

## TAC Recommendation Report

NPRR Number	096	NPRR Title	Revisions to the RMR Startup Energy Payment	
Timeline	Normal	Recommended Action	Approval	
Date of Decision		March 6, 2008		
Protocol Section Requiring Revision		6.6.6.2, RMR Payment for Energy		
Proposed Effective Date		Upon Texas Nodal Market implementation		
Priority and Rank Assigned		Not applicable		
Revision Description		This Nodal Protocol Revision Request (NPRR) incorporates language from the COMS Eligibility Process for Settlements Requirements (B2) (v3.0) (Eligibility Process) document approved by the Transition Plan Task Force (TPTF) on October 8, 2007. The proposed language is consistent with the language in the Eligibility Process to determine if a Reliability Must Run (RMR) Unit is to be compensated for its startup costs as well as Protocol Sections 5.6.2, RUC Startup Cost Eligibility, and 5.6.3, Forced Outage of a RUC-Committed Resource.		
Overall Market Benefit		Consistency with the Eligibility Process sections of the Nodal Protocols.		
Overall Market Impact		None.		
Consumer Impact		None.		
Credit Impacts		ERCOT credit staff and the Credit Work Group (Credit WG) have reviewed NPRR096 and do not believe that it requires changes to credit monitoring activity or the calculation of liability.		
Procedural History		<ul style="list-style-type: none"><li>➤ NPRR096 was posted 1/7/08.</li><li>➤ On 1/17/08, PRS considered this NPRR.</li><li>➤ On 2/14/08, ERCOT posted an Impact Analysis (IA).</li><li>➤ On 2/21/08, PRS reviewed the IA and this Recommendation Report.</li><li>➤ On 3/6/08, TAC considered NPRR096.</li></ul>		
PRS Decision		<p>On 1/17/08, PRS voted to recommend approval of this NPRR as submitted. The motion passed unanimously with all Market Segments present for the vote.</p> <p>On 2/21/08, PRS unanimously voted to forward the IA and this Recommendation Report to TAC. All Market Segments were</p>		

## TAC Recommendation Report

	present for the vote.
<b>Summary of PRS Discussion</b>	On 1/17/08, PRS noted that the TPTF has reviewed this NPRR.  There was no discussion on 2/21/08.
<b>TAC Decision</b>	On 3/6/08, TAC unanimously voted to recommend approval of NPRR096 as recommended by PRS. All Market Segments were present for the vote.
<b>Summary of TAC Discussion</b>	No discussion preceded the vote on 3/6/08.

### ERCOT/Market Segment Impacts and Benefits

<b>Assumptions</b>	1		
	2		
	3		
	4		
<b>Market Cost</b>		<b>Impact Area</b>	<b>Monetary Impact</b>
	1		
	2		
	3		
<b>Market Benefit</b>		<b>Impact Area</b>	<b>Monetary Impact</b>
	1		
	2		
	3		
<b>Additional Qualitative Information</b>	1		
	2		
	3		
	4		
<b>Other Comments</b>	1	<i>Inclusion of these revisions provides for a Nodal market design that more completely reflects the intentions of the ERCOT stakeholders.</i>	
	2		
	3		
	4		

### Comments Received

<b>Comment Author</b>	<b>Comment Summary</b>
None	

### Original Sponsor

<b>Name</b>	Nile Scott
<b>Company</b>	ERCOT
<b>Market Segment</b>	n/a

# TAC Recommendation Report

## Proposed Protocol Language Revision

### 6.6.6.2 RMR Payment for Energy

- (1) Payment for energy on the Initial Settlement and settlements executed before True-up and before actual cost data is submitted must be calculated using the estimated input/output curve and startup fuel as specified in the Reliability Must Run (RMR) Agreement, the actual energy produced and the Fuel Index Price. The payment for energy for all other settlements must be based on actual fuel costs for the RMR Unit. The payment for energy for each hour is calculated as follows:

$$\text{RMREAMT}_{q,r} = (-1) * ((\text{FIP} + \text{RMRCEFA}_{q,r}) * \text{RMRSUFQ}_{q,r} / \text{RMRH}_{q,r}) * \\ \text{RMRSUFLAG} - \text{RMRALLOCFLAG}_{q,r} + \sum_{i=1}^4 ((\text{FIP} + \text{RMRCEFA}_{q,r}) * \text{RMRHR}_{q,r,i} + \text{RMRVCC}_{q,r}) * \text{RTMG}_{q,r,i})$$

The above variables are defined as follows:

Variable	Unit	Definition
$\text{RMREAMT}_{q,r}$	\$	<i>Reliability Must Run Energy Amount per QSE per Resource by hour</i> —The energy payment to QSE $q$ for RMR Unit $r$ , for the hour.
FIP	\$/MMBtu	<i>Fuel Index Price</i> —The Fuel Index Price for the Operating Day.
$\text{RMRSUFQ}_{q,r}$	MMBtu	<i>Reliability Must Run Startup Fuel Quantity per QSE per Resource</i> —The Estimated Startup Fuel specified in the RMR Agreement for RMR Unit $r$ represented by QSE $q$ .
$\text{RMRH}_{q,r,h}$	hour	<i>Reliability Must Run Hours</i> —The number of hours during which RMR Unit $r$ represented by QSE $q$ is instructed On-Line for the Operating Day.
$\text{RMRSUFLAG} - \text{RMRALLOCFLAG}_{q,r}$	none	<i>Reliability Must Run Startup Flag per QSE per Resource by hour</i> —The number that indicates whether or not the startup fuel cost of RMR Unit $r$ represented by QSE $q$ is allocated to the hour. <u>The startup fuel cost will be allocated equally to all contiguous intervals for which there is an eligible start. The <math>\text{RMRALLOCFLAG}_{q,r}</math> value is 1 if the startup fuel cost is allocated; otherwise, its value is 0.</u>  <u>The <math>\text{RMRALLOCFLAG}_{q,r}</math> for eligibility is determined in Protocol Sections 5.6.2, RUC Startup Cost Eligibility, and 5.6.3, Forced Outage of a RUC-Committed Resource, for start-up payments and commitments in either the RUC or DAM markets.</u>
$\text{RMRHR}_{q,r,i}$	MMBtu /MWh	<i>Reliability Must Run Heat Rate per QSE per Resource by Settlement Interval by hour</i> —The multiplier determined based on the input/output curve and the Real-Time generation of RMR Unit $r$ represented by QSE $q$ , for the 15-minute Settlement Interval $i$ in the hour.

## TAC Recommendation Report

$\text{RMRVCC}_{q,r}$	\$/MWh	<i>Reliability Must Run Variable Cost Component per QSE per Resource</i> —The monthly cost component that is used to adjust the energy cost calculation to reflect the actual fuel costs of RMR Unit $r$ represented by QSE $q$ . The value is initially set to zero. For resettlements, see item (2) below.
$\text{RTMG}_{q,r,i}$	MWh	<i>Real-Time Metered Generation per QSE per Resource by Settlement Interval by hour</i> —The Real-Time energy from RMR Unit $r$ represented by QSE $q$ , for the 15-minute Settlement Interval $i$ in the hour $h$ .
$\text{RMRCEFA}_{q,r}$	\$/MMBtu	<i>Reliability Must Run Contractual Estimated Fuel Adder</i> —The Estimated Fuel Adder that is contractually agreed upon in Section 22F, Attachment F, Standard Form Reliability Must-Run Agreement.
$q$	none	A QSE.
$r$	none	An RMR Unit.
$i$	none	A 15-minute Settlement Interval.

- (2) If the RMR actual fuel cost is filed in accordance with the timeline in these Protocols, the monthly RMR variable cost component is calculated for the subsequent resettlements as follows:

$$\text{RMRVCC}_{q,r} = (\text{RMRMFCOST}_{q,r} + \sum_h \text{RMREAMT}_{q,r,f,h}) / (\sum_i \text{RTMG}_{q,r,i})$$

The above variables are defined as follows:

Variable	Unit	Definition
$\text{RMRVCC}_{q,r}$	\$/MWh	<i>Reliability Must Run Variable Cost Component per QSE per Resource</i> —The monthly cost component that is used to adjust the energy cost calculation to reflect the actual fuel costs of RMR Unit $r$ represented by QSE $q$ .
$\text{RMRMFCOST}_{q,r}$	\$	<i>Reliability Must Run Monthly actual Fuel Cost per QSE per Resource</i> —The monthly actual fuel cost of RMR Unit $r$ represented by QSE $q$ , for the month.
$\text{RTMG}_{q,r,i}$	MWh	<i>Real-Time Metered Generation per QSE per Resource by Settlement Interval</i> —The Real-Time energy from RMR Unit $r$ represented by QSE $q$ for the 15-minute Settlement Interval $i$ .
$q$	none	A QSE.
$r$	none	An RMR Unit.
$h$	none	An hour in the month.
$i$	none	A 15-minute Settlement Interval in the month.
$\text{RMREAMT}_{q,r,f,h}$	\$	<i>Reliability Must Run Energy Amount per QSE per Resource by hour</i> —The energy payment to QSE $q$ for RMR Unit $r$ , for the hour $h$ from the former Settlement Statement $f$ .
$f$	none	Amount from former settlement run.

- (3) The total of the payments for energy to each QSE for all RMR Units represented by this QSE for a given hour is calculated as follows:

$$\text{RMREAMTQSETOT}_q = \sum_r \text{RMREAMT}_{q,r}$$

## TAC Recommendation Report

The above variables are defined as follows:

Variable	Unit	Definition
RMREAMTQSETOT <sub>q</sub>	\$	<i>Reliability Must Run Energy Amount QSE Total per QSE</i> —The total of the energy payments to QSE <i>q</i> for all RMR Units represented by this QSE for the hour.
RMREAMT <sub>q, r</sub>	\$	<i>Reliability Must Run Energy Amount per QSE per Resource by hour</i> —The energy payment to QSE <i>q</i> for RMR Unit <i>r</i> , for the hour.
q	none	A QSE.
r	none	An RMR Unit.