RTMCPCNS	$/MW	*Real-Time Market Clearing Price for Capacity for Non-Spin* - The Real-Time MCPC for Non-Spin for the 15-minute Settlement Interval.
q	none	A QSE.

(3) Non-Spin Trade Overage Charge:

$$\mathbf{RTNSTOAMT}_{q} = \mathbf{(1/4) * RTNSTO}_{q} \mathbf{* RTMCPCRNS}$$

The above variables are defined as follows:

Variable	Unit	Description
$RTNSTOAMT_q$	$	*Real-Time Non-Spin Trade Overage Amount for the QSE*— The total charge to QSE *q* in Real-Time for Non-Spin trade overages for each 15-minute Settlement Interval.
$RTNSTO_q$	MW	*Real-Time Non-Spin Trade Overage for the QSE* — The quantity of submitted Non-Spin trades in excess of their DAM self-arrangement quantity for the QSE *q* for the Operating Hour.
RTMCPCNS	$/MW	*Real-Time Market Clearing Price for Capacity for Non-Spin* - The Real-Time MCPC for Non-Spin for the 15-minute Settlement Interval.
q	none	A QSE.

[NPRR1010: Insert Section 6.7.5.6 below upon system implementation of the Real-Time Co-Optimization (RTC) project:]

6.7.5.6 ERCOT Contingency Reserve Service Payments and Charges

(1) ECRS Imbalance Payment or Charge:

$$\mathbf{RTECRIMBAMT}_{q} = \mathbf{(-1) * [} \sum_{r} \mathbf{[RTECRREV}_{q,r} \mathbf{- (1/4) * (PCECRR}_{r,q,DAM} \mathbf{*}$$

$$\mathbf{RTMCPCECR)] - (1/4) * (DASAECRQ}_{q} \mathbf{* RTMCPCECR) +}$$
$$\mathbf{(1/4) * (ECRTP}_{q} \mathbf{- ECRTS}_{q}\mathbf{) * RTMCPCECR]}$$

Where:

$$\mathbf{RTECRREV}_{q,r} = \mathbf{(1/4) * RTECRAWD}_{q,r} \mathbf{* RTMCPCECRR}_{q,r}$$

$$\mathbf{RTMCPCECRR}_{q,r} = \sum_{y} \mathbf{(ECRRWF}_{q,r,p,y} \mathbf{* (RTMCPCECRS}_{y} \mathbf{+ RTRDPAECRS}_{y}\mathbf{))}$$

$$\mathbf{RTECRAWD}_{q,r} = \sum_{y} \mathbf{(RNWF}_{y} \mathbf{* RTECRAWDS}_{q,r,p,y}\mathbf{)}$$

Where:

$$ECRRWF_{q,r,p,y} = [\max(0.001, RTECRAWDS_{q,r,p,y}) * TLMP_y] / [\sum_y \max(0.001, RTECRAWDS_{q,r,p,y}) * TLMP_y]$$

And:

$$RNWF_y = TLMP_y / \sum_y TLMP_y$$

The above variables are defined as follows:

Variable	Unit	Description
$RTECRIMBAMT_q$	$	*Real-Time ERCOT Contingency Reserve Service Imbalance Amount for the QSE*— The total payment or charge to QSE *q* for the Real-Time ECRS imbalance for each 15-minute Settlement Interval.
$RTECRAWD_{q,r}$	MW	*Real-Time ERCOT Contingency Reserve Service Award per Resource per QSE*— The ECRS amount awarded to QSE *q* for Resource *r* in Real-Time for the 15-minute Settlement Interval. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
$RTECRREV_{q,r}$	$	*Real-Time ERCOT Contingency Reserve Service Revenue*— The Real-Time ECRS revenue for QSE *q* calculated for Resource *r* for the 15-minute Settlement Interval. Where for a Combined Cycle Train, the Resource *r* is the Combined Cycle Train.
$RTECRAWDS_{q,r,p,y}$	MW	*Real-Time ERCOT Contingency Reserve Service Award per Resource per QSE per SCED interval* - The ECRS amount awarded to QSE *q* for Resource *r* in Real-Time for the SCED interval *y*. Where for a Combined Cycle Train, the Resource *r* is the Combined Cycle Train.
$RTMCPCECRR_{q,r}$	$/MW	*Real-Time Market Clearing Price for Capacity for ERCOT Contingency Reserve Service per Resource per QSE* — The Real-Time MCPC for ECRS for Resource *r*, represented by QSE *q* for the 15-minute Settlement Interval. Where for a Combined Cycle Train, the Resource *r* is the Combined Cycle Train.
$RTMCPCECRS_y$	$/MW	*Real-Time Market Clearing Price for Capacity for ERCOT Contingency Reserve Service per SCED Interval* — The Real-Time MCPC for ECRS for the SCED interval *y*.
$PCECRR_{r,q,DAM}$	MW	*Procured Capacity for ERCOT Contingency Reserve Service per Resource per QSE in DAM*—The ECRS capacity awarded to QSE *q* in the DAM for Resource *r* for the Operating Hour. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
RTMCPCECR	$/MW	*Real-Time Market Clearing Price for Capacity for ERCOT Contingency Reserve Service* — The Real-Time MCPC for ECRS for the 15-minute Settlement Interval.
$RTRDPAECRS_y$	$/MW	*Real-Time Reliability Deployment Price Adder for Ancillary Service for ERCOT Contingency Reserve Service per SCED interval* - The Real-Time price adder for ECRS that captures the impact of reliability deployments on ECRS prices for the SCED interval *y*.

$DASAECRQ_q$	MW	*Day-Ahead Self-Arranged ERCOT Contingency Reserve Service Quantity per QSE*—The self-arranged ECRS quantity submitted by QSE *q* before 1000 in the DAM for the Operating Hour.
$ECRTP_q$	MW	*Trade Purchases for ERCOT Contingency Reserve Service for the QSE*— The trade purchases for QSE *q* for ECRS for the Operating Hour.
$ECRTS_q$	MW	*Trade Sales for ERCOT Contingency Reserve Service for the QSE*— The trade sales for QSE *q* for ECRS for the Operating Hour.
$TLMP_y$	second	*Duration of SCED interval per interval* - The duration of the SCED interval *y*.
$RNWF_y$	none	*Resource Node Weighting Factor per interval* - The weight used in the Ancillary Service award calculation for the portion of the SCED interval *y* within the Settlement Interval.
$ECRRWF_{q,r,p,y}$	none	*ERCOT Contingency Reserve Service Resource Node Weighting Factor per interval* - The ECRS Resource weight, based on ECRS awards, used in the Real-Time MCPC calculation for the portion of the SCED interval *y* within the Settlement Interval. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
r	none	A Resource.
q	none	A QSE.
y	none	A SCED interval in the 15-minute Settlement Interval.
p	none	A Resource Node Settlement Point.

(2) ECRS Only Charge:

$$\mathbf{RTECROAMT_q = (1/4) * DAECROAWD_q * RTMCPCECR}$$

The above variables are defined as follows:

Variable	Unit	Description
$RTECROAMT_q$	$	*Real-Time ERCOT Contingency Reserve Service Only Amount for the QSE*— The total charge to QSE *q* in Real-Time for ECRS only awards for each 15-minute Settlement Interval.
$DAECROAWD_q$	MW	*Day-Ahead ERCOT Contingency Service Only Award for the QSE*— The ECRS only capacity awarded in the DAM to the QSE *q* for the Operating Hour.
RTMCPCECR	$/MW	*Real-Time Market Clearing Price for Capacity for ERCOT Contingency Reserve Service* — The Real-Time MCPC for ECRS for the 15-minute Settlement Interval.
q	none	A QSE.

(3) ECRS Trade Overage Charge:

$$\mathbf{RTECRTOAMT_q = (1/4) * RTECRTO_q * RTMCPCRECR}$$

The above variables are defined as follows:

Variable	Unit	Description
RTECRTOAMT $_q$	$	*Real-Time ERCOT Contingency Reserve Service Trade Overage Amount for the QSE*— The total charge to QSE *q* in Real-Time for ECRS trade overages for each 15-minute Settlement Interval.
RTECRTO $_q$	MW	*Real-Time ERCOT Contingency Reserve Service Trade Overage for the QSE* — The quantity of submitted ECRS trades in excess of their DAM self-arrangement quantity for the QSE *q* for the Operating Hour.
RTMCPCECR	$/MW	*Real-Time Market Clearing Price for Capacity for ERCOT Contingency Reserve Service* — The Real-Time MCPC for ECRS for the 15-minute Settlement Interval.
q	none	A QSE.

[NPRR1010: Insert Section 6.7.5.7 below upon system implementation of the Real-Time Co-Optimization (RTC) project:]

6.7.5.7 Real-Time Derated Ancillary Service Capability Payment

(1) If ERCOT manually reduces the amount of an Ancillary Service that may be awarded to a Resource in Real-Time under paragraph (6) of Section 6.4.9.1.1, Ancillary Service Awards, and the reduction reduces the payment the QSE would have received under Section 6.7.5.1, Real-Time Ancillary Service Imbalance Payment or Charge, the QSE may be eligible for a Real-Time derated Ancillary Service capability payment under this Section.

(2) In order to be eligible for a Real-Time derated Ancillary Service capability payment, the QSE must:

(a) File a timely Settlement and billing dispute, identifying the following items, by Settlement Interval:

(i) Dollar amount and calculation of the estimated Real-Time derated Ancillary Service capability payment;

(ii) The quantity of Ancillary Service awards, by Ancillary Service product, that were not awarded due to ERCOT's manual reduction of the Resource's Ancillary Service capability;

(iii) Any additional revenues earned by the QSE under Section 6.6.3.1, Real-Time Energy Imbalance Payment or Charge at a Resource Node; and

(iv) Any additional revenues earned by the QSE under Section 6.7.5.1, Real-Time Ancillary Service Imbalance Payment or Charge.

(b) Have submitted an Ancillary Service Offer for the disputed Settlement Interval(s). The Ancillary Service Offer used to calculate the Real-Time

derated Ancillary Service capability payment shall be the most recent offer received by ERCOT effective for the disputed Settlement Interval(s) before ERCOT manually reduced the amount of Ancillary Service to be awarded.

(3) ERCOT shall attempt to validate the calculations provided by the QSE, and may request additional supporting documentation or explanation with respect to the submitted materials within 15 Business Days of receipt. Additional information requested by ERCOT must be provided by the QSE within 15 Business Days of ERCOT's request. Upon determination by ERCOT that no additional supporting documentation or explanation is needed from the disputing QSE, ERCOT shall notify the QSE of its acceptance or rejection of the claim for the Real-Time derated Ancillary Service capability payment within 15 Business Days.

(4) The price used to determine the derated MWs that were not awarded due to the manual reduction shall be the Real-Time MCPC for the Ancillary Service that was reduced.

(5) The amount recoverable under this section shall be capped by the Real-Time MCPC for the Ancillary Service that was reduced, multiplied by the reduced quantity.

(6) The amount recoverable under this Section shall be reduced by any additional revenue received by the QSE, as determined in paragraphs (2)(a)(iii) and (2)(a)(iv) above.

(7) The Real-Time derated Ancillary Service capability payment for a given 15-minute Settlement Interval is calculated as follows:

$$\mathbf{RTDASAMT}_q = \mathbf{(-1) * Min[(RTRUILD}_q + \mathbf{RTRDILD}_q + \mathbf{RTRRILD}_q + \mathbf{RTNSILD}_q + \mathbf{RTECRILD}_q - \mathbf{RTEIRD}_q - \mathbf{RTASIRD}_q\mathbf{)}, \sum_r \mathbf{RTDASCAP}_{q,r}\mathbf{]}$$

Where:

$$\text{RTDASCAP}_{q,r} = (1/4) * (\text{RTMCPCRU} * \text{RTRUDQ}_{q,r} + \text{RTMCPCRD} * \text{RTRDDQ}_{q,r} + \text{RTMCPCRR} * \text{RTRRDQ}_{q,r} + \text{RTMCPCNS} * \text{RTNSDQ}_{q,r} + \text{RTMCPCECR} * \text{RTECRDQ}_{q,r})$$

The above variables are defined as follows:

Variable	Unit	Description
RTDASAMT_q	$	*Real-Time Derated Ancillary Service Amount*—The payment to QSE *q* for amounts recoverable resulting from a manual reduction of Ancillary Services by ERCOT for the 15-minute Settlement Interval.
RTRUILD_q	$	*Real-Time Derated Regulation Up Imbalance Losses for Deration*—The payments not made to QSE *q* under paragraph (1) of Section 6.7.5.2,

		Regulation Up Service Payments and Charges, for the 15-minute Settlement Interval.
RTRDILD $_q$	$	*Real-Time Derated Regulation Down Imbalance Losses for Deration*—The payments not made to QSE *q* under paragraph (1) of Section 6.7.5.3, Regulation Down Service Payments and Charges, for the 15-minute Settlement Interval.
RTRRILD $_q$	$	*Real-Time Derated Responsive Reserve Imbalance Losses for Deration*—The payments not made to QSE *q* under paragraph (1) of Section 6.7.5.4, Responsive Reserve Payments and Charges, for the 15-minute Settlement Interval.
RTNSILD $_q$	$	*Real-Time Derated Non-Spin Imbalance Losses for Deration*—The payments not made to QSE *q* under paragraph (1) of Section 6.7.5.5, Non-Spinning Reserve Service Payments and Charges, for the 15-minute Settlement Interval.
RTECRILD $_q$	$	*Real-Time Derated ERCOT Contingency Reserve Service Imbalance Losses for Deration*—The payments not made to QSE *q* under paragraph (1) of Section 6.7.5.6, ERCOT Contingency Reserve Service Payments and Charges, for the 15-minute Settlement Interval.
RTEIRD $_q$	$	*Real-Time Energy Imbalance Revenues for Deration*—The additional payments to QSE *q* under Section 6.6.3.1.
RTASIRD $_q$	$	*Real-Time Ancillary Service Imbalance Revenues for Deration*—The additional Ancillary Service imbalance payments to QSE *q* for all Ancillary Service products for the 15-minute Settlement Interval.
RTDASCAP $_{q, r}$	$	*Real-Time Derated Ancillary Service Payment Cap*—The amount recoverable for Resource *r* represented by QSE *q,* capped by the Real-Time MCPC for the Ancillary Service product that was derated, multiplied by the quantity by which the Resource's capability to provide the Ancillary Service was reduced for the 15-minute Settlement Interval.
RTMCPCRU	$/MW	*Real-Time Market Clearing Price for Capacity for Regulation Up* - The Real-Time MCPC for Reg-Up for the 15-minute Settlement Interval.
RTMCPCRD	$/MW	*Real-Time Market Clearing Price for Capacity for Regulation Down* - The Real-Time MCPC for Reg-Down for the 15-minute Settlement Interval.
RTMCPCRR	$/MW	*Real-Time Market Clearing Price for Capacity for Responsive Reserve* - The Real-Time MCPC for RRS for the 15-minute Settlement Interval.
RTMCPCNS	$/MW	*Real-Time Market Clearing Price for Capacity for Non-Spin* - The Real-Time MCPC for Non-Spin for the 15-minute Settlement Interval.
RTMCPCECR	$/MW	*Real-Time Market Clearing Price for Capacity for ERCOT Contingency Reserve Service* — The Real-Time MCPC for ECRS for the 15-minute Settlement Interval.
RTRUDQ $_{q, r}$	MW	*Real-Time Regulation Up Derated Quantity* - The Reg-Up quantity manually reduced by ERCOT for the Resource *r* represented by QSE *q* for the 15-minute Settlement Interval.
RTRDDQ $_{q, r}$	MW	*Real-Time Regulation Down Derated Quantity* - The Reg-Down quantity manually reduced by ERCOT for the Resource *r* represented by QSE *q* for the 15-minute Settlement Interval.
RTRRDQ $_{q, r}$	MW	*Real-Time Responsive Reserve Derated Quantity* - The RRS quantity manually reduced by ERCOT for the Resource *r* represented by QSE *q* for the 15-minute Settlement Interval.

$RTECRDQ_{q,r}$	MW	*Real-Time ERCOT Contingency Reserve Service Derated Quantity* - The ECRS quantity manually reduced by ERCOT for the Resource *r* represented by QSE *q* for the 15-minute Settlement Interval.
$RTNSDQ_{q,r}$	MW	*Real-Time Non-Spin Derated Quantity* - The Non-Spin quantity manually reduced by ERCOT for the Resource *r* represented by QSE *q* for the 15-minute Settlement Interval.
q	none	A QSE.
r	none	A Resource.

[NPRR1010: Insert Section 6.7.5.8 below upon system implementation of the Real-Time Co-Optimization (RTC) project:]

6.7.5.8 Real-Time Derated Ancillary Service Capability Charge

(1) The total cost for Real-Time derated Ancillary Service payments and charges is allocated to QSEs representing Load based on Load Ratio Share (LRS). The Real-Time derated Ancillary Service Payment allocations to each QSE for a given 15-minute Settlement Interval are calculated as follows:

$$LARTDASAMT_q = (-1) * RTDASAMTTOT * LRS_q$$

Where:

$$RTDASAMTTOT = \sum_q RTDASAMT_q$$

The above variables are defined as follows:

Variable	Unit	Description
$LARTDASAMT_q$	$	*Load Allocated Real-Time Derated Ancillary Service Amount per QSE* – The charge to QSE *q* due to a manual reduction of Ancillary Services to be awarded for the 15-minute Settlement Interval.
RTDASAMTTOT	$	*Real-Time Derated Ancillary Service Amount Total* —The total of all payments to all QSEs for amounts recoverable due to an ERCOT issued manual reduction of Ancillary Services to be awarded for the 15-minute Settlement Interval.
$RTDASAMT_q$	$	*Real-Time Derated Ancillary Service Amount*—The payment to QSE *q* for amounts recoverable due to an ERCOT issued manual reduction of Ancillary Services to be awarded for the 15-minute Settlement Interval.
LRS_q	none	*Load Ratio Share per QSE*—The LRS as defined in Section 6.6.2.2, QSE Load Ratio Share for a 15-Minute Settlement Interval, for QSE *q* for the 15-minute Settlement Interval.
q	none	A QSE.

6.7.6 Real-Time Ancillary Service Imbalance Revenue Neutrality Allocation

(1) The total cost for Ancillary Service Imbalance payments and charges associated with ORDC and reliability deployments is allocated to the QSEs representing Load based on Load Ratio Share (LRS). The Real-Time Ancillary Service imbalance revenue neutrality allocations to each QSE for a given 15-minute Settlement Interval are calculated as follows:

LAASIRNAMT $_q$= (-1) * [(RTASIAMTTOT + RTRUCRSVAMTTOT) * LRS $_q$]

LARDASIRNAMT $_q$= (-1) * [(RTRDASIAMTTOT + RTRDRUCRSVAMTTOT) * LRS $_q$]

Where:

$$RTASIAMTTOT = \sum_q RTASIAMT_q$$

$$RTRUCRSVAMTTOT = \sum_q RTRUCRSVAMT_q$$

$$RTRDASIAMTTOT = \sum_q RTRDASIAMT_q$$

$$RTRDRUCRSVAMTTOT = \sum_q RTRDRUCRSVAMT_q$$

The above variables are defined as follows:

Variable	Unit	Definition
LAASIRNAMT $_q$	$	*Load-Allocated Ancillary Service Imbalance Revenue Neutrality Amount per QSE*—The QSE *q*'s share of the total Real-Time Ancillary Service imbalance revenue neutrality amount associated with ORDC for the 15-minute Settlement Interval.
LARDASIRNAMT $_q$	$	*Load-Allocated Reliability Deployment Ancillary Service Imbalance Revenue Neutrality Amount per QSE*—The QSE *q*'s share of the total Real-Time Ancillary Service imbalance revenue neutrality amount associated with Reliability Deployments for the 15-minute Settlement Interval.
RTASIAMTTOT	$	*Real-Time Ancillary Service Imbalance Market Total Amount*—The total payment or charge to all QSEs for the Real-Time Ancillary Service imbalance associated with ORDC for each 15-minute Settlement Interval.
RTASIAMT $_q$	$	*Real-Time Ancillary Service Imbalance Amount*—The total payment or charge to QSE *q* for the Real-Time Ancillary Service imbalance associated with ORDC for each 15-minute Settlement Interval.
RTRDASIAMTTOT	$	*Real-Time Reliability Deployment Ancillary Service Imbalance Market Total Amount*—The total payment or charge to all QSEs for the Real-Time Ancillary Service imbalance associated with Reliability Deployments for each 15-minute Settlement Interval.
RTRDASIAMT $_q$	$	*Real-Time Reliability Deployment Ancillary Service Imbalance Amount*—The total payment or charge to QSE *q* for the Real-Time Ancillary Service

Variable	Unit	Definition
		imbalance associated with Reliability Deployments for each 15-minute Settlement Interval.
RTRUCRSVAMTTOT	$	*Real-Time RUC Ancillary Service Reserve Market Total Amount*—The total payment to all QSEs for the Real-Time RUC Ancillary Service reserve payments associated with ORDC for each 15-minute Settlement Interval.
RTRUCRSVAMT $_q$	$	*Real-Time RUC Ancillary Service Reserve Amount*—The total payment to QSE *q* for the Real-Time RUC Ancillary Service reserve payment associated with ORDC for each 15-minute Settlement Interval.
RTRDRUCRSVAMTTOT	$	*Real-Time Reliability Deployment RUC Ancillary Service Reserve Market Total Amount*—The total payment |to all QSEs for the Real-Time RUC Ancillary Service Reserve payment as a result of Reliability Deployments for each 15-minute Settlement Interval.
RTRDRUCRSVAMT $_q$	$	*Real-Time Reliability Deployment RUC Ancillary Service Reserve Amount*—The total payment |to QSE *q* for the Real-Time RUC Ancillary Service Reserve payment as a result of Reliability Deployments for each 15-minute Settlement Interval.
LRS $_q$	none	The LRS calculated for QSE *q* for the 15-minute Settlement Interval. See Section 6.6.2.2, QSE Load Ratio Share for a 15-Minute Settlement Interval.
q	none	A QSE.

[NPRR1010: Replace Section 6.7.6 above with the following upon system implementation of the Real-Time Co-Optimization (RTC) project:]

6.7.6 Real-Time Ancillary Service Revenue Neutrality Allocation

(1) The total cost for Real-Time Ancillary Service payments and charges is allocated to the QSEs representing Load based on Load Ratio Share (LRS). The Real-Time Ancillary Service allocations to each QSE for a given 15-minute Settlement Interval are calculated as follows:

(a) For Reg-Up:

$$LARTRUAMT_q = (-1) * (RTRUIMBAMTTOT + RTRUOAMTTOT + RTRUTOAMTTOT) * LRS_q$$

Where:

$$RTRUIMBAMTTOT = \sum_q (RTRUIMBAMT_q)$$

$$RTRUOAMTTOT = \sum_q (RTRUOAMT_q)$$

$$RTRUTOAMTTOT = \sum_q (RTRUTOAMT_q)$$

The above variables are defined as follows:

Variable	Unit	Description
LARTRUAMT $_q$	$	*Load-Allocated Real-Time Reg-Up Amount for the QSE*— The QSE *q*'s share of the total Real-Time Reg-Up amount for the 15-minute Settlement Interval.
RTRUIMBAMT $_q$	$	*Real-Time Reg-Up Imbalance Amount for the QSE* - The total payment or charge to QSE *q* for the Real-Time Reg-Up imbalance for each 15-minute Settlement Interval.
RTRUOAMT $_q$	$	*Real-Time Reg-Up Only Amount for the QSE*— The total charge to QSE *q* in Real-Time for Reg-Up only awards for each 15-minute Settlement Interval.
RTRUIMBAMTTOT	$	*Real-Time Reg-Up Imbalance Market Total Amount* - The total payment or charge to all QSEs for the Real-Time Reg-Up imbalance for each 15-minute Settlement Interval.
RTRUOAMTTOT	$	*Real-Time Reg-Up Only Market Total Amount* - The total charge to all QSEs in Real-Time for Reg-Up only awards for each 15-minute Settlement Interval.
RTRUTOAMT $_q$	$	*Real-Time Reg-Up Trade Overage Amount for the QSE*— The total charge to QSE *q* in Real-Time for Reg-Up trade overages for each 15-minute Settlement Interval.
RTRUTOAMTTOT	$	*Real-Time Reg-Up Trade Overage Total Amount* — The total charge to all QSEs for Real-Time Reg-Up trade overages for each 15-minute Settlement Interval.
LRS $_q$	none	*Load Ratio Share per QSE*—The LRS as defined in Section 6.6.2.2, QSE Load Ratio Share for a 15-Minute Settlement Interval, for QSE *q* for the 15-minute Settlement Interval.
q	none	A QSE.

(b) For Reg-Down:

$$LARTRDAMT_q = (-1) * (RTRDIMBAMTTOT + RTRDOAMTTOT + RTRDTOAMTTOT) * LRS_q$$

Where:

$$RTRDIMBAMTTOT = \sum_q (RTRDIMBAMT_q)$$

$$RTRDOAMTTOT = \sum_q (RTRDOAMT_q)$$

$$RTRDTOAMTTOT = \sum_q (RTRDTOAMT_q)$$

The above variables are defined as follows:

Variable	Unit	Description
LARTRDAMT $_q$	$	*Load-Allocated Real-Time Reg-Down Amount for the QSE* — The QSE *q*'s share of the total Real-Time Reg-Down amount for the 15-minute Settlement Interval.

$RTRDIMBAMT_q$	$	*Real-Time Reg-Down Imbalance Amount for the QSE* - The total payment or charge to QSE *q* for the Real-Time Reg-Down imbalance for each 15-minute Settlement Interval.
$RTRDOAMT_q$	$	*Real-Time Reg-Down Only Amount for the QSE*— The total charge to QSE *q* in Real-Time for Reg-Down only awards for each 15-minute Settlement Interval.
RTRDIMBAMTTOT	$	*Real-Time Reg-Down Imbalance Market Total Amount* - The total payment or charge to all QSEs for the Real-Time Reg-Down imbalance for each 15-minute Settlement Interval.
RTRDOAMTTOT	$	*Real-Time Reg-Down Only Market Total Amount* - The total charge to all QSEs in Real-Time for Reg-Down only awards for each 15-minute Settlement Interval.
$RTRDTOAMT_q$	$	*Real-Time Reg-Down Trade Overage Amount for the QSE*— The total charge to QSE *q* in Real-Time for Reg-Down trade overages for each 15-minute Settlement Interval.
RTRDOAMTTOT	$	*Real-Time Reg-Down Trade Overage Total Amount* — The total charge to all QSEs for Real-Time Reg-Down trade overages for each 15-minute Settlement Interval.
LRS_q	none	*Load Ratio Share per QSE*—The LRS as defined in Section 6.6.2.2 for QSE *q* for the 15-minute Settlement Interval.
q	none	A QSE.

