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NPRR Number	377	NPRR Title	Alternate Inputs to Base Point Deviation Charge
Revision Description			This Nodal Protocol Revision Request (NPRR) will align the Adjusted Aggregated Base Point (AABP) formula with the inputs to the Generation Resource Energy Deployment Performance (GREDP) measure. The current formula for AABP inaccurately assesses Base Point Deviation Charges for under and over generation when shortened Security-Constrained Economic Dispatch (SCED) intervals occur. Additionally, this NPRR includes bill determinants to track the over and under generated volumes and correct language for bill determinants P1 and P2.

Proposed Protocol Language Revision

6.6.5 Generation Resource Base Point Deviation Charge

A QSE for a Generation Resource shall pay a Base Point Deviation Charge if the Resource did not follow Dispatch Instructions and Ancillary Services deployments within defined tolerances, except when the Dispatch Instructions and Ancillary Services deployments violate the Resource Parameters. The Base Point Deviation Charge does not apply to Generation Resources any time during the Settlement Interval when the telemetered Resource Status is set to "ONTEST." The desired output from a Generation Resource during a 15-minute Settlement Interval is calculated as follows:

$$AABP = \sum_{y}((BP_y + BP_{y-1})/2 * TLMP_y) / (\sum_{y} TLMP_y) + TWAR$$

$$AABP_{q,r,p,i} = AVGBP_{q,r,p,i} + AVGREG_{q,r,p,i}$$

Where:

$$TWAR = \sum_{y}((ARI_y * TLMP_y) / (\sum_{y} TLMP_y)$$

$$AVGBP_{q,r,p,i} = \sum_{y}(AVGBP5M_{q,r,p,i,y}) / 3$$

$$AVGREG_{q,r,p,i} = \sum_{y}(AVGREG5M_{q,r,p,i,y}) / 3$$

Where:

$$AVGREG5M_{q, r, p, i, y} = (AVGREGUP5M_{q, r, p, i, y} - AVGREGDN5M_{q, r, p, i, y})$$

The above variables are defined as follows:

Variable	Unit	Definition
AABP~~5M~~ $_{q, r, p, i, y}$	MW	*Adjusted Aggregated Base Point* <u>per QSE per Settlement Point per Resource</u> —The <u>aggregated Base Point adjusted for Ancillary Service deployments of Generation Resource r represented by QSE q at Resource Node p,</u> ~~Generation Resource's aggregated Base Point adjusted for Ancillary Service deployments,~~ for the 15-minute Settlement Interval <u>i</u>. Where for a Combined Cycle Train, AABP is calculated for the Combined Cycle Train considering all SCED Dispatch Instructions to any Combined Cycle Generation Resources within the Combined Cycle Train.
~~BP $_y$~~	~~MW~~	~~*Base Point by interval* —The Base Point for the Generation Resource at the Resource Node, for the SCED interval y.~~
~~TLMP $_y$~~	~~second~~	~~*Duration of SCED interval per interval* —The duration of the portion of the SCED interval y within the 15-minute Settlement Interval.~~
~~TWAR~~	~~MW~~	~~*Time-Weighted Average Regulation* —The amount of regulation that the Generation Resource should have produced based on the deployment signals as calculated by the Load Frequency Control (LFC) within the 15-minute Settlement Interval.~~
~~ARI $_y$~~	~~MW~~	~~*Average Regulation Instruction*—The amount of regulation that the Generation Resource should have produced based on the deployment signals as calculated by the LFC within the SCED interval.~~
<u>AVGBP $_{q, r, p, i}$</u>	<u>MW</u>	*Average Base Point <u>per QSE per Settlement Point per Resource</u>* —The <u>average of the five-minute clock interval Base Points over the 15-minute Settlement Interval i</u> <u>for Generation Resource r represented by QSE q at Resource Node p.</u>
<u>AVGBP5M $_{q, r, p, i, y}$</u>	<u>MW</u>	<u>*Average five-minute clock interval Base Point per QSE per Settlement Point per Resource* — The average Base Point for the Generation Resource r represented by QSE q at Resource Node p, for the five-minute clock interval y within the 15-minute Settlement Interval i. The time-weighted average of the linearly ramped Base Points in a five-minute clock interval y. The linearly ramped Base Point is calculated every four seconds such that it ramps from its initial value to the SCED Base Point over a five-minute clock interval y. The initial value of the linearly ramped Base Point will be the four second value of the previous linearly ramped Base Point at the time the new SCED Base Point is received into the ERCOT Energy Management System (EMS). The linear ramp is recalculated each time that a new Base Point is received from SCED. ABGBP5M is equal to the ABP value calculated for use in GREDP, as described in section 8.1.1.4, Ancillary Service and Energy Deployment Compliance Criteria.</u>
<u>AVGREG $_{q, r, p, i}$</u>	<u>MW</u>	*Average Regulation Instruction <u>per QSE per Settlement Point per Resource</u>* —The <u>average of the five-minute clock interval y Regulation Instruction Generation Resource r represented by QSE q at Resource Node p over the 15-minute Settlement Interval i.</u>
<u>AVGREG5M $_{q, r, p, i, y}$</u>	<u>MW</u>	*Total <u>Average five-minute clock interval</u> Regulation Instruction <u>per QSE per Settlement Point per Resource</u>* —The total amount of regulation that the Generation Resource r represented by QSE q at Resource Node p should have produced based on LFC deployment signals over the five-minute clock interval y within the 15-minute Settlement Interval i.
<u>AVGREGUP5M $_{q, r, p, i, y}$</u>	<u>MW</u>	*Average Regulation Instruction Up per QSE per Settlement Point per Resource* —The amount of Regulation Up (Reg-Up) that the Generation Resource r represented by QSE q at Resource Node p should have produced based on LFC deployment signals over the five-minute clock interval y within the 15-minute Settlement Interval i..

