATC			Loading MWhs	Factor	Partially Used		Fully Used		Unavailable		Uncleared	
	Min	Median	Max			Intervals	%	Intervals	%	Intervals	%	Intervals	%
SS/GTC/GTC-DUK//	13	475	651	277	0.000857	18	1%	0	0%	0	0%	2958	99%
S/CPL/DUK-SCEG//	3	476	484	274	0.000840	23	1%	6	0%	3	0%	2944	99%
S/SC/SCEG-SC//	889	1,462	2,115	273	0.000258	33	1%	0	0%	0	0%	2943	99%
S/TVA/LGEE-DUK//	0	430	430	253	0.000804	44	1%	0	0%	30	1%	2902	98%
S/MEAG/MEAG-SOCO//	2,483	2,715	3,059	251	0.000124	25	1%	0	0%	0	0%	2951	99%
S/SCEG/SCEG-SOCO//	1,274	2,425	5,845	236	0.000104	23	1%	0	0%	0	0%	2953	99%
SS/GTC/FPC-GTC//	0	407	723	221	0.000853	16	1%	0	0%	28	1%	2932	99%
S/SC/SC-SCEG//	1,595	2,421	4,135	214	0.000115	23	1%	0	0%	0	0%	2953	99%
S/TVA/DUK-TVA//	0	430	430	210	0.000659	10	0%	0	0%	8	0%	2958	99%
S/SCEG/CPL-SOCO//	0	475	549	201	0.000572	19	1%	0	0%	2	0%	2955	99%
S/CPL/SC-CPLE//	0	1,474	2,714	196	0.000179	31	1%	0	0%	135	5%	2810	94%
SS/GTC/GTC-SC//	28	315	398	188	0.000852	20	1%	0	0%	0	0%	2956	99%
S/DUK/CPL-TVA//	492	692	692	181	0.000352	7	0%	0	0%	0	0%	2969	100%
SS/GTC/GTC-SOCO//	20,000	20,000	20,000	170	0.000011	7	0%	0	0%	0	0%	2969	100%
SS/GTC/SCEG-GTC//	72	114	114	160	0.001984	10	0%	0	0%	0	0%	2966	100%
S/TVA/SOCO-AECI//	0	686	686	152	0.000314	19	1%	0	0%	72	2%	2885	97%
S/CPL/SCEG-CPLE//	0	709	709	151	0.000322	31	1%	0	0%	138	5%	2807	94%
S/SCEG/SOCO-SC//	348	6,152	6,358	145	0.000041	20	1%	0	0%	0	0%	2956	99%
S/DUK/DUK-TVA//	197	692	692	139	0.000271	18	1%	0	0%	0	0%	2958	99%
S/DUK/DUK-SCEG//	0	261	264	138	0.000867	35	1%	0	0%	415	14%	2526	85%
S/TVA/LGEE-CPLW//	0	308	308	134	0.000597	26	1%	0	0%	28	1%	2922	98%
SS/SOCO/FL-SCEG/MULTIPATHALIAS/	27	131	160	131	0.001379	18	1%	0	0%	0	0%	2958	99%
SS/SOCO/TVA-SC/MULTIPATHALIAS/	1	208	465	129	0.000773	11	0%	1	0%	41	1%	2923	98%
S/SCEG/SCEG-SC//	1,258	2,736	6,177	128	0.000056	13	0%	0	0%	0	0%	2963	100%
S/MEAG/GTC-MEAG//	1,780	2,070	2,370	110	0.000071	8	0%	0	0%	0	0%	2968	100%
SS/GTC/GTC-MEAG//	9,709	9,999	9,999	110	0.000015	8	0%	0	0%	0	0%	2968	100%
S/SC/SC-CPLE//	0	2,892	3,317	103	0.000051	20	1%	0	0%	12	0%	2944	99%
S/MEAG/MEAG-TVA//	0	137	165	99	0.001117	13	0%	0	0%	8	0%	2955	99%
SS/SOCO/SCEG-SOCO//	57	208	208	97	0.000665	4	0%	1	0%	0	0%	2971	100%
S/SC/SC-SOCO//	1,416	3,174	3,920	96	0.000042	15	1%	0	0%	0	0%	2961	100%
S/SC/SOCO-CPLE//	0	2,149	2,561	93	0.000061	14	0%	0	0%	12	0%	2950	99%
SS/SOCO/SOCO-TVA//	1,571	2,416	3,247	90	0.000048	3	0%	0	0%	0	0%	2973	100%
S/SCEG/SCEG-CPLE//	598	672	974	86	0.000172	15	1%	0	0%	0	0%	2961	100%
SS/SOCO/SCEG-FL/MULTIPATHALIAS/	57	208	208	84	0.000576	16	1%	0	0%	0	0%	2960	99%
SS/GTC/GTC-JEA//	272	959	1,009	75	0.000109	13	0%	0	0%	0	0%	2963	100%
P/LGEE/TVA-LGEE//	0	3,613	4,624	74	0.000031	6	0%	0	0%	14	0%	2956	99%
