4.6 DAM Settlement

4.6.2 Day-Ahead Energy and Make-Whole Settlement

4.6.2.3 Day-Ahead Make-Whole Settlements

4.6.2.3.2 Day-Ahead Make-Whole Charge

ERCOT shall charge a Day-Ahead Make-Whole Charge to each QSE that has one or more cleared DAM Energy Bids and/or Point-to-Point (PTP) Obligation Bids. The Day-Ahead Make-Whole Charge for an hour is that QSE's prorata share of the total amount of Day-Ahead Make-Whole Payments and Day-Ahead Make-Whole RMR Revenue for that hour. The proration must be based on the ratio of the energy amount of the QSE's cleared DAM Energy Bids and PTP Obligation Bids to the total energy amount of all QSEs' cleared DAM Energy Bids and PTP Obligation Bids. The Day-Ahead Make-Whole Charge to each QSE for a given hour is calculated as follows:

$$\mathbf{LADAMWAMT}_q = (-1) * (\mathbf{DAMWAMTTOT} + \mathbf{RMRDAMWREVTOT}) * \mathbf{DAERS}_q$$

Where:

Day-Ahead Make-Whole Payment Total
$$\mathrm{DAMWAMTTOT} = \sum_q \mathrm{DAMWAMTQSETOT}_q$$

RMR Day-Ahead Make-Whole Revenue Total
$$\mathrm{RMRDAMWREVTOT} = \sum_q \mathrm{DAMWRMRREVQSETOT}_q$$

Day-Ahead Energy Purchase Ratio Share per QSE
$$\mathrm{DAERS}_q = \mathrm{DAE}_q / \mathrm{DAETOT}$$

$$\mathrm{DAETOT} = \sum_q \mathrm{DAE}_q$$

$$\mathrm{DAE}_q = \sum_p \mathrm{DAEP}_{q,p} + \sum_j \sum_k \mathrm{RTOBL}_{q,(j,k)}$$

The above variables are defined as follows:

Variable	Unit	Definition
$\mathrm{LADAMWAMT}_q$	$	*Day-Ahead Make-Whole Charge*—The allocated charge to QSE q to make whole all the eligible DAM-committed Resources for the hour.
DAMWAMTTOT	$	*Day-Ahead Make-Whole Payment Total*—The total of the Day-Ahead Make-Whole Payments to all QSEs for all DAM-committed Resources for the hour.
$\mathrm{DAMWAMTQSETOT}_q$	$	*Day-Ahead Make-Whole Payment QSE Total per QSE*—The total of the Day-Ahead Make-Whole Payments to QSE q for the DAM-committed Generation Resources represented by this QSE for the hour.

Variable	Unit	Definition
RMRDAMWREVTOT	$	*RMR Day-Ahead Make-Whole Revenue Total*—The total of the RMR Day-Ahead Make-Whole Revenue for all DAM-committed RMR Units for the hour.
DAMWRMRREVQSETOT$_q$	$	*Day-Ahead Make-Whole RMR Revenue QSE Total per QSE*—The total of the Day-Ahead Make-Whole Revenue calculated for QSE q for DAM-committed RMR Units represented by this QSE for the hour.
DAERS$_q$	none	*Day-Ahead Energy Purchase Ratio Share per QSE*— The ratio of QSE q's total amount of energy represented by its cleared DAM Energy Bids and PTP Obligation Bids, to the total amount of energy represented by all QSEs' cleared DAM Energy Bids and PTP Obligation Bids, for the hour.
DAETOT	MW	*Day-Ahead Energy Total*—The total amount of energy represented by all cleared DAM Energy Bids and all cleared PTP Obligation Bids for the hour.
DAE$_q$	MW	*Day-Ahead Energy per QSE*—QSE q's total amount of energy, represented by its cleared DAM Energy Bids and PTP Obligation Bids, for the hour.
DAEP$_{q,p}$	MW	*Day-Ahead Energy Purchase per QSE per Settlement Point*—The total amount of energy represented by QSE q's cleared DAM Energy Bids at the Settlement Point p for the hour.
RTOBL$_{q,(j,k)}$	MW	*Real-Time Obligation per QSE per pair of source and sink*—The total amount of energy represented by QSE q's cleared PTP Obligation Bids with the source j and the sink k, for the hour.
q	none	A QSE.
~~r~~	~~none~~	~~An RMR Unit.~~
p	none	A Settlement Point.
j	none	A source Settlement Point.
k	none	A sink Settlement Point.

4.6.3 Settlement for PTP Obligations Bought in DAM

(1)   ERCOT shall pay or charge a QSE for a cleared PTP Obligation Bid the difference in the DAM Settlement Point Prices between the sink Settlement Point and the source Settlement Point. The charge or payment to each QSE for a given Operating Hour of its cleared PTP Obligation Bids with each pair of source and sink Settlement Points is calculated as follows:

$$\text{DARTOBLAMT}_{q,(j,k)} = \text{DAOBLPR}_{(j,k)} {}^{*} \text{RTOBL}_{q,(j,k)}$$

Where:

$$\text{DAOBLPR}_{(j,k)} = \text{DASPP}_k - \text{DASPP}_j$$

The above variables are defined as follows:

Variable	Unit	Definition
DARTOBLAMT$_{q,(j,k)}$	$	*Day-Ahead Real-Time Obligation Amount per QSE per pair of source and sink*—The charge or payment to QSE q for a PTP Obligation Bid cleared in the DAM with the source j and the sink k, for the hour.

Variable	Unit	Definition
DAOBLPR $_{(j,k)}$	$/MW~~h~~ ~~per hour~~	*Day-Ahead Obligation Price per pair of source and sink*—The DAM clearing price of a PTP Obligation Bid with the source j and the sink k, for the hour.
DASPP $_j$	$/MWh	*Day-Ahead Settlement Point Price at source*—The DAM Settlement Point Price at the source Settlement Point j for the hour.
DASPP $_k$	$/MWh	*Day-Ahead Settlement Point Price at sink*—The DAM Settlement Point Price at the sink Settlement Point k for the hour.
RTOBL $_{q,(j,k)}$	MW	*Real-Time Obligation per QSE per pair of source and sink*—The total MW of the QSE's PTP Obligation Bids cleared in the DAM for the source j and the sink k for the hour.
q	none	A QSE.
j	none	A source Settlement Point.
k	none	A sink Settlement Point.