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Variable	Unit	Definition
AVGREGDN5M $_{q, r, p, i, y}$	MW	*Average Regulation Instruction Down per QSE per Settlement Point per Resource* —The amount of Regulation Down (Reg-Down) that the Generation Resource *r* represented by QSE *q* at Resource Node *p* should have produced based on LFC deployment signals over the five-minute clock interval *y* within the 15-minute Settlement Interval *i*..
q	none	A QSE.
p	none	A Resource Node Settlement Point.
r	none	A Generation Resource.
i	None	A 15-minute Settlement Interval
y	none	A ~~SCED~~ five-minute clock interval in the Settlement Interval. ~~The summation is over the total number of SCED runs that cover the 15-minute Settlement Interval.~~

[NPRR348: Replace Section 6.6.5 above with the following upon system implementation:]

6.6.5   *Generation Resource Base Point Deviation Charge*

A QSE for a Generation Resource shall pay a Base Point Deviation Charge if the Resource did not follow Dispatch Instructions and Ancillary Services deployments within defined tolerances, except when the Dispatch Instructions and Ancillary Services deployments violate the Resource Parameters. The Base Point Deviation Charge does not apply to Generation Resources when AABP is less than the Resource's average telemetered LSL or any time during the Settlement Interval when the telemetered Resource Status is set to ONTEST or STARTUP. The desired output from a Generation Resource during a 15-minute Settlement Interval is calculated as follows:

$$\text{AABP} \quad = \quad \sum_{y} ((BP_y + BP_{y-1})/2 * TLMP_y) / (\sum_{y} TLMP_y) + TWAR$$

Where:

$$\text{TWAR} \quad = \quad \sum_{y} ((ARI_y * TLMP_y) / (\sum_{y} TLMP_y)$$

The above variables are defined as follows:

Variable	Unit	Definition
AABP	MW	*Adjusted Aggregated Base Point*—The Generation Resource's aggregated Base Point adjusted for Ancillary Service deployments, for the 15-minute Settlement Interval. Where for a Combined Cycle Train, AABP is calculated for the Combined Cycle Train considering all SCED Dispatch Instructions to any Combined Cycle Generation Resources within the Combined Cycle Train.
BP $_y$	MW	*Base Point by interval*—The Base Point for the Generation Resource at the Resource Node, for the SCED interval *y*.
TLMP $_y$	second	*Duration of SCED interval per interval*—The duration of the portion of the SCED interval *y* within the 15-minute Settlement Interval.

TWAR	MW	*Time-Weighted Average Regulation*—The amount of regulation that the Generation Resource should have produced based on the deployment signals as calculated by the Load Frequency Control (LFC) within the 15-minute Settlement Interval.
ARI $_y$	MW	*Average Regulation Instruction*—The amount of regulation that the Generation Resource should have produced based on the deployment signals as calculated by the LFC within the SCED interval.
y	none	A SCED interval in the Settlement Interval. The summation is over the total number of SCED runs that cover the 15-minute Settlement Interval.

