

Fiscal Terms and Auction Format

BOEM NJ Task Force Meeting
December 18, 2012

Fiscal Terms



Overview

- Annual rent
 - First year's payment due within 45 days of lease execution
 - Subsequent payments due at start of each year until commercial operations on the lease begin
 - Under a phased development rent would be required on the undeveloped sections until the start of commercial operation
- Annual project easement rent
 - Initial payment due upon approval of the COP
 - Subsequent payments due annually thereafter until the lease terminates
- Annual operating fee
 - Initial fee due within 45 days of commercial operations
 - Subsequent payments due annually thereafter until commercial operations cease
- Financial assurance requirements
 - Prior to lease issuance the Lessee must provide assurance for initial financial obligations on the lease

Annual Rent Payment

- Formula: Leased acreage x \$3 per acre
 - Proposed lease sale acreage offshore New Jersey: 354,275 acres
 - Initial annual rent payment for total acreage: \$1,062,825
 - Rent would be zone specific
- Rent payments would reflect adjustments for relinquished acreage or phased development at the time a payment is due
- Last rent payment prior to the start of commercial operations will not be pro-rated

Annual Project Easement Rent

- Simplified to same treatment as transmission system
- Formula: \$70 per statute mile x statute miles in easement
- Last annual project easement rent payment prior to lease termination will not be pro-rated

Annual Operating Fee

$$F = M * H * C * P * r$$

Annual Operating Fee	=	M Nameplate Capacity [MW]	*	H Hours Per Year [8,760]	*	C Capacity Factor [0 to 1]	*	P Power Price [\$/MWh]	*	r Operating Fee Rate [0 to 1]
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- Formula is based on the value of the anticipated annual power output of a project in a regional wholesale power market times an operating fee rate

Annual Operating Fee

$$F = M * H * C * P * r$$

Annual Operating Fee = Nameplate Capacity [MW] * Hours Per Year [8,760] * Capacity Factor [0 to 1] * Power Price [\$/MWh] * Operating Fee Rate [0 to 1]

Generation at Continuous Full Power Operation [MWh]

- Nameplate capacity is the planned available capacity measured in megawatts (MW)
 - Based on COP to reflect installation, repowering, and decommissioning activities on the lease
 - “Generation at continuous full power operation” is nameplate capacity times the hours in the year and measured in megawatt-hours (MWh)
 - If 1,000 MW of capacity are available the maximum annual generation at full power operation would be 8.76 million MWh

Annual Operating Fee

$$F = M * H * C * P * r$$

Annual Operating Fee = Nameplate Capacity [MW] * Hours Per Year [8,760] * Capacity Factor [0 to 1] * Power Price [\$/MWh] * Operating Fee Rate [0 to 1]

Anticipated Annual Power Output [MWh]

- The capacity factor is the share of anticipated generation relative to its generation at continuous full power operation
 - Value will be set to 0.400 for the first 6 years of commercial operations
 - Value will be adjusted in 5-year increments thereafter to reflect actual metered generation over the previous 5 years up to a range of +/- 10% of the previous period's value
 - Continuing the example, the anticipated annual power output of the project is 8.76 million MWh times 0.400, or 3.504 million MWh

Annual Operating Fee

$$F = M * H * C * P * r$$

Annual Operating Fee = Nameplate Capacity [MW] * Hours Per Year [8,760] * Capacity Factor [0 to 1] * Power Price [\$/MWh] * Operating Fee Rate [0 to 1]

Estimated Market Value [\$]

- The power price is determined at the time each payment is due based on the latest year's annual spot price index for PJM-West as reported by FERC measured in \$/MWh
 - Value is adjusted for inflation to the year when the payment is made
 - The 2011 PJM-West price index is \$43.33/MWh which would be adjusted for one year of inflation to \$44.25/MWh for payments in 2012
 - Continuing the example, the estimated market value in 2012 of the estimated annual power output is 3.504 million MWh times \$44.25/MWh, or \$155,052,000

Annual Operating Fee

$$F = M * H * C * P * r$$

Annual Operating Fee	=	M Nameplate Capacity [MW]	*	H Hours Per Year [8,760]	*	C Capacity Factor [0 to 1]	*	P Power Price [\$/MWh]	*	r Operating Fee Rate [0 to 1]
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- Operating fee rate is the share of the estimated market value of the power produced payable to the lessor
 - The operating fee rate is 0.02 through the 8th year of commercial operations on the lease, and 0.04 thereafter
 - Continuing the example, the estimated market value of the power produced of \$155,052,000 is multiplied by 0.02, resulting in an annual operating fee of \$3,101,040