(c) For Responsive Reserve (RRS):

$$LARTRRAMT_q = (-1) * (RTRRIMBAMTTOT + RTRROAMTTOT + RTRRTOAMTTOT) * LRS_q$$

Where:

$$RTRRIMBAMTTOT = \sum_q (RTRRIMBAMT_q)$$

$$RTRROAMTTOT = \sum_q (RTRROAMT_q)$$

$$RTRRTOAMTTOT = \sum_q (RTRRTOAMT_q)$$

The above variables are defined as follows:

Variable	**Unit**	**Description**
$LARTRRAMT_q$	$	*Load-Allocated Real-Time Responsive Reserve Amount for the QSE* — The QSE's share of the total Real-Time RRS amount for the 15-minute Settlement Interval.
$RTRRIMBAMT_q$	$	*Real-Time Responsive Reserve Imbalance Amount for the QSE* - The total payment or charge to QSE *q* for the Real-Time RRS imbalance for each 15-minute Settlement Interval.
$RTRROAMT_q$	$	*Real-Time Responsive Reserve Only Amount for the QSE*— The total charge to QSE *q* in Real-Time for RRS only awards for each 15-minute Settlement Interval.

RTRRIMBAMTTOT	$	*Real-Time Responsive Reserve Imbalance Market Total Amount* - The total payment or charge to all QSEs for the Real-Time RRS imbalance for each 15-minute Settlement Interval.
RTRROAMTTOT	$	*Real-Time Responsive Reserve Only Market Total Amount* - The total charge to all QSEs in Real-Time for RRS only awards for each 15-minute Settlement Interval.
RTRRTOAMT $_q$	$	*Real-Time Responsive Reserve Trade Overage Amount for the QSE*— The total charge to QSE *q* in Real-Time for RRS trade overages for each 15-minute Settlement Interval.
RTRROAMTTOT	$	*Real-Time Responsive Reserve Trade Overage Total Amount* — The total charge to all QSEs for Real-Time RRS trade overages for each 15-minute Settlement Interval.
LRS $_q$	none	*Load Ratio Share per QSE*—The LRS as defined in Section 6.6.2.2 for QSE *q* for the 15-minute Settlement Interval.
q	none	A QSE.

(d) For Non-Spin:

$$LARTNSAMT_q = (-1) * (RTNSIMBAMTTOT + RTNSOAMTTOT + RTNSTOAMTTOT) * LRS_q$$

Where:

$$RTNSIMBAMTTOT = \sum_q (RTNSIMBAMT_q)$$

$$RTNSOAMTTOT = \sum_q (RTNSOAMT_q)$$

$$RTNSTOAMTTOT = \sum_q (RTNSTOAMT_q)$$

The above variables are defined as follows:

Variable	**Unit**	**Description**
LARTNSAMT $_q$	$	*Load-Allocated Real-Time Non-Spin Amount for the QSE* — The QSE's share of the total Real-Time Non-Spin amount for the 15-minute Settlement Interval.
RTNSIMBAMT $_q$	$	*Real-Time Non-Spin Imbalance Amount for the QSE* - The total payment or charge to QSE *q* for the Real-Time Non-Spin imbalance for each 15-minute Settlement Interval.
RTNSOAMT $_q$	$	*Real-Time Non-Spin Only Amount for the QSE*— The total charge to QSE *q* in Real-Time for Non-Spin only awards for each 15-minute Settlement Interval.
RTNSIMBAMTTOT	$	*Real-Time Non-Spin Imbalance Market Total Amount* - The total payment or charge to all QSEs for the Real-Time Non-Spin imbalance for each 15-minute Settlement Interval.
RTNSOAMTTOT	$	*Real-Time Non-Spin Only Market Total Amount* - The total charge to all QSEs in Real-Time for Non-Spin only awards for each 15-minute Settlement Interval.

RTNSTOAMT $_q$	$	*Real-Time Non-Spin Trade Overage Amount for the QSE*— The total charge to QSE *q* in Real-Time for Non-Spin trade overages for each 15-minute Settlement Interval.
RTNSOAMTTOT	$	*Real-Time Non-Spin Trade Overage Total Amount* — The total charge to all QSEs for Real-Time Non-Spin trade overages for each 15-minute Settlement Interval.
LRS $_q$	none	*Load Ratio Share per QSE*—The LRS as defined in Section 6.6.2.2 for QSE *q* for the 15-minute Settlement Interval.
q	none	A QSE.

(e) For ERCOT Contingency Reserve Service (ECRS):

$$LARTECRAMT_q = (-1) * (RTECRIMBAMTTOT + RTECROAMTTOT + RTECRTOAMTTOT) * LRS_q$$

Where:

$$RTECRIMBAMTTOT = \sum_q (RTECRIMBAMT_q)$$

$$RTECROAMTTOT = \sum_q (RTECROAMT_q)$$

$$RTECRTOAMTTOT = \sum_q (RTECRTOAMT_q)$$

The above variables are defined as follows:

Variable	**Unit**	**Description**
LARTECRAMT $_q$	$	*Load-Allocated Real-Time ERCOT Contingency Reserve Service Amount for the QSE* - The QSE *q*'s share of the total Real-Time ECRS amount for the 15-minute Settlement Interval.
RTECRIMBAMT $_q$	$	*Real-Time ERCOT Contingency Reserve Service Imbalance Amount for the QSE* - The total payment or charge to QSE *q* for the Real-Time ECRS imbalance for each 15-minute Settlement Interval.
RTECROAMT $_q$	$	*Real-Time ERCOT Contingency Reserve Service Only Amount for the QSE*— The total charge to QSE *q* in Real-Time for ECRS only awards for each 15-minute Settlement Interval.
RTECRIMBAMTTOT	$	*Real-Time ERCOT Contingency Reserve Service Imbalance Market Total Amount* - The total payment or charge to all QSEs for the Real-Time ECRS imbalance for each 15-minute Settlement Interval.
RTECROAMTTOT	$	*Real-Time ERCOT Contingency Reserve Service Only Market Total Amount* - The total charge to all QSEs in Real-Time for ECRS only awards for each 15-minute Settlement Interval.
RTECRTOAMT $_q$	$	*Real-Time ERCOT Contingency Reserve Service Trade Overage Amount for the QSE*— The total charge to QSE *q* in Real-Time for ECRS trade overages for each 15-minute Settlement Interval.
RTECROAMTTOT	$	*Real-Time ERCOT Contingency Reserve Service Trade Overage Total Amount* — The total charge to all QSEs for Real-Time ECRS trade overages for each 15-minute Settlement Interval.

LRS_q	none	*Load Ratio Share per QSE*—The LRS as defined in Section 6.6.2.2 for QSE *q* for the 15-minute Settlement Interval.
q	none	A QSE.

6.7.7 Adjustments to Net Cost Allocations for Real-Time Ancillary Services

If ERCOT assigns Ancillary Service during a Watch, the incremental cost for assigned Ancillary Service is calculated in this section.

(1) For Reg-Up, if applicable:

(a) The total costs for Reg-Up for a given Operating Hour during a Watch is calculated as follows:

ARUCOSTTOT = (-1) * RTAURUAMTTOT + RUCOSTTOT

Where:

Total payment of Real-Time Ancillary Service Assignment procured capacity for un-deployed Reg-Up

$$RTAURUAMTTOT = \sum_{q} \sum_{r} \sum_{p} \sum_{i=1}^{4} RTAURUAMT_{q,r,p,i}$$

The above variables are defined as follows:

Variable	Unit	Description
ARUCOSTTOT	$	*Reg-Up Cost Total*—The total costs for Reg-Up that includes costs of assigned Ancillary Service during a Watch for the hour.
RUCOSTTOT	$	*Reg-Up Cost Total*—The net total costs for Reg-Up for the hour.
RTAURUAMTTOT	$	*Real-Time Assigned Un-Deployed Regulation Up Payment Amount Total for all QSEs*—The payments to all QSEs for the Real-Time un-deployed Reg-Up Ancillary Service Assignment for the hour.
$RTAURUAMT_{q,r,p,i}$	$	*Real-Time Assigned Un-Deployed Regulation Up Payment Amount per QSE*—The payment to QSE *q* for a Real-Time un-deployed Reg-Up Ancillary Service Assignment to Resource *r* at Settlement Point *p* for the 15-minute Settlement Interval *i*.
q	none	A QSE.
r	none	A Generation Resource that was allocated Reg-Up Ancillary Service Assignment by the QSE.
p	none	A Settlement Point for the Resource Node that was allocated Reg-Up Ancillary Service Assignment by the QSE.
i	none	A 15-minute Settlement Interval in the Operating Hour.

(b) Each QSE's share of the total costs for Reg-Up for the Operating Hour, including Ancillary Service costs assigned during a Watch is calculated as follows:

$$\mathbf{ARUCOST}_q = \mathbf{ARUPR} * \mathbf{ARUQ}_q$$

Where:

$$ARUPR = ARUCOSTTOT / ARUQTOT$$

$$ARUQTOT = \sum_q ARUQ_q$$

$$ARUQ_q = ARUO_q - SARUQ_q$$

$$ARUO_q = WAURUTOT * HLRS_q + RUO_q$$

$$WAURUTOT = \sum_q \sum_r \sum_P RTAURUR_{q,r,p}$$

The above variables are defined as follows:

Variable	Unit	Description
$ARUCOST_q$	$	*Reg-Up Cost per QSE*—QSE *q*'s share of the net total costs for Reg-Up that includes costs of assigned Ancillary Service during a Watch, for the hour.
ARUPR	$/MW per hour	*Reg-Up Price*—The price for Reg-Up calculated based on the net total costs for Reg-Up, for the hour.
ARUCOSTTOT	$	*Reg-Up Cost Total*—The total costs for Reg-Up that includes costs of assigned Ancillary Service during a Watch for the hour.
ARUQTOT	MW	*Reg-Up Quantity Total*—The sum of every QSE's portion of its Ancillary Service Obligation that is not self-arranged in either DAM or any SASM that includes assigned Ancillary Service, during a Watch, for the hour.
$ARUQ_q$	MW	*Reg-Up Quantity per QSE*—The portion of QSE *q*'s total Ancillary Service Obligation that is not self-arranged in either DAM or any SASM, that includes assigned Ancillary Service, during a Watch for the hour.
WAURUTOT	MW	*Watch Assigned Un-Deployed Regulation Up Quantity*- The total market wide quantity of un-deployed Reg-Up Ancillary Service Assignment for the hour.
$RTAURUR_{q,r}$	MW	*Real-Time Assigned Un-Deployed Regulation Up Quantity per Resource per QSE* - The quantity of un-deployed Reg-Up Ancillary Service Assignment to a QSE *q* for Resource *r* for the hour. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
$ARUO_q$	MW	*Reg-Up Obligation per QSE*—The Ancillary Service Obligation of QSE *q*, for the hour during a Watch.
RUO_q	MW	*Reg-Up Obligation per QSE*—The Ancillary Service Obligation of QSE *q*, for the hour.
$HLRS_q$	none	*The Hourly Load Ratio Share calculated for QSE q for the hour.* See Section 6.6.2.4, QSE Load Ratio Share for an Operating Hour.
$SARUQ_q$	MW	*Total Self-Arranged Reg-Up Quantity per QSE for all markets*—The sum of all self-arranged Reg-Up quantities submitted by QSE *q* for DAM and all SASMs.
q	none	A QSE.

r	none	A Generation Resource that was allocated Reg-Up Ancillary Service Assignment by the QSE.
p	none	A Settlement Point for the Resource Node that was allocated Reg-Up Ancillary Service Assignment by the QSE.

(c) The incremental cost to each QSE's for assigned Reg-Up for the Operating Hour, is calculated as follows:

$$\mathbf{NETARTRUAMT}_{q} = \mathbf{ARUCOST}_{q} - \mathbf{RUCOST}_{q}$$

The above variables are defined as follows:

Variable	Unit	Description
$NETARTRUAMT_{q}$	$	*Real-Time Reg-Up Amount per QSE*—The net adjustment to QSE *q*'s share of the costs for assigned Reg-Up, for the hour.
$ARUCOST_{q}$	$	*Reg-Up Cost per QSE*—QSE *q*'s share of the net total costs for Reg-Up that includes costs of assigned Ancillary Service during a Watch, for the hour.
$RUCOST_{q}$	$	*Reg-Up Cost per QSE*—QSE *q*'s share of the net total costs for Reg-Up, for the hour.
q	none	A QSE.

(2) For RRS, if applicable:

(a) The total costs for RRS for a given Operating Hour during a Watch is calculated as follows:

$$\mathbf{ARRCOSTTOT} = \mathbf{(-1) * RTAURRAMTTOT + RRCOSTTOT}$$

Where:

Total payment of Real-Time Ancillary Service Assignment procured capacity for un-deployed RRS

$$\text{RTAURRAMTTOT} = \sum_{q} \sum_{r} \sum_{p} \sum_{i=1}^{4} \text{RTAURRAMT}_{q, r, p, i}$$

The above variables are defined as follows:

Variable	Unit	Description
ARRCOSTTOT	$	*Responsive Reserve Cost Total*—The net total costs for RRS that includes costs of assigned Ancillary Service during a Watch for the hour.
RRCOSTTOT	$	*Responsive Reserve Cost Total*—The net total costs for RRS for the hour.
RTAURRAMTTOT	$	*Real-Time Assigned Un-Deployed Responsive Reserve Payment Amount Total for all QSEs* - The payments to all QSEs for the Real-Time un-deployed RRS Ancillary Service Assignment for the hour.
$RTAURRAMT_{q, r,p,i}$	$	*Real-Time Assigned Un-Deployed Responsive Reserve Payment Amount per QSE* - The payment to QSE *q* for a Real-Time un-deployed RRS Ancillary Service Assignment to Resource *r* at Settlement Point *p* for the 15-minute Settlement Interval *i*.

q	none	A QSE.
r	none	A Generation Resource that was allocated RRS Ancillary Service Assignment by the QSE.
p	none	A Settlement Point for the Resource Node that was allocated RRS Ancillary Service Assignment by the QSE.
i	none	A 15-minute Settlement Interval in the Operating Hour.

(b) Each QSE's share of the net total costs for RRS for the Operating Hour, including Ancillary Service costs assigned during a Watch is calculated as follows:

$$\mathbf{ARRCOST}_{q} = \mathbf{ARRPR} * \mathbf{ARRQ}_{q}$$

Where:

$$ARRPR = ARRCOSTTOT / ARRQTOT$$

$$ARRQTOT = \sum_{q} ARRQ_{q}$$

$$ARRQ_{q} = ARRO_{q} - SARRQ_{q}$$

$$ARRO_{q} = WAURRTOT * HLRS_{q} + RRO_{q}$$

$$WAURRTOT = \sum_{q} \sum_{r} \sum_{p} RTAURRR_{q,r,p}$$

The above variables are defined as follows:

Variable	Unit	Description
$ARRCOST_{q}$	$	*Responsive Reserve Cost per QSE*—QSE *q*'s share of the net total costs for RRS, that includes costs of assigned Ancillary Service during a Watch for the hour.
ARRPR	$/MW per hour	*Responsive Reserve Price*—The price for RRS calculated based on the net total costs for RRS that includes costs of assigned Ancillary Service during a Watch for the hour.
ARRCOSTTOT	$	*Responsive Reserve Cost Total*—The net total costs for RRS that includes costs of assigned Ancillary Service during a Watch for the hour.
ARRQTOT	MW	*Responsive Reserve Quantity Total*—The sum of every QSE's portion of its Ancillary Service Obligation that is not self-arranged in either DAM or any SASM that includes assigned Ancillary Service, during a Watch,, for the hour.
WAURRTOT	MW	*Watch Assigned Un-Deployed Responsive Reserve Quantity*—The total market wide quantity of un-deployed RRS Ancillary Service Assignment for the hour.
$RTAURRR_{q,r}$	MW	*Real-Time Assigned Un-Deployed Responsive Reserve Quantity per Resource per QSE*—The quantity of un-deployed RRS Ancillary Service Assignment to a QSE *q* for Resource *r* for the hour. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.

ARRQ $_q$	MW	*Responsive Reserve Quantity per QSE*—The portion of QSE *q*'s Ancillary Service Obligation that is not self-arranged in either DAM or any SASM, for the hour.
ARRO $_q$	MW	*Responsive Reserve Obligation per QSE*—The Ancillary Service Obligation of QSE *q*, for the hour.
RRO $_q$	MW	*Responsive Reserve Obligation per QSE*—The Ancillary Service Obligation of QSE *q*, for the hour.
HLRS $_q$	none	*The Hourly Load Ratio Share calculated for QSE q for the hour.* See Section 6.6.2.4.
SARRQ $_q$	MW	*Total Self-Arranged Responsive Reserve Quantity per QSE for all markets*—The sum of all self-arranged RRS quantities submitted by QSE *q* for DAM and all SASMs.
q	none	A QSE.
r	none	A Generation Resource that was allocated RRS Ancillary Service Assignment by the QSE.
p	none	A Settlement Point for the Resource Node that was allocated RRS Ancillary Service Assignment by the QSE.

(c) The incremental cost to each QSE's for assigned RRS for the Operating Hour, is calculated as follows:

NETARTRRAMT $_q$ = ARRCOST $_q$ – RRCOST $_q$

The above variables are defined as follows:

Variable	Unit	Description
NETARTRRAMT $_q$	$	*Real-Time Responsive Reserve Amount per QSE*—The net adjustment to QSE *q*'s share of the costs for assigned RRS, for the hour.
RRCOST $_q$	$	*Responsive Reserve Cost per QSE*—QSE *q*'s share of the net total costs for RRS, for the hour.
ARRCOST $_q$	$	*Responsive Reserve Cost per QSE*—QSE *q*'s share of the net total costs for RRS that includes costs of assigned Ancillary Service during a Watch, for the hour.
q	none	A QSE.

[NPRR863: Insert paragraph (3) below upon system implementation:]

(3) For ECRS, if applicable:

(a) The total costs for ECRS for a given Operating Hour during a Watch is calculated as follows:

AECRCOSTTOT = (-1) * RTAUECRAMTTOT + ECRCOSTTOT

Where:

Total payment of Real-Time Ancillary Service Assignment procured capacity for un-deployed ECRS

$$RTAUECRAMTTOT = \sum_{q} \sum_{r} \sum_{p} \sum_{i=1}^{4} RTAUECRAMT_{q, r, p, i}$$

The above variables are defined as follows:

Variable	Unit	Description
AECRCOSTTOT	$	*ERCOT Contingency Reserve Service Cost Total*—The net total costs for ECRS that includes costs of assigned Ancillary Service during a Watch for the hour.
ECRCOSTTOT	$	*ERCOT Contingency Reserve Service Cost Total*—The net total costs for ECRS for the hour.
RTAUECRAMTTOT	$	*Real-Time Assigned Un-Deployed ERCOT Contingency Reserve Service Payment Amount Total for all QSEs* - The payments to all QSEs for the Real-Time un-deployed ECRS Ancillary Service Assignment for the hour.
$RTAUECRAMT_{q, r, p, i}$	$	*Real-Time Assigned Un-Deployed ERCOT Contingency Reserve Service Payment Amount per QSE* - The payment to QSE *q* for a Real-Time un-deployed ECRS Ancillary Service Assignment to Resource *r* at Settlement Point *p* for the 15-minute Settlement Interval *i*.
q	none	A QSE.
r	none	A Generation Resource that was allocated ECRS Ancillary Service Assignment by the QSE.
p	none	A Settlement Point for the Resource Node that was allocated ECRS Ancillary Service Assignment by the QSE.
i	none	A 15-minute Settlement Interval in the Operating Hour.

(b) Each QSE's share of the net total costs for ECRS for the Operating Hour, including Ancillary Service costs assigned during a Watch is calculated as follows:

$$\mathbf{AECRCOST_{q} = AECRPR * AECRQ_{q}}$$

Where:

$$AECRPR = AECRCOSTTOT / AECRQTOT$$

$$AECRQTOT = \sum_{q} AECRQ_{q}$$

$$AECRQ_{q} = AECRO_{q} - SAECRQ_{q}$$

$$AECRO_{q} = WAUECRTOT * HLRS_{q} + ECRO_{q}$$

$$WAUECRTOT = \sum_{q} \sum_{r} \sum_{p} RTAUECRR_{q, r, p}$$

The above variables are defined as follows:

Variable	Unit	Description

AECRCOST $_q$	$	*ERCOT Contingency Reserve Service Cost per QSE*—QSE *q*'s share of the net total costs for ECRS, that includes costs of assigned Ancillary Service during a Watch for the hour.
AECRPR	$/MW per hour	*ERCOT Contingency Reserve Service Price*—The price for ECRS calculated based on the net total costs for ECRS that includes costs of assigned Ancillary Service during a Watch for the hour.
AECRCOSTTOT	$	*ERCOT Contingency Reserve Service Cost Total*—The net total costs for ECRS that includes costs of assigned Ancillary Service during a Watch for the hour.
AECRQTOT	MW	*ERCOT Contingency Reserve Service Quantity Total*—The sum of every QSE's portion of its Ancillary Service Obligation that is not self-arranged in either DAM or any SASM that includes assigned Ancillary Service, during a Watch, for the hour.
WAUECRTOT	MW	*Watch Assigned Un-Deployed ERCOT Contingency Reserve Service Quantity*—The total market wide quantity of un-deployed ECRS Ancillary Service Assignment for the hour.
RTAUECRR $_{q, r}$	MW	*Real-Time Assigned Un-Deployed ERCOT Contingency Reserve Service Quantity per Resource per QSE*—The quantity of un-deployed ECRS Ancillary Service Assignment to a QSE *q* for Resource *r* for the hour. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
AECRQ $_q$	MW	*ERCOT Contingency Reserve Service Quantity per QSE*—The portion of QSE *q*'s Ancillary Service Obligation that is not self-arranged in either DAM or any SASM, for the hour.
AECRO $_q$	MW	*ERCOT Contingency Reserve Service Obligation per QSE*—The Ancillary Service Obligation of QSE *q*, for the hour.
ECRO $_q$	MW	*ERCOT Contingency Reserve Service Obligation per QSE*—The Ancillary Service Obligation of QSE *q*, for the hour.
HLRS $_q$	none	*The Hourly Load Ratio Share calculated for QSE q for the hour.* See Section 6.6.2.4.
SAECRQ $_q$	MW	*Total Self-Arranged ERCOT Contingency Reserve Service Quantity per QSE for all markets*—The sum of all self-arranged ECRS quantities submitted by QSE *q* for DAM and all SASMs.
q	none	A QSE.
r	none	A Generation Resource that was allocated ECRS Ancillary Service Assignment by the QSE.
p	none	A Settlement Point for the Resource Node that was allocated ECRS Ancillary Service Assignment by the QSE.

(c) The incremental cost to each QSE's for assigned ECRS for the Operating Hour, is calculated as follows:

NETARTECRAMT $_q$ = AECRCOST $_q$ – ECRCOST $_q$

The above variables are defined as follows:

Variable	Unit	Description
NETARTECRAMT $_q$	$	*Real-Time ERCOT Contingency Reserve Service Amount per QSE*—The net adjustment to QSE *q*'s share of the costs for assigned ECRS, for the hour.

ECRCOST $_q$	$	*ERCOT Contingency Reserve Service Cost per QSE*—QSE *q*'s share of the net total costs for ECRS, for the hour.
AECRCOST $_q$	$	*ERCOT Contingency Reserve Service Cost per QSE*—QSE *q*'s share of the net total costs for ECRS that includes costs of assigned Ancillary Service during a Watch, for the hour.
q	none	A QSE.

[NPRR1010: Delete Section 6.7.7 above upon system implementation of the Real-Time Co-Optimization (RTC) project.]

6.8 Settlement for Operating Losses During an LCAP Effective Period

6.8.1 Determination of Operating Losses During an LCAP Effective Period

(1) In order for a Qualified Scheduling Entity (QSE) that represents a Generation Resource or Energy Storage Resource (ESR) to recover actual marginal costs for operating losses during a Low System-Wide Offer Cap (LCAP) Effective Period, and incurred as calculated in Section 6.8.2, Recovery of Operating Losses During an LCAP Effective Period, the QSE shall timely submit a Settlement and billing dispute for each affected Operating Day, consistent with the dispute process described in Section 9.14, Settlement and Billing Dispute Process. The QSE shall also submit, through the Settlement and billing dispute process, and within 60 days of the issuance of a Real-Time Market (RTM) Initial Statement for an Operating Day, the following information:

(a) For a Generation Resource:

(i) All fuel purchases used to determine the weighted average fuel price included in the calculation of the actual marginal operating fuel cost component, for the Generation Resource, for the 15-minute Settlement Interval within the Operating Day.

(b) For an ESR:

(i) The actual variable O&M rate incurred during the LCAP Effective Period in lieu of the Standard Operations and Maintenance Cost (STOM) defined in Section 6.8.2; and

(ii) The average electricity cost incurred to charge the ESR for the amount of discharge during the LCAP Effective Period.

(c) An attestation signed by an officer or executive with authority to bind the QSE stating that the information contained in the Settlement and billing dispute is accurate and that fixed costs (fees, penalties, and similar non-gas costs) were not included in the calculation of the weighted average fuel price.

(2) The calculation of operating losses under Section 6.8.2 applies only when the Real-Time Settlement Point Price for the Resource is equal to or exceeds the LCAP or when the Resource's Energy Offer Curve is at the LCAP and the Resource receives a Dispatch Instruction or a Base Point above its Low Sustained Limit (LSL).