(2) The net total charge or payment to the QSE for the hour of all its cleared PTP Obligation Bids is calculated as follows:

$$\text{DARTOBLAMTQSETOT}_q = \sum_j \sum_k \text{DARTOBLAMT}_{q,(j,k)}$$

The above variables are defined as follows:

Variable	Unit	Definition
DARTOBLAMTQSETOT$_q$	$	*Day-Ahead Real-Time Obligation Amount QSE Total per QSE* - The net total charge or payment to QSE q for all its PTP Obligation Bids cleared in the DAM for the hour.
DARTOBLAMT$_{q,(j,k)}$	$	*Day-Ahead Real-Time Obligation Amount per QSE per pair of source and sink* - The charge or payment to QSE q for a PTP Obligation Bids cleared in the DAM with the source j and the sink k, for the hour.
q	none	A QSE.
j	none	A source Settlement Point.
k	none	A sink Settlement Point.

[NPRR322: Insert paragraphs (3) and (4) below upon system implementation:]

(3) ERCOT shall charge a QSE for a cleared PTP Obligation bid with Links to an Option the positive difference in the DAM Settlement Point Prices between the sink Settlement Point and the source Settlement Point. The charge to each QSE for a given Operating Hour of its cleared PTP Obligation bid with Links to an Option with each pair of source and sink Settlement Points is calculated as follows:

$$\text{DARTOBLLOAMT}_{q,(j,k)} = \text{Max} (0, \text{DAOBLPR}_{(j,k)}) * \text{OBLLO}_{q,(j,k)}$$

Where:

$$OBLLO_{q, (j, k)} = \sum_{crrid} OBLLOCRR_{q, (j, k), crrid}$$

The above variables are defined as follows:

Variable	Unit	Definition
DARTOBLLOAMT$_{q, (j, k)}$	$	*Day-Ahead Real-Time Obligation with Links to an Option Amount per QSE per pair of source and sink*—The charge to QSE q for a PTP Obligation bid with Links to an Option cleared in the DAM with the source j and the sink k, for the hour.
DAOBLPR$_{(j, k)}$	$/MWh per hour	*Day-Ahead Obligation Price per pair of source and sink*—The DAM clearing price of a PTP Obligation bid with the source j and the sink k, for the hour.
OBLLO$_{q, (j, k)}$	MW	*PTP Obligation with Links to an Option per QSE per pair of source and sink*—The total MW of QSE q's PTP Obligation bids with Links to an Option cleared in the DAM for the source j and the sink k for the hour.
OBLLOCRR$_{q, (j, k), crrid}$	MW	*PTP Obligation with Links to an Option per QSE per pair of source and sink and CRRID of the linked Option*—The total MW of QSE q's PTP Obligation bids with Links to an Option cleared in the DAM for the source j and the sink k for the hour and CRRID of the linked PTP Option.
crrid	none	A CRR Option identification code.
q	none	A QSE.
j	none	A source Settlement Point.
k	none	A sink Settlement Point.

(4) The net total charge to the QSE for the hour of all its cleared PTP Obligation bids with Links to an Option is calculated as follows:

$$DARTOBLLOAMTQSETOT_q = \sum_{j} \sum_{k} DARTOBLLOAMT_{q, (j, k)}$$

The above variables are defined as follows:

Variable	Unit	Definition
DARTOBLLOAMTQSETOT$_q$	$	*Day-Ahead Real-Time Obligation with Links to an Option Amount QSE Total per QSE*—The net total charge to QSE q for all its PTP Obligation bids with Links to an Option cleared in the DAM for the hour.
DARTOBLLOAMT$_{q, (j, k)}$	$	*Day-Ahead Real-Time Obligation with Links to Option Amount per QSE per pair of source and sink*—The charge to QSE q for a PTP Obligation bid with Links to an Option cleared in the DAM with the source j and the sink k, for the hour.
q	none	A QSE.
j	none	A source Settlement Point.
k	none	A sink Settlement Point.

ERCOT Nodal Protocols

Section 5: Transmission Security Analysis and Reliability Unit Commitment

~~October 1, 2011~~January 1, 2012

5 TRANSMISSION SECURITY ANALYSIS AND RELIABILITY UNIT COMMITMENT

5.3 ERCOT Security Sequence Responsibilities

(1) ERCOT shall start the Day-Ahead Reliability Unit Commitment (DRUC) process at 1430 in the Day-Ahead.

(2) For each DRUC, ERCOT shall use a snapshot of Resource commitments taken at 1430 in the Day-Ahead to settlefor Reliability Unit Commitment (RUC) chargesSettlement. For each Hourly Reliability Unit Commitment (HRUC), ERCOT shall use a snapshot of Resource commitments from each Qualified Scheduling Entity's (QSE's) most recently submitted Current Operating Plan (COP) before HRUC execution to settlefor RUC chargesSettlement.

(3) For each RUC process, ERCOT shall:

    (a) Execute the Security Sequence described in Section 5.5, Security Sequence, Including RUC, including:

        (i) Validating Three-Part Supply Offers, defined in Section 4.4.9.1, Three-Part Supply Offers; and

        (ii) Reviewing the Resource commitment recommendations made by the RUC algorithm; and

    (b) Post to the Market Information System (MIS) Secure Area, all Resources that were committed or decommitted by the RUC process;

[NPRR382: Replace item (3)(b) above with the following upon system implementation:]

    (b) Post to the Market Information System (MIS) Secure Area, all Resources that were committed or decommitted by the RUC process including verbal RUC commitments and decommitments;

    -(c) Post to the MIS Public Area, all active and binding transmission constraints (contingency and overloaded element pair information where available) used as inputs to the RUC; and

    (d) Issue Dispatch Instructions to notify each QSE of its Resource commitments or decommittments.

(4) ERCOT shall provide each QSE with the information necessary to pre-validate their data for DRUC and HRUC including:

    (a) Publishing validation rules for offers, bids, and trades; and

(b)   Posting any software documentation and code that is not Protected Information to the MIS Secure Area within five Business Days of receipt by ERCOT.

5.5   Security Sequence, Including RUC

5.5.2   *Reliability Unit Commitment (RUC) Process*

(1)   The RUC process recommends commitment of Generation Resources, to match ERCOT's forecasted Load, subject to all transmission constraints and Resource performance characteristics. The RUC process takes into account Resources already committed in the Current Operating Plans (COPs), Resources already committed in previous RUCs, and Resource capacity already committed to provide Ancillary Service. The formulation of the RUC objective function must employ penalty factors on violations of security constraints. The objective of the RUC process is to minimize costs based on Three-Part Supply Offers, substituting a proxy Energy Offer Curve for the Energy Offer Curve, over the RUC Study Period.

(2)   The RUC process can recommend Resource decommitment. ERCOT may only decommit a Resource to resolve transmission constraints that are otherwise unresolvable. Qualifying Facilities (QFs) may be decommitted only after all other types of Resources have been assessed for decommitment. In addition, the HRUC process provides decision support to ERCOT regarding a Resource decommitment requested by a Qualified Scheduling Entity (QSE).