Annual Operating Fee

- Recapping the example

• Nameplate Capacity	1,000 MW
• Hours Per Year	8,760
<i>Generation at continuous full power operation</i>	<i>8.76 million MWh</i>
• Capacity Factor	0.400
<i>Anticipated annual power output</i>	<i>3.504 million MWh</i>
• Power Price	\$44.25/MWh
<i>Estimated market value</i>	<i>\$155,052,000</i>
• Operating Fee Rate	0.02
Annual Operating Fee	\$3,101,040

Phased Development

- Example: Payment at start of commercial operations on the first phase of a development in two distinct phases, with 600 MW in Phase 1 and 400 MW in Phase 2, for a total of 1,000 MW as specified in the COP, located in a 20 OCS block lease (~115,200 acres)
 - Phase 1: Annual Operating Fee
 - $600 \text{ MW} * 8,760 \text{ hours} * 0.400 * \$44.25/\text{MWh} * 0.02 = \$1,860,624$
 - Phase 2: Annual Rent
 - $115,200 \text{ acres} * (400 \text{ MW} / 1,000 \text{ MW}) * \$3/\text{acre} = \$138,240$
 - Total Payment Due = \$1,998,864

Financial Assurance

- Financial assurance is required to cover all lease obligations
 - Projected payments due over the next 12 months such as rent
 - Past due payment amounts or any other monetary obligations
 - Estimated decommissioning costs
- An initial financial assurance of \$100,000 is due prior to lease issuance in the form of a bond or other approved form
- A minimum supplemental assurance of \$1,062,825 to guarantee the obligations from annual rental payments is due upon approval of the SAP (total for all lease areas offshore New Jersey)
- Additional financial assurances will be required to address decommissioning, operating fees, and other obligations as the Lease progresses

Financial Assurance

- Any bond or other acceptable financial assurance instrument that the lessee provides must:
 - Be payable to BOEM upon demand; and
 - Guarantee compliance with all terms and conditions of the lease, any subsequent approvals and authorizations, and all applicable regulations
- All financial assurance must be in a form approved by BOEM
 - Surety bonds are the primary form of assurance
 - BOEM will consider pledges of other forms of assurance if BOEM determines that the form provides the same protection as a surety bond
 - U.S. Department of Treasury securities, cash, CDs, or savings accounts
 - Negotiable U.S. Government, State, and municipal bonds or
 - Investment-grade rate securities (AAA)
 - Insurance (“superior” rating)
 - BOEM may also consider your financial strength and reliability or third-party guarantor

Auction Format



Overview of Auction Format

- Presenting system proposed for RI that represents our starting point for the design of a NJ auction
- Multiple zones (leases) will be offered in the sale
- Sale will be conducted using an internet-based auction system
- Bidding will follow a multiple-factor auction format
 - Non-Monetary: Panel awards a credit to bidders satisfying technical factors, such as holding a JDA, PPA, or OREC
 - Monetary: Cash bidding conducted over a series of rounds with escalating prices based on demand in each round
- Advantages
 - Simple bidding procedure ensures transparent process that is easy for the seller to conduct and bidders to participate
 - Allow for price discovery process encourages bidders to bid up to their valuation of the zone, prevents over-bidding and surprise outcomes, and discourages harmful bidding practices
 - Recognizes substantive efforts by adjacent states and utilities

The Bidding Process

- BOEM will inform you of the stated auction “clock” price for each zone and the number of bidders from the previous round at the opening of each round of bidding
- In each round you are allowed to submit a “live” bid for each zone
 - Depending on your eligibility in the auction, you may enter a bid for one zone or more zones individually
 - Your bid for a particular zone indicates to BOEM that you are willing to pay the round’s stated auction price for that zone (net of MFA credit)
 - If you submit live bids on a set of zones and your bids are the only bids submitted for that zone in a particular round, your bids will automatically be carried forward to the next round
 - Otherwise, no previous round bids will be automatically carried forward to a subsequent round, i.e., you must submit live bids for each zone you desire in each round whether the price increases or not for a particular zone
- Additional rounds occur as long as two or more bidders continue to submit more than one live bid for at least one of the zones in each round, otherwise the auction ends