S/SCEG/SOCO-CPLE//	597	672	974	65	0.000130	16	1%	0	0%	0	0%	2960	99%
S/TVA/DUK-AECI//	0	430	430	61	0.000193	10	0%	0	0%	8	0%	2958	99%
S/MEAG/MEAG-FPC//	0	200	304	60	0.000444	11	0%	0	0%	1	0%	2964	100%
S/MEAG/TVA-MEAG//	40	75	171	51	0.000696	5	0%	0	0%	0	0%	2971	100%
S/CPL/DUK-TVA//	208	308	308	50	0.000218	4	0%	0	0%	0	0%	2972	100%
S/DUK/CPL-CPLW//	0	393	554	50	0.000193	4	0%	0	0%	229	8%	2743	92%
S/TVA/DUK-LGEE//	0	430	430	49	0.000156	5	0%	0	0%	40	1%	2931	98%
S/TVA/LGEE-AECI//	0	686	686	48	0.000096	5	0%	0	0%	8	0%	2963	100%
S/DUK/TVA-SCEG//	0	261	263	44	0.000280	9	0%	0	0%	442	15%	2525	85%
S/TVA/AECI-DUK//	0	91	430	44	0.000489	9	0%	0	0%	904	30%	2063	69%
S/MEAG/JEA-MEAG//	0	134	345	41	0.000417	13	0%	0	0%	42	1%	2921	98%
F/FPC/SOCO-TEC//	0	438	491	40	0.000135	5	0%	0	0%	28	1%	2943	99%
S/DUK/SC-CPLE//	0	2,831	2,920	35	0.000022	5	0%	0	0%	91	3%	2880	97%
SS/GTC/TVA-GTC//	48	354	355	34	0.000149	4	0%	0	0%	0	0%	2972	100%
SS/SOCO/SC-FL/MULTIPATHALIAS/	160	446	561	32	0.000102	5	0%	0	0%	0	0%	2971	100%
S/SC/DUK-SCEG//	1,127	1,583	3,831	32	0.000025	6	0%	0	0%	0	0%	2970	100%
SS/SOCO/SOCO-SCEG//	27	131	160	31	0.000326	10	0%	0	0%	0	0%	2966	100%
S/TVA/CPLW-TVA//	0	308	308	29	0.000127	2	0%	0	0%	8	0%	2966	100%
S/SCEG/SOCO-SCEG//	0	0	1,866	28	0.004561	3	0%	0	0%	2,950	99%	23	1%
S/TVA/LGEE-TVA//	0	3,000	3,000	25	0.000011	1	0%	0	0%	8	0%	2967	100%
S/TVA/TVA-LGEE//	0	1,086	3,000	25	0.000027	1	0%	0	0%	150	5%	2825	95%
SS/SOCO/TVA-SCEG/MULTIPATHALIAS/	27	131	160	21	0.000221	4	0%	0	0%	0	0%	2972	100%
S/SC/SC-DUK//	685	2,593	3,354	21	0.000011	3	0%	0	0%	0	0%	2973	100%
S/TVA/CPLW-AECI//	0	308	308	21	0.000093	2	0%	0	0%	8	0%	2966	100%

Appendix A (continued)

Segment	ATC			Loading MWhs	Factor	Partially Used		Fully Used		Unavailable		Uncleared	
	Min	Median	Max			Intervals	%	Intervals	%	Intervals	%	Intervals	%
S/MEAG/MEAG-GTC//	2,196	2,601	2,891	20	0.000010	2	0%	0	0%	0	0%	2974	100%
SS/GTC/MEAG-GTC//	8,699	8,699	9,079	20	0.000003	2	0%	0	0%	0	0%	2974	100%
S/SC/SOCO-DUK//	1,388	2,179	2,561	14	0.000009	2	0%	0	0%	0	0%	2974	100%
SS/GTC/JEA-GTC//	0	407	723	13	0.000050	5	0%	0	0%	28	1%	2943	99%
S/DUK/DUK-CPLE//	0	2,648	5,699	12	0.000006	5	0%	0	0%	24	1%	2947	99%
S/TVA/AECI-CPLW//	0	91	308	12	0.000148	3	0%	0	0%	908	31%	2065	69%
S/MEAG/MEAG-SC//	0	0	52	8	0.012232	0	0%	8	0%	2,586	87%	382	13%
SS/SOCO/SC-TVA/MULTIPATHALIAS/	160	446	561	6	0.000019	1	0%	0	0%	0	0%	2975	100%
S/TVA/SOCO-CPLW//	0	308	308	5	0.000023	1	0%	0	0%	122	4%	2853	96%
S/SCEG/SOCO-DUK//	0	684	949	3	0.000006	1	0%	0	0%	2	0%	2973	100%
S/MEAG/SCEG-MEAG//	15	24	24	3	0.000178	2	0%	0	0%	0	0%	2974	100%
S/TVA/AECI-TVA//	0	94	473	3	0.000029	1	0%	0	0%	680	23%	2295	77%
S/DUK/SCEG-CPLE//	0	668	669	3	0.000007	1	0%	0	0%	128	4%	2847	96%
S/MEAG/MEAG-SCEG//	0	15	19	1	0.000091	1	0%	0	0%	96	3%	2879	97%