(3) Fuel prices may include all variable costs associated with the purchase, transportation, and storage of fuel.

(4) ERCOT will consider the documentation provided by the QSE in order to determine the weighted average fuel price for a Generation Resource or the average fuel cost for an ESR during an LCAP Effective Period.

(5) For purposes of determining operating losses during an LCAP Effective Period, ERCOT may request additional information, documentation, or clarification from the QSE. A QSE shall respond to any such request within ten Business Days.

6.8.2 Recovery of Operating Losses During an LCAP Effective Period

(1) ERCOT shall calculate the recovery of operating losses during an LCAP Effective Period with the actual marginal costs that exceed LCAP revenues in accordance with this Section.

(2) The actual marginal cost (AMC) and marginal energy production (MEP) used to calculate operating losses (OPL) for a Combined Cycle Train are the AMC and MEP that correspond to the Combined Cycle Generation Resource, within a Combined Cycle Train, that operates in Real-Time for the 15-minute Settlement Interval.

(3) Payment for operating losses during an LCAP Effective Period is calculated as follows:

$$\mathbf{OPLPAMT}_{q,r,i} = (-1) * (\mathbf{OPL}_{q,r,i} + \mathbf{ADJOPL}_{q,r,i})$$

Where,

For the Generation Resource:

$$OPL_{q,r,i} = Max(0, (AMC_{q,r,i} - Max(LCAP, RTSPP_{p,i})) * Min(RTMG_{q,r,i}, MEP_{q,r,i}))$$

If ERCOT approved verifiable costs for the Generation Resource:

$$AMC_{q,r,i} = AHR_{q,r,i} * WAFP_{q,r,i} + ROM_{q,r}$$

$$MEP_{q,r,i} = AMF_{q,r,i} / AHR_{q,r,i}$$

Otherwise,

$$AMC_{q,r,i} = PAHR_{q,r,i} * WAFP_{q,r,i} + STOM_{rc}$$

$$MEP_{q,r,i} = AMF_{q,r,i} / PAHR_{q,r,i}$$

For ESRs:

$$OPL_{q,r,i} = Max(0, (AMC_{q,r,i} - Max(LCAP, RTSPP_{p,i})) * RTMG_{q,r,i})$$

Where,

$$AMC_{q,r,i} = AFC_{q,r,i} + STOM_{rc}$$

The above variables are defined as follows:

Variable	Unit	Definition
$OPLPAMT_{q,r,i}$	$	*Operating Losses Payment Amount* – The operating losses payment to the QSE *q,* for Resource *r*, for the 15-minute Settlement Interval *i* within the Operating Day. Where for a Combined Cycle Train, the Resource *r* is the Combined Cycle Train.
$OPL_{q,r,i}$	$	*Operating Losses* – The operating losses for Resource *r*, represented by QSE *q,* for the 15-minute Settlement Interval *i* within the Operating Day. Where for a Combined Cycle Train, the Resource *r* is the Combined Cycle Train.
$ADJOPL_{q,r,i}$	$	*Operating Losses Adjustment* – The adjustment to the operating losses for Resource *r*, represented by QSE *q,* for the 15-minute Settlement Interval *i* within the Operating Day. Where for a Combined Cycle Train, the Resource *r* is the Combined Cycle Train.
$WAFP_{q,r,i}$	$/MMBtu	*Weighted Average Fuel Price*—The volume-weighted average price of fuel submitted to ERCOT for the LCAP Effective Period for a specific Resource *r,* represented by QSE *q,* and specific 15-minute Settlement Interval *i* within the Operating Day. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
$AMC_{q,r,i}$	$/MWh	*Actual Marginal Cost* – The actual marginal costs for Resource *r* represented by QSE *q* for the 15-minute Settlement Interval *i* within the Operating Day. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
LCAP	$/MWh	*Low System Wide Offer Cap* – The value set per paragraph (1) of Section 4.4.11, System-Wide Offer Caps.
$ROM_{q,r}$	$/MWh	*Raw Verifiable Operations and Maintenance Cost Above LSL* – The raw verifiable O&M cost for the Resource *r* represented by QSE *q* for operations above LSL. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
$AMF_{q,r,i}$	MMBtu	*Actual Marginal Fuel per QSE per Resource* - The actual marginal purchased and delivered fuel for the Resource *r* represented by QSE *q* for the 15-minute Settlement Interval *i* within the Operating Day. The AMF represents only the fuel used to calculate the weighted average fuel price, WAFP. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train. For Resources that are granted a dispute under Section 9.14.7, Disputes for RUC Make-Whole Payment for Fuel Costs, the actual marginal purchased and delivered fuel shall include only fuel for operations above LSL.

Variable	Unit	Definition
STOM $_{rc}$	$/MWh	*Standard Operations and Maintenance Cost* – The standard O&M cost for the Resource category *rc* for operations above LSL, as described in paragraph (6)(c) of Section 5.6.1, Verifiable Costs. For an ESR, STOM shall be set at $0.3/MWh. ***[NPRR1086: Replace the definition above with the following upon system implementation of NPRR1029:]*** *Standard Operations and Maintenance Cost* – The standard O&M cost for the Resource category *rc* for operations above LSL, shall be set to the minimum energy variable O&M costs, as described in paragraph (6)(c) of Section 5.6.1, Verifiable Costs. For an ESR, STOM shall be set at $0.3/MWh and for a DC-Coupled Resource, the value shall be set at $4.40/MWh.
RTSPP $_{p, i}$	$/MWh	*Real-Time Settlement Point Price* - The Real-Time Settlement Point Price at the Settlement Point *p,* for the 15-minute Settlement Interval *i*.
AFC $_{q, r, i}$	$/MWh	*Average Fuel Cost per Resource* —The average electricity cost used to charge the ESR *r* represented by QSE *q* applicable to the energy discharge for the 15-minute Settlement Interval *i* within the Operating Day.
AHR $_{q, r, i}$	MMBtu / MWh	*Average Heat Rate per Resource* – The verifiable average heat rate for the Resource *r* represented by QSE *q*, for operating levels between LSL and High Sustained Limit (HSL), for the 15-minute Settlement Interval *i*. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
PAHR $_{q, r, i}$	MMBtu / MWh	*Proxy Average Heat Rate* – The proxy average heat rate for the Resource *r,* represented by QSE *q*, for the 15-minute Settlement Interval *i*. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
RTMG $_{q, r, i}$	MWh	*Real-Time Metered Generation per QSE per Resource by Settlement Interval by hour*—The Real-Time energy from Resource *r* represented by QSE *q*, for the 15-minute Settlement Interval *i*. Where for a Combined Cycle Train, the Resource r is the Combined Cycle Train. For Resources that are granted a dispute under Section 9.14.7, the Real-Time energy represents the energy produced for operations above LSL.
MEP $_{q, r, i}$	MWh	*Marginal Energy Production per QSE per Resource by Settlement Interval* — The calculated marginal generation of Resource *r* represented by QSE *q* in Real-Time for the 15-minute Settlement Interval *i*. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
q	None	A QSE.
r	None	A Generation Resource or ESR.
i	None	A 15-minute Settlement Interval within the Operating Day during an LCAP Effective Period.
rc	None	A Resource category

(2) The total compensation to each QSE for operating losses during an LCAP Effective Period for the 15-minute Settlement Interval is calculated as follows:

$$\mathbf{OPLPAMTQSETOT}_{q} = \sum_{r} \mathbf{OPLPAMT}_{q,r,i}$$

The above variables are defined as follows:

Variable	Unit	Definition
$OPLPAMTQSETOT_q$	$	*Total Operating Losses Payment Amount per QSE* – The total operating losses payment to the QSE *q*, for all Resources, for the 15-minute Settlement Interval within the Operating Day.
$OPLPAMT_{q,r,i}$	$	*Operating Losses Payment Amount* – The operating losses payment to the QSE *q*, for Resource *r*, for the 15-minute Settlement Interval *i* within the Operating Day. Where for a Combined Cycle Train, the Resource *r* is the Combined Cycle Train.
q	none	A QSE.
r	none	A Generation Resource or ESR.
i	none	A 15-minute Settlement Interval within the Operating Day during an LCAP Effective Period.

6.8.3 Charges for Operating Losses During an LCAP Effective Period

(1) All QSEs that were capacity-short in a Settlement Interval for which actual marginal costs above the LCAP are recovered will be charged for that shortage, as described in Section 6.8.3.1, Charges for Capacity Shortfalls During an LCAP Effective Period. If revenues from the charges under Section 6.8.3.1 are not enough to cover all actual marginal costs above the LCAP for a Settlement Interval, then the difference will be uplifted to all QSEs on a Load Ratio Share (LRS) basis, as described in Section 6.8.3.2, Uplift Charges for an LCAP Effective Period.

6.8.3.1 Charges for Capacity Shortfalls During an LCAP Effective Period

(1) The dollar amount charged to each QSE due to capacity shortfalls for any Settlement Intervals in an LCAP Effective Period is calculated as follows:

$$\mathbf{LCAPCSAMT}_{i,q} = \mathbf{(-1) * Max\ [(LCAPSFRS}_{i,q}\mathbf{ * OPLPAMTTOT}_{i}\mathbf{),\ (((1/4) * LCAPSF}_{i,q}\mathbf{) * OPLPAMTTOT}_{i}\mathbf{ / OPLCAPTOT}_{i}\mathbf{)]}$$

Where:

$$OPLPAMTTOT_{i} = \sum_{q} OPLPAMTQSETOT_{i,q}$$

$$OPLCAPTOT_{i} = \sum_{q}\sum_{r} RTMG_{q,r,i}$$

The above variables are defined as follows:

Variable	Unit	Definition
LCAPCSAMT $_{i, q}$	$	*LCAP Capacity-Short Amount*—The charge to a QSE *q*, due to capacity shortfall for an LCAP Effective Period, for the 15-minute Settlement Interval *i*.
OPLPAMTQSETOT $_{i, q}$	$	*Total Operating Losses Payment Amount per QSE* – The total operating losses payment to the QSE *q*, for all Resources, for the 15-minute settlement interval *i* within the Operating Day.
OPLPAMTTOT $_{i}$	$	*Total Operating Losses Payment Amount* – The sum of Operating Losses Payments to all QSEs, for the 15-minute Settlement Interval *i*.
LCAPSFRS $_{i, q}$	none	*LCAP Effective Period Shortfall Ratio Share*—The ratio of the QSE *q*'s capacity shortfall to the sum of all QSEs' capacity shortfalls for an LCAP Effective Period for the 15-minute Settlement Interval *i*. See Section 6.8.3.1.1, Capacity Shortfall Ratio Share for an LCAP Effective Period.
LCAPSF $_{i, q}$	MW	*LCAP Shortfall*—The QSE *q*'s capacity shortfall for an LCAP Effective Period for the 15-minute Settlement Interval *i*. See formula in Section 6.8.3.1.1.
OPLCAPTOT $_{i}$	MWh	*Operating Loss Capacity Total*—The sum of the Real-Time Metered Generation (RTMG) of all Resources compensated for an LCAP Effective Period for the 15-minute Settlement Interval *i*.
RTMG $_{q, r, i}$	MWh	*Real-Time Metered Generation per QSE per Resource by Settlement Interval by hour*—The Real-Time energy from Resource *r* represented by QSE *q*, for the 15-minute Settlement Interval *i*. Where for a Combined Cycle Train, the Resource r is the Combined Cycle Train. For Resources that are granted a dispute under Section 9.14.7, Disputes for RUC Make-Whole Payment for Fuel Costs, the Real-Time energy represents the energy produced for operations above LSL.
i	none	A 15-minute Settlement Interval.
q	none	A QSE.
r	none	A Generation Resource or ESR that is compensated during an LCAP Effective Period for the hour that includes the Settlement Interval *i* .

6.8.3.1.1 Capacity Shortfall Ratio Share for an LCAP Effective Period

(1) For Combined Cycle Generation Resources, if more than one Combined Cycle Generation Resource is shown On-Line in its COP for the same Settlement hour, then the provisions of paragraph (6)(a) of Section 3.9.1, Current Operating Plan (COP) Criteria, apply in the determination of the On-Line Combined Cycle Generation Resource for that Settlement hour.

(2) The capacity shortfall ratio share of a specific QSE for an LCAP Effective Period is calculated, for a 15-minute Settlement Interval, as follows:

LCAPSFRS $_{i, q}$ = **LCAPSF** $_{i, q}$ / **LCAPSFTOT** $_{i}$

Where:

$$\mathbf{LCAPSFTOT}_{i} = \sum_{q} \mathbf{LCAPSF}_{i,q}$$

(3) The LCAP Shortfall in MW for a QSE for the 15-minute Settlement Interval is:

$$\mathbf{LCAPSF}_{i,q} = \mathbf{Max}\ (0, ((\sum_{p} \mathbf{RTAML}_{q,p,i}) * 4) - \mathbf{LCAPCAP}_{q,i})$$

(4) The amount of capacity that a QSE had in Real-Time for a 15-minute Settlement Interval, excluding capacity from Intermittent Renewable Resources (IRRs), is:

$$\mathbf{LCAPCAP}_{i,q} = \sum_{r} \mathbf{LCAPHASLADJ}_{q,r,h} + (\mathbf{RUCCPADJ}_{q,h} - \mathbf{RUCCSADJ}_{q,h}) + (\sum_{p} \mathbf{DAEP}_{q,p,h} - \sum_{p} \mathbf{DAES}_{q,p,h}) + (\sum_{p} \mathbf{RTQQEPADJ}_{q,p,i} - \sum_{p} \mathbf{RTQQESADJ}_{q,p,i}) + \sum_{p} \mathbf{DCIMPADJ}_{q,p,i}$$

The above variables are defined as follows:

Variable	Unit	Definition
$LCAPSFRS_{i,q}$	none	*LCAP Effective Period Shortfall Ratio Share*—The ratio of the QSE *q*'s capacity shortfall to the sum of all QSEs' capacity shortfalls for an LCAP Effective Period for the 15-minute Settlement Interval *i*.
$LCAPSF_{i,q}$	MW	*LCAP Shortfall*—The QSE *q*'s capacity shortfall for an LCAP Effective Period for the 15-minute Settlement Interval *i*.
$LCAPSFTOT_{i}$	MW	*LCAP Shortfall Total*—The sum of all QSEs' capacity shortfalls, for an LCAP Effective Period for a 15-minute Settlement Interval *i*.
$LCAPCAP_{q,i}$	MW	*LCAP Capacity at Adjustment Period*—The QSE *q*'s Adjustment Period calculated capacity for the 15-minute Settlement Interval *i*.
$RTAML_{q,p,i}$	MWh	*Real-Time Adjusted Metered Load*—The QSE *q*'s Adjusted Metered Load (AML) at the Settlement Point *p* for the 15-minute Settlement Interval *i*.
$DCIMPADJ_{q,p,i}$	MW	*DC Tie Import per QSE per Settlement Point*—The approved aggregated DC Tie Schedule submitted by QSE *q* as an importer into the ERCOT System through DC Tie *p* according to the Adjustment Period snapshot, for the 15-minute Settlement Interval *i*.
$LCAPHASLADJ_{q,r,h}$	MW	*LCAP Effective Period High Ancillary Services Limit at Adjustment Period*—The HASL of Resource *r*, represented by the QSE *q*, according to the Adjustment Period COP and Trades snapshot, for the hour *h* that includes the 15-minute Settlement Interval. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
$RUCCPADJ_{q,h}$	MW	*RUC Capacity Purchase at Adjustment Period*—The QSE *q*'s capacity purchase, according to the Adjustment Period snapshot for the hour *h* that includes the 15-minute Settlement Interval.
$RUCCSADJ_{q,h}$	MW	*RUC Capacity Sale at Adjustment Period*—The QSE *q*'s capacity sale, according to the Adjustment Period snapshot for the hour *h* that includes the 15-minute Settlement Interval.

Variable	Unit	Definition
DAEP $_{q, p, h}$	MW	*Day-Ahead Energy Purchase*—The QSE *q*'s energy purchased in the DAM at the Settlement Point *p* for the hour *h* that includes the 15-minute Settlement Interval.
DAES $_{q, p, h}$	MW	*Day-Ahead Energy Sale*—The QSE *q*'s energy sold in the DAM at the Settlement Point *p* for the hour *h* that includes the 15-minute Settlement Interval.
RTQQEPADJ $_{q, p, i}$	MW	*QSE-to-QSE Energy Purchase by QSE by point*—The QSE *q*'s Energy Trades in which the QSE is the buyer at the delivery Settlement Point *p* for the 15-minute Settlement Interval *i*, according to the Adjustment Period snapshot.
RTQQESADJ $_{q, p, i}$	MW	*QSE-to-QSE Energy Sale by QSE by point*—The QSE *q*'s Energy Trades in which the QSE is the seller at the delivery Settlement Point *p* for the 15-minute Settlement Interval *i*, according to the Adjustment Period snapshot.
q	none	A QSE.
p	none	A Settlement Point.
r	none	A Generation Resource that is QSE-committed or planning to operate as a Quick Start Generation Resource (QSGR) for the Settlement Interval as shown by the Resource Status of OFFQS in the Adjustment Period snapshot; or a Switchable Generation Resource (SWGR) released by a non-ERCOT Control Area Operator (CAO) to operate in the ERCOT Control Area due to an ERCOT Reliability Unit Commitment (RUC) instruction for an actual or anticipated Energy Emergency Alert (EEA) condition. If the Settlement Interval is a Reliability Unit Commitment for Additional Capacity (RUCAC)-Interval, *r* represents the Combined Cycle Generation Resource that was QSE-committed at the time the RUCAC was issued.
i	none	A 15-minute Settlement Interval.
h	none	The hour that includes the Settlement Interval *i*.

6.8.3.2 Uplift Charges for an LCAP Effective Period

(1) If the revenues from the charges under Section 6.8.3.1, Charges for Capacity Shortfalls During an LCAP Effective Period, are not enough to cover all LCAP Effective Period payments, for a 15-minute Settlement Interval, then the difference will be uplifted to all QSEs on an LRS basis as an LCAP Effective Period Uplift Charge, calculated as follows:

$$\mathbf{LALCAPAMT}_{q,i} = \mathbf{(-1) * [OPLPAMTTOT}_{i} \mathbf{+ LCAPCSAMTTOT}_{i}\mathbf{] * LRS}_{q,i}$$

Where:

$$\text{OPLPAMTTOT}_{i} = \sum_{q} \text{OPLPAMTQSETOT}_{i,q}$$

$$\text{LCAPCSAMTTOT}_{i} = \sum_{q} \text{LCAPCSAMT}_{i,q}$$

The above variables are defined as follows:

Variable	Unit	Definition
LALCAPAMT $_{q, i}$	$	*Load Allocated LCAP Effective Period Uplift Charge*—The amount owed from the QSE *q*, based on LRS, for the 15-minute Settlement Interval *i*.
OPLPAMTQSETOT $_{i, q}$	$	*Total Operating Losses Payment Amount per QSE* – The total operating losses payment to the QSE *q*, for all Resources, for the 15-minute Settlement Interval *i* within the Operating Day.
OPLPAMTTOT $_{i}$	$	*Total Operating Losses Payment Amount* –The sum of operating losses payments to all QSEs, for the 15-minute Settlement Interval *i*.
LCAPCSAMTTOT $_{i}$	$	*LCAP Capacity-Short Amount Total*—The total of all charges to all QSEs *q*, due to capacity shortfall for an LCAP Effective Period, for the 15-minute Settlement Interval *i*.
LCAPCSAMT $_{i, q}$	$	*LCAP Capacity-Short Amount*—The charge to QSE *q*, due to capacity shortfall for an LCAP Effective Period, for the 15-minute Settlement Interval *i*.
LRS $_{q, i}$	none	*Load Ratio Share*—The ratio of AML to the total ERCOT AML for the 15-minute Settlement Interval. See Section 6.6.2, Load Ratio Share, item (2).
i	none	A 15-minute Settlement Interval.
q	none	A QSE.

6.8.4 Miscellaneous Invoice for Payments and Charges for an LCAP Effective Period

(1) ERCOT shall issue one-time miscellaneous Invoices using the most recent available Settlement data at the time the Invoices were issued.

(2) ERCOT shall issue miscellaneous Invoices to QSEs for payment of operating losses during an LCAP Effective Period, as described in Section 6.8.2, Recovery of Operating Losses During an LCAP Effective Period.

(3) ERCOT shall issue miscellaneous Invoices and allocate costs to the impacted QSEs as described in Section 6.8.3, Charges for Operating Losses During an LCAP Effective Period.

(4) ERCOT shall issue a Market Notice in conjunction with the issuance of miscellaneous Invoices for payments or charges for an LCAP Effective Period.

ATTACHMENT G

ERCOT Nodal Protocols

Section 21: Revision Request Process

April 1, 2023

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21 REVISION REQUEST PROCESS

21.1 Introduction

(1) A request to make additions, edits, deletions, revisions, or clarifications to these Protocols, including any attachments and exhibits to these Protocols, is called a Nodal Protocol Revision Request (NPRR). Except as specifically provided otherwise in the following sentence or in other sections of these Protocols, Sections 21.2, Submission of a Nodal Protocol Revision Request or System Change Request, through 21.8, Review of Guide Changes, apply to all NPRRs. ERCOT Members, Market Participants, Public Utility Commission of Texas (PUCT) Staff, the Reliability Monitor, the Independent Market Monitor (IMM), the North American Electric Reliability Corporation (NERC) Regional Entity, ERCOT, and any other Entities are required to utilize the process described herein prior to requesting, through the PUCT or other Governmental Authority, that ERCOT make a change to these Protocols, except for good cause shown to the PUCT or other Governmental Authority.

(2) A request that ERCOT change its computer systems that does not require a revision to the Protocols is called a System Change Request (SCR). Except as specifically provided in other sections of these Protocols, Sections 21.2 through 21.7, Review of Project Prioritization and Annual Budget Process, apply to all SCRs.

(3) The "next regularly scheduled meeting" of the Protocol Revision Subcommittee (PRS), the Technical Advisory Committee (TAC), an Assigned TAC Subcommittee (as defined below), or the ERCOT Board shall mean the next regularly scheduled meeting for which required notice can be timely given regarding the item(s) to be addressed, as specified in the appropriate ERCOT Board or committee procedures.

(4) ERCOT may make non-substantive corrections at any time during the processing of a particular NPRR. Under certain circumstances, however, the Nodal Protocols can also be revised by ERCOT rather than using the NPRR process outlined in Section 21.4, Nodal Protocol Revision and System Change Procedure.

(a) This type of revision is referred to as an "Administrative NPRR" or "Administrative Changes" and shall consist of non-substantive corrections, such as typos (excluding grammatical changes), internal references (including table of contents), improper use of acronyms, and references to ERCOT Protocols, PUCT Substantive Rules, the Public Utility Regulatory Act (PURA), NERC regulations, Federal Energy Regulatory Commission (FERC) rules, etc. Additionally, updates to Section 23, Forms, may also be processed as Administrative NPRRs.

(b) ERCOT shall post such Administrative NPRRs to the ERCOT website and distribute the NPRR to PRS at least ten Business Days before implementation. If no Entity submits comments to the Administrative NPRR in accordance with paragraph (1) of Section 21.4.4, Protocol Revision Subcommittee Review and Action, ERCOT shall implement it according to paragraph (4) of Section 21.6, Nodal Protocol Revision Implementation. If any ERCOT Member, Market

Participant, PUCT Staff, Reliability Monitor Staff, NERC Regional Entity Staff, the IMM, or ERCOT submits comments to the Administrative NPRR, then it shall be processed in accordance with the NPRR process outlined in Section 21.4.

21.2 Submission of a Nodal Protocol Revision Request or System Change Request

(1) The following Entities may submit a Nodal Protocol Revision Request (NPRR) or System Change Request (SCR) ("Revision Request"):

(a) Any Market Participant;

(b) Any ERCOT Member;

(c) Public Utility Commission of Texas (PUCT) Staff;

(d) The Reliability Monitor;

(e) The North American Electric Reliability Corporation (NERC) Regional Entity;

(f) The Independent Market Monitor (IMM);

(g) ERCOT; and

(h) Any other Entity that meets the following qualifications:

(i) Resides (or represents residents) in Texas or operates in the Texas electricity market; and

(ii) Demonstrates that Entity (or those it represents) is affected by the Customer Registration or Renewable Energy Credit (REC) Trading Program sections of these Protocols.

21.3 Protocol Revision Subcommittee

(1) The Protocol Revision Subcommittee (PRS) shall review and recommend action on formally submitted Nodal Protocol Revision Requests (NPRRs) and System Change Requests (SCRs) ("Revision Requests") provided that:

(a) PRS meetings are open to ERCOT, ERCOT Members, Market Participants, the Reliability Monitor, the North American Electric Reliability Corporation (NERC) Regional Entity, the Independent Market Monitor (IMM), and the Public Utility Commission of Texas (PUCT) Staff;

(b) Each Market Segment is allowed to participate; and

(c) Each Market Segment has equal voting power.

(2) Where additional expertise is needed, the PRS may refer a Revision Request to working groups or task forces that it creates or to existing Technical Advisory Committee (TAC) subcommittees, working groups or task forces for review and comment on the Revision Request. Suggested modifications—or alternative modifications if a consensus recommendation is not achieved by a non-voting working group or task force—to the Revision Request should be submitted by the chair or the chair's designee on behalf of the subcommittee, working group or task force as comments on the Revision Request for consideration by PRS. However, the PRS shall retain ultimate responsibility for the processing of all Revision Requests.

(3) ERCOT shall consult with the PRS chair to coordinate and establish the meeting schedule for the PRS. The PRS shall ensure that reasonable advance notice of each meeting, including the meeting agenda, is posted on the ERCOT website.

21.4 Nodal Protocol Revision and System Change Procedure

21.4.1 Review and Posting of Nodal Protocol Revision Requests

(1) Nodal Protocol Revision Requests (NPRRs) shall be submitted electronically to ERCOT by completing the designated form provided on the ERCOT website. Excluding ERCOT-sponsored NPRRs, ERCOT shall provide an electronic return receipt response to the submitter upon receipt of the NPRR.