Limits on Bidding

- You can bid on a different combination of zones from round to round (subject to a few rules, of course)
- Eligibility: The number of zones you are allowed to enter live bids for in each round
 - You must bid for the maximum number of zones you would like to win right away in the auction
 - Your eligibility decreases as the auction progresses as prices increase and you reach your budget constraints
- Intra-round Bidding: Allows you to express your best and final price for the zone(s) you bid on the last round before you reduce your bidding eligibility to a lesser number of zones (or no zones)
- All of the bids you submit remain active until the conclusion of the auction regardless of when you stop bidding during the auction

Eligibility Rules

- Your eligibility in the opening round is based on your bid deposit
 - Deposit for all zones allows bidding on all zones in the opening round
 - Deposit for a single zone based on largest zone offered with bidder restricted to bidding on only one zone
 - Deposit for two zones based on largest two zones, and so on
- Your eligibility in further rounds is based on your bidding in the last round
 - For example, if you submitted live bids on two zones in the last round, you can submit live bids on either one or two zones in the current round
 - If you submitted a live bid on only one zone in the last round, you can only submit a live bid on one zone in the current round
 - Once you go from bidding on two zones to one, you can't go back to bidding on two zones
- If you do not submit any live bids in a particular round, you will no longer be eligible to submit any bids in any subsequent auction round

Intra-Round Bids

- In each round you also have the option to submit an “intra-round” bid based on your bid eligibility at the start of the round
- Intra-round bids consist of a single price you would be willing to pay between the previous and current rounds stated auction prices for the zone(s) you bid on in the previous round
- When submitting an intra-round bid you must also place fewer live bids than you did in the previous round, i.e., you submit intra-round bids in rounds when you reduce your eligibility
- You may submit an intra-round bid in the round when you stop submitting live bids altogether
- You will either win all or none of the zones in an intra-round bid, i.e., the bid is treated as a “package”, all-or-nothing offer

Intra-Round Bids Example #1

- *You're eligible to bid on two zones at the start of a round but the price for the desired set of zones exceeds your budget for both*
 - Option 1: Submit an intra-round bid for both zones at your budgeted amount, and submit a live bid for a single zone, thereby reducing your eligibility to one zone in the next round
 - Option 2: Submit an intra-round bid for both zones at your budgeted amount, and do not submit any live bids, thereby reducing your eligibility to zero in the next round
 - Option 3: Do not submit an intra-round or live bid for any zones, thereby reducing your eligibility to zero in the next round
 - Note that you cannot submit a live bid on one zone and an intra-round bid on the other zone in this example; or a live bid on both zones and an intra-round bid on one of the zones in a particular round

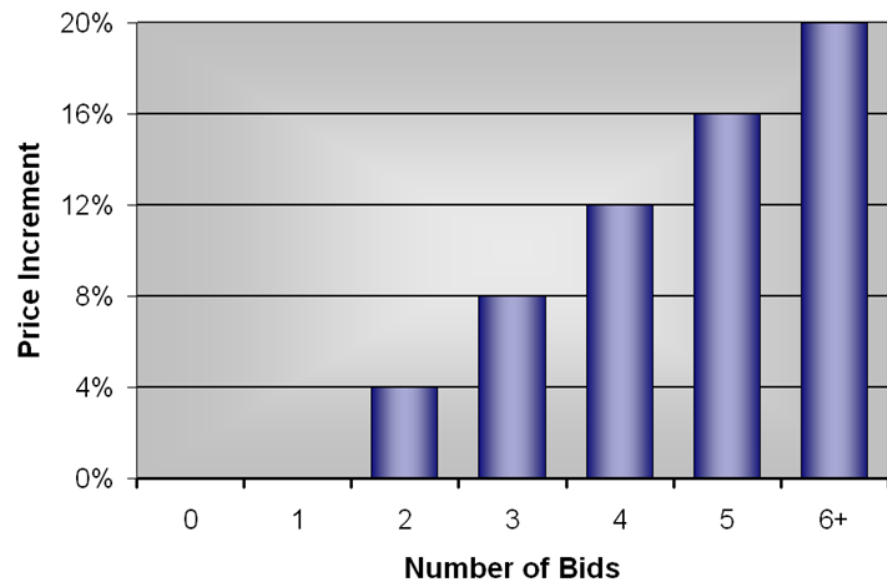
Intra-Round Bids Example #2

- *You're eligible to bid on only one zone at the start of a round but the prices exceed your budgets for each zone*
 - Option 1: Submit an intra-round bid for the zone you bid on in the last round and reduce your eligibility to zero in the next round
 - Option 2: Do not submit an intra-round or live bid for any zones, thereby reducing your eligibility to zero in the next round
 - Note that you cannot submit an intra-round bid on one zone and a live bid on the other zone; or an intra-round bid on more than one zone