(3)   ERCOT shall review the RUC-recommended Resource commitments to assess feasibility and shall make any changes that it considers necessary, in its sole discretion. ERCOT may deselect Resources recommended in DRUC and in all HRUC processes if in ERCOT's sole discretion there is enough time to commit those Resources in the future HRUC processes, taking into account the Resources' start-up times, to meet ERCOT System reliability. A Generation Resource shown as On-Line and available for Security-Constrained Economic Dispatch (SCED) dispatch for an hour in its COP prior to a DRUC or HRUC process execution, according to Section 5.3, ERCOT Security Sequence Responsibilities, will be considered self-committed for that hour. For purpose of Settlement, snapshot data will be used as specified in paragraph (2) of Section 5.3. Prior to receiving the RUC Instruction, QSEs may self-commit the Generation Resource. ERCOT shall issue RUC Instructions to each QSE specifying its Resources that have been committed as a result of the RUC process. ERCOT shall, within one day after making any changes to the RUC-recommended commitments, post to the MIS Secure Area any changes that ERCOT made to the RUC-recommended commitments with an explanation of the changes.

[NPRR207 & NPRR321: Replace applicable portions of paragraph (3) above with the following upon system implementation:]

(3)   ERCOT shall review the RUC-recommended Resource commitments to assess feasibility and shall make any changes that it considers necessary, in its sole discretion. ERCOT

may deselect Resources recommended in DRUC and in all HRUC processes if in ERCOT's sole discretion there is enough time to commit those Resources in the future HRUC processes, taking into account the Resources' start-up times, to meet ERCOT System reliability. After each RUC run, ERCOT shall post the amount of capacity deselected per hour in the RUC Study Period to the MIS Secure Area. A Generation Resource shown as On-Line and available for Security-Constrained Economic Dispatch (SCED) dispatch for an hour in its COP prior to a DRUC or HRUC process execution, according to Section 5.3, ERCOT Security Sequence Responsibilities, will be considered self-committed for that hour. For purpose of Settlement, snapshot data will be used as specified in paragraph (2) of Section 5.3.Prior to receiving the RUC Instruction, QSEs may self-commit the Generation Resource. ERCOT shall issue RUC Instructions to each QSE specifying its Resources that have been committed as a result of the RUC process. ERCOT shall, within one day after making any changes to the RUC-recommended commitments, post to the MIS Secure Area any changes that ERCOT made to the RUC-recommended commitments with an explanation of the changes.

(4)   To determine the projected energy output level of each Resource and to project potential congestion patterns for each hour of the RUC, ERCOT shall calculate proxy Energy Offer Curves based on the Mitigated Offer Caps for the type of Resource as specified in Section 4.4.9.4, Mitigated Offer Cap and Mitigated Offer Floor, for use in the RUC. Proxy Energy Offer Curves are calculated by multiplying the Mitigated Offer Cap by a constant selected by ERCOT from time to time that is no more than 0.10% and applying the cost for all Generation Resource output between High Sustained Limit (HSL) and Low Sustained Limit (LSL).

(5)   ERCOT shall use the RUC process to evaluate the need to commit Resources for which a QSE has submitted Three-Part Supply Offers and other available Off-Line Resources in addition to Resources that are planned to be On-Line during the RUC Study Period. All of the above commitment information must be as specified in the QSE's COP.

(6)   ERCOT shall create Three-Part Supply Offers for all Resources that did not submit a Three-Part Supply Offer, but are specified as available but Off-Line, excluding Resources with a Resource Status of EMR, in a QSE's COP. For such Resources, ERCOT shall use in the RUC process 150% of any approved verifiable Startup Cost and verifiable minimum-energy cost or if verifiable costs have not been approved, the applicable Resource Category Generic Startup Offer Cost and the applicable Resource Category Generic Minimum-Energy Offer Cost as described specified in Section 4.4.9.2.3, Startup Offer and Minimum-Energy Offer Generic Caps, registered with ERCOT. However for Settlement purposes, ERCOT shall use any approved verifiable Startup Costs and verifiable minimum-energy cost for such Resources, or if verifiable costs have not been approved, the applicable Resource Category Generic Startup Offer Cost and Generic Minimum-Energy Offer Cost.

(7)   The RUC process must treat all Resource capacity providing Ancillary Service as unavailable for the RUC Study Period, unless that treatment leads to infeasibility (i.e., that capacity is needed to resolve some local transmission problem that cannot be

resolved by any other means). In such cases, ERCOT shall inform each affected QSE of the amount of its Resource capacity that does not qualify to provide Ancillary Service, and the projected hours for which this is the case. In that event, the affected QSE may, under Section 6.4.8.1.2, Replacement of Undeliverable Ancillary Service Due to Transmission Constraints, either:

(a)   Substitute capacity from Resources represented by that QSE;

(b)   Substitute capacity from other QSEs using Ancillary Service Trades; or

(c)   Ask ERCOT to replace the capacity.

(8)   Factors included in the RUC process are:

(a)   ERCOT System-wide hourly Load forecast allocated appropriately over Load buses;

(b)   Transmission constraints – Transfer limits on energy flows through the electricity network;

        (i)   Thermal constraints – protect transmission facilities against thermal overload;

        (ii)   Generic constraints – protect the transmission system against transient instability, dynamic instability or voltage collapse;

(c)   Planned transmission topology;

(d)   Energy sufficiency constraints;

(e)   Inputs from the COP, as appropriate;

(f)   Inputs from Resource Parameters, as appropriate;

(g)   Each Generation Resource's Minimum-Energy Offer and Startup Offer, from its Three-Part Supply Offer;

(h)   Any Generation Resource that is Off-Line and available but does not have a Three-Part Supply Offer;

(i)   Forced Outage information; and

(j)   Inputs from the eight-day look ahead planning tool, which may potentially keep a unit On-Line (or start a unit for the next day) so that a unit minimum duration between starts does not limit the availability of the unit (for security reasons).

(9)   The HRUC process and the DRUC process are as follows:

(a)   The HRUC process uses current Resource Status for the initial condition for the first hour of the RUC Study Period. All HRUC processes use the projected status of transmission breakers and switches starting with current status and updated for each remaining hour in the study as indicated in the COP for Resources and in the Outage Scheduler for transmission elements.

(b)   The DRUC process uses the Day-Ahead forecast of total ERCOT Load for each hour of the Operating Day. The HRUC process uses the current hourly forecast of total ERCOT Load for each hour in the RUC Study Period.

(c)   The DRUC process uses the Day-Ahead weather forecast for each hour of the Operating Day. The HRUC process uses the weather forecast information for each hour of the balance of the RUC Study Period.