6.6.5.1 General Generation Resource Base Point Deviation Charge

(1) Unless one of the exceptions specified in paragraphs (2) and (3) below applies, ERCOT shall charge a Generation Resource Base Point Deviation Charge for a Generation Resource other than those described in Section 6.6.5.2, IRR Generation Resource Base Point Deviation Charge, and Section 6.6.5.3, Generators Exempt from Deviation Charges, when the telemetered generation of the Generation Resource over the 15-minute Settlement Interval is outside the tolerances defined later in this Section 6.6.5.1.

(2) ERCOT may not charge a QSE a Generation Resource Base Point Deviation Charge under paragraph (1) above when both of the following apply:

   (a) The generation deviation of the Generation Resource over the 15-minute Settlement Interval is in a direction that contributes to frequency corrections that resolve an ERCOT System frequency deviation; and

   (b) The ERCOT System frequency deviation is greater than +/-0.05 Hz at any time during the 15-minute Settlement Interval.

(3) ERCOT may not charge a QSE a Generation Resource Base Point Deviation Charge under paragraph (1) above for any 15-minute Settlement Interval during which Responsive Reserve (RRS) is deployed.

(4) ERCOT may not charge a QSE a Generation Resource Base Point Deviation Charge under paragraph (1) above for any 15-minute Settlement Interval which includes a SCED interval that is less than four minutes in duration.

6.6.5.1.1 Base Point Deviation Charge for Over Generation

(1) ERCOT shall charge a QSE for a Generation Resource for over-generation that exceeds the following tolerance. The tolerance is the greater of:

(a)   5% of the average of the Base Points in the Settlement Interval adjusted for any Ancillary Service deployments; or

(b)   Five MW for metered generation above the average of the Base Points in the Settlement Interval adjusted for any Ancillary Service deployments.

(2)   The <u>over-generation</u> charge to each QSE for ~~over-generation of~~ each Generation Resource at each Resource Node Settlement Point~~, if the Real-Time metered generation is greater than the upper tolerance during a given 15-minute Settlement Interval~~, is calculated as follows:

~~$BPDAMT_{q,r,p} = Max(PR1, RTSPP_p) * Max[0, (TWTG_{q,r,p} - ¼ * Max(((1 + K1) * AABP_{q,r,p}), (AABP_{q,r,p} + Q1)))]$~~

~~Where:~~

~~$TWTG_{q,r,p} = \sum_y (ATG_{q,r,p,y} * TLMP_y / 3600)$~~

<u>$BPDAMT_{q,r,p,i} = Max(PR1, RTSPP_{p,i}) * OGEN_{q,r,p,i}$</u>

<u>Where:</u>

<u>$OGEN_{q,r,p,i} = Max[0, (TWTG_{q,r,p,i} - ¼ * Max(((1 + K1) * AABP_{q,r,p,i}), (AABP_{q,r,p,i} + Q1)))]$</u>

<u>$TWTG_{q,r,p,i} = (\sum_y (AVGTG5M_{q,r,p,i,y}) / 3) * 1/4$</u>

The above variables are defined as follows:

Variable	Unit	Definition
~~$BPDAMT_{q,r,p}$~~	~~$~~	~~*Base Point Deviation Charge per QSE per Settlement Point per Resource* — The charge to QSE *q* for Generation Resource *r* at Resource Node *p*, for its deviation from Base Point, for the 15-minute Settlement Interval. The Base Point Deviation Charge is charged to the Combined Cycle Train for all Combined Cycle Generation Resources.~~
~~$RTSPP_p$~~	~~$/MWh~~	~~*Real-Time Settlement Point Price per Settlement Point* — The Real-Time Settlement Point Price at Settlement Point *p*, for the 15-minute Settlement Interval.~~