(2) The NPRR shall include the following information:

(a) Description of requested revision and reason for suggested change;

(b) Impacts and benefits of the suggested change on ERCOT market structure, ERCOT operations, and Market Participants, to the extent that the submitter may know this information;

(c) List of affected Nodal Protocol Sections and subsections;

(d) General administrative information (organization, contact name, etc.); and

(e) Suggested language for requested revision.

(3) ERCOT shall evaluate the NPRR for completeness and shall notify the submitter, within five Business Days of receipt, if the NPRR is incomplete, including the reasons for such status. ERCOT may provide information to the submitter that will correct the NPRR and render it complete. An incomplete NPRR shall not receive further consideration until it is completed. In order to pursue the NPRR, a submitter must submit a completed version of the NPRR.

(4) If a submitted NPRR is complete or upon completion of an NPRR, ERCOT shall post the NPRR on the ERCOT website and distribute to the Protocol Revision Subcommittee (PRS) within three Business Days.

(5) For any ERCOT-sponsored NPRR, ERCOT shall also post an initial Impact Analysis on the ERCOT website, and distribute it to PRS. The initial Impact Analysis will provide PRS with guidance as to potential ERCOT computer systems, operations, or business functions that could be affected by the submitted NPRR.

21.4.2 Review and Posting of System Change Requests

(1) System Change Requests (SCRs) shall be submitted electronically to ERCOT by completing the designated form provided on the ERCOT website. Excluding ERCOT-sponsored SCRs, ERCOT shall provide an electronic return receipt response to the submitter upon receipt of the SCR.

(2) The SCR shall include the following information:

(a) Description of desired additional system functionality or the additional information desired and reason for suggested change;

(b) Impacts and benefits of the suggested change to ERCOT market structure, ERCOT operations and Market Participants, to the extent that submitter may know this information;

(c) General administrative information (organization, contact name, etc.); and

(d) Summary of requested changes to ERCOT systems.

(3) ERCOT shall evaluate the SCR to determine whether the request should be submitted as an NPRR. If ERCOT determines that the SCR should be submitted as an NPRR, ERCOT will notify the submitter within five Business Days of receipt, and the submitter shall withdraw its SCR and may submit an NPRR in its place. If ERCOT deems it necessary for further review beyond the five Business Days, ERCOT shall notify the submitter.

(4) ERCOT shall evaluate the SCR for completeness and shall notify the submitter, within five Business Days, if the SCR is incomplete, including the reasons for such status. ERCOT may provide information to the submitter that will correct the SCR and render it complete. An incomplete SCR shall not receive further consideration until it is completed. In order to pursue the SCR requested, the submitting Entity must submit a completed version of the SCR.

(5) If a submitted SCR is complete or upon completion of an SCR, ERCOT shall post the SCR on the ERCOT website and distribute to the PRS within three Business Days.

(6) For any ERCOT-sponsored SCR, ERCOT shall also post an initial Impact Analysis on the ERCOT website, and distribute it to PRS. The initial Impact Analysis will provide

PRS with guidance as to potential ERCOT computer systems, operations, or business functions that could be affected by the submitted SCR.

21.4.3 Withdrawal of a Nodal Protocol Revision Request or System Change Request

(1) A submitter may withdraw or request to withdraw an NPRR or SCR ("Revision Request") by submitting a completed Request for Withdrawal form provided on the ERCOT website. ERCOT shall post the submitter's Request for Withdrawal on the ERCOT website within three Business Days of submittal.

(2) The submitter of a Revision Request may withdraw the Revision Request at any time before PRS recommends approval of the Revision Request. If PRS has recommended approval of the Revision Request, the request for withdrawal must be approved by the Technical Advisory Committee (TAC) if the Revision Request has not yet been recommended for approval by TAC. If TAC has recommended approval of the Revision Request, the request for withdrawal must be approved by the ERCOT Board if the Revision Request has not yet been approved by the ERCOT Board. Once approved by the ERCOT Board, a Revision Request cannot be withdrawn.

21.4.4 Protocol Revision Subcommittee Review and Action

(1) Any ERCOT Member, Market Participant, the Public Utility Commission of Texas (PUCT) Staff, the Reliability Monitor, the North American Electric Reliability Corporation (NERC) Regional Entity, the Independent Market Monitor (IMM), or ERCOT may comment on a Revision Request.

(2) To receive consideration, comments must be delivered electronically to ERCOT in the designated format provided on the ERCOT website within 14 days from the posting date of the Revision Request. Comments submitted after the 14 day comment period may be considered at the discretion of PRS after these comments have been posted. Comments submitted in accordance with the instructions on the ERCOT website—regardless of date of submission—shall be posted to the ERCOT website and distributed to the PRS within three Business Days of submittal.

(3) The PRS shall consider the Revision Request at its next regularly scheduled meeting after the end of the 14 day comment period. At such meeting, the PRS may take action on the Revision Request. The quorum and voting requirements for PRS action are set forth in the Technical Advisory Committee Procedures. In considering action on a Revision Request, PRS may:

(a) Recommend approval of the Revision Request as submitted or as modified;

(b) Reject the Revision Request;

(c) Defer decision on the Revision Request; or

(d) Refer the Revision Request to another TAC subcommittee, working group, or task force as provided in Section 21.3, Protocol Revision Subcommittee.

(4) If a motion is made to recommend approval of a Revision Request and that motion fails, the Revision Request shall be deemed rejected by PRS unless at the same meeting PRS later votes to recommend approval of, defer, or refer the Revision Request. The rejected Revision Request shall be subject to appeal pursuant to Section 21.4.11.1, Appeal of Protocol Revision Subcommittee Action.

(5) Within three Business Days after PRS takes action, ERCOT shall post a PRS Report reflecting the PRS action on the ERCOT website. The PRS Report shall contain the following items:

(a) Identification of submitter of the Revision Request;

(b) Protocol language or summary of requested changes to ERCOT systems, recommended by the PRS, if applicable;

(c) Identification of authorship of comments;

(d) Proposed effective date(s) of the Revision Request;

(e) Priority and rank for any Revision Requests requiring an ERCOT project for implementation; and

(f) PRS action.

(6) The PRS chair shall notify TAC of Revision Requests rejected by PRS.

21.4.5 Comments to the Protocol Revision Subcommittee Report

(1) Any ERCOT Member, Market Participant, PUCT Staff, the Reliability Monitor, the NERC Regional Entity, the IMM, or ERCOT may comment on the PRS Report. Comments submitted in accordance with the instructions on the ERCOT website—regardless of date of submission—shall be posted on the ERCOT website and distributed to the committee(s) (i.e., PRS and/or TAC) considering the Revision Request within three Business Days of submittal.

(2) The comments on the PRS Report will be considered at the next regularly scheduled PRS or TAC meeting where the Revision Request is being considered.

21.4.6 Revision Request Impact Analysis

(1) If PRS recommends approval of a Revision Request, ERCOT shall prepare an Impact Analysis based on the proposed language or proposed system changes in the PRS Report. If ERCOT has already prepared an Impact Analysis, ERCOT shall update the existing

Impact Analysis, if necessary, to accommodate the language or system changes recommended for approval in the PRS Report.

(2) The Impact Analysis shall assess the impact of the proposed Revision Request on ERCOT staffing, computer systems, operations, or business functions and shall contain the following information:

(a) An estimate of any cost and budgetary impacts to ERCOT for both implementation and on-going operations;

(b) The estimated amount of time required to implement the Revision Request;

(c) The identification of alternatives to the Revision Request that may result in more efficient implementation; and

(d) The identification of any manual workarounds that may be used as an interim solution and estimated costs of the workaround.

(3) Unless a longer review period is warranted due to the complexity of the proposed PRS Report, ERCOT shall post an Impact Analysis on the ERCOT website, for a Revision Request for which PRS has recommended approval of, prior to the next regularly scheduled PRS meeting, and distribute to PRS. If a longer review period is required by ERCOT to complete an Impact Analysis, ERCOT shall submit comments with a schedule for completion of the Impact Analysis.

21.4.7 Protocol Revision Subcommittee Review of Impact Analysis

(1) After ERCOT posts the results of the Impact Analysis, PRS shall review the Impact Analysis at its next regularly scheduled meeting. PRS may revise its PRS Report after considering the information included in the Impact Analysis or additional comments received on the PRS Report.

(2) Within three Business Days of PRS consideration of the Impact Analysis and PRS Report, ERCOT shall post the PRS Report on the ERCOT website. If PRS revises the PRS Report, ERCOT shall update the Impact Analysis, if necessary, post the updated Impact Analysis on the ERCOT website, and distribute it to the committee(s) (i.e., PRS and/or TAC) considering the Impact Analysis. If a longer review period is required for ERCOT to update the Impact Analysis, ERCOT shall submit comments with a schedule for completion of the Impact Analysis.

(3) If the Revision Request requires an ERCOT project for implementation, at the same meeting, PRS shall assign a recommended priority and rank for the associated project.

21.4.8 Technical Advisory Committee Vote

(1) TAC shall consider any Revision Requests that PRS has submitted to TAC for consideration for which both a PRS Report and an Impact Analysis (as updated if modified by PRS under Section 21.4.7, Protocol Revision Subcommittee Review of Impact Analysis) have been posted on the ERCOT website. The following information must be included for each Revision Request considered by TAC:

(a) The PRS Report and Impact Analysis;

(b) The recommended PRS priority and rank, if an ERCOT project is required; and

(c) Any comments timely received in response to the PRS Report.

(2) The quorum and voting requirements for TAC action are set forth in the Technical Advisory Committee Procedures. In considering action on a PRS Report, TAC shall:

(a) Recommend approval of the Revision Request as recommended in the PRS Report or as modified by TAC, including modification of the recommended priority and rank if the Revision Request requires a project;

(b) Reject the Revision Request;

(c) Defer decision on the Revision Request;

(d) Remand the Revision Request to PRS with instructions; or

(e) Refer the Revision Request to another TAC subcommittee or a TAC working group or task force with instructions.

(3) If a motion is made to recommend approval of a Revision Request and that motion fails, the Revision Request shall be deemed rejected by TAC unless at the same meeting TAC later votes to recommend approval of, defer, remand, or refer the Revision Request. If a motion to recommend approval of a Revision Request fails via email vote according to the Technical Advisory Committee Procedures, the Revision Request shall be deemed rejected by TAC unless at the next regularly scheduled TAC meeting or in a subsequent email vote prior to such meeting, TAC votes to recommend approval of, defer, remand, or refer the Revision Request. The rejected Revision Request shall be subject to appeal pursuant to Section 21.4.11.2, Appeal of Technical Advisory Committee Action.

(4) Within three Business Days after TAC takes action on the Revision Request, ERCOT shall post a TAC Report reflecting the TAC action on the ERCOT website. The TAC Report shall contain the following items:

(a) Identification of the submitter of the Revision Request;

(b) Modified Revision Request language proposed by TAC, if applicable;

(c) Identification of the authorship of comments;

(d) Proposed effective date(s) of the Revision Request;

(e) Priority and rank for any Revision Requests requiring an ERCOT project for implementation;

(f) PRS action;

(g) TAC action; and

(h) ERCOT's position on the Revision Request.

(5) If TAC recommends approval of a Revision Request, ERCOT shall forward the TAC Report to the ERCOT Board for consideration pursuant to Section 21.4.10, ERCOT Board Vote.

21.4.9 ERCOT Impact Analysis Based on Technical Advisory Committee Report

(1) ERCOT shall review the TAC Report and, if necessary, update the Impact Analysis as soon as practicable. ERCOT shall distribute the updated Impact Analysis, if applicable, to TAC and post it on the ERCOT website. If a longer review period is required for ERCOT to update the Impact Analysis, ERCOT shall submit comments with a schedule for completion of the Impact Analysis.

21.4.10 ERCOT Board Vote

(1) Upon issuance of a TAC Report and Impact Analysis to the ERCOT Board, the ERCOT Board shall review the TAC Report and the Impact Analysis at the next regularly scheduled meeting. For Urgent Revision Requests, the ERCOT Board shall review the TAC Report and Impact Analysis at the next regularly scheduled meeting, unless a special meeting is required due to the urgency of the Revision Request.

(2) The quorum and voting requirements for ERCOT Board action are set forth in the ERCOT Bylaws. In considering action on a TAC Report, the ERCOT Board shall:

(a) Approve the Revision Request as recommended in the TAC Report or as modified by the ERCOT Board;

(b) Reject the Revision Request;

(c) Defer decision on the Revision Request; or

(d) Remand the Revision Request to TAC with instructions.

(3) If a motion is made to approve a Revision Request and that motion fails, the Revision Request shall be deemed rejected by the ERCOT Board unless at the same meeting the

ERCOT Board later votes to approve, defer, or remand the Revision Request. The rejected Revision Request shall be subject to appeal pursuant to Section 21.4.11.3, Appeal of ERCOT Board Action.

(4) Within three Business Days after the ERCOT Board takes action on a Revision Request, ERCOT shall post a Board Report reflecting the ERCOT Board action on the ERCOT website.

21.4.11 Appeal of Action

(1) The following processes are to be used to appeal an action related to a Revision Request.

21.4.11.1 Appeal of Protocol Revision Subcommittee Action

(1) Any ERCOT Member, Market Participant, PUCT Staff, the Reliability Monitor, the IMM, the NERC Regional Entity, or ERCOT may appeal a PRS action to reject, defer or refer a Revision Request, directly to the TAC. Such appeal to the TAC must be submitted electronically to ERCOT by completing the designated form provided on the ERCOT website within seven days after the date of the relevant PRS appealable event. ERCOT shall reject appeals made after that time. ERCOT shall post appeals on the ERCOT website within three Business Days of receiving the appeal. Appeals shall be heard at the next regularly scheduled TAC meeting that is at least seven days after the date of the requested appeal. An appeal of a Revision Request to TAC suspends consideration of the Revision Request until the appeal has been decided by TAC.

21.4.11.2 Appeal of Technical Advisory Committee Action

(1) Any ERCOT Member, Market Participant, PUCT Staff, the Reliability Monitor, the IMM, the NERC Regional Entity, or ERCOT may appeal a TAC action to reject, defer, remand or refer a Revision Request directly to the ERCOT Board. Appeals to the ERCOT Board shall be processed in accordance with the ERCOT Board Policies and Procedures. An appeal of a Revision Request to the ERCOT Board suspends consideration of the Revision Request until the appeal has been decided by the ERCOT Board.

21.4.11.3 Appeal of ERCOT Board Action

(1) Any ERCOT Member, Market Participant, PUCT Staff, the Reliability Monitor, the IMM, or the NERC Regional Entity may appeal any decision of the ERCOT Board regarding a Revision Request to the PUCT or other Governmental Authority. Such appeal to the PUCT or other Governmental Authority must be made within any deadline prescribed by the PUCT or other Governmental Authority, but in any event no later than 35 days of the date of the relevant ERCOT Board appealable event. Notice of any appeal to the PUCT or other Governmental Authority must be provided, at the time of the

appeal, to ERCOT's General Counsel. If the PUCT or other Governmental Authority rules on the Revision Request, ERCOT shall post the ruling on the ERCOT website.

21.5 Urgent and Board Priority Nodal Protocol Revision Requests and System Change Requests

(1) The party submitting a Nodal Protocol Revision Request (NPRR) or System Change Request (SCR) ("Revision Request") may request that the Revision Request be considered on an urgent timeline ("Urgent") only when the submitter can reasonably show that an existing Protocol or condition is impairing or could imminently impair ERCOT System reliability or wholesale or retail market operations, or is causing or could imminently cause a discrepancy between a settlement formula and a provision of these Protocols.

(2) The Protocol Revision Subcommittee (PRS) may designate the Revision Request for Urgent consideration upon a valid motion in a regularly scheduled meeting of the PRS or at a special meeting called by the PRS leadership. Criteria for designating a Revision Request as Urgent are that the Revision Request requires immediate attention due to:

(a) Serious concerns about ERCOT System reliability or market operations under the unmodified language or existing conditions; or

(b) The crucial nature of settlement activity conducted pursuant to any settlement formula.

(3) The ERCOT Board may designate any existing Revision Request a Board Priority Revision Request. If the ERCOT Board directs ERCOT Staff to file a Revision Request, it may further direct that a Revision Request be designated a Board Priority Revision Request. All Board Priority Revision Requests will be considered on an Urgent timeline.

(4) ERCOT shall prepare an Impact Analysis for Urgent and Board Priority Revision Requests as soon as practicable.

(5) The PRS shall consider the Urgent or Board Priority Revision Request and Impact Analysis, if available, at its next regularly scheduled meeting, or at a special meeting called by the PRS leadership to consider the Urgent or Board Priority Revision Request.

(6) If recommended for approval by PRS, ERCOT shall post a PRS Report on the ERCOT website within three Business Days after PRS takes action. The TAC chair may request action from TAC to accelerate or alter the procedures described herein, as needed, to address the urgency of the situation.

(7) Any Urgent or Board Priority Revision Requests shall be subject to an Impact Analysis pursuant to Section 21.4.9, ERCOT Impact Analysis Based on Technical Advisory Committee Report, and ERCOT Board consideration pursuant to Section 21.4.10, ERCOT Board Vote.

21.6 Nodal Protocol Revision Implementation

(1) Upon ERCOT Board approval, ERCOT shall implement Nodal Protocol Revision Requests (NPRRs) on the first day of the month following ERCOT Board approval, unless otherwise provided in the Board Report for the approved NPRR.

(2) For such other NPRRs, the Impact Analysis shall provide an estimated amount of time required to implement the NPRR and ERCOT shall provide notice as soon as practicable, but no later than ten days prior to actual implementation, unless a different notice period is required in the Board Report for the approved NPRR.

(3) If the ERCOT Board approves changes to the Protocols, such changes shall be:

(a) Filed with the Public Utility Commission of Texas (PUCT) for informational purposes as soon as practicable, but no later than one day before the effective date of the changes; and

(b) Incorporated into the Protocols and posted on the ERCOT website as soon as practicable, but no later than one day before the effective date of the changes.

(4) ERCOT shall implement an Administrative NPRR on the first day of the month following the end of the ten Business Day posting requirement outlined in Section 21.1, Introduction.

21.7 Review of Project Prioritization and Annual Budget Process

(1) The Protocol Revision Subcommittee (PRS) shall recommend to the Technical Advisory Committee (TAC) an assignment of a project priority for each approved Nodal Protocol Revision Request (NPRR) and System Change Request (SCR) ("Revision Request") that requires an associated project.

(2) Annually during the ERCOT budget process, the PRS shall review the priority of all market-requested projects and recommend new or revised project priorities for market-requested projects.

(3) TAC shall consider the project priority of each Revision Request and make recommendations to the ERCOT Board.

(4) The ERCOT Board shall take one of the following actions regarding the project prioritization recommended by TAC:

(a) Approve the TAC recommendation as originally submitted or as modified by the ERCOT Board;

(b) Reject the TAC recommendation;

(c) Remand the TAC recommendation to TAC with instructions; or

(d) Defer consideration of the TAC recommendation.

21.8 Review of Guide Changes

(1) The revision process for the ERCOT market guides shall be governed by the individual guides and assigned subcommittees. The Protocol Revision Subcommittee (PRS) shall review changes to market guides proposed by other subcommittees that may conflict with existing Protocols and report the results of its review to the submitting subcommittee.

ATTACHMENT H

ERCOT Nodal Protocols

Section 9: Settlement and Billing

April 1, 2023

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9 SETTLEMENT AND BILLING

9.1 General

9.1.1 Settlement and Billing Process Overview

(1) Settlement is the process used to resolve financial obligations between a Market Participant and ERCOT, including administrative and miscellaneous charges. Settlement also provides Transmission Billing Determinants to Transmission Service Providers (TSPs) and Distribution Service Providers (DSPs). The Settlement and billing timeline and process for the Day-Ahead Market (DAM) is separate from the Settlement and billing timeline and process for the Day-Ahead Reliability Unit Commitment (DRUC) process, the Adjustment Period, and Real-Time operations (after this referred to together in this Section as the Real-Time Market (RTM)).

9.1.2 Settlement Calendar

(1) ERCOT shall post and maintain on the ERCOT website a Settlement Calendar to denote, for each Operating Day, when:

(a) Each scheduled Settlement Statement for the DAM will be issued under Section 9.2.4, DAM Statement, and Section 9.2.5, DAM Resettlement Statement;

(b) Each scheduled Settlement Statement for the RTM will be issued under Section 9.5.4, RTM Initial Statement, Section 9.5.5, RTM Final Statement, Section 9.5.6, RTM Resettlement Statement, and Section 9.5.8, RTM True-Up Statement;

(c) Each Settlement Invoice will be issued under Section 9.6, Settlement Invoices for the Day-Ahead Market and Real-Time Market;

(d) Payments for the Settlement Invoice are due under Section 9.7, Payment Process for the Settlement Invoices;

(e) Each Default Uplift Invoice will be issued under Section 9.19, Partial Payments by Invoice Recipients;

(f) Payments for Default Uplift Invoices are due under Section 9.19.1, Default Uplift Invoices;

(g) Each Congestion Revenue Right (CRR) Auction Invoice will be issued under Section 9.8, CRR Auction Award Invoices;

(h) Payments for CRR Auction Invoices are due under Section 9.9, Payment Process for CRR Auction Invoices;

(i) Each CRR Auction Revenue Distribution (CARD) Invoice will be issued under Section 9.10, CRR Auction Revenue Distribution Invoices;

(j) Payments for CARD Invoices are due under Section 9.11, Payment Process for CRR Auction Revenue Distribution;

(k) Each CRR Balancing Account (CRRBA) Invoice will be issued under Section 9.12, CRR Balancing Account Invoices;

(l) Payments for CRRBA Invoices are due under Section 9.13, Payment Process for the CRR Balancing Account;

(m) Each miscellaneous Invoice for Securitization Default Charges will be issued under Section 26.3, Miscellaneous Invoices for Securitization Default Charges;

(n) Payments for miscellaneous Invoices for Securitization Default Charges are due under Section 26.3.1, Payment Process for Miscellaneous Invoices for Securitization Default Charges;

[NPRR1103: Replace paragraphs (m) and (n) above with the following upon system implementation:]

(m) Securitization Default Charge Invoices will be issued in accordance with Section 26.3, Securitization Default Charge Invoices;

(n) Payments for Securitization Default Charge Invoices are due under Section 26.3.1, Payment Process for Securitization Default Charge Invoices;

(o) Each Securitization Uplift Charge Initial Invoice will be issued under Section 27.4.1, Securitization Uplift Charge Initial Invoices;

(p) Payments for Securitization Uplift Charge Initial Invoices are due under Section 27.4.3, Payment Process for Securitization Uplift Charge Initial Invoices;

(q) Each Securitization Uplift Charge Reallocation Invoice will be issued under Section 27.4.2, Securitization Uplift Charge Reallocation Invoices;

(r) Payments for Securitization Uplift Charge Reallocation Invoices are due under Section 27.4.5, Payment Process for Securitization Uplift Charge Reallocation Invoices; and

(s) Settlement and billing disputes for each scheduled Settlement Statement of an Operating Day and Settlement Invoice must be submitted under Section 9.14, Settlement and Billing Dispute Process.

(2) ERCOT shall notify Market Participants if any of the aforementioned data will not be available on the date specified in the Settlement Calendar.

9.1.3 Settlement Statement and Invoice Access

(1) A Statement or Invoice Recipient may access its Settlement Statements or Invoices electronically, using either of the following methods:

(a) Secured entry on the Market Information System (MIS) Certified Area;

(b) eXtensible Markup Language (XML) access to the MIS Certified Area.

9.1.4 Settlement Statement and Invoice Timing

(1) Unless expressly stated otherwise, the publication of each Settlement Statement and Invoice can occur as late as 2400 on its scheduled publication date.

9.1.5 Settlement Payment Convention

(1) A Settlement Statement or Invoice containing a negative amount represents a payment due by ERCOT to the Market Participant that received the Statement or Invoice. A Settlement Statement or Invoice containing a positive amount represents a payment due to ERCOT by the Market Participant that received the Statement or Invoice.

9.2 Settlement Statements for the Day-Ahead Market

9.2.1 Settlement Statement Process for the DAM

(1) ERCOT shall produce daily Settlement Statements for the Day-Ahead Market (DAM), as defined in Section 9.2.2, Settlement Statements for the DAM, that show a breakdown of Charge Types incurred in the DAM, including any administrative and miscellaneous charges applicable to the DAM. "Charge Types" are the various categories of specific charges referenced in Section 9.15.1, Charge Type Matrix.

9.2.2 Settlement Statements for the DAM

(1) ERCOT shall make each Settlement Statement for a DAM available on the date specified on the Settlement Calendar for that DAM by posting it on the Market Information System (MIS) Certified Area for the applicable Market Participant to which the Settlement Statement is addressed (Statement Recipient).

(2) A Settlement Statement for the DAM can be:

(a) A "DAM Statement," which is the Settlement Statement issued for a particular DAM;

(b) A "DAM Resettlement Statement," which corrects a DAM Statement.

(3) The Statement Recipient is responsible for accessing the statement from the MIS Certified Area.

(4) ERCOT shall create a DAM Statement for each DAM.

(5) ERCOT may create a DAM Resettlement Statement for the DAM, depending on the criteria set forth in Section 9.2.5, DAM Resettlement Statement.

(6) Each Settlement Statement for the DAM must denote:

(a) The applicable Operating Day;

(b) The Statement Recipient's name;

(c) The ERCOT identifier (settlement identification number issued by ERCOT);

(d) Status of the statement (DAM Statement or DAM Resettlement Statement);

(e) Statement version number;

(f) Unique statement identification code; and

(g) Charge Types settled.

(7) Settlement Statements for the DAM must break fees down by Charge Types into the appropriate one-hour Settlement Interval for that type.

(8) The Settlement Statement for the DAM must have a summary page of the corresponding detailed documentation.

