Welcome
Safety

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Every day, every job, safely.™
Why Are We Here?

• Provide an overview of the Energy Auction

• Explore enhancements that may increase activity in the Energy Auction, in terms of participation and bid/offer matches

• Ideas that may be pursued:
  ✓ Cost-effective
  ✓ Technologically feasible
  ✓ Consistent with the over-arching philosophy and requirements of the Energy Auction
Agenda

• Auction Overview
• Auction Mechanics
• Auction Software/Servers/Storage – OATI
• Auction Administration – TranServ
• Auction Direction
• Next Steps
• Closing Comments
The Energy Auction

• A bid-based and offer-based auction of electrical energy for delivery into the Southern Balancing Authority Area (Southern BAA)
  ✓ It is a supplement to, not a replacement of, the existing bilateral market mechanisms for conducting shorter-term trading activities
  ✓ The Energy Auction is a matching system – not an electronic trading platform
    ▪ Once a bid and offer are matched, the counterparties proceed to execute a bilateral transaction under normal trading practices

• Auctions
  ✓ Two Day-Ahead energy auctions (recallable and Firm LD)
  ✓ Hour-Ahead energy auctions

• Auction participants can bid/offer in any of the energy auctions
Origin of the Energy Auction

• To resolve any concerns about Southern’s potential generation dominance in the Southern BAA

  ✓ Mitigates physical withholding by requiring Southern to offer all of its available capacity

  ✓ Mitigates economic withholding by placing a cost-based price cap on Southern’s mandatory offers

• These mitigation requirements only apply to Southern
Participation Requirements

- Any company can participate in the Energy Auction if the following criteria are met:
  
  ✓ The company is eligible to do business at market-based rates in the Southern BAA
  
  ✓ The company signs an Energy Auction participant agreement
  
  ✓ The company signs a confidentiality agreement with the Energy Auction software vendor (OATI)
Energy Auction Overview

- Southern
- Registered Auction Participants
- OATI webMarket System
- Southern (AA)
- The Brattle Group (IAM)
- TranServ (IAA)
Auction Mechanics
Southern’s Participation

- **Must-Offer Obligation (Offers)**
  - Southern must offer all “Available Capacity” that can be committed and offered into the market after taking into account native load and third-party sales obligations, load forecast uncertainty, and reliability obligations.

- **Opportunity Purchases (Bids)**
  - Southern may submit bids to purchase, but is not required to do so.
Day-Ahead Available Capacity

Available Capacity

- Total capacity potentially available during the delivery day
- Contingency Reserves-Spinning
- Regulating Reserves
- Forecasted Instantaneous Peak Daily Demand (including adjustments for load forecast uncertainty)

Firm LD Energy

Recallable Energy

Established by the Southern BAA

Established by the Southern BAA
Hour-Ahead Available Capacity

Total capacity potentially available during the delivery hour

Available Capacity

- Contingency Reserves-Spinning
- Regulating Reserves
- Forecasted Instantaneous Peak Hourly Demand

Established by the Southern BAA

ENERGY AUCTION
Southern’s Seller Offer Price Cap

- Southern’s offers cannot exceed specified cost-based price caps
  
  ✓ Day-Ahead
    - Committed Capacity
      - 110% of the incremental cost of “Available Capacity”
      - A demand charge of $21.43/MWH
    - Uncommitted Capacity
      - 110% of the expected average cost (including startup and no load costs)
      - A demand charge of $21.43/MWH
  
  ✓ Hour-Ahead
    - 110% of the expected incremental cost (including startup and no load costs for CTs) to serve the sale
    - A demand charge of $21.43/MWH
Auction Participation

- **Mitigation Requirements**
  - Only applicable to Southern

- **Seller Administrative Considerations**
  - Counterparty credit limits
  - Enabling contracts
  - Statutory limitations (if any)

- **Transmission and Scheduling Considerations**
  - Assumes physical delivery
    - Seller must identify point of receipt
      - Point of receipt must satisfy deliverability requirements consistent with the product sold
    - Buyer is responsible for all other transmission-related requirements
Auction Clearing Considerations

• Bids and offers from the same Participant cannot be matched

• Violation of credit limit for one Seller does not necessarily disqualify the bid for other Sellers

• Bid rejected if it violates credit limits for all possible Sellers

• Bid rejected at clearing if it violates credit limits for all Sellers who submitted offers
Day-Ahead Auction Clearing

Price ($/MWH)

Bid 1
Bid 2
Bid 3
Bid 4
Bid 5
Bid 6
Offer 1
Offer 2
Offer 3
Offer 4
Offer 5
Offer 6

Auction Clearing Price

Offer Price of last energy block sold
Highest non-winning Bid

Energy Sold
Energy Not Sold

Energy Auction
Hour-Ahead Auction Clearing

Price ($/MWH)

Bid 1
Bid 2
Bid 3
Bid 4
Bid 5
Bid 6

Auction Clearing Price

Offer Price of last energy block sold

Highest non-winning Bid

Energy Sold

Energy Not Sold

Quantity (MW)
Day-Ahead Energy Auctions

- Administered every business day excluding weekends and NERC holidays

- Products include:
  - Day-Ahead Firm-LD Energy
  - Day-Ahead Recallable Energy

- Each Day-Ahead Auction consists of:
  - 50 MW block increments
  - Delivery “into Southern”
  - 16-hour period from 6 a.m. to 10 p.m.
Day-Ahead Timeline