(10)   A QSE that has one or more of its Resources RUC-committed to provide Ancillary Services must increase its Ancillary Service Supply Responsibility by the total amount of RUC-committed Ancillary Service quantities. The QSE may only use a RUC-committed Resource to meet its Ancillary Service Supply Responsibility during that Resource's RUC-Committed Interval if the Resource has been committed by the RUC process to provide Ancillary Service. The QSE shall indicate the exact amount and type of Ancillary Service for which it was committed as the Resource's Ancillary Service Resource Responsibility and Ancillary Services Schedule for the RUC-Committed Intervals for both telemetry and COP information provided to ERCOT. Upon deployment of the Ancillary Services, the QSE shall adjust its Ancillary Services Schedule to reflect the amounts requested in the deployment.

5.6   RUC Cost Eligibility

5.6.1   Verifiable Costs

(1)   The Qualified Scheduling Entity (QSE) is responsible for submitting verifiable costs unless both the QSE and Resource Entity agree that the Resource Entity will have this responsibility, in which case both the QSE and Resource Entity shall submit an affidavit to ERCOT stating this arrangement. Notwithstanding the foregoing, QSEs that submit Power Purchase or Tolling Agreements (PPAs) do not have the option of allowing Resource Entities to file verifiable costs.

(2)   Make-Whole Payments for a Resource are based on the Startup Offers and Minimum-Energy Offers for the Resource, limited by caps. Until ERCOT approves verifiable unit-specific costs for that Resource, the caps are the Resource Category Startup Generic Cap and the Resource Category Minimum-Energy Generic Cap. When ERCOT approves verifiable unit-specific costs for that Resource the caps are those verifiable unit-specific costs. A QSE or Resource Entity may file verifiable unit-specific costs for a Resource at any time, but it must file those costs no later than 30 days after five Reliability Unit Commitment (RUC) events for that Resource in a calendar year. A RUC event begins when a Resource receives a RUC instruction to come or stay On-Line and ends the later

of when the Resource shuts down or the end of the Operating Day. The most recent ERCOT-approved verifiable costs must be used going forward.

(3)   These unit-specific verifiable costs may include and are limited to the following average incremental costs:

    (a)   Allocation of maintenance requirements based on number of starts between maintenance events using, at the option of the QSE or Resource Entity, either:

        (i)   Manufacturer-recommended maintenance schedule;

        (ii)   Historical data for the unit and actual maintenance practices; or

        (iii)   Another method approved in advance by ERCOT in writing;

    (b)   Startup fuel calculations based on recorded actual measured flows when the data is available or based on averages of historical flows for similar starts (for example, hot, cold, intermediate) when actual data is not available. Startup fuel will include filing separately the startup fuel required to reach breaker close and fuel after breaker close to Low Sustained Limit (LSL). Any fuel required to shutdown a Resource will be submitted as the fuel from breaker open to shutdown;

    (c)   Operation costs;

    (d)   Chemical costs;

    (e)   Water costs;

    (f)   Emission credits; and

    (g)   Nodal Implementation Surcharges (NISs).

(4)   Standard Operations and Maintenance (O&M) costs pursuant to paragraph (6) below may be used in lieu of the incremental O&M costs set forth in items (3)(a), (c), (d) and (e) above.

(5)   These unit-specific verifiable costs may not include:

    (a)   Fixed costs, which are any cost that is incurred regardless of whether the unit is deployed or not; and

    (b)   Costs for which the QSE or Resource Entity cannot provide sufficient documentation for ERCOT to verify the costs.

(6)   At their election, QSEs or Resource Entities may receive standard O&M costs for both startup and minimum energy. This election may be made by submitting an election form to ERCOT. If a QSE or Resource has received final approval for actual verifiable O&M costs under the verifiable cost process, it may not elect to receive standard O&M costs.

(a)   Until December 31, 2011, standard O&M costs are defined as follows:

Resource Category Start Year = 2009	Cold Startup ($/start)	Intermediate Startup ($/start)	Hot Startup ($/start)	Variable O&M ($/MWh)
Aeroderivative simple cycle commissioned after 1996	1,000.00	1,000.00	1,000.00	3.94
Reciprocating Engine	487.00	487.00	487.00	5.09
Simple cycle ≤ 90 MW	2,300.00	2,300.00	2,300.00	3.94
Simple cycle ≥ 90 MW	5,000.00	5,000.00	5,000.00	3.94
Combined cycle: for each Combined-Cycle Configuration, the Startup Cost for that configuration is the sum of the Startup Costs for each unit within that configuration as follows:				3.19
Combustion turbine < 90 MW	2,300.00	2,300.00	2,300.00	
Combustion turbine ≥ 90 MW	5,000.00	5,000.00	5,000.00	
Steam turbine	3,000.00	2,250.00	1,250.00	
Gas-steam non-reheat boiler	2,310.00	1,732.50	866.25	7.08
Gas-steam reheat boiler	3,000.00	2,250.00	1,125.00	7.08
Gas-steam supercritical boiler	4,800.00	3,600.00	1,800.00	7.08
Nuclear, coal, lignite and hydro	7,200.00	5,400.00	2,700.00	5.02
Renewable	Not Applicable	Not Applicable	Not Applicable	5.50

(b)   For the period beginning January 1, 2012 and ending December 31, 2012, standard O&M costs shall be reduced by 10% from the levels specified in the table in paragraph (a) above as follows:

Resource Category Start Year = 2009	Cold Startup ($/start)	Intermediate Startup ($/start)	Hot Startup ($/start)	Variable O&M ($/MWh)
Aeroderivative simple cycle commissioned after 1996	900.00	900.00	900.00	3.55
Reciprocating Engine	438.30	438.30	438.30	4.58
Simple cycle ≤ 90 MW	2,070.00	2,070.00	2,070.00	3.55
Simple cycle ≥ 90 MW	4,500.00	4,500.00	4,500.00	3.55
Combined cycle: for each Combined-Cycle Configuration, the Startup Cost for that configuration is the sum of the Startup Costs for each unit within that configuration as follows:				2.87
Combustion turbine < 90 MW	2,070.00	2,070.00	2,070.00	
Combustion turbine ≥ 90 MW	4,500.00	4,500.00	4,500.00	

Resource Category Start Year = 2009	Cold Startup ($/start)	Intermediate Startup ($/start)	Hot Startup ($/start)	Variable O&M ($/MWh)
Steam turbine	2,700.00	2,025.00	1,125.00	
Gas-steam non-reheat boiler	2,079.00	1,559.25	779.63	6.37
Gas-steam reheat boiler	2,700.00	2,025.00	1,012.50	6.37
Gas-steam supercritical boiler	4,320.00	3,240.00	1,620.00	6.37
Nuclear, coal, lignite and hydro	6,480.00	4,860.00	2,430.00	4.52
Renewable	Not Applicable	Not Applicable	Not Applicable	4.95