Variable	Unit	Definition
TWTG $_{q, r, p}$	MWh	*Time-Weighted Telemetered Generation per QSE per Settlement Point per Resource* — The telemetered generation of Generation Resource *r* represented by QSE *q* at Resource Node *p*, for the 15-minute Settlement Interval. Where for a Combined Cycle Train, the Resource *r* is the Combined Cycle Train.
AABP $_{q, r, p}$	MW	*Adjusted Aggregated Base Point per QSE per Settlement Point per Resource* — The aggregated Base Point adjusted for Ancillary Service deployments, of Generation Resource *r* represented by QSE *q* at Resource Node *p*, for the 15-minute Settlement Interval. Where for a Combined Cycle Train, AABP is calculated for the Combined Cycle Train considering all SCED Dispatch Instructions to any Combined Cycle Generation Resources within the Combined Cycle Train.
ATG $_{q, r, p, y}$	MW	*Average Telemetered Generation* — The average telemetered generation of Generation Resource *r* represented by QSE *q* at Resource Node *p*, for the SCED interval.
TLMP $_y$	second	*Duration of SCED interval per interval* — The duration of the portion of the SCED interval *y* within the 15-minute Settlement Interval.
PR1	$/MWh	The minimum price to use for the charge calculation when RTSPP is positive, $20.
K1	none	The percentage tolerance for over-generation, 5%.
Q1	MW	The MW tolerance for over-generation, five MW.
q	none	A QSE.
3600	none	The number of seconds in one hour.
p	none	A Resource Node Settlement Point.
r	none	A non-exempt, non-Intermittent Renewable Resource (IRR) Generation Resource.
y	none	An Emergency Base Point interval or SCED interval that overlaps the 15-minute Settlement Interval.

Variable	Unit	Definition
BPDAMT $_{q, r, p, i}$	$	*Base Point Deviation Charge per QSE per Settlement Point per Resource*—The charge to QSE *q* for Generation Resource *r* at Resource Node *p*, for its deviation from Base Point, for the 15-minute Settlement Interval *i*. The Base Point Deviation Charge is charged to the Combined Cycle Train for all Combined Cycle Generation Resources.
RTSPP $_{p, i}$	$/MWh	*Real-Time Settlement Point Price per Settlement Point*—The Real-Time Settlement Point Price at Settlement Point *p*, for the 15-minute Settlement Interval *i*.
TWTG $_{q, r, p, i}$	MWh	*Time-Weighted Telemetered Generation per QSE per Settlement Point per Resource*—The telemetered generation of Generation Resource *r* represented by QSE *q* at Resource Node *p*, for the 15-minute Settlement Interval *i*. Where for a Combined Cycle Train, the Resource *r* is the Combined Cycle Train.
AABP $_{q, r, p, i}$	MW	*Adjusted Aggregated Base Point per QSE per Settlement Point per Resource*—The aggregated Base Point adjusted for Ancillary Service deployments, of Generation Resource *r* represented by QSE *q* at Resource Node *p*, for the 15-minute Settlement Interval *i*. Where for a Combined Cycle Train, AABP is calculated for the Combined Cycle Train considering all SCED Dispatch Instructions to any Combined Cycle Generation Resources within the Combined Cycle Train
AVGTG5M $_{q, r, p, i, y}$	MW	*Average Telemetered Generation for the 5 Minutes*—The average telemetered generation of Generation Resource *r* represented by QSE *q* at Resource Node *p*, for the five-minute clock interval *y*, within the 15-minute Settlement Interval *i*.

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Variable	Unit	Definition
OGEN $_{q, r, p, i}$	MW	*Over Generation Volumes per QSE per Settlement Point per Resource*—The amount over-generated by the Generation Resource *r* represented by QSE *q* at Resource Node *p* for the 15-minute Settlement Interval *i*.
PR1	$/MWh	The price to use for the Base Point Deviation Charge for over-generation when RTSPP is less than $20.
K1	none	The percentage tolerance for over-generation, 5%.
Q1	MW	The MW tolerance for over-generation, five MW.
q	none	A QSE.
p	none	A Resource Node Settlement Point.
r	none	A non-exempt, non-Intermittent Renewable Resource (IRR).
y	none	A five-minute clock interval in the Settlement Interval.
i	none	A 15-minute Settlement Interval.

6.6.5.1.2 Base Point Deviation Charge for Under Generation

(1) ERCOT shall charge a QSE for a Generation Resource for under generation if the metered generation is below the lesser of:

 (a) 95% of the average of the Base Points in the Settlement Interval adjusted for any Ancillary Service deployments; or

 (b) The average of the Base Points in the Settlement Interval adjusted for any Ancillary Service deployments minus five MW.