9.2.3 DAM Settlement Charge Types

(1) ERCOT shall provide, on each Settlement Statement, the dollar amount for each DAM Settlement charge and payment. The DAM settlement "Charge Types" are:

(a) Section 4.6.2.1, Day-Ahead Energy Payment;

(b) Section 4.6.2.2, Day-Ahead Energy Charge;

(c) Section 4.6.2.3.1, Day-Ahead Make-Whole Payment;

(d) Section 4.6.2.3.2, Day-Ahead Make-Whole Charge;

(e) Section 4.6.3, Settlement for PTP Obligations Bought in DAM;

(f) Section 4.6.4.1.1, Regulation Up Service Payment;

(g) Section 4.6.4.1.2, Regulation Down Service Payment;

(h) Section 4.6.4.1.3, Responsive Reserve Payment;

(i) Section 4.6.4.1.4, Non-Spinning Reserve Service Payment;

[NPRR863: Insert item (j) below upon system implementation and renumber accordingly:]

(j) Section 4.6.4.1.5, ERCOT Contingency Reserve Service Payment;

(j) Section 4.6.4.2.1, Regulation Up Service Charge;

(k) Section 4.6.4.2.2, Regulation Down Service Charge;

(l) Section 4.6.4.2.3, Responsive Reserve Charge;

(m) Section 4.6.4.2.4, Non-Spinning Reserve Service Charge;

[NPRR863: Insert item (o) below upon system implementation and renumber accordingly:]

(o) Section 4.6.4.2.5, ERCOT Contingency Reserve Service Charge;

(n) Section 7.9.1.1, Payments and Charges for PTP Obligations Settled in DAM;

(o) Section 7.9.1.2, Payments for PTP Options Settled in DAM;

(p) Section 7.9.1.4, Payments for FGRs Settled in DAM;

(q) Section 7.9.1.5, Payments and Charges for PTP Obligations with Refund Settled in DAM;

(r) Section 7.9.1.6, Payments for PTP Options with Refund Settled in DAM; and

(s) Paragraph (2) of Section 7.9.3.3, Shortfall Charges to CRR Owners.

9.2.4 DAM Statement

(1) ERCOT shall produce a DAM Statement for each Statement Recipient for the given DAM on the second Business Day after the Operating Day.

9.2.5 DAM Resettlement Statement

(1) ERCOT shall issue DAM Resettlement Statements for a given Operating Day if the ERCOT Board finds that the DAM Locational Marginal Prices (LMPs), Market Clearing Prices for Capacity (MCPCs), or Settlement Point Prices are significantly affected by a software or other error under Section 4.5.3, Communicating DAM Results. ERCOT shall

also produce DAM Resettlement Statements required by resolution of Settlement and billing disputes. In addition, 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 DAM Resettlement Statement for a given Operating Day due to errors other than errors in prices when:

(a) The total of all errors other than price errors results in an absolute value impact greater than 2% of the total DAM Statement amount for any single Statement Recipient for the Operating Day; and

(b) The impact to the Statement Recipient is greater than $200.00.

(3) ERCOT shall issue a DAM Resettlement Statement for an Operating Day if an error in the DAM Settlement, which does not otherwise meet the Protocol requirements for resettlement as specified in paragraphs (1) and (2) above, will prevent ERCOT from achieving revenue neutrality.

(4) No later than 150 days after each affected Operating Day, ERCOT shall resettle Operating Days with errors, other than errors in prices, with cumulative impacts that do not meet the threshold described in paragraph (2) above if the cumulative effect of errors to a single Statement Recipient in the 150 day window results in an absolute value impact greater than 1% of the total DAM Statement amounts for any Statement Recipient for the affected Operating Days, if this impact to the Statement Recipient is greater than $5,000.00.

(5) A DAM Resettlement Statement must reflect differences to financial records generated on the previous Settlement Statement for the given DAM.

9.2.6 Notice of Resettlement for the DAM

(1) While maintaining confidentiality of all Market Participants, ERCOT shall send a Market Notice in conjunction with the resettlement, indicating the resettlement of the DAM for a specific Operating Day and the date of issuance of the Resettlement Statements for the DAM. ERCOT shall include the following information in the notice of resettlement:

(a) Detailed description of reason(s) for resettlement;

(b) For the applicable Operating Day;

(c) Affected Charge Types; and

(d) Total resettled amount, by Charge Type.

9.2.7 Confirmation of Statement for the DAM

(1) It is the responsibility of each Statement Recipient to notify ERCOT if a Settlement

Statement for the DAM is not available on the MIS Certified Area on the date specified for posting of that Settlement Statement in the Settlement Calendar. Each Settlement Statement for the DAM is deemed to have been available on the posting date specified on the Settlement Calendar, unless ERCOT is notified to the contrary. If ERCOT receives notice that a Settlement Statement is not available, ERCOT shall make reasonable attempts to provide the Settlement Statement to the Statement Recipient, and ERCOT shall modify the Settlement and billing timeline accordingly for that Settlement Statement.

9.2.8 Validation of the Settlement Statement for the DAM

(1) The Statement Recipient is deemed to have validated each Settlement Statement for the DAM unless it has raised a Settlement and billing dispute under Section 9.14, Settlement and Billing Dispute Process.

9.2.9 Suspension of Issuing Settlement Statements for the DAM

(1) The ERCOT Board may direct ERCOT to suspend the issuance of any Settlement Statement for the DAM to address unusual circumstances. Any proposal to suspend settlements must be presented to the Technical Advisory Committee (TAC) for review and comment, in a reasonable manner under the circumstances, prior to such suspension.

9.3 *[RESERVED]*

9.4 *[RESERVED]*

9.5 Settlement Statements for Real-Time Market

9.5.1 Settlement Statement Process for the Real-Time Market

(1) ERCOT shall produce daily Settlement Statements for the Real-Time Market (RTM), as defined in Section 9.5.2, Settlement Statements for the RTM, that show a breakdown of Charge Types incurred in the RTM, including any administrative and miscellaneous charges applicable to the RTM.

9.5.2 Settlement Statements for the RTM

(1) ERCOT shall make each Settlement Statement for the RTM for an Operating Day available on the date specified on the Settlement Calendar for that Operating Day by posting it to the Market Information System (MIS) Certified Area for the applicable Statement Recipient.

(2) A Settlement Statement for the RTM can be:

(a) An "RTM Initial Statement," which is the first iteration of a Settlement Statement issued for a particular Operating Day;

(b) An "RTM Final Statement," which is the statement issued at the end of the 55th day following the Operating Day;

(c) An "RTM Resettlement Statement," which is the statement using corrected Settlement data due to resolution of disputes and correction of data errors; or

(d) An "RTM True-Up Statement," which is a statement issued at the end of the 180th day after the Operating Day.

(3) The Statement Recipient is responsible for accessing the Statement from the MIS Certified Area.

(4) To issue an RTM Settlement Statement, ERCOT may use estimated, disputed, or calculated meter data.

(5) ERCOT shall create an RTM Initial Statement, RTM Final Statement, and RTM True-Up Statement for each Operating Day.

(6) ERCOT may create an RTM Resettlement Statement for any Operating Day, depending on the criteria set forth in Section 9.5.6, RTM Resettlement Statement. When actual validated data is available and all of the Settlement and billing disputes raised by Statement Recipients in accordance with Section 9.14.4, ERCOT Processing of Disputes, during the validation process have been resolved, ERCOT shall recalculate the amounts payable and receivable by the affected RTM Statement Recipients, as described in Section 9.5.6.

(7) Each RTM Settlement Statement must denote:

(a) Operating Day;

(b) The Statement Recipient's name;

(c) The ERCOT identifier (settlement identification number issued by ERCOT);

(d) Status of the statement (Initial, Final, Resettlement, or True-Up);

(e) Statement version number;

(f) Unique statement identification code; and

(g) Charge Types settled.

(8) A Settlement Statement for the RTM must break the fees down by Charge Type into the appropriate 15-minute or one-hour Settlement Interval for that type.

(9) An RTM Settlement Statement must have a summary page of the corresponding detailed documentation.

9.5.3 Real-Time Market Settlement Charge Types

(1) 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 High Dispatch Limit Override Energy Payment;

(n) Section 6.6.3.7, Real-Time High Dispatch Limit Override Energy Charge;

(o) Section 6.6.3.8, Real-Time Payment or Charge for Energy from a Settlement Only Distribution Generator (SODG) or a Settlement Only Transmission Generator (SOTG);

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

(q) Section 6.6.5.1.1.1, Base Point Deviation Charge for Over Generation;

(r) Section 6.6.5.1.1.2, Base Point Deviation Charge for Under Generation;

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

(t) Section 6.6.5.4, Base Point Deviation Payment;

(u) Section 6.6.6.1, RMR Standby Payment;

(v) Section 6.6.6.2, RMR Payment for Energy;

(w) Section 6.6.6.3, RMR Adjustment Charge;

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

(y) Section 6.6.6.5, RMR Service Charge;

(z) Section 6.6.6.6, Method for Reconciling RMR Actual Eligible Costs, RMR and MRA Contributed Capital Expenditures, and Miscellaneous RMR Incurred Expenses;

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

(bb) Paragraph (4) of Section 6.6.7.1;

(cc) Section 6.6.7.2, Voltage Support Charge;

(dd) Section 6.6.8.1, Black Start Hourly Standby Fee Payment;

(ee) Section 6.6.8.2, Black Start Capacity Charge;

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

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

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

(ii) Section 6.6.14.2, Firm Fuel Supply Service Hourly Standby Fee Payment and Fuel Replacement Cost Recovery;

(jj) Section 6.6.14.3, Firm Fuel Supply Service Capacity Charge;

(kk) Paragraph (1)(a) of Section 6.7.1, Payments for Ancillary Service Capacity Sold in a Supplemental Ancillary Services Market (SASM) or Reconfiguration Supplemental Ancillary Services Market (RSASM);

(ll) Paragraph (1)(b) of Section 6.7.1;

(mm) Paragraph (1)(c) of Section 6.7.1;

(nn) Paragraph (1)(d) of Section 6.7.1;

(oo) Paragraph (1)(a) of Section 6.7.2, Payments for Ancillary Service Capacity Assigned in Real-Time Operations;

(pp) Paragraph (1)(b) of Section 6.7.2;

(qq) Paragraph (1)(a) of Section 6.7.2.1, Charges for Infeasible Ancillary Service Capacity Due to Transmission Constraints;

(rr) Paragraph (1)(b) of Section 6.7.2.1;

(ss) Paragraph (1)(c) of Section 6.7.2.1;

(tt) Paragraph (1)(d) of Section 6.7.2.1;

(uu) Paragraph (1)(a) of Section 6.7.3, Charges for Ancillary Service Capacity Replaced Due to Failure to Provide;

(vv) Paragraph (1)(b) of Section 6.7.3;

(ww) Paragraph (1)(c) of Section 6.7.3;

(xx) Paragraph (1)(d) of Section 6.7.3;

(yy) Paragraph (2) of Section 6.7.4, Adjustments to Cost Allocations for Ancillary Services Procurement;

(zz) Paragraph (3) of Section 6.7.4;

(aaa) Paragraph (4) of Section 6.7.4;

(bbb) Paragraph (5) of Section 6.7.4;

(ccc) Paragraph (7) of Section 6.7.5, Real-Time Ancillary Service Imbalance Payment or Charge (Real-Time Ancillary Service Imbalance Amount);

(ddd) Paragraph (7) of Section 6.7.5, (Real-Time Reliability Deployment Ancillary Service Imbalance Amount);

(eee) Paragraph (8) of Section 6.7.5, (Real-Time RUC Ancillary Service Reserve Amount);

(fff) Paragraph (8) of Section 6.7.5, (Real-Time Reliability Deployment RUC Ancillary Service Reserve Amount);

(ggg) Section 6.7.6, Real-Time Ancillary Service Imbalance Revenue Neutrality Allocation (Load-Allocated Ancillary Service Imbalance Revenue Neutrality Amount);

(hhh) Section 6.7.6, (Load-Allocated Reliability Deployment Ancillary Service Imbalance Revenue Neutrality Amount);

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

(jjj) Section 9.16.1, ERCOT System Administration Fee.

[NPRR841, NPRR863, NPRR885, NPRR963, NPRR995, NPRR1012, and NPRR1014: Replace applicable portions of paragraph (1) above with the following upon system implementation for NPRR841, NPRR863, NPRR885, NPRR963, NPRR995, or NPRR1014; or upon system implementation of the Real-Time Co-Optimization (RTC) project for NPRR1012:]

(1) 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 High Dispatch Limit Override Energy Payment;

(n) Section 6.6.3.7, Real-Time High Dispatch Limit Override Energy Charge;

(o) Section 6.6.3.8, Real-Time Payment or Charge for Energy from a Settlement Only Distribution Generator (SODG), Settlement Only Transmission Generator (SOTG), Settlement Only Distribution Energy Storage System (SODESS), or Settlement Only Transmission Energy Storage System (SOTESS);

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

(q) Section 6.6.5.2, Set Point Deviation Charge for Over Generation;

(r) Section 6.6.5.2.1, Set Point Deviation Charge for Under Generation;

(s) Section 6.6.5.3, Controllable Load Resource Set Point Deviation Charge for Over Consumption;

(t) Section 6.6.5.3.1, Controllable Load Resource Set Point Deviation Charge for Under Consumption;

(u) Section 6.6.5.4, IRR Generation Resource Set Point Deviation Charge;

(v) Section 6.6.5.4, Set Point Deviation Payment;

(w) Section 6.6.5.5, Energy Storage Resource Set Point Deviation Charge for Over Performance;

(x) Section 6.6.5.5.1, Energy Storage Resource Set Point Deviation Charge for Under Performance;

(y) Section 6.6.6.1, RMR Standby Payment;

(z) Section 6.6.6.2, RMR Payment for Energy;

(aa) Section 6.6.6.3, RMR Adjustment Charge;

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

(cc) Section 6.6.6.5, RMR Service Charge;

(dd) Section 6.6.6.6, Method for Reconciling RMR Actual Eligible Costs, RMR and MRA Contributed Capital Expenditures, and Miscellaneous RMR Incurred Expenses;

(ee) Section 6.6.6.7, MRA Standby Payment;

(ff) Section 6.6.6.8, MRA Contributed Capital Expenditures Payment;

(gg) Section 6.6.6.9, MRA Payment for Deployment Event;

(hh) Section 6.6.6.10, MRA Variable Payment for Deployment;

(ii) Section 6.6.6.11, MRA Charge for Unexcused Misconduct;

(jj) Section 6.6.6.12, MRA Service Charge;

(kk) Paragraph (3) of Section 6.6.7.1, Voltage Support Service Payments;

(ll) Paragraph (5) of Section 6.6.7.1;

(mm) Section 6.6.7.2, Voltage Support Charge;

(nn) Section 6.6.8.1, Black Start Hourly Standby Fee Payment;

(oo) Section 6.6.8.2, Black Start Capacity Charge;

(pp) Section 6.6.9.1, Payment for Emergency Operations Settlement;

(qq) Section 6.6.9.2, Charge for Emergency Operations Settlement;

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

(ss) Section 6.6.11.1, Emergency Response Service Capacity Payments;

(tt) Section 6.6.11.2, Emergency Response Service Capacity Charge;

(uu) Section 6.6.14.2, Firm Fuel Supply Service Hourly Standby Fee Payment and Fuel Replacement Cost Recovery;

(vv) Section 6.6.14.3, Firm Fuel Supply Service Capacity Charge;

(ww) Section 6.7.4, Real-Time Settlement for Updated Day-Ahead Market Ancillary Service Obligations;

(xx) Section 6.7.5.2, Regulation Up Service Payments and Charges;

(yy) Section 6.7.5.3, Regulation Down Service Payments and Charges;

(zz) Section 6.7.5.4, Responsive Reserve Payments and Charges;

(aaa) Section 6.7.5.5, Non-Spinning Reserve Service Payments and Charges;

(bbb) Section 6.7.5.6, ERCOT Contingency Reserve Service Payments and Charges;

(ccc) Section 6.7.5.7, Real-Time Derated Ancillary Service Capability Payment;

(ddd) Section 6.7.5.8, Real-Time Derated Ancillary Service Capability Charge;

(eee) Section 6.7.6, Real-Time Ancillary Service Revenue Neutrality Allocation;

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

(ggg) Section 9.16.1, ERCOT System Administration Fee.

(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.

9.5.4 RTM Initial Statement

(1) ERCOT shall issue an RTM Initial Statement for each Statement Recipient for a given Operating Day on the fifth day after the Operating Day, unless that fifth day is not a Business Day. If the fifth day is not a Business Day, then ERCOT shall issue the RTM Initial Statement on the next Business Day after the fifth day. Notwithstanding the above, if the fifth day after the Operating Day is on or prior to the Business Day on which Real-Time prices are final pursuant to paragraph (7) of Section 6.3, Adjustment Period and Real-Time Operations Timeline, then ERCOT shall issue the RTM Initial Statement on the first Business Day after the Real-Time prices are final.

9.5.5 RTM Final Statement

(1) ERCOT shall issue an RTM Final Statement for each Statement Recipient for a given Operating Day on the 55th day after the Operating Day, unless that 55th day is not a Business Day. If the 55th day is not a Business Day, then ERCOT shall issue the RTM Final Statement on the first Business Day after the 55th day.

(2) An RTM Final Statement will reflect differences to financial records generated on the previous Settlement Statement for the given Operating Day.

9.5.6 RTM Resettlement Statement

(1) ERCOT shall issue a RTM Resettlement Statement using corrected Settlement data due to resolution of Settlement and billing disputes. 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 errors other than errors in prices when:

(a) The total of all errors other than price errors results in an absolute value impact greater than 4% of the total RTM Statement amount for any single Statement Recipient for the Operating Day; and

(b) The impact to the Statement Recipient is greater than $400.00.

(3) Changes to meter data managed through a process other than a dispute or Alternative Dispute Resolution will not require evaluation of a resettlement defined in paragraph (2) above.

(4) 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 affect 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.

(5) ERCOT must effect 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.

(6) 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.

(7) ERCOT may issue an RTM Resettlement Statement after the issuance of an RTM Final Statement in order to resolve approved disputes related to Section 5.6.5.2, RUC Make-Whole Payment and RUC Clawback Charge for Resources Receiving OSAs.

9.5.7 Notice of Resettlement for the Real-Time Market

(1) While maintaining confidentiality of all Market Participants, ERCOT shall send a Market Notice in conjunction with the resettlement, indicating the resettlement of a specific Operating Day and the date of issuance of the RTM Resettlement Statements. ERCOT shall include the following information in the notice of resettlement:

(a) Detailed description of reason(s) for resettlement;

(b) Affected Operating Days;

(c) Affected settlement Charge Types; and

(d) Total resettled amount, by Charge Type.

9.5.8 RTM True-Up Statement

(1) ERCOT shall use the best available Settlement data, as described in Section 9.5.2, Settlement Statements for the RTM, to produce an RTM True-Up Statement for each Statement Recipient for each given Operating Day.

(2) ERCOT shall issue RTM True-Up Statements 180 days following the Operating Day, if ERCOT has received and validated usage data from at least 99% of the total number of Electric Service Identifiers (ESI IDs) with a BUSIDRRQ Load Profile Type code and if ERCOT has received and validated usage data from at least 90% of the total number of ESI IDs with a BUSIDRRQ Load Profile Type code from each Meter Reading Entity (MRE) representing at least 20 Interval Data Recorder (IDR) ESI IDs (IDR Meter Data Threshold). If the above conditions have not been met, then ERCOT shall issue RTM True-Up Statements as soon as the IDR Meter data becomes available for that Operating Day. If no RTM True-Up Statement has been issued 365 days after the Operating Day, then ERCOT shall issue a RTM True-Up Statement for that Operating Day. If any RTM True-Up Statement issuance date does not fall on a Business Day, then the RTM True-Up Statement must be issued by the end of the next Business Day after the RTM True-Up Settlement date.

(3) An RTM True-Up Statement will reflect differences to financial records generated on the previous Settlement Statement for the given Operating Day.

9.5.9 Notice of True-Up Settlement Timeline Changes for the Real-Time Market

(1) If the IDR Meter Data Threshold has not been met by the 180th day after the Operating Day (or, if the 180th day is not a Business Day, by the next day thereafter that is a Business Day), then ERCOT shall send a Market Notice about the delay of any RTM True-Up Statement issuance indicating the IDR Meter Data Threshold has not been met.

(2) For any delayed RTM True-Up Statement, ERCOT shall send a Market Notice indicating that it will issue an RTM True-Up Statement for a specific Operating Day within two Business Days after discovering the delay. As soon as practicable, ERCOT shall send a Market Notice with the revised date on which the delayed RTM True-Up Statement will be issued.

9.5.10 Confirmation for the Real-Time Market

(1) It is the responsibility of each Statement Recipient to notify ERCOT if a Settlement Statement for the RTM is not available on the MIS Certified Area on the date specified for posting of that Settlement Statement in the Settlement Calendar. Each Settlement

Statement for the RTM is deemed to have been available on the posting date specified on the Settlement Calendar, unless it notifies ERCOT to the contrary. If ERCOT receives notice that a Settlement Statement is not available, ERCOT shall make reasonable attempts to provide the Settlement Statement to the Statement Recipient, and ERCOT shall modify the Settlement and billing timeline accordingly for that Settlement Statement.

9.5.11 Validation of the True-Up Statement for the Real-Time Market

(1) The Statement Recipient is considered to have validated each RTM True-Up Statement unless it has filed a Settlement and billing dispute or reported an exception within ten Business Days after the RTM True-Up Statement has been posted on the MIS Certified Area.

9.5.12 Suspension of Issuing Settlement Statements for the Real-Time Market

(1) The ERCOT Board may direct ERCOT to suspend the issuance of any Settlement Statement for the RTM to address unusual circumstances. Any proposal to suspend settlements must be presented to the Technical Advisory Committee (TAC) for review and comment, in a reasonable manner under the circumstances, before such suspension.

9.6 Settlement Invoices for the Day-Ahead Market and Real-Time Market

(1) ERCOT shall prepare Settlement Invoices on a net basis based on Day-Ahead Market (DAM) Statements, DAM Resettlement Statements, Real-Time Market (RTM) Initial Statements, RTM Final Statements, RTM True-Up Statements and RTM Resettlement Statements. ERCOT shall issue the Settlement Invoices on the same Business Day as the day that the DAM and RTM Statements are posted to the Market Information System (MIS) Certified Area. ERCOT will post the actual dates that it will issue the Settlement Invoices under Section 9.1.2, Settlement Calendar. The Market Participant to whom the Settlement Invoice is addressed ("Invoice Recipient") is either a net payee or net payor.

(2) Each Invoice Recipient shall pay any net debit and be entitled to receive any net credit shown on the Settlement Invoice on the payment due date, whether or not there is any Settlement and billing dispute regarding the amount of the debit or credit.

(3) ERCOT shall post Settlement Invoices on the MIS Certified Area. The Invoice Recipient is responsible for accessing the Settlement Invoice on the MIS Certified Area once posted by ERCOT.

(4) Settlement Invoice items must be grouped by DAM, DAM Resettlement, RTM Initial, RTM Final, RTM Resettlement, and RTM True-Up categories and must be sorted by Operating Day within each category. Settlement Invoices must contain the following information:

(a) The Invoice Recipient's name;

(b) The ERCOT identifier (Settlement identification number issued by ERCOT);

(c) Net Amount Due/Payable – the aggregate summary of all charges owed by or due to the Invoice Recipient;

(d) Time Periods – the time period covered for each line item;

(e) Run Date – the date on which the Invoice was created and published;

(f) Invoice Reference Number – a unique number generated by ERCOT for payment tracking purposes;

(g) Statement Reference – an identification code used to reference each Settlement Statement invoiced;

(h) Payment Date and Time – the date and time that Invoice amounts are to be paid or received;

(i) Remittance Information Details – details including the account number, bank name and electronic transfer instructions of the ERCOT account to which any amounts owed by the Invoice Recipient are to be paid or of the Invoice Recipient's account from which ERCOT may draw payments due; and

(j) Overdue Terms – the terms that would be applied if payments were received late.

9.7 Payment Process for the Settlement Invoices

(1) Payments for the Settlement Invoices are due on a Business Day and Bank Business Day basis in a two-day, two-step process as detailed below.

9.7.1 Invoice Recipient Payment to ERCOT for the Settlement Invoices

(1) The payment due date and time for the Settlement Invoice, with funds owed by an Invoice Recipient, is 1700 on the second Bank Business Day after the Settlement Invoice date, unless the second Bank Business Day is not a Business Day. If the second Bank Business Day is not a Business Day, the payment is due by 1700 on the next Bank Business Day after the second Bank Business Day that is also a Business Day.

(2) All Settlement Invoices due, with funds owed by an Invoice Recipient, must be paid to ERCOT in U.S. Dollars (USDs) by Electronic Funds Transfer (EFT) in immediately available or good funds (i.e., not subject to reversal) on or before the payment due date.

9.7.2 ERCOT Payment to Invoice Recipients for the Settlement Invoices

(1) Subject to the availability of funds as discussed in paragraph (2) below, ERCOT must pay Settlement Invoices with funds owed to an Invoice Recipient by 1700 on the next Bank Business Day after payments are due for that Settlement Invoice under Section 9.7.1, Invoice Recipient Payment to ERCOT for the Settlement Invoices, subject to ERCOT's right to withhold payments for any reason set forth in these Protocols or as a matter of law, unless that next Bank Business Day is not a Business Day. If that next Bank Business Day is not a Business Day, the payment is due on the next Bank Business Day thereafter that is also a Business Day.

(2) ERCOT shall give irrevocable instructions to the ERCOT financial institution to remit to each Invoice Recipient for same day value the amounts determined by ERCOT to be available for payment to that Invoice Recipient under paragraph (d) of Section 9.19, Partial Payments by Invoice Recipients.

9.7.3 Enforcing the Financial Security of a Short-Paying Invoice Recipient

(1) ERCOT shall make reasonable efforts to enforce the Financial Security of the short-paying Invoice Recipient (pursuant to Section 16.11.6, Payment Breach and Late Payments by Market Participants) to the extent necessary to cover the short-pay. A short-paying Invoice Recipient shall restore the level of its Financial Security under Section 16, Registration and Qualification of Market Participants.

(2) ERCOT shall provide to all Market Participants payment details on all short payments and subsequent reimbursements of short pays. Details must include the identity of each short-paying Invoice Recipient and the dollar amount attributable to that Invoice Recipient, broken down by Invoice numbers. In addition, ERCOT shall provide the aggregate total of all amounts due to all Invoice Recipients before applying the amount not paid on the Invoice.