Price Determination

- Prices for each zone are set to control the pace of the auction and allow adequate price discovery
- The opening prices for each zone correspond to the minimum bid prices
- A percentage increase is applied to each zone's price in the previous round based on the level of demand and the pace of the auction
- If one or zero bidders bid on a zone in the previous round the price remains unchanged
- Intra-round bids do not get counted as demand

Illustrative Default Increment Percentages for a Clock Auction



Ausubel and Cramton (2011c), p. 39.

Winner Determination: Stage 1

- Each zone is awarded to the sole bidder submitting a live bid for the zone in the final round of the auction at that round's stated auction price
- If all zones are awarded at the end of this stage the auction ends
- Your awarded zones in this stage will not be affected by Stage 2 of the award process

Winner Determination: Stage 2

- Considers all live and intra-round bids from previous rounds
- Live bids submitted in a particular round are considered as package bids in the same way as intra-round bids
 - Valued at an aggregate price based on the prices in the round when each live bid was submitted
 - Example: If live bids for both zones were submitted by a bidder in a round when prices were \$800,000 and \$700,000 for the North and South Zones, respectively, the bids would be considered as an all-or-nothing bid for both zones at \$1,500,000
- Bids must not conflict with zones awarded in Stage 1
 - Bids from bidders who were not awarded a zone in Stage 1 are eliminated if they contain any zone that was already awarded
 - Bids from bidders who were awarded one or more zones in Stage 1 are eliminated if they do not contain the zones the bidder was already awarded (i.e., a “super-set”) or if the bid would actually reduce auction revenues if awarded
- Unsold zones are awarded to bidders whose bids in previous rounds yield the highest auction revenue to BOEM
- Ties among high exit bids are resolved by a random process

Example of Stage 2 Award

- North Zone was awarded in Stage 1 to Bidder B for \$1,000,000 with other maximum, previous-round bids as follows from each bidder:
 - Bidder A: Intra-round bid of \$1,500,000 for both North and South Zones
 - *Eliminated from consideration since it contains the North Zone*
 - Bidder A: Intra-round bid of \$650,000 for the South Zone
 - *Not chosen since the bid amount is less than Bidder C's intra-round bid*
 - Bidder B: Intra-round bid for both zones of \$975,000
 - *Eliminated from consideration since it would result in lower auction revenue*
 - Bidder B: Live bid of \$550,000 for the South Zone
 - *Eliminated from consideration as it does not contain the North Zone*
 - Bidder C: Intra-round bid of \$700,000 for the South Zone (AWARDED)

Ascending Clock: Example

One Bidder in at Final Announced Price

	Single Lot	Bid	Exit Bid									
<u>Round 1</u> Announced Price: \$100 Demand: 3		<table border="1"> <tr><td>Bidder A</td><td>In</td><td></td></tr> <tr><td>Bidder B</td><td>In</td><td></td></tr> <tr><td>Bidder C</td><td>In</td><td></td></tr> </table>	Bidder A	In		Bidder B	In		Bidder C	In		
Bidder A	In											
Bidder B	In											
Bidder C	In											
<u>Round 2</u> Announced Price: \$108 Demand: 2		<table border="1"> <tr><td>Bidder A</td><td>Out</td><td>\$105</td></tr> <tr><td>Bidder B</td><td>In</td><td></td></tr> <tr><td>Bidder C</td><td>In</td><td></td></tr> </table>	Bidder A	Out	\$105	Bidder B	In		Bidder C	In		
Bidder A	Out	\$105										
Bidder B	In											
Bidder C	In											
<u>Round 3</u> Announced Price: \$112 Demand: 1		<table border="1"> <tr><td>Bidder A</td><td></td><td></td></tr> <tr><td>Bidder B</td><td>Out</td><td>\$110</td></tr> <tr><td>Bidder C</td><td>In</td><td></td></tr> </table>	Bidder A			Bidder B	Out	\$110	Bidder C	In		
Bidder A												
Bidder B	Out	\$110										
Bidder C	In											