(2) The under-generation charge to each QSE ~~for under-generation of~~ for each Generation Resource at each Resource Node Settlement Point for a given 15-minute Settlement Interval is calculated as follows~~:~~

~~BPDAMT $_{q, r, p}$ = (-1) * Min (PR2, RTSPP $_p$) * Min (1, KP) * Max {0, {Min [((1 – K2) * ¼(AABP $_{q, r, p}$)) , ¼(AABP $_{q, r, p}$ – Q2)] – TWTG $_{q, r, p}$}}~~

~~Where:~~

~~TWTG $_{q, r, p}$ = $\sum_{y}$ (ATG $_{q, r, p, y}$ * TLMP $_y$ / 3600)~~

BPDAMT $_{q, r, p, i}$ = -1 * Min (PR2, RTSPP$_{p,i}$) * Min (1, KP) * UGEN$_{q, r, p, i}$

Where:

UGEN $_{q, r, p, i}$ = Max [0, [Min ((1 - K2) * ¼* AABP $_{q, r, p, i}$),

¼ * (AABP $_{q, r, p, i}$ - Q2) - TWTG$_{q, r, p, i}$]]

$$TWTG_{q, r, p, i} = \left(\sum_{y} (AVGTG5M_{q, r, p, i, y}) / 3 \right) * 1/4$$

The above variables are defined as follows:

Variable	Unit	Definition
BPDAMT~q, r, p~	$	*Base Point Deviation Charge per QSE per Settlement Point per Resource* — The charge to QSE q for Generation Resource r at Resource Node p, for its deviation from Base Point, for the 15-minute Settlement Interval. A Base Point Deviation Charge is charged to the Combined Cycle Train for all Combined Cycle Generation Resources.
RTSPP~p~	$/MWh	*Real-Time Settlement Point Price per Settlement Point* — The Real-Time Settlement Point Price at Settlement Point p, for the 15-minute Settlement Interval.
TWTG~q, r, p~	MWh	*Time-Weighted Telemetered Generation per QSE per Settlement Point per Resource* — The telemetered generation of Generation Resource r represented by QSE q at Resource Node p, for the 15-minute Settlement Interval. Where for a Combined Cycle Train, the Resource r is the Combined Cycle Train.
AABP~q, r, p~	MW	*Adjusted Aggregated Base Point* — The aggregated Base Point adjusted for Ancillary Service deployments of Generation Resource r represented by QSE q at Resource Node p, for the 15-minute Settlement Interval. Where for a Combined Cycle Train, AABP is calculated for the Combined Cycle Train considering all SCED Dispatch Instructions to any Combined Cycle Generation Resources within the Combined Cycle Train.
ATG~q, r, p, y~	MW	*Average Telemetered Generation* — The average telemetered generation of Generation Resource r represented by QSE q at Resource Node p, for the SCED interval.
TLMP~y~	second	*Duration of SCED interval per interval* — The duration of the portion of the SCED interval y within the 15-minute Settlement Interval.
KP	None	The coefficient applied to the Settlement Point Price for under-generation charge, 1.0.
PR2	$/MWh	The minimum price to use for the charge calculation when RTSPP is negative, $-20.
K2	None	The percentage tolerance for under-generation, 5%.
Q2	MW	The MW tolerance for under-generation, five MW.
q	none	A QSE.
p	none	A Resource Node Settlement Point.
r	none	A non-exempt, non-IRR Generation Resource.
y	none	An Emergency Base Point interval or SCED interval that overlaps the 15-minute Settlement Interval.

Variable	Unit	Definition
BPDAMT~q, r, p, i~	$	*Base Point Deviation Charge per QSE per Settlement Point per Resource*—The charge to QSE q for Generation Resource r at Resource Node p, for its deviation from Base Point, for the 15-minute Settlement Interval i. A Base Point Deviation Charge is charged to the Combined Cycle Train for all Combined Cycle Generation Resources.
RTSPP~p, i~	$/MWh	*Real-Time Settlement Point Price per Settlement Point*—The Real-Time Settlement Point Price at Settlement Point p, for the 15-minute Settlement Interval i.

