NODAL EXCHANGE CONTRACT SPECIFICATIONS



Exhibit A: December 14, 2018 Update to Nodal Exchange Contract Specifications

Updated on December 14th, 2018

ITEMSPECIFICATIONContract DescriptionMonthly Cash Settled Financial Off-Peak Power, ERCOT HB_WEST, Day AheadContract CodeFVJHours of TradingAs defined at http://www.nodalexchange.comUnit of Trading1 lot, based on 1 MW for each hour of the contractLot SizeVariable, expressed in megawath hour (MWh). The Lot Size will equal 1 MV multiplied by the number of Off-Peak hours within the month traded, so in a month with 400 Off-Peak hours, the Lot Size equals 400 MWh. The definitie of Off-Peak hours is Hour Ending (HE) 0100 – 0600 and HE 2300 – 2400, Monday through Friday, CPT and all hours for Saturday, Sunday, and all NERC Holidays.CurrencyUS DollarsMin Price Fluctuation\$0.0001 per MWhMinimum Tick\$0.0001 per MWhFirst Trading DayThe fourth business day of the launeh month, which corresponds to the day t eurrent expiring contract is no longer traded. The launch month is 69 months before the expiration date. The fourth business day of June or January. In Ju the new expiries in the 13th planning year (January – May) are available for trading; in January, the new expiries in the 13th calendar year (June – December) are available for trading.Last Trading DayThe third business day following the last calendar day of the month Contract SeriesCurrenty, 69 months, but eligible to extend to current calendar/planning years plus up to 10 full calendar/planning yearsLast Trading DayThe third business day following the last calendar day of the month ted and and planning yearsLast Trading DayThe third business day following the act calendar day of the month the durent of 10 full calendar/planning years	bn he
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Daily Settlement PriceDetermined by the Exchange based on exchange activity, other market data, and extrapolation to traded contracts, as appropriate	
Final Settlement PriceThe final settlement price will be determined by the Exchange at approximately 3 pm EPT on the Last Trading Day. The final settlement price is the average of the Day Ahead hourly Settlement Point Prices for all Off- Peak hours. These price files can be found at the following link or at success location. http://mis.ercot.com/misapp/GetReports.do?reportTypeId=12331 ERCOT correction prices are found at a different location, and are currently posted at: http://mis.ercot.com/misapp/GetReports.do?reportTypeId=13044 (SPP file only)	
Final SettlementThe first business day following the Last Trading Day	
(Payment) Date	
Position Limit 1052 MW	
Margin Unit US Dollars	

ERCOT HB WEST Monthly Day Ahead Off-Peak Power Contract

ITEM	SPECIFICATION
Contract Description	Monthly Cash Settled Financial On-Peak Power,
	ERCOT HB_WEST, Day Ahead
Contract Code	FVI
Hours of Trading	As defined at http://www.nodalexchange.com
Unit of Trading	1 lot, based on 1 MW for each hour of the contract
Lot Size	Variable, expressed in megawatt hour (MWh). The Lot Size will equal 1 MW multiplied by the number of On-Peak hours within the month traded, so in a
	month with 332 On-Peak hours, the Lot Size equals 332 MWh. The definition
	of On-Peak hours is Hour Ending (HE) 0700 – 2200 Monday through Friday,
	Central Prevailing Time (CPT), excluding NERC Holidays.
Currency	US Dollars
Min Price Fluctuation	\$0.0001 per MWh
Minimum Tick	\$0.0001 per MWh
First Trading Day	The fourth business day of the launch month, which corresponds to the day the
	eurrent expiring contract is no longer traded. The launch month is 69 months
	before the expiration date. The fourth business day of June or January. In June,
	the new expiries in the 13th planning year (January – May) are available for
	trading; in January, the new expiries in the 13th calendar year (June –
	December) are available for trading.
Last Trading Day	The third business day following the last calendar day of the month
Contract Series	Currently, 69 months, but eligible to extend to current calendar/planning year
	plus up to 10 full calendar/planning years Current calendar/planning year plus
	12 full calendar or planning years
Fixed Price	The traded price or the previous day's settlement price
Daily Settlement Price	Determined by the Exchange based on exchange activity, other market data,
	and extrapolation to traded contracts, as appropriate
Final Settlement Price	The final settlement price will be determined by the Exchange at
	approximately 3 pm EPT on the Last Trading Day. The final settlement price
	is the average of the Day Ahead hourly Settlement Point Prices for all On-Peak
	hours. These price files can be found at the following link or at successor
	location.
	http://mis.ercot.com/misapp/GetReports.do?reportTypeId=12331
	ERCOT correction prices are found at a different location, and are currently
	posted at: http://mia.aroot.com/missonn/CotDonorta.do?nonortTymoId=12044
	http://mis.ercot.com/misapp/GetReports.do?reportTypeId=13044 (SPP file only)
Final Settlement	The first business day following the Last Trading Day
(Payment) Date	The first business day following the Last frading Day
Position Limit	1105 MW
Margin Unit	US Dollars