(c) Beginning January 1, 2013 and going forward, standard O&M costs shall be reduced by 20% from the levels specified in the table in paragraph (a) above as follows:

Resource Category Start Year = 2009	Cold Startup ($/start)	Intermediate Startup ($/start)	Hot Startup ($/start)	Variable O&M ($/MWh)
Aeroderivative simple cycle commissioned after 1996	800.00	800.00	800.00	3.15
Reciprocating Engine	389.60	389.60	389.60	4.07
Simple cycle ≤ 90 MW	1,840.00	1,840.00	1,840.00	3.15
Simple cycle ≥ 90 MW	4,000.00	4,000.00	4,000.00	3.15
Combined cycle: for each Combined-Cycle Configuration, the Startup Cost for that configuration is the sum of the Startup Costs for each unit within that configuration as follows:				2.55
Combustion turbine < 90 MW	1,840.00	1,840.00	1,840.00	
Combustion turbine ≥ 90 MW	4,000.00	4,000.00	4,000.00	
Steam turbine	2,400.00	1,800.00	1,000.00	
Gas-steam non-reheat boiler	1,848.00	1,386.00	693.00	5.66
Gas-steam reheat boiler	2,400.00	1,800.00	900.00	5.66
Gas-steam supercritical boiler	3,840.00	2,880.00	1,440.00	5.66
Nuclear, coal, lignite and hydro	5,760.00	4,320.00	2,160.00	4.02
Renewable	Not Applicable	Not Applicable	Not Applicable	4.40

(d) If the QSE or Resource Entity chooses to utilize the standard O&M costs for O&M, standard O&M costs will be used by ERCOT going forward until either:

(i) Verifiable variable O&M costs are filed; or

(ii) ERCOT notifies the QSE or Resource Entity to update its verifiable costs as set forth in either paragraph (10) or (11) below. If a Resource is

000065

receiving standard O&M costs, it may reelect standard O&M costs when resubmitting verifiable costs.

(7)   When submitting verifiable costs for combined cycle Resources, the QSE or Resource Entity must elect standard O&M costs for all Combined-Cycle Configurations or verifiable costs for all Combined-Cycle Configurations within the combined cycle train.

(8)   QSEs submitting PPAs as Resource-specific verifiable costs documentation are subject to the guidelines detailed below and in the Verifiable Cost Manual.

  (a)   Only QSEs offering Three-Part Supply Offers for a specific Resource may submit a PPA as verifiable costs documentation.

  (b)   A QSE submitting a PPA as verifiable costs documentation must represent 100% of the Resource's capacity.

  (c)   Only PPAs:

    (i)   Signed prior to July 16, 2008; and

    (ii)   Not between Affiliates, subsidiaries or partners will be accepted as verifiable cost documentation.

  (d)   Verifiable costs for PPAs shall be capped at the level of the highest comparable Resource (referred to as the reference Resource) specific verifiable costs approved by ERCOT without a PPA. The ERCOT approved verifiable costs for a PPA shall be equal to the lesser of:

    (i)-   The cap as described in paragraph (d) above; and

    (ii)-   The costs from the PPA.

  (e)   ERCOT shall use the Resource actual fuel costs submitted by the QSE for startup and operation at minimum-energy level (LSL), and shall use the Resource Category Startup Offer Generic Costs as the cap for the O&M portion of the Startup Costs until ERCOT receives and approves comparable Resource specific verifiable costs.

  (f)   PPAs will no longer be accepted as verifiable cost documentation after the primary term of the contract expires.

  (g)   ERCOT shall produce a report each April that provides the percentage of RUC Make-Whole Payments for Resources with PPAs during the 12 months of the previous calendar year. The report shall be based on the final Settlements and include the total number of Resources that used a PPA for their most recent verifiable cost submission that was approved by ERCOT. ERCOT shall present the results of this study to the appropriate Technical Advisory Committee (TAC) subcommittee.

(h)   Notwithstanding anything to the contrary in this Section 5.6.1, QSEs representing PPAs may, at any time, submit data from a Resource as verifiable costs documentation and such documentation will be accepted for consideration by ERCOT. A QSE submitting verifiable costs documentation pursuant to this paragraph shall not be required to submit a PPA to ERCOT for consideration for verifiable cost recovery.

(9)   The process for determining the verifiable actual costs must be developed by ERCOT, approved by the appropriate TAC subcommittee, and posted to the ERCOT website within one Business Day after initial approval and after each approved change.

(10)   ERCOT shall notify a QSE to update verifiable cost data of a Resource when the Resource has received more than 50 RUC instructions meeting the criteria in Section 5.6.2, RUC Startup Cost Eligibility, in a year, but ERCOT may not request an update more frequently than annually.

(11)   ERCOT shall notify a QSE to update verifiable cost data of a Resource if at least five years have passed since ERCOT previously approved verifiable cost data for that Resource.

(12)   Within 30 days after receiving an update Nnotice from ERCOT under either paragraph (10) or (11) above, a QSE or Resource Entity must submit verifiable cost data for the Resource. Despite the provisions in paragraph (2) above, if the QSE or Resource Entity does not submit verifiable cost data within 30 days after receiving an update Nnotice, then, for all Operating Days until updated verifiable costs are approved, ERCOT shall determine payment using the lower of:

(a)   Resource Category Startup Generic and Resource Category Minimum-Energy Generic Caps; and

(b)   Current ERCOT-approved verifiable startup and minimum-energy costs.

(13)   Resource Entities that represent Reliability Must-Run (RMR) Resources shall submit to ERCOT, Startup and variable O&M Cost estimates to be used by ERCOT as proxies for verifiable Startup Cost and minimum-energy verifiable cost and for Settlement. The ERCOT-approved verifiable Startup Cost estimate will equal the startup fuel estimate times the sum of the appropriate Fuel Index Price (FIP) or Fuel Oil Price (FOP) and the fuel adder, plus the startup O&M. The ERCOT-approved minimum-energy verifiable cost estimate will equal the heat rate from the RMR Agreement contract times the sum of the appropriate FIP or FOP and the fuel adder, plus the variable O&M. The O&M cost estimates shall be revised monthly to be consistent with the latest actual costs for the RMR Unit submitted in accordance with Section 3.14.1.12, Reporting Actual Eligible Cost. The O&M values will be effective until updated costs have been submitted to ERCOT.

5.6.1.2 Verifiable Minimum-Energy Costs

(1) The unit-specific verifiable minimum-energy costs for a Resource are:

(a)- Actual fuel cost to operate the unit at its LSL; plus

(b)- Verifiable or standard variable O&M expenses; plus

(c) NIS to operate the unit at its LSL.