9.8 CRR Auction Award Invoices

(1) ERCOT shall prepare invoices for each Congestion Revenue Right (CRR) Auction (CRR Auction Invoice) on a net basis. Invoices must be issued on the first Business Day following the completion of a CRR Auction on the date specified in the Settlement Calendar. For each CRR Auction Invoice, the CRR Account Holder to whom the Invoice is addressed ("Invoice Recipient") is either a net payee or net payor. The Invoice Recipient is responsible for accessing the CRR Auction Invoice on the Market Information System (MIS) Certified Area once posted by ERCOT.

(2) Each Invoice Recipient shall pay any net debit and be entitled to receive any net credit shown on the CRR Auction Invoice on the payment due date. Payments for CRR Auction Invoices are due on the applicable payment due date, whether or not there is any Settlement and billing dispute regarding the amount of the payment.

(3) ERCOT shall post on the MIS Certified Area for each Invoice Recipient a CRR Auction Invoice based on CRR Auction charges and payments as set forth in:

(a) Section 7.5.6.1, Payment of an Awarded CRR Auction Offer;

(b) Section 7.5.6.2, Charge of an Awarded CRR Auction Bid; and

(c) Section 7.5.6.3, Charge of PCRRs Pertaining to a CRR Auction.

(d) Section 7.7, Point-to-Point (PTP) Option Award Charge.

(4) CRR Auction Invoices must contain the following information:

(a) The Invoice Recipient's name;

(b) The ERCOT identifier (Settlement identification number issued by ERCOT);

(c) Net Amount Due/Payable – the aggregate summary of all charges owed to or due from the Invoice Recipient summarized by CRR Auction;

(d) Time Period – the CRR Auction for which the Invoice is generated;

(e) Run Date – the date on which ERCOT created and published the Invoice;

(f) Invoice Reference Number – a unique number generated by ERCOT for payment tracking purposes;

(g) Product Description – a description of each product awarded in, sold in, or allocated before the CRR Auctions, or of any applicable charge;

(h) Payment Date – the date and time that Invoice amounts are to be paid or received; and

(i) Remittance Information Details – details including the account number, bank name and electronic transfer instructions of the ERCOT account to which any amounts owed by the Invoice Recipient are to be paid or of the Invoice Recipient's account from which ERCOT may draw payments due.

9.9 Payment Process for CRR Auction Invoices

(1) Payments for the Congestion Revenue Right (CRR) Auction are due on a Business Day and Bank Business Day basis in a two-day, two-step process as detailed below.

9.9.1 Invoice Recipient Payment to ERCOT for the CRR Auction

(1) The payment due date and time for the CRR Auction Invoice, with funds owed by an Invoice Recipient, is 1700 on the third Bank Business Day after the CRR Auction Invoice

date, unless third Bank Business Day is not a Business Day. If the third Bank Business Day is not a Business Day, the payment is due by 1700 on the next Bank Business Day after the third Bank Business Day that is also a Business Day.

(2) All CRR Auction Invoices due, with funds owed by an Invoice Recipient, must be paid to ERCOT in U.S. Dollars (USDs) by Electronic Funds Transfer (EFT) in immediately available or good funds (i.e., not subject to reversal) on or before the payment due date.

(3) All CRR Auction Invoices must be paid in full on the Invoice due date.

9.9.2 ERCOT Payment to Invoice Recipients for the CRR Auction

(1) CRR Auction Invoices with funds owed to an Invoice Recipient must be paid by ERCOT to the Invoice Recipient by 1700 on the next day that is both a Business Day and a Bank Business Day after the day that payments are due for that CRR Auction Invoice under Section 9.9.1, Invoice Recipient Payment to ERCOT for the CRR Auction, subject to ERCOT's right to withhold payments under Section 16, Registration and Qualification of Market Participants or pursuant to the common law.

(2) ERCOT shall give irrevocable instructions to the ERCOT financial institution to remit, to each Invoice Recipient for same day value the amounts owed to each Invoice Recipient.

9.9.3 Enforcing the Security of a Short-Paying CRR Auction Invoice Recipient

(1) ERCOT shall make reasonable efforts to enforce the security of the short-paying Invoice Recipient (pursuant to Section 16.11.6, Payment Breach and Late Payments by Market Participants) to the extent necessary to cover the short-pay. A short-paying Invoice Recipient shall restore the level of its security under Section 16, Registration and Qualification of Market Participants.

9.10 CRR Auction Revenue Distribution Invoices

(1) ERCOT shall prepare Invoices for Congestion Revenue Right (CRR) Auction Revenue Distribution (CARD) on a monthly basis on the first Business Day following the Real-Time Market (RTM) Initial Settlement posting of the last day of the month on the date specified in the Settlement Calendar.

(2) ERCOT shall true up the distribution of monthly CRR Auction revenues by posting additional Settlement Invoices on the first Business Day following the RTM Final Settlement posting of the last day of the month on the date specified in the Settlement Calendar. A trued up CARD Invoice will reflect differences to financial records generated on the previous CARD Invoice for a given month.

(3) For each cycle, the Market Participant to whom the CARD Invoice is addressed ("Invoice Recipient") is either a payee or payor. The Invoice Recipient is responsible for accessing

the CARD Invoice on the Market Information System (MIS) Certified Area once posted by ERCOT.

(4) Each Invoice Recipient shall pay any debit and be entitled to receive any credit shown on the CARD Invoice on the payment due date. Payments for CARD Invoices are due on the applicable payment due date whether or not there is any Settlement and billing dispute regarding the amount of the payment.

(5) ERCOT shall post on the MIS Certified Area for each Invoice Recipient a CARD Invoice based the calculations located:

(a) Section 7.5.6.4, CRR Auction Revenues; and

(b) Section 7.5.7, Method for Distributing CRR Auction Revenues.

(6) CARD Invoices must contain the following information:

(a) The Invoice Recipient's name;

(b) The ERCOT identifier (Settlement identification number issued by ERCOT);

(c) Net Amount Due/Payable – the aggregate summary of all charges owed to or due from the Invoice Recipient summarized by CRR Auction revenue month;

(d) Time Period – the CRR Auction revenue month for which the Invoice is generated, including Initial or Final distribution;

(e) Run Date – the date on which ERCOT created and published the Invoice;

(f) Invoice Reference Number – a unique number generated by ERCOT for payment tracking purposes;

(g) Payment Date – the date and time that Invoice amounts are to be paid or received; and

(h) Remittance Information Details – details including the account number, bank name and electronic transfer instructions of the ERCOT account to which any amounts owed by the Invoice Recipient are to be paid or of the Invoice Recipient's account from which ERCOT may draw payments due.

9.11 Payment Process for CRR Auction Revenue Distribution

(1) Payments for Congestion Revenue Right (CRR) Auction Revenue Distribution (CARD) Invoices are due on a Business Day and Bank Business Day basis in a two-day, two-step process as detailed below.

9.11.1 Invoice Recipient Payment to ERCOT for CRR Auction Revenue Distribution

(1) The payment due date and time for the CARD Invoice, with funds owed by an Invoice Recipient, is 1700 on the fifth Bank Business Day after the CARD Invoice date, unless the fifth Bank Business Day is not a Business Day. If the fifth Bank Business Day is not a Business Day, the payment is due by 1700 on the next Bank Business Day after the fifth Bank Business Day that is also a Business Day.

(2) All CARD Invoices due, with funds owed by an Invoice Recipient, must be paid to ERCOT in U.S. Dollars (USDs) by Electronic Funds Transfer (EFT) in immediately available or good funds (i.e., not subject to reversal) on or before the payment due date.

9.11.2 ERCOT Payment to Invoice Recipients for CRR Auction Revenue Distribution

(1) CARD Invoices with funds owed to an Invoice Recipient must be paid by ERCOT to the Invoice Recipient by 1700 on the next day that is both a Business Day and a Bank Business Day after the day that payments are due for that CARD Invoice under Section 9.11.1, Invoice Recipient Payment to ERCOT for CRR Auction Revenue Distribution, subject to ERCOT's right to withhold payments under Section 16 and pursuant to common law.

(2) ERCOT shall give irrevocable instructions to the ERCOT financial institution to remit, to each Invoice Recipient for same day value, the amounts owed to each Invoice Recipient.

9.11.3 Partial Payments by Invoice Recipients for CRR Auction Revenue Distribution

(1) If at least one Invoice Recipient owing funds does not pay its CARD Invoice in full (short-pay), ERCOT shall follow the procedure set forth below:

(a) ERCOT shall make every reasonable attempt to collect payment from each short-paying Invoice Recipient before any payments owed by ERCOT for that month's distribution of CRR Auction revenues is due to be paid to applicable Invoice Recipient(s).

(b) ERCOT shall draw on any available security pledged to ERCOT by each short-paying Invoice Recipient that did not pay the amount due under paragraph (a) above. If the amount of any such draw is greater than the amount of the short-paying Invoice Recipient's cash collateral held in excess of that required to cover its Total Potential Exposure (TPE) ("Excess Collateral"), then a draw on available security for a short-paying Invoice Recipient shall be considered a Late Payment for purposes of Section 16.11.6, Payment Breach and Late Payments by Market Participants.

(c) ERCOT shall offset or recoup any amounts owed, or to be owed, by ERCOT to a short-paying Invoice Recipient against amounts not paid by that Invoice Recipient

and ERCOT shall apply the amount offset or recouped to cover payment shortages by that Invoice Recipient.

(d) If, after taking the actions set forth in paragraphs (a), (b) and (c), above, ERCOT still does not have sufficient funds to pay all amounts that it owes to CARD Invoice Recipients in full, ERCOT shall reduce payments to all CARD Invoice Recipients owed monies from ERCOT. The reductions shall be based on a pro rata basis of monies owed to each CARD Invoice Recipient, to the extent necessary to clear ERCOT's accounts on the payment due date to achieve revenue neutrality for ERCOT. ERCOT shall provide to all Market Participants payment details on all short payments and subsequent reimbursements of short pays. Details must include the identity of each short-paying Invoice Recipient and the dollar amount attributable to that Invoice Recipient, broken down by Invoice numbers. In addition, ERCOT shall provide the aggregate total of all amounts due to all Invoice Recipients before applying the amount not paid on the CARD Invoice.

9.11.4 Enforcing the Security of a Short-Paying CARD Invoice Recipient

(1) ERCOT shall make reasonable efforts to enforce the security of the short-paying Invoice Recipient (pursuant to Section 16.11.6, Payment Breach and Late Payments by Market Participants) to the extent necessary to cover the short-pay. A short-paying Invoice Recipient shall restore the level of its security under Section 16, Registration and Qualification of Market Participants.

9.12 CRR Balancing Account Invoices

(1) ERCOT shall prepare Invoices for the Congestion Revenue Right (CRR) Balancing Account (CRRBA) on a monthly basis on the first Business Day following the Real-Time Market (RTM) Initial Settlement posting of the last day of the month on the date specified in the Settlement Calendar.

(2) ERCOT shall true up the distribution of monthly the CRRBA by posting additional Settlement Invoices on the first Business Day following the RTM Final Settlement posting of the last day of the month on the date specified in the Settlement Calendar. A trued up CRRBA Invoice will reflect differences to financial records generated on the previous CRRBA Invoice for a given month.

(3) ERCOT shall prepare resettlement Invoices in the event that the balance in the CRRBA for the month changes due to a Day-Ahead Market (DAM) resettlement after the initial balancing account Invoices for that month have been posted as specified in the Settlement Calendar. The Monthly Load Ratio Share (MLRS) as described in Section 7.9.3.5, CRR Balancing Account Closure, used for the resettlement CRRBA Invoice will be the same one used for the most recently posted balancing account Invoices. A resettlement CRRBA Invoice will reflect differences to financial records generated on the previous CRRBA Invoice for a given month.

(4) For each Invoice cycle, the Market Participant to whom the CRRBA Invoice is addressed ("Invoice Recipient") is a payee. The Invoice Recipient is responsible for accessing the CRRBA Invoice on the Market Information System (MIS) Certified Area once posted by ERCOT.

(5) ERCOT shall post on the MIS Certified Area for each Invoice Recipient a CRRBA Invoice based on the calculations located in Sections 7.9.3.4, Monthly Refunds to Short-Paid CRR Owners, and 7.9.3.5.

(6) CRRBA Invoices must contain the following information:

(a) The Invoice Recipient's name;

(b) The ERCOT identifier (Settlement identification number issued by ERCOT);

(c) Net Amount Payable – the aggregate summary of all amounts owed to the Invoice Recipient summarized by month;

(d) Time Period – the time period covered for each line item;

(e) Run Date – the date on which the ERCOT created and published Invoice;

(f) Invoice Reference Number – a unique number generated by ERCOT for payment tracking purposes; and

(g) Payment Date – the date and time that Invoice amounts are to be received.

(7) Each Invoice Recipient shall receive any credit shown on the CRRBA Invoice on the payment due date. Credit shown on the CRRBA Invoice will be paid on due date whether or not there is any Settlement and billing dispute regarding the amount of the payment.

9.13 Payment Process for the CRR Balancing Account

9.13.1 Payment Process for the Initial CRR Balancing Account

(1) Payments for the Congestion Revenue Right (CRR) Balancing Account (CRRBA) are due on a Business Day and Bank Business Day basis in a one-day, one-step process, as detailed below.

(a) By 1700 on the first day that is both a Business Day and a Bank Business Day following the due date of the Settlement Invoice that includes the Real-Time Market (RTM) Initial Settlement Statement for the last day of the month and subject to ERCOT's right to withhold payments under Section 16, Registration and Qualification of Market Participants, and pursuant to common law, ERCOT shall pay on a net credit shown on the CRRBA Invoice based on amounts due:

(i) To each short-paid CRR Owner a monthly refund from the positive balance in the CRRBA, with the amount paid to each CRR Owner as calculated in Section 7.9.3.4, Monthly Refunds to Short-Paid CRR Owners; and

(ii) To each Qualified Scheduling Entity (QSE), any remaining positive balance in the CRRBA, with the amount paid to each QSE as calculated in Section 7.9.3.5, CRR Balancing Account Closure.

(b) ERCOT shall give irrevocable instructions to the ERCOT financial institution to remit, to each CRR Owner or QSE, for same day value, the amounts determined by ERCOT to be available for payment.

9.13.2 Payment Process for Resettlement of the CRR Balancing Account

(1) In the event that a resettlement CRRBA Invoice is required, payments for the resettlement CRRBA Invoice are due on a Business Day and Bank Business Day basis in a two-day, two-step process as detailed below in Section 9.13.2.1, Invoice Recipient Payment to ERCOT for Resettlement of the CRR Balancing Account.

9.13.2.1 Invoice Recipient Payment to ERCOT for Resettlement of the CRR Balancing Account

(1) The payment due date and time for the resettlement CRRBA Invoice, with funds owed by an Invoice Recipient, is 1700 on the fifth Bank Business Day after the resettlement CRRBA Invoice date, unless the fifth Bank Business Day is not a Business Day. If the fifth Bank Business Day is not a Business Day, the payment is due by 1700 on the next Bank Business Day after the fifth Bank Business Day that is also a Business Day.

(2) All resettlement CRRBA Invoices due, with funds owed by an Invoice Recipient, must be paid to ERCOT in U.S. Dollars (USDs) by Electronic Funds Transfer (EFT) in immediately available or good funds (i.e., not subject to reversal) on or before the payment due date.

9.13.2.2 ERCOT Payment to Invoice Recipients for Resettlement of the CRR Balancing Account

(1) Resettlement CRRBA Invoices with funds owed to an Invoice Recipient must be paid by ERCOT to the Invoice Recipient by 1700 on the next day that is both a Business Day and a Bank Business Day after the day that payments are due for that resettlement CRRBA Invoice as described in paragraph (1) of Section 9.13.2.1, Invoice Recipient Payment to ERCOT for Resettlement of CRR Balancing Account. The Invoice Recipient payment to ERCOT for resettlement of the CRRBA is subject to ERCOT's right to withhold payments under Section 16, Registration and Qualification of Market Participants.

(2) ERCOT shall give irrevocable instructions to the ERCOT financial institution to remit to each Invoice Recipient for same day value, the amounts owed to each Invoice Recipient.

9.13.2.3 Partial Payments by Invoice Recipients for Resettlement of CRR Balancing Account

(1) If at least one Invoice Recipient owing funds does not pay its resettlement CRRBA Invoice in full (short-pay), ERCOT shall follow the procedure set forth below:

(a) ERCOT shall make every reasonable attempt to collect payment from each short-paying Invoice Recipient before any payments owed by ERCOT for that month's distribution of resettlement CRRBA revenues is due to be paid to applicable Invoice Recipient(s).

(b) ERCOT shall draw on any available security pledged to ERCOT by each short-paying Invoice Recipient that did not pay the amount due under paragraph (a) above. If the amount of any such draw is greater than the amount of the short-paying Invoice Recipient's cash collateral held in excess of that required to cover its Total Potential Exposure (TPE) ("Excess Collateral"), then a draw on available security for a short-paying Invoice Recipient shall be considered a Late Payment for purposes of Section 16.11.6, Payment Breach and Late Payments by Market Participants.

(c) ERCOT shall offset or recoup any amounts owed, or to be owed, by ERCOT to a short-paying Invoice Recipient against amounts not paid by that Invoice Recipient and ERCOT shall apply the amount offset or recouped to cover payment shortages by that Invoice Recipient.

(d) If, after taking the actions set forth in paragraphs (a), (b) and (c) above, ERCOT still does not have sufficient funds to pay all amounts that it owes to resettlement CRRBA Invoice Recipients in full, ERCOT shall reduce payments to all resettlement CRRBA Invoice Recipients owed monies from ERCOT. The reductions shall be based on a pro rata basis of monies owed to each resettlement CRRBA Invoice Recipient, to the extent necessary to clear ERCOT's accounts on the payment due date to achieve revenue neutrality for ERCOT. ERCOT shall provide to all Market Participants payment details on all short payments and subsequent reimbursements of short pays. Details must include the identity of each short-paying Invoice Recipient and the dollar amount attributable to that Invoice Recipient, broken down by Invoice numbers. In addition, ERCOT shall provide the aggregate total of all amounts due to all Invoice Recipients before applying the amount not paid on the resettlement CRRBA Invoice.

9.14 Settlement and Billing Dispute Process

9.14.1 Data Review, Validation, Confirmation, and Dispute of Settlement Statements

(1) Settlement Statement Recipients and Invoice Recipients for the Day-Ahead Market (DAM), Real-Time Market (RTM), and Congestion Revenue Right (CRR) Auction are responsible for reviewing their Settlement Statements and Settlement Invoices to verify the accuracy of the data used to produce them. Other than disputes related to resettlement arising from a completed Alternative Dispute Resolution (ADR) proceeding, Settlement Statement Recipients and Invoice Recipients must submit any dispute related to a Settlement Statement or Settlement Invoice pursuant to this Section. A Market Participant who wishes to dispute a resettlement arising from a completed ADR proceeding must appeal ERCOT's disposition of that proceeding in accordance with paragraph (3) of Section 20.9, Resolution of Alternative Dispute Resolution Proceedings and Notification to Market Participants.

9.14.2 Notice of Dispute

(1) A Settlement Statement Recipient may dispute items or calculations in the most recently issued Settlement Statement for an Operating Day, except as limited for RTM True-Up Statements in paragraph (3) below. The dispute will apply to the Operating Day in question, not to the associated Settlement Statement. The Market Participant must enter the Settlement and billing dispute electronically through the ERCOT dispute tool provided on the Market Information System (MIS) Certified Area. In processing disputes under this Section, ERCOT will analyze the latest Settlement Statement issued.

(2) An Invoice Recipient may dispute elements of an Invoice that are not the result of a Settlement Statement that are contained on the Invoice. The Invoice Recipient must file the Invoice dispute within ten Business Days of the date on which ERCOT posted the Invoice.

(3) The Settlement Statement Recipient is deemed to have validated each RTM True-Up Statement or Resettlement Statement arising from the True-Up Statement unless it has raised a Settlement and billing dispute or reported an exception within ten Business Days of the date on which ERCOT issued the Settlement Statement. With respect to an RTM True-Up Statement or any subsequent Resettlement Statement after ERCOT issued the True-Up Statement, ERCOT will consider only Settlement and billing disputes associated with incremental changes between the RTM True-Up Statement or Resettlement Statement, and the most recent previous Settlement Statement for that Operating Day. The Settlement Statement Recipient may recover only the amounts associated with the incremental monetary change between the prior statement and the statement from which the dispute arose. ERCOT shall reject late-filed Settlement and billing disputes. Once the deadline for filing a dispute has passed, the RTM True-Up Statement binds the Settlement Statement Recipient to which it relates unless ERCOT issues a subsequent Resettlement Statement pursuant to this Section.

(4) ERCOT shall reject Settlement and billing disputes for a given Operating Day during the 20 Business Days before the scheduled date for issuance of the RTM True-Up Statement for that Operating Day.

(5) However, to the extent a disputing party claims that the Settlement or billing dispute relates to information made available under Section 1.3.3, Expiration of Confidentiality, the disputing party must register the Settlement and billing dispute with ERCOT by electronic means within 60 days after the date the information became available. All communication to and from ERCOT concerning disputes must be made through either the MIS Certified Area or other electronic communication.

(6) The Settlement Statement Recipient is deemed to have validated each DAM Settlement or Resettlement Statement unless it has raised a Settlement and billing dispute or reported an exception within ten Business Days of the date on which ERCOT issued the Settlement or Resettlement Statement. With respect to a DAM Resettlement Statement, ERCOT will consider only Settlement and billing disputes associated with incremental changes between the DAM Resettlement Statement and the most recent previous Settlement Statement for that Operating Day. The Settlement Statement Recipient may recover only the amounts associated with the incremental monetary change between the prior statement and the statement from which the dispute arose. ERCOT shall reject late-filed Settlement and billing disputes. Once the deadline for filing a dispute has passed, a DAM Statement binds the Settlement Statement Recipient to which it relates unless ERCOT issues a subsequent Resettlement Statement.

(7) A CRR Auction Invoice, CRR Auction Revenue Distribution (CARD) Invoice, or CRR Balancing Account (CRRBA) Invoice Recipient may dispute elements of an Invoice that are contained on the Invoice. The Invoice Recipient must file the CRR Invoice dispute within ten Business Days of the date on which ERCOT posted the Invoice.

9.14.3 Contents of Notice

(1) ERCOT shall reject a dispute that does not contain the data elements listed in this Section.

(2) ERCOT shall provide automatic field population techniques or drop-down boxes for appropriate data elements below. The notice of Settlement and billing dispute must state clearly:

(a) Disputing Entity;

(b) Dispute contact person(s);

(c) Dispute contact information;

(d) Operating Day or Invoice date in dispute;

(e) Charge Type;

(f) Time period in dispute;

(g) Amount in dispute;

(h) Settlement and billing dispute type; and

(i) Reasons for the dispute.

(3) Each Settlement and billing dispute must specify an Operating Day or Invoice date and a Charge Type. If a condition causing a dispute affects multiple Operating Days or Charge Types, a Settlement Statement Recipient or Invoice Recipient may file a dispute form for each Charge Type for one or more Operating Days affected on a single dispute that are all in the same calendar month.

(4) A Settlement Statement Recipient or Invoice Recipient may pursue the dispute through any process provided by ERCOT for resolving differences in Settlement determinants.

(5) Forms for entering a Settlement and billing dispute must be provided on the MIS Certified Area.

(6) The Market Participant must submit the Settlement and billing dispute to ERCOT with sufficient evidence to support the claim.

(7) The Market Participant must submit a dispute using an ERCOT-approved electronic format. ERCOT shall provide a dispute tracking identifier to the Settlement Statement Recipient or Invoice Recipient.

9.14.4 ERCOT Processing of Disputes

(1) ERCOT shall process disputes in accordance with this Section, Section 9.14.2, Notice of Dispute, and the required data in Section 9.14.3, Contents of Notice.

(2) If ERCOT requires additional data to resolve the dispute, ERCOT shall send the Settlement Statement Recipient or Invoice Recipient a list of the required additional data within seven Business Days of the date the dispute was filed. The Settlement Statement Recipient or Invoice Recipient shall respond with the entire set of required data within five Business Days of ERCOT's request or by a date agreed upon by ERCOT and the Market Participant that is no later than eight Business Days prior to the posting of the True-Up Settlement Statement for the disputed Operating Day. If ERCOT does not receive the data within that time frame, ERCOT shall deny the dispute.

(3) On each Business Day, ERCOT shall issue an aggregated Settlement and billing dispute resolution report on the MIS Secure Area containing information related to all disputes that are not yet closed or that have been closed recently. Additionally, on each Business Day and for each Settlement Statement Recipient or Invoice Recipient, ERCOT shall issue a report on the MIS Certified Area containing the status of each submitted dispute. The report shall identify the disputed charge type(s), status of the dispute, resolution and

resolution date, if applicable, and a financial impact in dollars of the dispute as submitted by disputing Entity.

(4) ERCOT shall make all reasonable attempts to complete all RTM Settlement and billing disputes submitted within 15 Business Days of the issuance of the RTM Initial Statement in time for inclusion on the RTM Final Statement for the relevant Operating Day.

(5) All complete disputes of the DAM received within ten Business Days after ERCOT posts that day's DAM Settlement Statement shall be included in a Resettlement of the DAM Operating Day under Section 9.2.5, DAM Resettlement Statement.

(6) For Settlement and billing disputes requiring complex research or additional time for resolution, ERCOT shall notify the Invoice Recipient or Settlement Statement Recipient of the length of time expected to research and resolve those disputes and, if ERCOT grants a portion or all of the dispute, ERCOT shall post the necessary adjustments on the next available Settlement Statement for the Operating Day.

(7) Settlement Statement Recipients or Invoice Recipients have the right to proceed to the ADR process in Section 20, Alternative Dispute Resolution Procedure, for filed disputes that cannot be resolved through the Settlement and billing dispute process outlined in Section 9.14, Settlement and Billing Dispute Process.

(8) All complete disputes of the CRR Market received within ten Business Days after ERCOT posts that day's CRR Settlement Statement shall be resolved as soon as practicable.

9.14.4.1 Status of Dispute

(1) ERCOT will assign a status to each dispute as defined in the following Sections.