ERCOT HB WEST Monthly Day Ahead On-Peak Power Contract

ITEM	SPECIFICATION
Contract Description	Monthly Cash Settled Financial Off-Peak Power,
	ERCOT HB_WEST, Real Time
Contract Code	FOP
Hours of Trading	As defined at http://www.nodalexchange.com
Unit of Trading	1 lot, based on 1 MW for each hour of the contract
Lot Size	Variable, expressed in megawatt hour (MWh). The Lot Size will equal 1 MW multiplied by the number of Off-Peak hours within the month traded, so in a month with 400 Off-Peak hours, the Lot Size equals 400 MWh. The definition of Off-Peak hours is Hour Ending (HE) 0100 – 0600 and HE 2300 – 2400, Monday through Friday, CPT and all hours for Saturday, Sunday, and all
	NERC Holidays.
Currency	US Dollars
Min Price Fluctuation	\$0.0001 per MWh
Minimum Tick	\$0.0001 per MWh
First Trading Day	The fourth business day of the launch month, which corresponds to the day the
	eurrent expiring contract is no longer traded. The launch month is 69 months
	before the expiration date. The fourth business day of June or January. In June,
	the new expiries in the 13th planning year (January – May) are available for
	trading; in January, the new expiries in the 13th calendar year (June –
	December) are available for trading.
Last Trading Day	The third business day following the last calendar day of the month
Contract Series	Currently, 69 months, but eligible to extend to current calendar/planning year
	plus up to 10 full calendar/planning years Current calendar/planning year plus
	12 full calendar or planning years
Fixed Price	The traded price or the previous day's settlement price
Daily Settlement Price	Determined by the Exchange based on exchange activity, other market data, and extrapolation to traded contracts, as appropriate
Final Settlement Price	The final settlement price will be determined by the Exchange at
	approximately 3 pm EPT on the Last Trading Day. The final settlement price
	is the average of the Real Time hourly 15-minute Settlement Point Prices for
	all Off-Peak hours. These price files can be found at the following link or at
	successor location.
	http://mis.ercot.com/misapp/GetReports.do?reportTypeId=12301
	ERCOT correction prices are found at a different location, and are currently
	posted at:
	http://mis.ercot.com/misapp/GetReports.do?reportTypeId=13045
	(SPP file only)
Final Settlement	The first business day following the Last Trading Day
(Payment) Date	
Position Limit	1052 MW
Margin Unit	US Dollars

ERCOT HB WEST Monthly Real Time Off-Peak Power Contract

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ITEM	SPECIFICATION
Contract Description	Monthly Cash Settled Financial On-Peak Power,
	ERCOT HB_WEST, Real Time
Contract Code	FOO
Hours of Trading	As defined at http://www.nodalexchange.com
Unit of Trading	1 lot, based on 1 MW for each hour of the contract
Lot Size	Variable, expressed in megawatt hour (MWh). The Lot Size will equal 1 MW multiplied by the number of On-Peak hours within the month traded, so in a month with 332 On-Peak hours, the Lot Size equals 332 MWh. The definition of On-Peak hours is Hour Ending (HE) 0700 – 2200 Monday through Friday, Central Prevailing Time (CPT), excluding NERC Holidays.
Currency	US Dollars
Min Price Fluctuation	\$0.0001 per MWh
Minimum Tick	\$0.0001 per MWh
First Trading Day	The fourth business day of the launch month, which corresponds to the day the
	eurrent expiring contract is no longer traded. The launch month is 69 months
	before the expiration date. The fourth business day of June or January. In June,
	the new expiries in the 13th planning year (January – May) are available for
	trading; in January, the new expiries in the 13th calendar year (June –
	December) are available for trading.
Last Trading Day	The third business day following the last calendar day of the month
Contract Series	Currently, 69 months, but eligible to extend to current calendar/planning year
	plus up to 10 full calendar/planning years Current calendar/planning year plus
	12 full calendar or planning years
Fixed Price	The traded price or the previous day's settlement price
Daily Settlement Price	Determined by the Exchange based on exchange activity, other market data,
	and extrapolation to traded contracts, as appropriate
Final Settlement Price	The final settlement price will be determined by the Exchange at
	approximately 3 pm EPT on the Last Trading Day. The final settlement price
	is the average of the Real Time hourly 15-minute Settlement Point Prices for
	all On-Peak hours. These price files can be found at the following link or at
	successor location.
	http://mis.ercot.com/misapp/GetReports.do?reportTypeId=12301
	ERCOT correction prices are found at a different location, and are currently
	posted at: http://mia.aroot.com/missonn/CatDananta.do?nonortTymoId=12045
	http://mis.ercot.com/misapp/GetReports.do?reportTypeId=13045 (SPP file only)
Final Settlement	The first business day following the Last Trading Day
(Payment) Date	The first business day following the Last frading Day
Position Limit	1105 MW
Margin Unit	US Dollars