Winner: Bidder C at \$112 for the Lot

**Bidders only see the announced price and demand at the start of each round

Ascending Clock: Example

No Bidders in at Final Announced Price

	Single Lot	Bid	Exit Bid																	
Round 1 Announced Price: \$100 Demand: 3	<table border="1"><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>										<table border="1"><tr><td>Bidder A</td><td>In</td><td></td></tr><tr><td>Bidder B</td><td>In</td><td></td></tr><tr><td>Bidder C</td><td>In</td><td></td></tr></table>	Bidder A	In		Bidder B	In		Bidder C	In	
Bidder A	In																			
Bidder B	In																			
Bidder C	In																			
Round 2 Announced Price: \$108 Demand: 2	<table border="1"><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>										<table border="1"><tr><td>Bidder A</td><td>Out</td><td>\$105</td></tr><tr><td>Bidder B</td><td>In</td><td></td></tr><tr><td>Bidder C</td><td>In</td><td></td></tr></table>	Bidder A	Out	\$105	Bidder B	In		Bidder C	In	
Bidder A	Out	\$105																		
Bidder B	In																			
Bidder C	In																			
Round 3 Announced Price: \$112 Demand: 0	<table border="1"><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>										<table border="1"><tr><td>Bidder A</td><td></td><td></td></tr><tr><td>Bidder B</td><td>Out</td><td>\$110</td></tr><tr><td>Bidder C</td><td>Out</td><td>\$111</td></tr></table>	Bidder A			Bidder B	Out	\$110	Bidder C	Out	\$111
Bidder A																				
Bidder B	Out	\$110																		
Bidder C	Out	\$111																		

Winner: Bidder C at \$111 for the Lot

Sample SACA Auction #1

Zone Prices by Round

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	\$ 487,460	\$ 565,454	\$ 655,927	\$ 734,638	\$ 793,409
South	\$ 336,260	\$ 363,161	\$ 392,214	\$ 423,591	\$ 440,535
Both	\$ 823,720	\$ 928,615	\$ 1,048,141	\$ 1,158,229	\$ 1,233,944

Zone	Winning Bidders	Price
North	Big Wind	\$ 793,409
South	Fresh Wind	\$ 440,535
Total Auction Revenue		\$ 1,233,944

Zone Selection by Round

Bidder	Zone	Round					Intra-Round Bids	
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	Both Zones	Single Zone
Big Wind	North	Yes	Yes	Yes	Yes	Yes	\$ 1,160,000	
	South	Yes	Yes	Yes	Yes	Intra-Round		
Mighty Wind	North	Yes	Yes	Yes	Intra-Round		\$ 1,100,000	NA
	South	Yes	Yes	Yes	Intra-Round			
Fresh Wind	North	Yes	Yes	Yes	Yes		\$ 1,000,000	
	South	Yes	Yes	Intra-Round		Yes		
Light Wind	North	Yes	Yes					\$ 430,000
	South			Yes	Yes	Intra-Round		
Dead Wind	North	Yes	Yes	Yes	Yes	Intra-Round		\$ 760,000
	South							

Zone Demand by Round

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	5	5	4	3	1
South	3	3	3	2	1
End Auction?	NO	NO	NO	NO	YES

Demand	Price Inc
0	0%
1	0%
2	4%
3	8%
4	12%
5	16%
6	20%

Zone Price Increase

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	16%	16%	12%	8%	NA
South	8%	8%	8%	4%	NA

Sample SACA Auction #2

Zone Prices by Round

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	\$ 487,460	\$ 565,454	\$ 655,927	\$ 734,638	\$ 793,409
South	\$ 336,260	\$ 363,161	\$ 392,214	\$ 423,591	\$ 440,535
Both	\$ 823,720	\$ 928,615	\$ 1,048,141	\$ 1,158,229	\$ 1,233,944

Zone	Winning Bidders	Price
North	Big Wind	\$ 793,409
South	Light Wind	\$ 430,000
Total Auction Revenue		\$ 1,223,409

Zone Selection by Round

Bidder	Zone	Round					Intra-Round Bids	
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	Both Zones	Single Zone
Big Wind	North	Yes	Yes	Yes	Yes	Yes	\$ 1,160,000	
	South	Yes	Yes	Yes	Yes	Intra-Round		
Mighty Wind	North	Yes	Yes	Yes	Intra-Round		\$ 1,100,000	NA
	South	Yes	Yes	Yes	Intra-Round			
Fresh Wind	North	Yes	Yes	Yes	Yes	Intra-Round	\$ 1,000,000	\$ 740,000
	South	Yes	Yes	Intra-Round				
Light Wind	North	Yes	Yes					\$ 430,000
	South			Yes	Yes	Intra-Round		
Dead Wind	North	Yes	Yes	Yes	Yes	Intra-Round		\$ 760,000
	South							