(2) The QSE must submit the Resource's cost information by season if the Resource's costs vary by season. For gas-fired units, the actual fuel costs must be calculated using the actual seasonal heat rate (which must be supplied to ERCOT with seasonal heat-rate test data) multiplied by the FIP * 1.X, where X = $0.50/fuel price. A new X is effective for the date(s) as described in the Verifiable Cost Manual. the first and third Tuesday of each month. The fuel price is equal to FIP from the Tuesday prior to the effective date. For coal- and lignite-fired units, the actual fuel costs must be calculated using the actual seasonal heat rate multiplied by a deemed fuel price of $1.50 per MMBtu. For fuel oil-fired operations, the number of gallons burned must be multiplied by the FOP.

5.6.2 RUC Startup Cost Eligibility

(1) For purposes of this Section 5.6.2, all contiguous RUC-Committed Hours are considered as one RUC instruction. For each Resource, only one Startup Cost is eligible per block of contiguous RUC-Committed Hours.

(2) For a Resource's Startup Costs in the Operating Day, per RUC instruction, to be included in the calculation of the RUC guarantee for that Operating Day, all the criteria below must be met:

(a)- When theAccording to the Current Operating Plan (COP) and Trades Snapshot for the RUC-instruction is given process that committed the Resource, the Resource must not be QSE-committed in the Settlement Interval immediately before the designated start hour or after the last hour of the RUC instruction;

(b) A later RUC instruction or QSE commitment must not connect the designated start hour or last hour of the RUC instruction to a block of QSE-committed Intervals that was QSE-committed before the RUC instruction was given, according to the COP and Trades Snapshot for the RUC process that committed the Resource;

(c) The generation breakers must have been open, as indicated by a telemetered Resource status of Off-Line, for at least five minutes during the six hours preceding the first RUC-Committed Hour; and

(d) The generation breakers must have been closed, as indicated by a telemetered Resource status of On-Line, for at least one minute during the RUC commitment

period or after the determined five-minute open breaker, as indicated by a telemetered Resource status of Off-Line, in the six hours preceding the first RUC-Committed Hour.

000070

ERCOT Nodal Protocols

Section 9: Settlement and Billing

~~December 1, 2011~~January 1, 2012

000070

9 SETTLEMENT AND BILLING

9.5 Settlement Statements for Real-Time Market

9.5.3 Real-Time Market Settlement Charge Types

(1)   ~~When the Day-Ahead Market (DAM) is executed,~~ ERCOT shall provide, on each RTM Settlement Statement, the dollar amount for each RTM Settlement charge and payment. The RTM Settlement "Charge Types" are:

(a)   Section 5.7.1, RUC Make-Whole Payment;

(b)   Section 5.7.2, RUC Clawback Charge;

(c)   Section 5.7.3, Payment When ERCOT Decommits a QSE-Committed Resource;

(d)   Section 5.7.4.1, RUC Capacity-Short Charge;

(e)   Section 5.7.4.2, RUC Make-Whole Uplift Charge;

(f)   Section 5.7.5, RUC Clawback Payment;

(g)   Section 5.7.6, RUC Decommitment Charge;

(h)   Section 6.6.3.1, Real-Time Energy Imbalance Payment or Charge at a Resource Node;

(i)   Section 6.6.3.2, Real-Time Energy Imbalance Payment or Charge at a Load Zone;

(j)   Section 6.6.3.3, Real-Time Energy Imbalance Payment or Charge at a Hub;

(k)   Section 6.6.3.4, Real-Time Energy Payment for DC Tie Import;

(l)   Section 6.6.3.5, Real-Time Payment for a Block Load Transfer Point;

(m)   Section 6.6.3.6, Real-Time Energy Charge for DC Tie Export ~~r~~Represented by the QSE ~~u~~Under ~~the~~ Oklaunion Exemption;

(n)   Section 6.6.4, Real-Time Congestion Payment or Charge for Self-Schedules;

(o)   Section 6.6.5.1.1, Base Point Deviation Charge for Over Generation~~;~~,

(p)   Section 6.6.5.1.2, Base Point Deviation Charge for Under Generation~~;~~,

(q)   Section 6.6.5.2, IRR Generation Resource Base-Point Deviation Charge;

(r)   Section 6.6.5.4, Base Point Deviation Payment;

(s)   Section 6.6.6.1, RMR Standby Payment;

(t)   Section 6.6.6.2, RMR Payment for Energy;

(u)   Section 6.6.6.3, RMR Adjustment Charge;

(v)   Section 6.6.6.4, RMR Charge for Unexcused Misconduct;

(w)   Section 6.6.6.5, RMR Service Charge;

(x)   Paragraph (2) of Section 6.6.7.1, Voltage Support Service Payments;

(y)   Paragraph (4) of Section 6.6.7.1;

(z)   Section 6.6.7.2, Voltage Support Charge;

(aa)   Section 6.6.8.1, Black Start <u>Hourly Standby Fee</u><s>Capacity</s> Payment;

(bb)   Section 6.6.8.2, Black Start Capacity Charge;

(cc)   Section 6.6.9.1, Payment for Emergency Power Increase Directed by ERCOT;

(dd)   Section 6.6.9.2, Charge for Emergency Power Increases;

(ee)   Section 6.6.10, Real-Time Revenue Neutrality Allocation;

(ff)   Paragraph (1) of Section 6.7.1, Payments for Ancillary Service Capacity Sold in a Supplemental Ancillary Service Market;

(gg)   Paragraph (2) of Section 6.7.1;

(hh)   Paragraph (3) of Section 6.7.1;

(ii)   Paragraph (4) of Section 6.7.1;

(jj)   Paragraph (1) of Section 6.7.2, Charges for Ancillary Service Capacity Replaced Due to Failure to Provide;

(kk)   Paragraph (2) of Section 6.7.2;

(ll)   Paragraph (3) of Section 6.7.2;

(mm)   Paragraph (4) of Section 6.7.2;

(nn)   Paragraph (1) of Section 6.7.3, Adjustments to Cost Allocations for Ancillary Services Procurement;

(oo)   Paragraph (2) of Section 6.7.3;

(pp)   Paragraph (3) of Section 6.7.3;

(qq)   Paragraph (4) of Section 6.7.3;

(rr)   Section 7.9.2.1, Payments and Charges for PTP Obligations Settled in Real-Time;

(ss)   Section 7.9.2.2, Payments for PTP Options Settled in Real-Time;

(tt)   Section 7.9.2.3, Payments for NOIE PTP Options with Refund Settled in Real-Time;

[NPRR322: Delete items (ss) and (tt) above and renumber accordingly, upon system implementation.]