S/DUK/SC-DUK//	0	1,607	2,916	0	0.000000	0	0%	0	0%	65	2%	2911	98%
S/DUK/SCEG-DUK//	0	668	669	0	0.000000	0	0%	0	0%	167	6%	2809	94%
SS/GTC/GTC-SCEG//	0	72	88	0	0.000000	0	0%	0	0%	38	1%	2938	99%
SS/GTC/GTC-TVA//	489	670	774	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/DUK/SCEG-SC//	243	668	669	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/DUK/TVA-SOCO//	92	692	692	0	0.000000	0	0%	0	0%	0	0%	2976	100%
SS/SOCO/TVA-DUK/MULTIPATHALIAS/	74	784	1,035	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/SC/CPLW-SOCO//	1,455	3,502	3,952	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/SCEG/SCEG-DUK//	0	684	949	0	0.000000	0	0%	0	0%	2	0%	2974	100%
SS/SOCO/SCEG-TVA/MULTIPATHALIAS/	57	208	208	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/MEAG/SC-MEAG//	30	110	120	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/CPL/SC-SCEG//	3	476	484	0	0.000000	0	0%	0	0%	3	0%	2973	100%
SS/GTC/SC-GTC//	0	169	218	0	0.000000	0	0%	0	0%	4	0%	2972	100%
S/DUK/CPLW-DUK//	0	3,059	5,382	0	0.000000	0	0%	0	0%	66	2%	2910	98%
S/CPL/SC-DUK//	0	2,752	4,658	0	0.000000	0	0%	0	0%	31	1%	2945	99%
S/SCEG/DUK-SC//	60	325	328	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/DUK/SC-SCEG//	0	261	264	0	0.000000	0	0%	0	0%	412	14%	2564	86%
S/CPL/SCEG-DUK//	0	709	709	0	0.000000	0	0%	0	0%	78	3%	2898	97%
S/DUK/CPLW-SCEG//	0	261	263	0	0.000000	0	0%	0	0%	423	14%	2553	86%
S/CPL/SC-DUK//	496	4,006	4,428	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/TVA/SOCO-DUK//	0	430	430	0	0.000000	0	0%	0	0%	144	5%	2832	95%
S/DUK/CPLW-SC//	0	2,646	2,880	0	0.000000	0	0%	0	0%	7	0%	2969	100%
S/SCEG/CPLW-DUK//	0	475	549	0	0.000000	0	0%	0	0%	2	0%	2974	100%
S/TVA/SC-SOCO//	0	430	430	0	0.000000	0	0%	0	0%	8	0%	2968	100%
SS/SOCO/SC-SOCO//	160	446	561	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/DUK/SCEG-SOCO//	243	668	669	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/DUK/SCEG-TVA//	243	668	669	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/DUK/TVA-SC//	0	692	692	0	0.000000	0	0%	0	0%	2	0%	2974	100%
S/DUK/CPLW-DUK//	0	378	1,243	0	0.000000	0	0%	0	0%	45	2%	2931	98%
S/SCEG/SC-CPLW//	60	325	328	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/DUK/CPLW-SCEG//	0	261	264	0	0.000000	0	0%	0	0%	412	14%	2564	86%
S/SC/SC-DUK-CPLW//	3,361	3,746	4,011	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/TVA/CPLW-SOCO//	0	308	308	0	0.000000	0	0%	0	0%	8	0%	2968	100%
S/DUK/SOCO-TVA//	492	692	692	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/DUK/SC-TVA//	0	692	692	0	0.000000	0	0%	0	0%	5	0%	2971	100%
S/SCEG/SC-SOCO//	60	325	328	0	0.000000	0	0%	0	0%	0	0%	2976	100%
SS/SOCO/SC-DUK-TVA/MULTIPATHALIAS/	155	930	1,042	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/DUK/SC-CPLW//	0	397	554	0	0.000000	0	0%	0	0%	238	8%	2738	92%