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TWTG $_{q, r, p, i}$	MWh	*Time-Weighted Telemetered Generation per QSE per Settlement Point per Resource—*The telemetered generation of Generation Resource *r* represented by QSE *q* at Resource Node *p*, for the 15-minute Settlement Interval i. Where for a Combined Cycle Train, the Resource *r* is the Combined Cycle Train
AABP $_{q, r, p, i}$	MW	*Adjusted Aggregated Base Point—*The aggregated Base Point adjusted for Ancillary Service deployments of Generation Resource *r* represented by QSE *q* at Resource Node *p*, for the 15-minute Settlement Interval *i.*. Where for a Combined Cycle Train, AABP is calculated for the Combined Cycle Train considering all SCED Dispatch Instructions to any Combined Cycle Generation Resources within the Combined Cycle Train
AVGTG5M $_{q, r, p, i, y}$	MW	*Average Telemetered Generation for the 5 Minutes —*The average telemetered generation of Generation Resource *r* represented by QSE *q* at Resource Node *p*, for the five-minute clock interval *y*, within the 15-minute Settlement Interval *i*.
UGEN $_{q, r, p, i}$	MWh	*Under Generation Volumes per QSE per Settlement Point per Resource—*The amount under-generated by the Generation Resource *r* represented by QSE *q* at Resource Node *p* for the 15--minute Settlement Interval *i*.
KP	None	The coefficient applied to the Settlement Point Price for under-generation charge, 1.0.
PR2	$/MWh	The price to use for the Base Point Deviation Charge for under-generation calculation when RTSPP is greater than -$-20.
K2	None	The percentage tolerance for under-generation, 5%.
Q2	MW	The MW tolerance for under-generation, five MW.
q	none	A QSE.
p	none	A Resource Node Settlement Point.
r	none	A non-exempt, non-IRR.
y	none	A five-minute clock interval in the Settlement Interval.
i	none	A 15-minute Settlement Interval.

6.6.5.2   IRR Generation Resource Base Point Deviation Charge

(1)   ERCOT shall charge a QSE for an IRR a Base Point Deviation Charge if the IRR metered generation is more than 10% above its Adjusted Aggregated Base Point and the flag signifying that the IRR has received a Base Point below the High Dispatch Limit (HDL) used by SCED has been received.

(2)   The charge to each QSE for non-excused over-generation of each IRR at each Resource Node Settlement Point, if the Real-Time metered generation is greater than the upper tolerance during a 15-minute Settlement Interval, is calculated as follows:

If the flag signifying that the IRR has received a Base Point below the HDL used by SCED is not set in all SCED intervals within the 15-minute Settlement Interval:

BPDAMT $_{q, r, p, i}$ =   0

 Otherwise, if the flag signifying that the IRR has received a Base Point below the HDL used by SCED is set in all SCED intervals within the 15-minute Settlement Interval:

~~the flag signifying that the IRR has received a Base Point below the HDL used by SCED is set in all SCED intervals within the 15-minute Settlement Interval:~~

$$\text{~~BPDAMT~~}_{q, r, p} = \text{~~Max (PR1, RTSPP~~}_p) * \text{~~Max (0, TWTG~~}_{q, r, p} - \tfrac{1}{4} * \text{~~AABP~~}_{q, r, p} * (1 + \text{~~KIRR))~~}$$

$$\underline{\text{BPDAMT}}_{q, r, p, i} = \underline{\text{Max (PR1, RTSPP}}_{p, i}) * \underline{\text{OGENIRR}}_{~~q~~ q, r, p, i}$$

~~Where:~~

$$\text{~~TWTG~~}_{q, r, p} = \sum_y (\text{~~ATG~~}_{q, r, p, y} * \text{~~TLMP~~}_y / 3600)$$

Where:

$$\underline{\text{OGENIRR}}_{q, r, p, i} = \underline{\text{Max } [0, \text{TWTG}}_{q, r, p, i} - \tfrac{1}{4} * \underline{\text{AABP}}_{q, r, p, i} * (1 + \underline{\text{KIRR})]}$$

$$\underline{\text{TWTG}}_{q, r, p, i} = (\sum_y \underline{(\text{AVGTG5M}}_{q, r, p, i, y}) / 3) * 1/4$$

The above variables are defined as follows:

~~Variable~~	~~Unit~~	~~Definition~~
~~BPDAMT~~$_{q, r, p}$	~~$~~	~~*Base Point Deviation Charge per QSE per Settlement Point per Resource* – The charge to QSE q for Generation Resource r at Resource Node p, for its deviation from Base Point, for the 15-minute Settlement Interval.~~
~~RTSPP~~$_p$	~~$/MWh~~	~~*Real-Time Settlement Point Price per Settlement Point* – The Real-Time Settlement Point Price at Resource Node p, for the 15-minute Settlement Interval.~~
~~TWTG~~$_{q, r, p}$	~~MWh~~	~~*Time-Weighted Telemetered Generation per QSE per Settlement Point per Resource* – The telemetered generation of Generation Resource r represented by QSE q at Resource Node p, for the 15-minute Settlement Interval.~~
~~AABP~~$_{q, r, p}$	~~MW~~	~~*Adjusted Aggregated Base Point Generation per QSE per Settlement Point per Resource* – The aggregated Base Point adjusted for Ancillary Service deployments, of Generation Resource r represented by QSE q at Resource Node p, for the 15-minute Settlement Interval.~~
~~ATG~~$_{q, r, p, y}$	~~MW~~	~~*Average Telemetered Generation* – The average telemetered generation of Generation Resource r represented by QSE q at Resource Node p, for the SCED interval.~~
~~TLMP~~$_y$	~~second~~	~~*Duration of SCED interval per interval* – The duration of the portion of the SCED interval y within the 15-minute Settlement Interval.~~
~~PR1~~	~~$/MWh~~	~~The minimum price to use for the charge calculation when RTSPP is positive, $20.~~

~~KIRR~~		~~The percentage tolerance for over-generation of an IRR, 10%.~~
~~q~~	~~none~~	~~A QSE.~~
~~p~~	~~none~~	~~A Resource Node Settlement Point.~~
~~r~~	~~none~~	~~An IRR Generation Resource.~~
~~y~~	~~none~~	~~An Emergency Base Point interval or SCED interval that overlaps the 15-minute Settlement Interval.~~

Variable	Unit	Definition
BPDAMT$_{q, r, p, i}$	$	*Base Point Deviation Charge per QSE per Settlement Point per Resource*—The charge to QSE q for Generation Resource r at Resource Node p, for its deviation from Base Point, for the 15-minute Settlement Interval i.
RTSPP$_{p, i}$	$/MWh	*Real-Time Settlement Point Price per Settlement Point*—The Real-Time Settlement Point Price at Resource Node p, for the 15-minute Settlement Interval i.
TWTG$_{q, r, p, i}$	MWh	*Time-Weighted Telemetered Generation per QSE per Settlement Point per Resource*—The telemetered generation of Generation Resource r represented by QSE q at Resource Node p, for the 15-minute Settlement Interval i.
AABP$_{q, r, p, i}$	MW	*Adjusted Aggregated Base Point Generation per QSE per Settlement Point per Resource*—The aggregated Base Point adjusted for Ancillary Service deployments, of Generation Resource r represented by QSE q at Resource Node p, for the 15-minute Settlement Interval i.
AVGTG5M$_{q, r, p, i, y}$	MW	*Average Telemetered Generation for the 5 Minutes* —The average telemetered generation of Generation Resource r represented by QSE q at Resource Node p, for the five-minute clock interval y, within the 15-minute Settlement Interval i.
OGENIRR$_{q, r, p, i}$	MW	*Over Generation Volumes per QSE per Settlement Point per IRR Generation Resource*—The amount over generated by the IRR r represented by QSE q at Resource Node p for the 15-minute Settlement Interval i.
PR1	$/MWh	The price to use for the charge calculation when RTSPP is less than $20.
KIRR		The percentage tolerance for over-generation of an IRR, 10%.
q	none	A QSE.
p	none	A Resource Node Settlement Point.
r	none	An IRR.
i	none	A 15-minute Settlement Interval.
y	none	A five-minute clock interval in the Settlement Interval.

6.6.5.3 Generators Exempt from Deviation Charges

Generation Resource Base Point Deviation Charges do not apply to the following:

(a) Reliability Must-Run (RMR) Units;

(b)   Dynamically Scheduled Resources (DSRs) (except as described in Section 6.4.2.2, Output Schedules for Dynamically Scheduled Resources);

(c)   Qualifying Facilities (QFs) that do not submit an Energy Offer Curve for the Settlement Interval; or

(d)   Quick Start Generation Resources (QSGRs) during the 15-minute Settlement Interval (s) that includes any part of the first ten minutes after the start of the first SCED interval in which the QSGR is deployed.