(uu)   Paragraph (3) of Section 7.9.3.3, Shortfall Charges to CRR Owners;

(vv)   Section 9.16.1, ERCOT System Administration Charge; and

(ww)   Section 9.16.4, ERCOT Nodal Implementation Surcharge.

(2)   In the event that ERCOT is unable to execute the Day-Ahead Market (DAM), ERCOT shall provide, on each RTM Settlement Statement, the dollar amount for the following RTM Congestion Revenue Right (CRR) Settlement charges and payments:

(a)-   Section 7.9.2.4, Payments for FGRs in Real-Time; and

(b)–   Section 7.9.2.5, Payments and Charges for PTP Obligations with Refund in Real-Time.

9.5.6   RTM Resettlement Statement

(1)   ERCOT shall issue a RTM Resettlement Statement using corrected Settlement data due to resolution of disputes and correction of data errors. Any resettlement occurring after an RTM True-Up Statement has been issued must meet the same Interval Data Recorder (IDR) Meter Data Threshold requirements defined in Section 9.5.8, RTM True-Up Statement, and is subject to the same limitations for filing a dispute. Despite the preceding sentence, the ERCOT Board may, in its discretion, direct ERCOT to run a resettlement of any Operating Day, at any time, to address unusual circumstances.

(2)   ERCOT shall issue a RTM Resettlement Statement for a given Operating Day due to data error in data other than prices when the total of all errors in data other than prices results in an impact greater than 2% of the total payments due to ERCOT for the RTM for the Operating Day, excluding bilateral transactions. ERCOT shall issue RTM Resettlement Statements as soon as possible to correct the errors. ERCOT shall review this percentage on an annual basis. Upon the review, ERCOT may make a recommendation to revise this percentage under Section 21, Revision Request Process.

(3) For any Settlement and billing disputes resolved prior to issuance of the RTM Final Statement, ERCOT shall effect the dispute's resolution on the RTM Final Statement for that Operating Day. If a dispute is submitted by 15 Business Days after the issuance of the RTM Initial Statement for an Operating Day and is not resolved on the RTM Final Statement, ERCOT will aeffect the dispute's resolution on an RTM Resettlement Statement for that Operating Day. ERCOT shall issue such an RTM Resettlement Statement within a reasonable time after resolving the Settlement and billing dispute.

(4) ERCOT must aeffect the resolution of any dispute submitted more than 15 Business Days after the issuance of the RTM Initial Statement on the next available Resettlement or RTM True-Up statement for that Operating Day. For Settlement and billing disputes resolved under Section 9.14, Settlement and Billing Dispute Process, and submitted at least 20 Business Days before the scheduled date for issuance of the RTM True-Up Statement, ERCOT will include adjustments relating to the dispute on the RTM True-Up Statement. Resolved disputes must be included on the next available RTM Invoice after ERCOT has issued the RTM True-Up Statement.

[NPRR347: Replace paragraph (4) above with the following upon system implementation:]

(4) ERCOT must aeffect the resolution of any dispute submitted more than 15 Business Days after the issuance of the RTM Initial Statement on the next available Resettlement or RTM True-Up statement for that Operating Day. For Settlement and billing disputes resolved under Section 9.14, Settlement and Billing Dispute Process, and submitted at least 20 Business Days before the scheduled date for issuance of the RTM True-Up Statement, ERCOT will include adjustments relating to the dispute on the RTM True-Up Statement. Resolved disputes must be included on the next available Settlement Invoice after ERCOT has issued the RTM True-Up Statement.

(5) ERCOT may not issue an RTM Resettlement Statement less than 20 days before a scheduled RTM Final Statement or RTM True-Up Statement for the relevant Operating Day. An RTM Resettlement Statement will reflect differences to financial records generated on the previous Settlement Statement for the given Operating Day.

ERCOT Nodal Protocols

Section 2: Definitions and Acronyms

~~November 1, 2011~~January 1, 2012

000075

2   DEFINITIONS AND ACRONYMS

2.1   DEFINITIONS

Q

[Back to Top]

Qualified Scheduling Entity (QSE) Clawback Interval

Any QSE-Committed Interval that is part of a contiguous block that includes at least one RUC-Committed Hour unless it is:

(a)   QSE-committed in the COP and Trades Snapshot before the first RUC instruction for any RUC-Committed Hour in that contiguous block; or

(b)   Part of a contiguous block of a QSE-Committed Intervals, at least one of which was committed by the QSE in the COP and Trades Snapshot before the RUC instruction described in paragraph (a) above.

000076

ERCOT Nodal Protocols

Section 15: Customer Registration

May 1, 2011January 1, 2012

15   CUSTOMER REGISTRATION

15.1   Customer Switch of Competitive Retailer

15.1.1   Submission of a Switch Request

(1)   The CR shall submit a Switch Request to ERCOT using the 814_01, Enrollment Request. The Switch Request shall include, at a minimum, the five-digit zip code and an ESI ID. Within this transaction, the CR will also send information necessary for ERCOT to send a switch confirmation notice to the Customer as required by the applicable Public Utility Commission of Texas (PUCT) rules. The First Available Switch Date (FASD) is calculated starting with the date that ERCOT processes the 814_01 transaction sent by the CR. The online FASD calculator can be found on the Market Information System (MIS) Public Area.

(2)   The FASD for a Switch Request waived is calculated as follows:

$$FASD = EPD + 3BD \text{ (Processing time)}$$

The above variables are defined as follows:

Variable	Unit	Definition
EPD	N/A	ERCOT Processed Date
BD	N/A	Business Day (does not include Transmission and/or Distribution Service Provider (TDSP) holidays)

[NPRR294 & NPRR403: Replace Section 15.1.1 above with the following upon system implementation of PR11002_01, Texas SET 4.0:]

15.1.1   Submission of a Switch Request

The CR shall submit a Switch Request to ERCOT using the 814_01, Switch Request. The Switch Request shall include, at a minimum, the five-digit zip code and an ESI ID. Within this transaction, the CR will also send information necessary for ERCOT to send a switch confirmation notice to the Customer as required by the applicable Public Utility Commission of Texas (PUCT) rules. The First Available Switch Date (FASD) is the Retail Business D̶day received by ERCOT unless received on a Sunday or an ERCOT holiday. If received on a Sunday or an ERCOT holiday, ̶n̶o̶n̶-̶B̶u̶s̶i̶n̶e̶s̶s̶ ̶D̶a̶y̶, the FASD will be calculated as the next day that is not a Sunday or an ERCOT holiday.̶R̶e̶t̶a̶i̶l̶ ̶B̶u̶s̶i̶n̶e̶s̶s̶ ̶D̶a̶y̶.