9.14.4.1.1 Not Started

(1) The status of a Settlement and billing dispute will initially be set to "Not Started" when the Market Participant enters the dispute into the ERCOT dispute resolution system.

9.14.4.1.2 Open

(1) The status of a Settlement and billing dispute is set to "Open" when the Settlement Statement or Invoice Recipient submits a dispute to ERCOT and ERCOT begins the resolution process.

9.14.4.1.3 Closed

(1) When the status is set to "Closed," no updates or additions are permitted to the dispute record. The status of the dispute is "Closed" when one of the following conditions occurs:

(a) If, after 45 days from receiving notice of a denied dispute, the Settlement Statement Recipient or Invoice Recipient does not begin the ADR process, ERCOT will close the dispute.

(b) If ERCOT grants a Settlement and billing dispute, ERCOT will close the dispute no sooner than the date ERCOT publishes the next available Settlement Statement or Invoice for the associated Operating Day.

(c) If ERCOT grants a dispute with exceptions, ERCOT will close the dispute no sooner than ten Business Days after ERCOT publishes the resolution. If the Settlement Statement Recipient or Invoice Recipient disagrees with ERCOT's exceptions, ERCOT will close dispute upon completion of further investigation and resolution in accordance with Section 9.14.4.2.3, Granted with Exceptions.

9.14.4.1.4 Rejected

(1) ERCOT shall set the status of a Settlement and billing dispute to "Rejected" when one of the following circumstances is met:

(a) The dispute is filed late, unless filed in accordance with paragraph (5) of Section 9.14.2, Notice of Dispute, due to an expiration of confidentiality as defined under Section 1.3.3, Expiration of Confidentiality.

(b) During the 20 Business Days before the scheduled date for issuance of the RTM True-Up Statement for that Operating Day.

(c) The dispute does not contain the required data as set forth in Section 9.14.3, Contents of Notice. ERCOT shall provide specific Protocol language supporting the reasons that data provided by the Settlement Statement Recipient or Invoice Recipient is insufficient. If able to do so timely, an Invoice Recipient or Settlement Statement Recipient may resubmit the dispute with additional information under Section 9.14.2. Once the Settlement Statement Recipient or Invoice Recipient submits the required information and ERCOT determines the Settlement and billing dispute is timely and complete, the dispute status is changed to "Open."

9.14.4.1.5 Withdrawn

(1) A Market Participant who submitted a Settlement and billing dispute may withdraw that dispute at any time. If withdrawal occurs, the Dispute status is set to "Withdrawn" and any research and resolution activities on that dispute will cease.

9.14.4.1.6 ADR

(1) Requests for ADR shall be considered Protected Information in accordance with paragraph (1)(ff) of Section 1.3.1.1, Items Considered Protected Information, and Section 20, Alternative Dispute Resolution Procedure. As soon as practicable after ERCOT receives a written request for ADR pursuant to Section 20.4, Initiation of ADR Proceedings, ERCOT shall post a Settlement and billing dispute status of "ADR" to the aggregated Settlement and billing dispute resolution report on the MIS Secure Area. The dispute will remain in the ADR status as long as the Market Participant has an active ADR. At the end of the ADR process, ERCOT shall post a Settlement and billing dispute status of "Closed" to the aggregated Settlement and billing dispute resolution report on the MIS Secure Area.

9.14.4.2 Resolution of Dispute

(1) Each resolved dispute will have a resolution as defined in the following Sections.

9.14.4.2.1 Denied

(1) If ERCOT concludes that the Settlement Statement or Invoice is correct, ERCOT shall deny the Settlement and billing dispute. ERCOT shall notify the Settlement Statement Recipient or Invoice Recipient when it denies a Settlement and billing dispute and provide the Settlement Statement Recipient or Invoice Recipient the reasons and supporting data for the denial, while maintaining the confidentiality of Protected Information.

(2) If the Settlement Statement Recipient or Invoice Recipient is not satisfied with the outcome of a denied Settlement and billing dispute, the Settlement Statement Recipient or Invoice Recipient may proceed to ADR as described in Section 20, Alternative Dispute Resolution Procedure.

9.14.4.2.2 Granted

(1) When ERCOT determines that the disputed Settlement Statement or Invoice are in error as alleged in the Settlement and billing dispute, ERCOT shall grant the Settlement and billing dispute and notify the Settlement Statement or Invoice Recipient of the resolution and provide it the reasons and supporting data for resolution, while maintaining the confidentiality of Protected Information. ERCOT shall make available to all other

Settlement Statement or Invoice Recipients the financial impact, as submitted by disputing Entity, on the Settlement and billing dispute resolution report per paragraph (3) of Section 9.14.4, ERCOT Processing of Disputes. Upon resolution of the issue, ERCOT shall process the dispute's resolution on the next available Settlement Statement for the affected Operating Day.

9.14.4.2.3 Granted with Exceptions

(1) ERCOT may determine that a Settlement and billing dispute is "Granted with Exceptions" when ERCOT deems the basis for the Settlement and billing dispute partially correct. ERCOT shall provide the exception information to the Settlement Statement or Invoice Recipient. ERCOT shall notify the Settlement Statement or Invoice Recipient of the "Granted with Exceptions" resolution and shall provide the reasons and supporting data, while maintaining the confidentiality of Protected Information for the resolution. ERCOT shall make available to all other Settlement Statement or Invoice Recipients the financial impact, as submitted by the disputing Entity, on the Settlement and billing dispute resolution report per paragraph (3) of Section 9.14.4, ERCOT Processing of Disputes. The Settlement Statement or Invoice Recipient of the dispute granted with exceptions shall acknowledge receipt of the notice within ten Business Days after ERCOT publishes the resolution as "Granted with Exceptions". The acknowledgement must indicate acceptance or rejection of the documented exceptions to the granting of the dispute. If the Settlement Statement or Invoice Recipient does not timely reject the dispute outcome, it shall be deemed accepted. If the Market Participant accepts the exceptions, ERCOT shall post the necessary adjustments on the next available Settlement Statement for the affected Operating Day.

(2) If a Settlement Invoice or Statement Recipient rejects the outcome of a dispute "Granted with Exceptions," ERCOT must investigate the dispute further. ERCOT must include the granted portion of the dispute on the next Settlement Statement for the affected Operating Day. After further investigation, if ERCOT subsequently grants the Settlement and billing dispute, ERCOT must process the dispute on the next available Settlement Statement for the affected Operating Day. If exceptions to the dispute still exist, the Settlement Statement or Invoice Recipient may either accept the dispute for resolution as "Granted with Exceptions" or begin ADR according to Section 20, Alternative Dispute Resolution Procedure.

9.14.5 Settlement of Emergency Response Service

(1) ERCOT shall post the settlement for each Emergency Response Service (ERS) type and Time Period in an ERS Contract Period 20 days after the final Settlement of the last Operating Day of the ERS Standard Contract Term is posted, as described in paragraph (1) of Section 9.5.5, RTM Final Statement. If the 20th day is not a Business Day, ERCOT will post the ERS Settlement on the next Business Day thereafter. All disputes for the Settlement of the ERS Contract Period are due ten Business Days after the date

that the ERS settlement was posted. ERCOT shall resolve any approved disputes upon resettlement of the ERS Contract Period, as described in paragraph (2) below.

(2) ERCOT shall post the resettlement for each ERS type and Time Period in an ERS Contract Period on the True-Up Settlement for the Operating Day on which the charge was first settled as described in paragraph (1) above. ERS disputes filed based on a change in Load after the True-Up Settlement will be approved only if the Qualified Scheduling Entity's (QSE's) Load changes by 10% or more. ERCOT shall resolve any approved ERS disputes no later than 30 Business Days after the date that the ERS resettlement was posted.

9.14.6 Disputes for Operations Decisions

(1) Settlement Statement or Invoice Recipients may not dispute a Settlement Statement or Invoice due to a decision made by ERCOT in its operation of the ERCOT System, unless the Market Participant alleged the decision violated these Protocols. Inquiries or disputes concerning such decisions, Protocols, or Operating Guides must be handled through the Protocol change process set forth in Section 21, Revision Request Process.

9.14.7 Disputes for RUC Make-Whole Payment for Fuel Costs

(1) If the actual price paid for delivered natural gas for a specific Resource during a Reliability Unit Commitment (RUC)-Committed Interval is greater than Fuel Index Price (FIP) adjusted by the proxy fuel adder, X, defined in the Verifiable Cost Manual (i.e., FIP * (1+X)), then the QSE may file a Settlement dispute for that Resource's RUC Make-Whole Payment. The maximum amount that may be recovered through this dispute process is the difference between the RUC Guarantee based on the actual price paid and the fuel price of FIP * (1+X). The QSE must provide documentation (invoices) that identifies intra-day, same-day, or spot market costs of natural gas consumed during the RUC-Committed Interval. Such documentation is necessary to justify recovery of natural gas costs, which is limited to the actual fuel amount (MMBtus) consumed during RUC-Committed Intervals. All documentation submitted by the QSE for natural gas costs incurred intra-day, same-day, or via spot market must show a nexus from the seller or distributor of natural gas products to the QSE, Resource Entity or Generation Entity as the ultimate buyer. The QSE must demonstrate that the seller or distributor has procured natural gas fuel intra-day, same-day, or via spot market. A Power Purchase or Tolling Agreement (PPA) filed as documentation of proof of fuel costs will not be accepted unless the PPA was signed prior to July 16, 2008, and is not between Affiliates, subsidiaries, or partners.

(2) If the actual price paid for the delivered fuel oil used to replace oil consumed during a RUC-Committed Interval is greater than Fuel Oil Price (FOP) adjusted by the proxy fuel adder, X, defined in the Verifiable Cost Manual (i.e., FOP * (1+X)), then the QSE may file a Settlement dispute for the Resource's RUC Make-Whole Payment. The maximum amount that may be recovered through this dispute process is the difference between the RUC Guarantee based on the actual price paid and the adjusted price, FOP * (1+X).

(3) If the QSE representing the Generation Resource made a Three-Part Supply Offer into the DAM based on FIP and had to run on fuel oil in a RUC-Committed Hour with an active Three-Part Supply Offer based on the adjusted FIP, the QSE may file a Settlement dispute to recover the difference between the RUC Guarantee based actual price paid for delivered fuel oil and the fuel price of FIP * (1+X).

(4) When filing a Settlement dispute under paragraph (2) or (3) above, the QSE must provide documentation (invoices) that identifies purchases of fuel oil by the QSE, Resource Entity, or Generation Entity to replace oil consumed for a RUC-Committed Interval. In addition, the QSE must provide proof that the Resource actually consumed fuel oil during the RUC-Committed Interval. Proof of actual consumption may be based on the Resource's technical specifications or flow meters as appropriate. Documentation of fuel oil purchases must show that these were made no later than seven Business Days after the end of the last consecutive RUC-Committed Interval. Replacement fuel oil costs are limited to the actual gallons/barrels of fuel oil consumed during RUC-Committed Intervals.

(5) ERCOT may, in its sole discretion, consider documentation types other than those specifically listed in paragraphs (1) and (4) above when offered by a QSE in support of its recovery of fuel costs for RUC deployments. For example, ERCOT may require the Resource input-output equation or average heat rate curve that allows for verification of fuel consumption for operation at and above Low Sustained Limit (LSL).

(6) When calculating the RUC Guarantee as described in paragraph (1), (2) or (3) above, the Startup Price per start (SUPR) and the Minimum-Energy Price (MEPR), as defined in paragraph (6) of Section 5.7.1.1, RUC Guarantee, will be set to the Startup Cap (SUCAP) and Minimum-Energy Cap (MECAP), respectively, utilizing the actual fuel price paid.

(7) In order to recover fuel costs above LSL for a RUC-Committed Interval, the QSE must also submit proof of the volume-weighted average actual price paid for fuel consumed by the Resource during a RUC-Committed Interval for generation above LSL. ERCOT will adjust the RUC Guarantee (RUCG) to include the additional fuel costs above LSL filed by the QSE.

[NPRR1140: Replace paragraph (7) above with the following upon system implementation:]

(7) In order to recover fuel costs above LSL for a RUC-Committed Interval, the QSE must also submit proof of the volume-weighted average actual price paid for fuel consumed by the Resource during a RUC-Committed Interval for generation above LSL.

9.14.8 Disputes for Settlement Application of Integrated Telemetry for Split Generation Resources

(1) Settlement and billing disputes related to application of integrated Real-Time telemetry of MW or MVAr from a Generation Resource that has been split to function as two or

more Split Generation Resources require a signed affidavit by all QSEs representing associated Split Generation Resources. Data values submitted with the affidavit must be integrated to the applicable Settlement Interval format related to the Settlement and billing charge type in dispute.

9.14.9 Incremental Fuel Costs for Switchable Generation Make-Whole Payment Disputes

(1) For the purposes of any Settlement and billing dispute submitted pursuant to paragraph (1)(c) of Section 6.6.12, Make-Whole Payment for Switchable Generation Resources Committed for Energy Emergency Alert (EEA), if the actual price paid for delivered natural gas for a specific Switchable Generation Resource (SWGR) for an instructed hour is greater than FIP plus the fuel adder, then the QSE may recover the fuel costs incurred for that SWGR in the Settlement and billing dispute. The QSE must provide documentation (invoices) that identifies intra-day costs of natural gas consumed. All documentation submitted by the QSE for natural gas costs incurred intra-day must show a nexus from the seller or distributor of natural gas products to the QSE, Resource Entity or Generation Entity as the ultimate buyer. The QSE must demonstrate that the seller or distributor has procured natural gas fuel intra-day.

(2) For the purposes of any Settlement and billing dispute submitted pursuant to paragraph (1)(c) of Section 6.6.12, if the actual price paid for the delivered fuel oil used to replace oil consumed for an instructed hour is greater than FOP plus the fuel adder, then the QSE may recover the fuel costs incurred for that SWGR in the dispute. The QSE must provide documentation that identifies purchases of fuel oil by the QSE, Resource Entity, or Generation Entity to replace oil consumed. In addition, the QSE must provide proof that the SWGR actually consumed fuel oil for the instructed hour. Proof of actual consumption may be based on the Resource's technical specifications or flow meters as appropriate. Documentation of fuel oil purchases must show that these were made no later than seven Business Days after the end of the last consecutive instructed hour.

(3) A QSE submitting documents for the recovery of RUC-related fuel costs other than those specifically discussed in paragraph (1) or (2) above must request to have such documents approved by the ERCOT Board during an Executive Session at the next regularly scheduled meeting of the ERCOT Board. If the ERCOT Board approves the inclusion of such documentation as proof of fuel purchases, the QSE must file an NPRR in accordance with Section 21, Revision Request Process, to add this category of documentation to the process for approval of Switchable Generation Make-Whole Payments.

9.14.10 Settlement for Market Participants Impacted by Omitted Procedures or Manual Actions to Resolve the DAM

(1) A Market Participant that has been directly impacted by an action or omission by ERCOT to resolve the DAM, as described in paragraph (4) of Section 4.1.2, Day-Ahead Process and Timing Deviations, may seek recovery by filing a Settlement and billing dispute as defined in Section 9.14. Where ERCOT determines that the Market Participant seeking

recovery has been directly impacted by such ERCOT action or omission, the following provisions apply:

(a) No resettlement of the DAM will occur as a result of a Market Participant's recovery under this Section;

(b) Where a Market Participant's submissions were not cleared in the DAM, ERCOT will establish a set of DAM Energy Bids, DAM Energy Offers, Ancillary Service Offers, and Point-to-Point (PTP) bids that would have cleared given the settled prices of the DAM;

(c) Startup Costs and minimum energy costs will not be considered for recovery;

(d) For linked offers of energy and Ancillary Services, the available capacity will be allocated to the offers that would have created the greatest value for the Market Participant seeking recovery;

(e) All impacted positions will be summed based on their positive or negative value with respect to Real-Time prices;

Day-Ahead Energy Sales Impact

$$DAMSQSEAMT_q = (-1) * \sum_p ((DASPP_p - RTSPP_p) * (1/4) * DAES_{q,p})$$

Day-Ahead Energy Purchase Impact

$$DAMPQSEAMT_q = (-1) * \sum_p ((RTSPP_p - DASPP_p) * (1/4) * DAEP_{q,p})$$

Day-Ahead Ancillary Services Sales Impact

$$DAMASQSEAMT_q = (-1) * \sum_r (((MCPCRU_{DAM} - RUOPR_{q,r,DAM}) * PCRUR_{q,r,DAM}) + ((MCPCRD_{DAM} - RDOPR_{q,r,DAM}) * PCRDR_{q,r,DAM}) + ((MCPCRR_{DAM} - RROPR_{q,r,DAM}) * PCRRR_{q,r,DAM}) + ((MCPCNS_{DAM} - NSOPR_{q,r,DAM}) * PCNSR_{q,r,DAM}))$$

[NPRR903: Replace the formula for "Day-Ahead Ancillary Services Sales Impact" above with the following upon system implementation of NPRR863:]

Day-Ahead Ancillary Services Sales Impact

$$DAMASQSEAMT_{q} = (-1) * \sum_{r} (((MCPCRU_{DAM} - RUOPR_{q, r, DAM}) * PCRUR_{q, r, DAM}) + ((MCPCRD_{DAM} - RDOPR_{q, r, DAM}) * PCRDR_{q, r, DAM}) + ((MCPCRR_{DAM} - RROPR_{q, r, DAM}) * PCRRR_{q, r, DAM}) + ((MCPCECR_{DAM} - ECRSOPR_{q, r, DAM}) * PCECRR_{q, r, DAM}) + ((MCPCNS_{DAM} - NSOPR_{q, r, DAM}) * PCNSR_{q, r, DAM}))$$

Day-Ahead Point-to-Point Obligation Impact

$$DAMRTPTPQSEAMT_{q} = (-1) * \sum_{j} \sum_{k} ((RTOBLPR_{(j, k)} - DAOBLPR_{(j, k)}) * RTOBL_{q, (j, k)})$$

Where:

$$RTOBLPR_{(j, k)} = \sum_{i=1}^{4} (RTSPP_{(k,i)} - RTSPP_{(j,i)}) / 4$$

$$DAOBLPR_{(j, k)} = DASPP_{k} - DASPP_{j}$$

(f) If any RUC short charges occur for any Operating Hour involved in a Market Participant's recovery under this Section, ERCOT will evaluate the Market Participant's revised position to determine if the Market Participant is entitled to a refund, or should be charged for RUC short charge;

(g) Any resulting charge or payment to the Market Participant will be invoiced using a miscellaneous Invoice, but allocated with the method outlined in paragraphs (2) through (4) of Section 9.19.1, Default Uplift Invoices.

The above variables are defined as follows:

Variable	Unit	Definition
$DAMSQSEAMT_{q}$	$	*Day-Ahead Market Energy Sales Amount by QSE*—The sum of the DAM Energy Sales positions compared to Real-Time results, for the QSE *q*, for the 15-minute Settlement Interval.
$DAMPQSEAMT_{q}$	$	*Day-Ahead Market Energy Purchases Amount by QSE*—The sum of the DAM Energy purchases compared to Real-Time results, for the QSE *q*, for the 15-minute Settlement Interval.
$DAMASQSEAMT_{q}$	$	*Day-Ahead Market Ancillary Service Amount by QSE*—The sum of the DAM Ancillary Service awarded amounts compared to Real-Time results, for the QSE *q*, for the hour.
$DAMRTPTPQSEAMT_{q}$	$	*Day-Ahead Market Real-Time Point-to-Point Obligation Amount by QSE*—The sum of the PTP Obligation bids cleared in the DAM compared to Real-Time results, for the QSE *q*, for the hour.
$DASPP_{p}$	$/MWh	*Day-Ahead Settlement Point Price per Settlement Point*—The DAM Settlement Point Price at Settlement Point *p*, for the hour.

RTOBL $_{q, (j, k)}$	MW	*Real-Time Obligation per QSE per pair of source and sink*—The total MW of QSE *q*'s PTP Obligation bids that would have cleared in the DAM and settled in Real-Time for the source *j,* and the sink *k*, for the hour.
RTSPP $_{p}$	$/MWh	*Real-Time Settlement Point Price*—The Real-Time Settlement Point Price at the Settlement Point for the 15-minute Settlement Interval within the hour.
DAES $_{q, p}$	MW	*Day-Ahead Energy Sale per QSE per Settlement Point*—The total amount of energy represented by QSE *q*'s Three-Part Supply Offers that would have cleared in the DAM and DAM Energy-Only Offer Curves that would have cleared in the DAM at Settlement Point *p*, 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 DAM Energy Bids that would have cleared at Settlement Point *p*, for the hour.
PCRUR $_{q, r, DAM}$	MW	*Procured Capacity for Regulation Up from Resource per QSE per Resource in DAM*—The Regulation Up Service (Reg-Up) capacity quantity that would have been awarded to QSE *q* in the DAM for Resource *r*, for the hour. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
PCRDR $_{q, r, DAM}$	MW	*Procured Capacity for Regulation Down from Resource per QSE per Resource in DAM*—The Regulation Down Service (Reg-Down) capacity quantity that would have been awarded to QSE *q* in the DAM for Resource *r*, for the hour. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
PCRRR $_{q, r, DAM}$	MW	*Procured Capacity for Responsive Reserve from Resource per QSE per Resource in DAM*—The Responsive Reserve (RRS) capacity quantity that would have been awarded to QSE *q* in the DAM for Resource *r*, for the hour. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
PCNSR $_{q, r, DAM}$	MW	*Procured Capacity for Non-Spinning Reserve from Resource per QSE per Resource in DAM*—The Non-Spinning Reserve (Non-Spin) capacity quantity that would have been awarded to QSE *q* in the DAM for Resource *r*, for the hour. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.

[NPRR903: Insert the variable for "PCECRR $_{q, r, DAM}$" below upon system implementation of NPRR863:]

PCECRR $_{q, r, DAM}$	MW	*Procured Capacity for ERCOT Contingency Reserve Service from Resource per QSE per Resource in DAM*—The ERCOT Contingency Reserve Service (ECRS) capacity quantity that would have been awarded to QSE *q* in the DAM for Resource *r*, for the hour. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
RUOPR $_{q, r, DAM}$	$/MW per hour	*Regulation Up Offer Price*—The offer price for Resource *r* represented by QSE *q,* for the impacted Reg-Up Ancillary Service Offers. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
RDOPR $_{q, r, DAM}$	$/MW per hour	*Regulation Down Offer Price*—The offer price for Resource *r* represented by QSE *q,* for the impacted Reg-Down Ancillary Service Offers. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
RROPR $_{q, r, DAM}$	$/MW per hour	*Responsive Reserve Offer Price*—The offer price for Resource *r* represented by QSE *q,* for the impacted RRS Ancillary Service Offers. Where for a Combined Cycle

		Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.

[NPRR903: Insert the variable for "ECRSOPR $_{q, r, DAM}$" below upon system implementation of NPRR863:]

ECRSOPR $_{q, r, DAM}$	$/MW per hour	*ERCOT Contingency Reserve Service Offer Price*—The offer price for Resource *r* represented by QSE *q*, for the impacted ECRS Ancillary Service Offers. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
NSOPR $_{q, r, DAM}$	$/MW per hour	*Non-Spinning Reserve Offer Price*—The offer price for Resource *r* represented by QSE *q*, for the impacted Non-Spin Ancillary Service Offers. Where for a Combined Cycle Train, the Resource *r* is a Combined Cycle Generation Resource within the Combined Cycle Train.
MCPCRU $_{DAM}$	$/MW per hour	*Market Clearing Price for Capacity for Regulation Up in DAM*—The DAM Market Clearing Price for Capacity (MCPC) for Reg-Up, for the hour.
MCPCRD $_{DAM}$	$/MW per hour	*Market Clearing Price for Capacity for Regulation Down in DAM*—The DAM MCPC for Reg-Down, for the hour.
MCPCRR $_{DAM}$	$/MW per hour	*Market Clearing Price for Capacity for Responsive Reserve in DAM*—The DAM MCPC for RRS, for the hour.
MCPCNS $_{DAM}$	$/MW per hour	*Market Clearing Price for Capacity for Non-Spinning Reserve in DAM*—The DAM MCPC for Non-Spin, for the hour.

[NPRR903: Insert the variable for "MCPCECR $_{DAM}$" below upon system implementation of NPRR863:]

MCPCECR $_{DAM}$	$/MW per hour	*Market Clearing Price for Capacity for ERCOT Contingency Reserve Service in DAM*—The DAM MCPC for ECRS, for the hour.

DAOBLPR $_{(j, k)}$	$/MWh	*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.
RTOBLPR $_{(j, k)}$	$/MWh	*Real-Time Obligation Price per pair of source and sink*—The Real-Time calculated price of a PTP Obligation bid with the source *j*, and the sink *k*, for the 15 minute period.
q	none	A QSE.
r	none	A Resource.
i	none	A 15-minute Settlement Interval.
k	none	A sink Settlement Point.
p	none	A Settlement Point.
j	none	A source Settlement Point.

9.15 Settlement Charges

(1) The calculations to be used for Settlement charges are contained in Section 4, Day-Ahead Operations, Section 5, Transmission Security Analysis and Reliability Unit Commitment, Section 6, Adjustment Period and Real-Time Operations, Section 7, Congestion Revenue Rights, and Section 9, Settlement and Billing.

9.15.1 Charge Type Matrix

(1) ERCOT shall post a Charge Type Matrix on the ERCOT website that summarizes each Charge Type by variable name used in the Protocols, description, and Protocol section number reference. ERCOT post changes to this Charge Type Matrix at least ten days before implementation of change.

9.16 ERCOT System Administration and User Fees

9.16.1 ERCOT System Administration Fee

(1) The Public Utility Commission of Texas (PUCT) has authorized ERCOT to charge the ERCOT System Administration fee to fund ERCOT's budget. ERCOT converts the fee into a charge to each Qualified Scheduling Entity (QSE) using the formula set forth in paragraph (3) below.

(2) ERCOT shall post the ERCOT System Administration fee on the ERCOT website. Within two Business Days following PUCT approval of a change in the ERCOT System Administration fee, ERCOT shall post the changed fee and effective date on the ERCOT website.