F/FPC/GVL-FPC//	153	361	399	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/FPC-GVL//	115	185	313	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/TEC-FPC/TEC-FPCS/	331	2,257	2,926	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/TEC/SEC-FPC/SSO-FPC/	0	237	729	0	0.000000	0	0%	0	0%	36	1%	2940	99%
S/SCEG/CPLW-SC//	0	475	549	0	0.000000	0	0%	0	0%	2	0%	2974	100%
F/FPC/SOCO-SEC/SOCO-SSN/	13	438	491	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/GVL-FPC/GVL-FPCS/	153	361	399	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/TEC/SEC-TEC/SSO-TEC/	0	237	729	0	0.000000	0	0%	0	0%	36	1%	2940	99%

Appendix A (continued)

Segment	ATC			Loading MWhs	Factor	Partially Used		Fully Used		Unavailable		Uncleared	
	Min	Median	Max			Intervals	%	Intervals	%	Intervals	%	Intervals	%
F/FPC/FPC-SEC/FPC-SSN/	443	1,113	1,571	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/SEC-FPC/SSO-FPCS/	183	568	1,054	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/SOCO-FPC/SOCO-FPCS/	13	438	491	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/JEA/SOCO-SEC/SOCO-SSN/	0	524	524	0	0.000000	0	0%	0	0%	4	0%	2972	100%
S/SC/SEC-SC-CPLE//	598	672	974	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/SC/DUK-SOCO//	2,996	3,552	3,806	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/DUK/CPLW-SOCO//	31	400	1,243	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/TVA/DUK-CPLW//	0	308	308	0	0.000000	0	0%	0	0%	44	1%	2932	99%
S/TVA/CPLW-LGEE//	0	308	308	0	0.000000	0	0%	0	0%	20	1%	2956	99%
F/FPC/GVL-TEC//	0	363	405	0	0.000000	0	0%	0	0%	28	1%	2948	99%
S/CPL/DUK-CPLW//	0	823	864	0	0.000000	0	0%	0	0%	24	1%	2952	99%
S/DUK/SC-SOCO//	294	1,975	2,335	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/CPL/SC/SC-CPLE//	316	709	709	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/SEC-FPC/SSN-FPCS/	0	312	1,091	0	0.000000	0	0%	0	0%	76	3%	2900	97%
S/DUK/CPLW-TVA//	31	410	692	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/CPL/CPLW-TVA//	29	308	308	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/SEC-SOCO/SSN-SOCO/	0	200	356	0	0.000000	0	0%	0	0%	768	26%	2208	74%
S/DUK/CPLW-SC//	31	387	1,243	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/SEC-GVL/SSN-GVL/	116	186	315	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/TEC/TEC-SEC/TEC-SSO/	115	366	529	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/SC/SEC-SOCO//	5,306	6,086	6,242	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/JEA/SEC-SOCO/SSN-SOCO/	130	637	637	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/CPL/TVA-CPLW//	0	308	308	0	0.000000	0	0%	0	0%	98	3%	2878	97%
S/DUK/SOCO-CPLW//	0	326	554	0	0.000000	0	0%	0	0%	390	13%	2586	87%