Zone Demand by Round

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	5	5	4	3	1
South	3	3	3	2	0
End Auction?	NO	NO	NO	NO	YES

Demand	Price Inc
0	0%
1	0%
2	4%
3	8%
4	12%
5	16%
6	20%

Zone Price Increase

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	16%	16%	12%	8%	NA
South	8%	8%	8%	4%	NA

Sample SACA Auction #3

Zone Prices by Round

Zone	Round					Zone	Winning Bidders	Price
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>			
North	\$ 487,460	\$ 565,454	\$ 655,927	\$ 734,638	\$ 793,409	North	Big Wind	\$ 1,200,000
South	\$ 336,260	\$ 363,161	\$ 392,214	\$ 423,591	\$ 440,535	South	Big Wind	
Both	\$ 823,720	\$ 928,615	\$ 1,048,141	\$ 1,158,229	\$ 1,233,944	Total Auction Revenue		\$ 1,200,000

Zone Selection by Round

Bidder	Zone	Round					Intra-Round Bids	
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	Both Zones	Single Zone
Big Wind	North	Yes	Yes	Yes	Yes	Intra-Round	\$ 1,200,000	
	South	Yes	Yes	Yes	Yes	Intra-Round		
Mighty Wind	North	Yes	Yes	Yes	Intra-Round		\$ 1,100,000	NA
	South	Yes	Yes	Yes	Intra-Round			
Fresh Wind	North	Yes	Yes	Yes	Yes	Intra-Round	\$ 1,000,000	\$ 740,000
	South	Yes	Yes	Intra-Round				
Light Wind	North	Yes	Yes					\$ 430,000
	South			Yes	Yes	Intra-Round		
Dead Wind	North	Yes	Yes	Yes	Yes	Intra-Round		\$ 760,000
	South							

\$1,190,000

Zone Demand by Round

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	5	5	4	3	0
South	3	3	3	2	0
End Auction?	NO	NO	NO	NO	YES

Demand	Price Inc
0	0%
1	0%
2	4%
3	8%
4	12%
5	16%
6	20%

Zone Price Increase

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	16%	16%	12%	8%	NA
South	8%	8%	8%	4%	NA

Sample SACA Auction #4

Zone Prices by Round

Zone	Round					Zone	Winning Bidders	Price
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>			
North	\$ 487,460	\$ 545,955	\$ 611,470	\$ 660,388	\$ 686,804	North	Fresh Wind	\$ 686,804
South	\$ 336,260	\$ 376,611	\$ 421,804	\$ 455,548	\$ 455,548	South	Dead Wind	\$ 450,000
Both	\$ 823,720	\$ 922,566	\$ 1,033,274	\$ 1,115,936	\$ 1,142,352	Total Auction Revenue		\$ 1,136,804

Zone Selection by Round

Bidder	Zone	Round					Intra-Round Bids	
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	Both Zones	Single Zone
Big Wind	North	Yes	Yes	Yes	Intra-Round		\$ 1,065,000	NA
	South	Yes	Yes	Yes	Intra-Round			
Mighty Wind	North	Yes	Yes	Intra-Round			\$ 1,000,000	NA
	South	Yes	Yes	Intra-Round				
Fresh Wind	North	Yes	Yes	Yes	Yes	Yes	\$ 1,100,000	
	South	Yes	Yes	Yes	Intra-Round			
Light Wind	North	Yes	Yes	Yes	Yes	Intra-Round		\$ 675,000
	South							
Dead Wind	North							\$ 450,000
	South	Yes	Yes	Yes	Intra-Round			

Zone Demand by Round

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	4	4	3	2	1
South	4	4	3	0	0
End Auction?	NO	NO	NO	NO	YES

Demand	Price Inc
0	0%
1	0%
2	4%
3	8%
4	12%
5	16%
6	20%

Zone Price Increase

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	12%	12%	8%	4%	NA
South	12%	12%	8%	0%	NA