(3) Each QSE shall pay the ERCOT System Administration fee. The ERCOT System Administration fee is for each 15-minute Settlement Interval for each QSE.

$$\mathbf{ESACAMT}_{q} = \mathbf{LAFF} * \mathbf{max}(0, \sum_{p} \mathbf{RTAML}_{q,p})$$

The above variables are defined as follows:

Variable	Unit	Definition
ESACAMT $_q$	$	*ERCOT System Administration Fee*—The ERCOT System Administration fee for each QSE per 15-minute Settlement Interval.
RTAML $_{q, p}$	MWh	*Real-Time Adjusted Metered Load*— The sum of the Adjusted Metered Load (AML) at the Electrical Buses included in Settlement Point p, represented by QSE q, for the 15-minute Settlement Interval.
LAFF	$/MWh	*Load Administration Fee Factor*—The ERCOT System Administration fee.
q	none	A QSE.
p	none	A Settlement Point. The summation is over all of the Settlement Points.

9.16.2 User Fees

(1) The ERCOT Board approves user fees for products and services provided by ERCOT to a Market Participant or other Entity. Such user fees are approved in accordance with the ERCOT Board Policies and Procedures. User fees may include, but are not limited to, application fees, private Wide Area Network (WAN) costs, and interconnection study fees.

(2) ERCOT shall post user fees approved by the ERCOT Board in the ERCOT Fee Schedule on the ERCOT website. ERCOT shall post the ERCOT Fee Schedule and effective date on the ERCOT website within two Business Days of change.

(3) A Market Participant or other Entity shall pay applicable user fees approved by the ERCOT Board.

9.17 Transmission Billing Determinant Calculation

(1) ERCOT shall provide Market Participants with the key parameters and formula components required by a Transmission Service Provider (TSP) or Distribution Service Provider (DSP) in determining the billing charges for the use of its Transmission Facilities or Distribution Facilities ("Transmission Billing Determinants"). ERCOT is not responsible for billing, collection, or disbursal of payments associated with transmission access service.

9.17.1 Billing Determinant Data Elements

(1) ERCOT shall calculate and provide to Market Participants on the ERCOT website the following data elements annually to be used by TSPs and DSPs as billing determinants for transmission access service. This data must be provided by December 1 of each year. This calculation must be made under the requirements of P.U.C. SUBST. R. 25.192, Transmission Service Rates. ERCOT shall use the most recent aggregate data produced by the ERCOT Settlement system to perform these calculations.

(a) The 4-Coincident Peak (4-CP) for each DSP and External Load Serving Entity (ELSE), as applicable;

(b) The ERCOT average 4-CP;

(c) The average 4-CP for each DSP and ELSE, as applicable, coincident to the ERCOT average 4-CP.

(2) ERCOT average 4-CP is defined as the average of the coincidental MW peaks occurring during the months of June, July, August, and September.

(3) Coincidental MW peak is defined as the highest monthly Settlement Interval 15-minute MW peak for the entire ERCOT Transmission Grid as calculated per the following formula: The sum of all net energy produced by Generation Resources + Settlement Only Generators (SOGs) + Block Load Transfers (BLTs) from ERCOT to another Control Area that have been registered for Settlement purposes + actual Direct Current Tie (DC Tie) imports - BLTs to ERCOT from another Control Area that are not reflected in a Non-Opt-In Entity's (NOIE's) Load - actual DC Tie exports - Wholesale Storage Load (WSL).

[NPRR995: Replace paragraph (3) above with the following upon system implementation:]

(3) Coincidental MW peak is defined as the highest monthly Settlement Interval 15-minute MW peak for the entire ERCOT Transmission Grid as calculated per the following formula: The sum of all net energy produced by Generation Resources + Settlement Only Generators (SOGs) + Settlement Only Energy Storage Systems (SOESSs) + Block Load Transfers (BLTs) from ERCOT to another Control Area that have been registered for Settlement purposes + actual Direct Current Tie (DC Tie) imports - BLTs to ERCOT from another Control Area that are not reflected in a Non-Opt-In Entity's (NOIE's) Load - actual DC Tie exports - Wholesale Storage Load (WSL).

(4) Any difference between the coincidental MW peak (converted to MWh) and the ERCOT Settlement volumes, excluding DC Tie exports, BLTs to ERCOT from another Control Area that are not reflected in a NOIE's Load, and WSL, shall be allocated amongst all DSPs and ELSEs that are included in the ERCOT 4-CP Report on a pro rata basis as per the formula below:

$$\mathbf{LTDSP\_4CP}_{tdsp} = (\mathbf{PLTDSP4CPLRS}_{tdsp} * \mathbf{NLADJ}) + \mathbf{PLTDSP4CP}_{tdsp}$$

The above variables are defined as follows:

Variable	Unit	Definition
LTDSP_4CP $_{tdsp}$	MWh	*Load by TDSP for 4-CP* - The load for each DSP and ELSE coincident to the coincidental MW peak adjusted for NLADJ
PLTDSP4CPLRS $_{tdsp}$	%	*Preliminary Load by TDSP for 4-CP Load Ratio Share* - The Load Ratio Share (LRS) for each DSP and ELSE coincident to the coincidental MW peak prior to adjusting for NLADJ
NLADJ	MWh	*Native Load Adjustment* - The difference between the coincidental MW peak (converted to MWh) and the ERCOT settlement volumes, excluding DC Tie exports, BLTs to ERCOT from another Control Area that are not reflected in a NOIE's Load, and WSL
PLTDSP4CP $_{tdsp}$	MWh	*Preliminary Load by TDSP for 4CP* - The Load for each DSP and ELSE coincident to the coincidental MW peak prior to adjusting for NLADJ
tdsp	None	A DSP or ELSE

9.17.2 Direct Current Tie Schedule Information

(1) Within ten Business Days of receipt of a request by a TSP or DSP for data pertaining to transactions over the DC Ties for the immediately preceding month, ERCOT shall provide the following Electronic Tag (e-Tag) data:

(a) Tagging identifier (Tag Code);

(b) Date of transaction;

(c) Megawatt-hours (MWh) actually transferred;

(d) Sending Generation Control Area (GCA);

(e) Receiving Load Control Area (LCA);

(f) Purchasing / Scheduling Entity (PSE);

(g) Entity scheduling the export of power over a DC Tie; and

(h) Status of Transaction (Implement, Withdrawn, Cancelled, Conditional, etc.).

(2) ERCOT shall maintain and provide the requesting TSP or DSP data pertaining to transactions over the DC Ties for the period from June 2001 to the present. For each transaction, the same data as specified in paragraph (1) above, must be provided.

9.18 Profile Development Cost Recovery Fee for Non-ERCOT Sponsored Load Profile Segment

(1) Paragraph (e)(3) of P.U.C. SUBST. R. 25.131, Load Profiling and Load Research, requires that ERCOT establish and implement a process to collect a fee from any Retail Electric Provider (REP) who seeks to assign customers to a non-ERCOT sponsored profile segment. The process must include a method for other REPs who use the profile segment to compensate the original requestor of the new profile segment and for ERCOT to notify Distribution Service Providers (DSPs) which REPs are authorized to use the new profile segment. This profile development cost recovery fee is overseen by ERCOT.

(2) Within 30 days after a profile segment receives final approval from ERCOT, the requestor shall submit to ERCOT documentation of the costs it incurred in developing the profile segment change request. All such documentation must be available for review by any Market Participant. Any costs submitted more than 30 days after approval of the profile segment will not be recoverable. Recoverable costs must be directly attributable to the creation of the profile segment change request, incurred no earlier than 24 months preceding the original submission date of the profile segment change request, and must be further limited to:

(a) Costs for Load research as paid to DSPs or ERCOT, documented by a copy of all DSP or ERCOT Invoices or other evidence of payment, including but not limited to:

(i) Buying and installing Interval Data Recorders (IDRs);

(ii) Installing communication equipment such as phone lines or cell phones; and

(iii) Reading the meters and translating the data.

(b) Reasonable costs paid to third parties, including a copy of all third-party invoices or other documentary evidence of payment, including:

(i) Defining the request, such as identifying population, profile, data, etc.;

(ii) Preparing the request, such as collecting and analyzing data and presenting the case; and

(iii) Undertaking the review process such as meeting with ERCOT, Profiling Working Group (PWG), Retail Market Subcommittee (RMS), Technical Advisory Committee (TAC), and the ERCOT Board.

(c) Requestor's reasonable internal documented costs itemizing all persons, hours, and other expenses associated with developing the request per paragraphs (1) and (2) above.

(3) Within 60 days after ERCOT approves a profile segment, ERCOT shall evaluate the costs submitted and shall disallow any costs not meeting these criteria. The remaining costs must comprise the total reimbursable cost. Within the same 60-day period, ERCOT shall post a report on the ERCOT website summarizing the allowed expenses by paragraphs (1) and (2) above. If a Market Participant, including the requestor, disagrees with the ERCOT determination with respect to the total reimbursable cost, the Market Participant may submit a dispute as outlined in Section 20, Alternative Dispute Resolution Procedure. No disputes may be submitted after 45 days from posting of the total reimbursable cost to the ERCOT website.

(4) The fee is calculated as follows:

If a REP is the requestor, then: FEE = $C / n

If the requestor is not a REP, then:

FEE = $C / (n + 1)

The above variables are defined as follows:

Variable	Definition
n	The number of REPs subscribing to the profile segment
$C	The total reimbursable cost

(5) The fee must be paid by each successive subscribing REP to the requestor and any previous subscribing REPs per instructions and validation by ERCOT. As additional REPs subscribe to the profile segment, the fee is recalculated and reallocated equally among all subscribing REPs and the requestor, if the requestor is not a REP.

(6) Beginning four years after the date on which the profile segment becomes available for Settlement, any REP may request assignment of Electric Service Identifiers (ESI IDs) to the profile segment without being assessed the profile development cost recovery fee.

9.19 Partial Payments by Invoice Recipients

(1) If at least one Invoice Recipient owing funds does not pay its Settlement Invoice in full (short-pay), ERCOT shall follow the procedure set forth below:

(a) ERCOT shall make every reasonable attempt to collect payment from each short-paying Invoice Recipient prior to four hours preceding the close of the Bank Business Day Central Prevailing Time (CPT) on the day that payments by ERCOT are due to be paid to applicable Invoice Recipient(s).

(b) ERCOT shall draw on any available Financial Security pledged to ERCOT by each short-paying Invoice Recipient that did not pay the amount due under paragraph (a) above. If the amount of any such draw is greater than the amount of the short-paying Invoice Recipient's cash collateral held in excess of that required to cover its Total Potential Exposure (TPE) ("Excess Collateral"), then a draw on available security for a short-paying Invoice Recipient shall be considered a Late Payment for purposes of Section 16.11.6, Payment Breach and Late Payments by Market Participants. ERCOT may, in its sole discretion, hold up to 5% of Financial Security of each short-paying Invoice Recipient and use those funds to pay subsequent Settlement Invoices as they become due. Any funds still held will be applied to unpaid Invoices in conjunction with the default uplift process outlined in Section 9.19.1, Default Uplift Invoices.

(c) ERCOT shall offset or recoup any amounts owed, or to be owed, by ERCOT to a short-paying Invoice Recipient against amounts not paid by that Invoice Recipient, and ERCOT shall apply the amount offset or recouped to cover short pays by that Invoice Recipient. ERCOT may, in its sole discretion, hold credit Invoices and use those funds to pay subsequent Settlement Invoices as they become due. Any funds still held will be offset or recouped against unpaid Invoices in conjunction with the default uplift process outlined in Section 9.19.1.

(d) If, after taking the actions set forth in paragraphs (a), (b) and (c) above, ERCOT still does not have sufficient funds to pay all amounts that it owes to Settlement Invoice Recipients in full, ERCOT shall deduct any applicable administrative fees as specified in Section 9.16, ERCOT System Administration and User Fees, payments for Reliability Must-Run (RMR) Services, and the Congestion Revenue Right (CRR) Balancing Account (CRRBA) from the amount received or collected and then reduce payments to all Settlement Invoice Recipients owed monies from ERCOT. The reductions must be based on a pro rata basis of monies owed to each Settlement Invoice Recipient, to the extent necessary to clear ERCOT's accounts on the payment due date to achieve revenue neutrality for ERCOT. ERCOT shall provide to all Market Participants payment details on all short pays and subsequent reimbursements of short pays. Details must include the identity of each short-paying Invoice Recipient and the dollar amount attributable to that Invoice Recipient, broken down by Invoice numbers. In addition, ERCOT shall provide the aggregate total of all amounts due to all Invoice Recipients before applying the amount not paid on the Settlement Invoice.

(e) If sufficient funds continue to be unavailable for ERCOT to pay all amounts in full to short-paid Entities for that Settlement Invoice and the short-paying Entity is not complying with a payment plan designed to enable ERCOT to pay all amounts in full to short-paid Entities, ERCOT shall uplift short-paid amounts through the Default Uplift process described below in Section 9.19.1 and Section 9.19.2, Payment Process for Default Uplift Invoices.

(f) When ERCOT enters into a payment plan with a short-pay Invoice Recipient, ERCOT shall post to the Market Information System (MIS) Secure Area:

(i) The short-pay plan;

(ii) The schedule of quantifiable expected payments, updated if and when modifications are made to the payment schedule; and

(iii) Invoice dates to which the payments will be applied.

(g) To the extent ERCOT is able to collect past due funds owed by a short-paying Invoice Recipient before the default uplift process defined in Section 9.19.1, ERCOT shall allocate the collected funds to the earliest short-paid Invoice for that short-paying Invoice Recipient. ERCOT shall use its best efforts to distribute collected funds quarterly by the 15th Business Day following the end of a calendar quarter for a short paying Entity when the cumulative amount of undistributed funds held exceed $50,000 on a pro rata basis of monies owed. Subsequently collected funds that have not previously been distributed will be applied against unpaid Invoices in conjunction with the uplift process outlined in Section 9.19.1.

(h) To the extent ERCOT is able to collect past due funds owed by a short-paying Invoice Recipient, after the default uplift process defined in Section 9.19.1, ERCOT shall allocate the collected funds using the same allocation method as in the default uplift process. ERCOT shall use its best efforts to distribute subsequently collected funds quarterly by the 15th Business Day following the end of a calendar quarter for a short paying Entity when the cumulative amount of undistributed funds held exceed $50,000.

9.19.1 Default Uplift Invoices

(1) ERCOT shall collect the total short-pay amount for all Settlement Invoices for a month, less the total payments expected from a payment plan, from Qualified Scheduling Entities (QSEs) and CRR Account Holders. ERCOT must pay the funds it collects from payments on Default Uplift Invoices to the Entities previously short-paid. ERCOT shall notify those Entities of the details of the payment.

(2) Each Counter-Party's share of the uplift is calculated using the best available Settlement data for each Operating Day in the month prior to the month in which the default occurred (the "reference month"), and is calculated as follows:

$DURSCP_{cp} = TSPA * MMARS_{cp}$

Where:

$MMARS_{cp} = MMA_{cp} / MMATOT$

$MMA_{cp} = Max \{ \sum_{mp} (URTMG_{mp} + URTDCIMP_{mp} + USOGTOT_{mp}),$

$\sum_{mp} (URTAML_{mp} + UWSLTOT_{mp}),$

$\sum_{mp} URTQQES_{mp},$

$\sum_{mp} URTQQEP_{mp},$

$\sum_{mp} UDAES_{mp},$

$\sum_{mp} UDAEP_{mp},$

$\sum_{mp} (URTOBL_{mp} + URTOBLLO_{mp}),$

$\sum_{mp} (UDAOPT_{mp} + UDAOBL_{mp} + UOPTS_{mp} + UOBLS_{mp}),$

$\sum_{mp} (UOPTP_{mp} + UOBLP_{mp})\}$

[NPRR995 and NPRR1012: Replace applicable portions of the formula "MMA_{cp}" above with the following upon system implementation for NPRR995; or upon system implementation of the Real-Time Co-Optimization (RTC) project for NPRR1012:]

$MMA_{cp} = Max \{ \sum_{mp} (URTMG_{mp} + URTDCIMP_{mp} + USOGTOT_{mp}),$

$\sum_{mp} (URTAML_{mp} + UWSLTOT_{mp} + USOCLTOT_{mp}),$

$\sum_{mp} URTQQES_{mp},$

$\sum_{mp} URTQQEP_{mp},$

$\sum_{mp} UDAES_{mp},$

$\sum_{mp} UDAEP_{mp},$

$\sum_{mp} (URTOBL_{mp} + URTOBLLO_{mp}),$

$\sum_{mp} (UDAOPT_{mp} + UDAOBL_{mp} + UOPTS_{mp} + UOBLS_{mp}),$

$\sum_{mp} (UOPTP_{mp} + UOBLP_{mp}),$

$\sum_{mp} UDAASOAWD_{mp}\}$

$$MMATOT = \sum_{cp} (MMA_{cp})$$

Where:

$URTMG_{mp} = \sum_{p, r, i} (RTMG_{mp, p, r, i})$, excluding RTMG for RMR Resources and RTMG in Reliability Unit Commitment (RUC)-Committed Intervals for RUC-committed Resources

$$URTDCIMP_{mp} = \sum_{p, i} (RTDCIMP_{mp, p, i}) / 4$$

$$URTAML_{mp} = \max(0, \sum_{p, i} (RTAML_{mp, p, i}))$$

$$URTQQES_{mp} = \sum_{p, i} (RTQQES_{mp, p, i}) / 4$$

$$URTQQEP_{mp} = \sum_{p, i} (RTQQEP_{mp, p, i}) / 4$$

$$UDAES_{mp} = \sum_{p, h} (DAES_{mp, p, h})$$

$$UDAEP_{mp} = \sum_{p, h} (DAEP_{mp, p, h})$$

$$URTOBL_{mp} = \sum_{(j, k), h} (RTOBL_{mp, (j, k), h})$$

$$URTOBLLO_{mp} = \sum_{(j, k), h} (RTOBLLO_{mp, (j, k), h})$$

$$UDAOPT_{mp} = \sum_{(j, k), h} (DAOPT_{mp, (j, k), h})$$

$$UDAOBL_{mp} = \sum_{(j, k), h} (DAOBL_{mp, (j, k), h})$$

$$UOPTS_{mp} = \sum_{(j, k), h} (OPTS_{mp, (j, k), h})$$

$$UOBLS_{mp} = \sum_{(j, k), h} (OBLS_{mp, (j, k), h})$$

$$UOPTP_{mp} = \sum_{(j, k), h} (OPTP_{mp, j, h})$$

$$UOBLP_{mp} = \sum_{(j, k), h} (OBLP_{mp, (j, k), h})$$

$$UWSLTOT_{mp} = (-1) * \sum_{r, b} (MEBL_{mp, r, b})$$

[NPRR1012: Insert the formula "$UDAASOAWD_{mp}$" below upon system implementation of the Real-Time Co-Optimization (RTC) project:]

$$UDAASOAWD_{mp} = \sum_{h} (DARUOAWD_{mp, h} + DARDOAWD_{mp, h} + DARROAWD_{mp, h} + DANSOAWD_{mp, h} + DAECROAWD_{mp, h})$$

$$USOGTOT_{mp} = \sum_{gsc} (MEBSOGNET_{mp, gsc}) + \sum_{p, i} (RTMGSOGZ_{mp, p, i})$$

[NPRR995: Insert the formula "USOCLTOT $_{mp}$" below upon system implementation:]

$$USOCLTOT_{mp} = (-1) * \sum_{gsc, b} (WSOL_{mp, gsc, b})$$

The above variables are defined as follows:

Variable	Unit	Definition
DURSCP $_{cp}$	$	*Default Uplift Ratio Share per Counter-Party*—The Counter-Party's pro rata portion of the total short-pay amount for all Day-Ahead Market (DAM) and Real-Time Market (RTM) Invoices for a month.
TSPA	$	*Total Short Pay Amount*—The total short-pay amount calculated by ERCOT to be collected through the Default Uplift Invoice process.
MMARS $_{cp}$	None	*Maximum MWh Activity Ratio Share*—The Counter-Party's pro rata share of Maximum MWh Activity in the reference month.
MMA $_{cp}$	MWh	*Maximum MWh Activity*—The maximum MWh activity of all Market Participants represented by the Counter-Party in the DAM, RTM and CRR Auction in the reference month.
MMATOT	MWh	*Maximum MWh Activity Total*—The sum of all Counter-Party's Maximum MWh Activity in the reference month.
RTMG $_{mp, p, r, i}$	MWh	*Real-Time Metered Generation per Market Participant per Settlement Point per Resource*—The Real-Time energy produced by the Generation Resource *r* represented by Market Participant *mp*, at Resource Node *p*, for the 15-minute Settlement Interval *i*, where the Market Participant is a QSE.
URTMG $_{mp}$	MWh	*Uplift Real-Time Metered Generation per Market Participant*—The monthly sum of Real-Time energy produced by Generation Resources represented by Market Participant *mp*, excluding generation for RMR Resources and generation in RUC-Committed Intervals, where the Market Participant is a QSE assigned to the registered Counter-Party.
RTDCIMP $_{mp, p, i}$	MW	*Real-Time DC Import per QSE per Settlement Point*—The aggregated Direct Current Tie (DC Tie) Schedule submitted by Market Participant *mp,* as an importer into the ERCOT System through DC Tie *p*, for the 15-minute Settlement Interval *i*, where the Market Participant is a QSE.
URTDCIMP $_{mp}$	MW	*Uplift Real-Time DC Import per Market Participant*—The monthly sum of the aggregated DC Tie Schedule submitted by Market Participant *mp*, as an importer into the ERCOT System where the Market Participant is a QSE assigned to a registered Counter-Party.
RTAML $_{mp, p, i}$	MWh	*Real-Time Adjusted Metered Load per Market Participant per Settlement Point*—The sum of the Adjusted Metered Load (AML) at the Electrical Buses that are included in Settlement Point *p* represented by Market Participant *mp* for the 15-minute Settlement Interval *i*, where the Market Participant is a QSE.
URTAML $_{mp}$	MWh	*Uplift Real-Time Adjusted Metered Load per Market Participant*—The monthly sum of the AML represented by Market Participant *mp*, where the Market Participant is a QSE assigned to the registered Counter-Party.
RTQQES $_{mp, p, i}$	MW	*QSE-to-QSE Energy Sale per Market Participant per Settlement Point*—The amount of MW sold by Market Participant *mp* through Energy Trades at Settlement Point *p* for the 15-minute Settlement Interval *i*, where the Market Participant is a QSE.
URTQQES $_{mp}$	MWh	*Uplift QSE-to-QSE Energy Sale per Market Participant*—The monthly sum of MW sold by Market Participant *mp* through Energy Trades, where the Market Participant is a QSE assigned to the registered Counter-Party.

Variable	Unit	Definition
RTQQEP $_{mp, p, i}$	MW	*QSE-to-QSE Energy Purchase per Market Participant per Settlement Point*—The amount of MW bought by Market Participant *mp* through Energy Trades at Settlement Point *p* for the 15-minute Settlement Interval *i*, where the Market Participant is a QSE.
URTQQEP $_{mp}$	MWh	*Uplift QSE-to-QSE Energy Purchase per Market Participant*—The monthly sum of MW bought by Market Participant *mp* through Energy Trades, where the Market Participant is a QSE assigned to the registered Counter-Party.
DAES $_{mp, p, h}$	MW	*Day-Ahead Energy Sale per Market Participant per Settlement Point per hour*—The total amount of energy represented by Market Participant *mp*'s cleared Three-Part Supply Offers in the DAM and cleared DAM Energy-Only Offers at Settlement Point *p*, for the hour *h*, where the Market Participant is a QSE.
UDAES $_{mp}$	MWh	*Uplift Day-Ahead Energy Sale per Market Participant*—The monthly total of energy represented by Market Participant *mp*'s cleared Three-Part Supply Offers in the DAM and cleared DAM Energy-Only Offer Curves, where the Market Participant is a QSE assigned to the registered Counter-Party.
DAEP $_{mp, p, h}$	MW	*Day-Ahead Energy Purchase per Market Participant per Settlement Point per hour*—The total amount of energy represented by Market Participant *mp*'s cleared DAM Energy Bids at Settlement Point *p* for the hour *h*, where the Market Participant is a QSE.
UDAEP $_{mp}$	MWh	*Uplift Day-Ahead Energy Purchase per Market Participant*—The monthly total of energy represented by Market Participant *mp*'s cleared DAM Energy Bids, where the Market Participant is a QSE assigned to the registered Counter-Party.
RTOBL $_{mp, (j, k), h}$	MW	*Real-Time Obligation per Market Participant per source and sink pair per hour*—The number of Market Participant *mp*'s Point-to-Point (PTP) Obligations with the source *j* and the sink *k* settled in Real-Time for the hour *h*, and where the Market Participant is a QSE.
URTOBL $_{mp}$	MWh	*Uplift Real-Time Obligation per Market Participant*—The monthly total of Market Participant *mp*'s PTP Obligations settled in Real-Time, counting the quantity only once per source and sink pair, and where the Market Participant is a QSE assigned to the registered Counter-Party.
RTOBLLO $_{q, (j, k)}$	MW	*Real-Time Obligation with Links to an Option per QSE per pair of source and sink*—The total MW of the QSE's PTP Obligation with Links to an Option Bids cleared in the DAM and settled in Real-Time for the source *j* and the sink *k* for the hour.
URTOBLLO $_{q, (j, k)}$	MW	*Uplift Real-Time Obligation with Links to an Option per QSE per pair of source and sink*—The monthly total of Market Participant *mp*'s MW of PTP Obligation with Links to Options Bids cleared in the DAM and settled in Real-Time for the source *j* and the sink *k* for the hour, where the Market Participant is a QSE assigned to the registered Counter-Party.
DAOPT $_{mp, (j, k), h}$	MW	*Day-Ahead Option per Market Participant per source and sink pair per hour*—The number of Market Participant *mp*'s PTP Options with the source *j* and the sink *k* owned in the DAM for the hour *h*, and where the Market Participant is a CRR Account Holder.
UDAOPT $_{mp}$	MWh	*Uplift Day-Ahead Option per Market Participant*—The monthly total of Market Participant *mp*'s PTP Options owned in the DAM, counting the ownership quantity only once per source and sink pair, and where the Market Participant is a CRR Account Holder assigned to the registered Counter-Party.