F/FPC/SEC-TEC/SSN-TEC/	0	731	1,230	0	0.000000	0	0%	0	0%	28	1%	2948	99%
F/FPC/TEC-GVL//	116	186	315	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/FPC-FPC/FPC-FPCS/	2,750	3,591	4,117	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/SC/SC/SC-CPLE//	0	2,894	3,214	0	0.000000	0	0%	0	0%	12	0%	2964	100%
S/SC/SC/SC-DUK//	1,040	3,027	3,161	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/TEC-SEC/TEC-SSN/	322	1,112	1,571	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/SC/SC/SC-DUK//	0	684	949	0	0.000000	0	0%	0	0%	2	0%	2974	100%
S/SC/SC/SC-SOCO//	1,272	2,893	3,166	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/SEC-FPC/SSO-FPC/	183	568	1,054	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/SEC-SOCO/SSO-SOCO/	0	118	337	0	0.000000	0	0%	0	0%	780	26%	2196	74%
F/FPC/SEC-FPC/SSN-FPC/	0	312	1,091	0	0.000000	0	0%	0	0%	76	3%	2900	97%
F/FPC/GVL-SOCO//	0	200	356	0	0.000000	0	0%	0	0%	768	26%	2208	74%
F/FPC/GVL-SEC/GVL-SSN/	161	368	406	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/SEC-GVL/SSO-GVL/	0	155	308	0	0.000000	0	0%	0	0%	20	1%	2956	99%
F/JEA/JEA-SEC/JEA-SSN/	15	518	518	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/SEC-TEC/SSO-TEC/	0	237	787	0	0.000000	0	0%	0	0%	36	1%	2940	99%
F/JEA/SEC-JEA/SSN-JEA/	0	0	0	0	N/A	0	0%	0	0%	2,976	100%	0	0%
F/FPC/SOCO-GVL//	13	183	311	0	0.000000	0	0%	0	0%	0	0%	2976	100%
F/FPC/SEC-SEC/SSO-SSN/	0	237	787	0	0.000000	0	0%	0	0%	20	1%	2956	99%
S/CPL/CPLW-DUK//	326	1,196	1,652	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/DUK/SC-CPLW//	0	282	554	0	0.000000	0	0%	0	0%	454	15%	2522	85%
S/DUK/SC/SC-CPLW//	0	296	554	0	0.000000	0	0%	0	0%	434	15%	2542	85%
S/DUK/TVA-CPLW//	0	412	554	0	0.000000	0	0%	0	0%	222	7%	2754	93%
S/SC/CPLW-DUK//	3,359	3,624	4,009	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/SC/CPLW-SC/SC//	40	1,593	3,554	0	0.000000	0	0%	0	0%	0	0%	2976	100%
S/TVA/AECI-LGEE//	0	92	473	0	0.000000	0	0%	0	0%	900	30%	2076	70%
S/TVA/CPLW-DUK//	0	308	308	0	0.000000	0	0%	0	0%	30	1%	2946	99%
S/TVA/SOCO-LGEE//	0	1,399	2,690	0	0.000000	0	0%	0	0%	134	5%	2842	96%
S/TVA/TVA-AECI//	0	686	686	0	0.000000	0	0%	0	0%	72	2%	2904	98%
SS/GTC/GTC-GTC//	25,390	25,685	25,685	0	0.000000	0	0%	0	0%	0	0%	2976	100%
SS/SOCO/DUK-SC/MULTIPATHALIAS/	1	208	465	0	0.000000	0	0%	0	0%	41	1%	2935	99%
SS/SOCO/DUK-SC/SC/MULTIPATHALIAS/	27	131	160	0	0.000000	0	0%	0	0%	0	0%	2976	100%
SS/SOCO/SC-DUK/MULTIPATHALIAS/	74	446	561	0	0.000000	0	0%	0	0%	0	0%	2976	100%
SS/SOCO/SC-SC/SC/MULTIPATHALIAS/	27	131	160	0	0.000000	0	0%	0	0%	0	0%	2976	100%
SS/SOCO/SC/SC-DUK/MULTIPATHALIAS/	49	202	208	0	0.000000	0	0%	0	0%	0	0%	2976	100%
SS/SOCO/SC/SC-SC/MULTIPATHALIAS/	1	191	208	0	0.000000	0	0%	0	0%	41	1%	2935	99%