ERCOT HB WEST Monthly Real Time On-Peak Power Contract

NODAL EXCHANGE CONTRACT SPECIFICATIONS



Exhibit A: December 20, 2018 Update to Nodal Exchange Contract Specifications

Updated on December 20th, 2018

Texas Compliance Renewable Energy Certificate Specific Vintage 2019 Future

ITEM	SPECIFICATION
Contract Description	Physically delivered Texas Compliance Renewable Energy Certificates (REC) where a Texas REC is an electronic certificate issued by the ERCOT Renewables Registry for qualifying wind energy production.
Contract Code	ТХС
Settlement Method	Physical Delivery
Hours of Trading	As defined at http://www.nodalexchange.com
Unit of Trading	1 lot
Lot Size	100 MWh representing 100 Texas RECs
Currency	US Dollars
Minimum Tick	\$0.01 per MWh
Settlement Price Precision	\$0.01 per MWh
Last Trading Day	Three Business Days prior to the last Business Day of the delivery month
Delivery Day	Three Business Days after the Last Trading Day (Last Business Day of the delivery month)
Contract Series	Monthly for the current year <u>(beginning with June of the corresponding vintage year)</u> , plus 1 additional December. The exchange may list any other calendar month contract set off the standard listing cycle for up to 5 years.
Deliverable Product	Texas RECs eligible for delivery are those which are eligible to meet the REC requirements specified in the Public Utility Commission of Texas Substantive Rule Chapter 25, Subchapter H, Division 1 under the renewable energy trading program, having been generated from wind energy production technology. Texas RECs acceptable for delivery are those having a vintage corresponding to the specified vintage year only. REC Offsets are not deliverable.
Registry	ERCOT Renewables Registry
Daily Settlement Price	Determined by the Exchange based on exchange activity, other market data, and extrapolation to traded contracts, as appropriate
Final Settlement (Payment) Date	Three or four Business Days after the Last Trading Day on the successful delivery of the underlying instruments (if the delivery confirmation is available by 11:30am on the third Business Day after the Last Trading Day, the payment will be made on the same day during the Midday Margin Cycle; if it is available after 11:30am, the payment will be made on the next Margin Cycle which will be the next Business Day)
Position Limit	Spot Month: 5,000 lots, Single Month Accountability Level: 7,500 lots, All Month Accountability Level: 15,000 lots
Margin Unit	US Dollars

Texas Compliance Renewable Energy Certificate Specific Vintage 2019 Option

ITEM	SPECIFICATION
Contract Description	An Option on the corresponding month of the Texas Compliance Renewable Energy Certificate Specific Vintage 2019 Future.
Option Style	European
Underlying Contract	тхс
Hours of Trading	As defined at http://www.nodalexchange.com
Contract Size per Lot	1 lot of the Underlying Contract
Unit of Trading	1 lot, as defined in Contract Size per lot
Strike Price	A minimum of ten Strike Prices in increments of \$0.05 above and below the at-the- money Strike Price. Strike Price boundaries are adjusted according to futures price movements. User-defined Strike Prices are allowed in \$0.05 increments.
Currency	US Dollars
Minimum Tick	\$0.001 per MWh
Settlement Price Precision	\$0.001 per MWh
Last Trading Day	At 4:00 pm EPT on the 15th calendar day of the delivery month. Where the 15th calendar day is not a Business Day, the Last Trading Day shall be the first Business Day following the 15th calendar day of the delivery month.
Contract Series	Monthly for the current year <u>(beginning with June of the corresponding vintage year)</u> , plus 1 additional December. The exchange may list any other calendar month contract set off the standard listing cycle for up to 5 years.
Premium	The premium on the Option is paid from the buyer to the seller on the next settlement cycle following the Transaction.
Daily Settlement Price	Determined by the Exchange based on exchange activity, other market data, and extrapolation to traded Option contracts, as appropriate
Exercise	Exercise of In-the-Money Options is automatic on the Last Trading Day unless the Exchange is notified by 5:30 pm EPT on the Last Trading Day (1) to allow the In-the- Money Options to expire without exercise or (2) to exercise expiring Out-of-the- Money Options.
Settlement Method	Exercise into Underlying Contracts
Position Limit	Spot Month: 5,000 lots, Single Month Accountability Level: 7,500 lots, All Month Accountability Level: 15,000 lots. Weightedby Option delta and combined with Underlying Contract position
Margin Unit	US Dollars