- Delivery Day minus 2 Days
- Delivery Day minus 1 Day
- Delivery Day

- Bid Period
- Lock-Down Period
- Physical Flow
- Delivery Period

Timeline:
- 1200h
- 0545h
- 0645h
- 0600h
- 2200h
Hour-Ahead Energy Auctions

- Administered every hour of every day (365 days per year)
- Product is non-firm energy
- Each Day-Ahead Auction consists of:
  - 1 MW block increments
  - Delivery “into Southern”
Hour-Ahead Timeline

- **Delivery Hour minus 1 Hour**
  - **Bid Period**
    - **Lock-Down Period**
  - **:45h** to **:00h**
  - **:55h**

- **Delivery Hour**
  - **:30h** to **:00h**
  - **Physical Flow**

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**ENERGY AUCTION**
Recent Enhancements

• Queuing

✓ Allows participants to “pre-enter” bids/offers up to 24 hours prior to the beginning of the bid period for any Hour-Ahead Auction

✓ Participants can submit all entries for multiple Hour-Ahead Auctions without having to wait and submit each of them separately
Recent Enhancements

- **Multi-Hour Bid/Offer Entry**
  - Allows participants to enter several bids/offers for multiple Hour-Ahead Auctions on the same screen, with a single click
  - Each bid/offer is assigned a unique ID and treated as a separate bid/offer in the webMarket system
Recent Enhancements

• Auction Spread Tracking

✓ The “Auction Spread” is the absolute difference (in $/MWH) between the highest bid and lowest offer

✓ Upon the clearing of an auction, an Auction Spread will be posted*

✓ A zero spread indicates that a price crossover event has occurred, resulting in a bid/offer match

* In the event an Auction Spread is not provided for a given auction, a reason code is posted.
## Registered Auction Participants

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<th>Associated Electric Cooperative</th>
<th>ConocoPhillips</th>
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<td>Progress Energy Carolinas</td>
<td>Westar Energy</td>
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Energy Auction Software

- webMarket – an OATI product
  - https://www.socowmkt.oati.com/SOCOWMKT/sys-login.wml
Auction Training Materials Available


  ✓ New Buyer and New Seller Instructions
  ✓ Making a Bid in webMarket
  ✓ Making an Offer in webMarket
  ✓ Energy Auction Clearing Methodology
  ✓ Queueing Documentation
  ✓ Multi-Hour Bid/Offer Screen
Southern Auction Administrator

- April Gurley
  ✓ Phone: 205-257-2172
  ✓ E-mail: algurley@southernco.com

- Tracy Autrey
  ✓ Phone: 205-257-5755
  ✓ E-mail: toautrey@southernco.com
OATI and TranServ
Auction Direction
Southern’s Commitments

- Actions Southern plans to take upon resolution of the pending FERC proceeding
  - File Tariff Revisions
    - Remove the demand charge component from Southern’s price cap
    - Remove third-party bid/offer access rights for the Southern Auction Administrator
      - Access rights can be temporarily restored if requested by the IAM
        - NOTE: Southern Auction Administrator is prohibited in all cases from sharing any such information with Southern’s merchant function employees
    - Require the IAM to file annual reports with the Commission
Southern’s Commitments

- Actions Southern plans to take upon resolution of the pending FERC proceeding (continued)
  - Additional Transparency
    - On a daily basis, post the average price of hour-ahead (spot) purchases and sales that Southern transacted “into SOCO”
    - Posting will be made on a Southern website
Why Are We Here?

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• **Explore enhancements that may increase activity in the Energy Auction, in terms of participation and bid/offer matches**

• Ideas that may be pursued:
  ✓ Cost-effective
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Survey Review: Day-Ahead Timing

- The day-ahead energy auction consists of two simultaneous auctions
  - Firm-LD energy
  - Recallable energy

- Both involve 50-megawatt blocks of energy for delivery "into Southern" during the 16-hour period from 6 a.m. to 10 p.m.

- The bid period for these two auctions opens at 12:00 p.m., two days prior to the delivery day, and closes at 6:45 a.m., one day prior to the delivery day

- What changes, if any, would your company propose to the day-ahead energy auction from a timing standpoint?
Survey Review: Hour-Ahead Timing

- The hour-ahead energy auction takes place each hour of the day, 24 hours a day, seven days a week, including NERC holidays.

- This auction is for one-megawatt increments of non-firm energy for delivery "into Southern" for the upcoming hour.

- The bid period opens at 75 minutes prior to the delivery hour and closes at 60 minutes prior to the delivery hour.

- What changes, if any, would your company propose to the hour-ahead energy auction from a timing standpoint?
Survey Review: Products

• The Southern Company Energy Auction offers
  ✔ Day-Ahead Firm-LD Energy
  ✔ Day-Ahead Recallable Energy
  ✔ Hour-Ahead Non-Firm Energy

• The primary difference between the two day-ahead products is the right, but not the obligation, of the Seller to curtail Recallable Energy in the event of a supply-side disruption

• What other products, if any, would your company propose be offered in the Southern Company Energy Auction?
Survey Review: Hubs

• The products offered in the Southern Company Energy Auction are for delivery “into Southern”

• What additional hubs, if any, would your company propose be available for products offered in the Southern Company Energy Auction?
Survey Review: webMarket

- Do you find the webMarket auction software easy to use?
Survey Review: Enhancements

• What enhancements, if any, would you propose to the Energy Auction process?

• Is there any additional feedback regarding the Energy Auction that we have not covered?
Next Steps
Closing Comments
Adjourn

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