ERCOT Nodal Protocols

Section 22

Attachment E: Notification of Suspension of Operations

October 1, 2011January 1, 2012

Notification of Suspension of Operations of a Generation Resource

This Notification is required for providing notification of any ~~Outage of a~~ Generation Resource ~~of~~ suspension lasting greater than 180 days. Information may be inserted electronically to expand the reply spaces as necessary.

The Notification must be signed, notarized and delivered to ERCOT. Delivery may be accomplished via email to mpappl@ercot.com (if a scanned copy) or via facsimile (Attention: Market Participant Registration) at (512) 225-7079.

ERCOT may request additional information as reasonably necessary to support operations under the ERCOT Protocols.

Part I:

Resource Entity: _____

DUNS Number:_____

~~Generation Resource(s) [plant and unit number(s)]~~Resource Site Name: _____

Resource Site Location (County): _____

Unit Name(s): _____

Resource Name(s) (Unit Code/Mnemonic): _____

ESI ID: _____

Seasonal Net Max Sustainable Rating – Summer (MW): _____

Seasonal Net Minimum Sustainable Rating – Summer (MW): _____

Part II:

As of _____ [date],[1] the Generation Resource(s) will be unavailable for Dispatch by ERCOT because Resource Entity will [check one]:

    ☐ decommission and retire the Generation Resource(s) permanently,[2]

    ☐ suspend operation (*i.e.*, mothball) of the Generation Resource(s) for a period of not less than _____ months and not greater than _____ months, or

    ☐ suspend operation (*i.e.*, mothball) of the Generation Resource(s) indefinitely, or

    ☐ suspend operation of the Generation Resource(s) due to a Forced Outage. Resource Entity intends to bring the Generation Resource(s) back to service on _____ [date].

Unless the Generation Resource(s) will be decommissioned and retired the estimated time to return the suspended Generation Resource(s) to service is _____ months.

☐ Check if applicable: ☐ Resource Entity believes that this Generation Resource(s) is inoperable due to emissions limitations or not being repairable.

---

[1] Pursuant to Protocol Section 3.14.1.1, Notification of Suspension of Operations, this date must be at least 90 days from the date ERCOT receives this Notification, unless the suspension is the result of a Forced Outage, in which case the Generation Resource shall submit this Notification as soon as practicable.

[2] ERCOT will remove the Generation Resource(s) from its registration systems if this option is selected.

~~The Generation Resource(s) is further described as follows:~~

~~Location: _____ County, Texas~~

~~Number and type of generating unit(s) ____~~

~~Reliability Must-Run (RMR) capacity in MW: ____~~

~~A. Power Factor (P. F.) Lagging~~

~~(i) ____ P.F. (at generator main leads); and~~

~~(ii) ____ P.F. (at high side of main power transformer)~~

~~Power Factor Leading~~

~~(i) ____ P.F. (at generator main leads); and~~

~~(ii) ____ P.F. (at high side of main power transformer)~~

~~Delivery Point: _____~~

~~B. Revenue Meter Location (use Resource IDs (RIDs)): _____~~

Operational and Environmental Limitations (check and describe all that apply):

(a) Operational:

☐ Maximum annual hours of operation: _____

☐ Maximum annual MWhs: _____

☐ Maximum annual starts: _____

☐ Other: _____

(b) Environmental:

☐ Maximum annual NOx emissions: _____

☐ Maximum annual SO2 emissions: _____

☐ Other: _____

Part III:
~~Excess Energy Payment Option (A or B)~~ _____

Proposed RMR Energy Price ($/MMBtu): _____ ~~($/MMBtu)~~

Proposed Standby ~~Price~~ Cost ($/MWhr): _____

I understand and agree that this Notification is not confidential and does not constitute Protected Information under the ERCOT Protocols. This Notification is not intended to constitute an offer to enter into a binding Agreement, but is intended only as an offer to negotiate the terms of such an Agreement, in accordance with the ERCOT Protocols.

Unless the above Generation Resource(s) is inoperable due to emissions limitations or not being repairable, I certify that Resource Entity is willing to consider entering into an RMR Agreement for the Generation Resource(s).

The undersigned certifies that I am an officer of Resource Entity, that I am authorized to execute and submit this Notification on behalf of Resource Entity, and that the statements contained herein are true and correct.

_____

Name: _____

Title: _____

Date: _____

STATE OF _____

COUNTY OF _____

Before me, the undersigned authority, this day appeared _____, known by me to be the person whose name is subscribed to the foregoing instrument, who, after first being sworn by me deposed and said:

"I am an officer of _____, I am authorized to execute and submit the foregoing Notification on behalf of _____, and the statements contained in such Notification are true and correct."

SWORN TO AND SUBSCRIBED TO BEFORE ME, the undersigned authority on this the _____ day of _____, 20__.

_____
Notary Public, State of _____

My Commission expires _____

ERCOT Fee Schedule
Effective ~~July~~ January 1, 2012~~1, 2011~~

The following is a schedule of ERCOT fees currently in effect.

Description	Nodal Protocol Reference	Calculation/Rate/Comment
ERCOT System Administration fee	9.16.1	$0.4171 per MWh to fund ERCOT activities subject to Public Utility Commission of Texas (PUCT) oversight. This fee is charged to all Qualified Scheduling Entities (QSEs) based on Load represented.
Private Wide Area Network fees	9.16.3	Actual cost of using third party communications network - Initial equipment installation cost not to exceed $~~18,000~~25,000, and monthly network management fee not to exceed $~~865~~1,500.
ERCOT Nodal Implementation Surcharge	9.16.4	$0.375/MWh – Charged to all QSEs representing net metered generation.
ERCOT Security Screening Study (Not Refundable)	NA	A preliminary study of the impacts of a proposed generation plant conducted by ERCOT staff - $5,000 (less than or equal to 150MW) $7,000 (greater than 150MW)
Full Interconnection Study	NA	Costs incurred by the Transmission and/or Distribution Service Provider (TDSP) for completing a detailed study - $15 per MW (Not Refundable – to support ERCOT system studies and coordination).
Map Sale fees	NA	$20 - $40 per map request (by size)
Qualified Scheduling Entity Application fee	9.16.2	$500 per Entity
Competitive Retailer Application fee	9.16.2	$500 per Entity
Mismatched Schedule Processing fee	NA	$1 per mismatched event - Assessed to QSEs submitting schedules referencing each other where the schedules do not match
Voluminous Copy fee	NA	$0.15 per page in excess of 50 pages
Late fees	9.4.5 & 9.7.4	Wall Street Journal prime interest rate plus 2% – Assessed for failure to make timely payment under the Protocols.