Sample SACA Auction #5

Zone Prices by Round

Zone	Round					Zone	Winning Bidders	Price
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>			
North	\$ 487,460	\$ 545,955	\$ 611,470	\$ 660,388	\$ 686,804	North	Fresh Wind	\$ 1,075,000
South	\$ 336,260	\$ 376,611	\$ 406,740	\$ 423,010	\$ 423,010	South	Fresh Wind	
Both	\$ 823,720	\$ 922,566	\$ 1,018,210	\$ 1,083,398	\$ 1,109,814	Total Auction Revenue		\$ 1,075,000

Zone Selection by Round

Bidder	Zone	Round					Intra-Round Bids	
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	Both Zones	Single Zone
Big Wind	North	Yes	Yes	Yes	Intra-Round		\$ 1,065,000	NA
	South	Yes	Yes	Yes	Intra-Round			
Mighty Wind	North	Yes	Yes	Intra-Round			\$ 1,000,000	NA
	South	Yes	Yes	Intra-Round				
Fresh Wind	North	Yes	Yes	Yes	Yes	Yes	\$ 1,075,000	
	South	Yes	Yes	Yes	Intra-Round			
Light Wind	North	Yes	Yes	Yes	Yes	Intra-Round		\$ 675,000
	South							
Dead Wind	North							\$ 375,000
	South	Yes	Intra-Round					

Zone Demand by Round

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	4	4	3	2	1
South	4	3	2	0	0
End Auction?	NO	NO	NO	NO	YES

Zone Price Increase

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	12%	12%	8%	4%	NA
South	12%	8%	4%	0%	NA

Demand	Price Inc
0	0%
1	0%
2	4%
3	8%
4	12%
5	16%
6	20%

Bidder Default

- Winning bidder would forfeit their deposit if the lease is not executed and returned within 10 days of receipt from BOEM, or if the bidder fails to comply with applicable regulations or terms of the Final Sale Notice
- The affected zone or zones would be offered again through a subsequent auction process
- If each of the zones is awarded to a different bidder, default by one bidder will not affect the award of the other zone to the other, non-defaulting bidder

Audience Participation

- 5 volunteers from the audience will pose as bidders with varying plans and budgets entering the auction
 - *Only #1 – Big Wind limited to one zone in opening round based*
 - **#1 – Big Wind:** Only wants one zone; will settle for either but prefers North to South up to its budget of \$665,000 for the North and \$475,000 for the South
 - **#2 – Mighty Wind:** Would like both zones but will settle for only North up to its budget of \$1,250,000
 - **#3 – Fresh Wind:** Only wants both zones or none at all up to its budget of \$1,150,000
 - **#4 – Light Wind:** Would like both zones for up to \$1,200,000 but will settle for only North up to its budget of \$750,000
 - **#5 – Dead Wind:** Would like both zones for up to \$1,000,000 but will settle for only South up to its budget of \$500,000

Audience Participation Results

Zone Prices by Round

Zone	Round					Zone	Winning Bidders	Price
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>			
North	\$ 487,460	\$ 565,454	\$ 655,927	\$ 734,638	\$ 764,024	North	Mighty Wind	\$ 764,024
South	\$ 336,260	\$ 376,611	\$ 421,804	\$ 472,420	\$ 510,214	South	Dead Wind	\$ 500,000
Both	\$ 823,720	\$ 942,065	\$ 1,077,731	\$ 1,207,058	\$ 1,274,238	Total Auction Revenue		\$ 1,264,024

Zone Selection by Round

Bidder	Zone	Round					Intra-Round Bids	
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	Both Zones	Single Zone
Big Wind	North	Yes	Yes	Yes				\$ 475,000
	South				Yes	Intra-Round		
Mighty Wind	North	Yes	Yes	Yes	Yes	Yes	\$ 1,250,000	
	South	Yes	Yes	Yes	Yes	Intra-Round		
Fresh Wind	North	Yes	Yes	Yes	Intra-Round		\$ 1,150,000	
	South	Yes	Yes	Yes	Intra-Round			
Light Wind	North	Yes	Yes	Yes	Yes	Intra-Round	\$ 1,200,000	\$ 750,000
	South	Yes	Yes	Yes	Intra-Round			
Dead Wind	North	Yes	Yes	Intra-Round			\$ 1,000,000	\$ 500,000
	South	Yes	Yes	Yes	Yes	Intra-Round		

Zone Demand by Round

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	5	5	4	2	1
South	4	4	4	3	0
End Auction?	NO	NO	NO	NO	YES

Zone Price Increase

Zone	Round				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
North	16%	16%	12%	4%	NA
South	12%	12%	12%	8%	NA

Demand	Price Inc
0	0%
1	0%
2	4%
3	8%
4	12%
5	16%
6	20%

Multiple Factor Credit

- Prior to the ascending bidding phase, BOEM will conduct a technical evaluation phase to determine each bidder's eligibility for a percentage credit
- Each bidder will be informed of their individual credit prior to the ascending bidding phase so they can account for it in their bidding
- For each bidder, the as-bid price will be considered to have a cash component and an imputed credit component
 - Credit applied to the zone with the highest as-bid price selected by the bidder in each round
 - For intra-round bids, the credit will be valued based on the price of the zone in the bid with the highest as-bid price in the round before the intra-round bid was entered
 - Award of zones in Stage 2 is based on as-bid prices

Criteria for Awarding Credits

- The percentage amount of credit imputed awarded will be based on the greater of the following two conditions associated with the development activities within the New Jersey lease sale area:
 - A bidder having entered into one or more qualified Ocean Renewable Energy Credit (ORECs) agreements supporting 350 MW or more of total capacity will receive a credit of 25%;
 - A bidder having entered into one or more qualified joint development agreements (JDAs) supporting 350 MW or more of total capacity will receive a credit of 15%; or
 - A bidder having entered into one or more qualified Power Purchase Agreements (PPAs) supporting 350 MW or more of total capacity under contract will receive a credit of 25%
- The panel will determine whether a proffered OREC, JDA, or PPA is qualified to receive a credit, based on the definitions of each
- Preliminary definitions of OREC, JDA, and PPA will be included in the PSN

Example of Credit Application

- Consider a scenario in which a bidder's winning as-bid price for their highest-priced zone is \$1,000,000 and the bidder has entered into an OREC agreement for 400 MW and a PPA of 70 MW
 - Under the first condition, the OREC would receive the full credit of 25% since the capacity under the OREC exceeds the 350 MW threshold
 - Under the second condition, the PPA would not receive any credit since the capacity under the PPA falls below the 350 MW threshold
- The bidder receives the greater of the two credits in any event, which is 25% in this example

Audience Ex.: Big Wind w/ JDA

Zone Prices by Round

Zone	Round						Zone	Winning Bidders	Price
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>			
North	\$ 487,460	\$ 565,454	\$ 655,927	\$ 734,638	\$ 793,409	\$ 793,409	North	Mighty Wind	\$ 793,409
South	\$ 336,260	\$ 376,611	\$ 421,804	\$ 472,420	\$ 491,317	\$ 510,970	South	Big Wind	\$ 510,970
Both	\$ 823,720	\$ 942,065	\$ 1,077,731	\$ 1,207,058	\$ 1,284,726	\$ 1,304,379	Total Auction Revenue		\$ 1,304,379

Zone Selection by Round

Bidder	Zone	Round						Intra-Round Bids	
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	Both Zones	Single Zone
Big Wind	North	Yes	Yes	Yes	Yes				
	South					Yes	Yes		
Mighty Wind	North	Yes	Yes	Yes	Yes	Yes	Yes	\$ 1,250,000	
	South	Yes	Yes	Yes	Yes	Intra-Round			
Fresh Wind	North	Yes	Yes	Yes	Intra-Round			\$ 1,150,000	
	South	Yes	Yes	Yes	Intra-Round				
Light Wind	North	Yes	Yes	Yes	Yes	Intra-Round		\$ 1,200,000	\$ 750,000
	South	Yes	Yes	Yes	Intra-Round				
Dead Wind	North	Yes	Yes	Intra-Round				\$ 1,000,000	\$ 500,000
	South	Yes	Yes	Yes	Yes	Yes	Intra-Round		

Big Wind only pays 90% of auction price: \$459,876 (<\$475K budget)

Zone Demand by Round

Zone	Round						End Auction?
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	
North	5	5	4	3	1	0	NO
South	4	4	4	2	2	0	NO
End Auction?	NO	NO	NO	NO	NO	YES	

Demand	Price Inc
0	0%
1	0%
2	4%
3	8%
4	12%
5	16%
6	20%

Zone Price Increase

Zone	Round					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
North	16%	16%	12%	8%	NA	NA
South	12%	12%	12%	4%	NA	NA

Questions and Comments

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BOEM Auction Format Research

<http://www.boem.gov/Renewable-Energy-Program/Regulatory-Information/Renewable-Energy-Auction-Formats.aspx>