

# TAC Recommendation Report

<b>LPGRR Number</b>	030	<b>LPGRR Title</b>	Distributed Renewable Generation Modifications	
<b>Timeline</b>	Urgent	<b>Recommended Action</b>	Approval	
<b>Date of Decision</b>		May 8, 2008		
<b>Guide Sections Requiring Revision</b>		7, Request for Changes to Load Profiling Methodology 7.1, Current Methodologies 8, Load Profile Models 8.3.2.3, Comparisons for Engineering Estimates 8.4, Routine Profile Model Evaluations 9, Load Profile IDs 9.1.5, Assignment of Load Profile IDs for Distributed Renewable Generation (new) 11, Validation of Load Profile ID 11.3.5, Validation of Profile Segments for Distributed Renewable Generation (new) Appendix D: Profile Decision Tree Appendix E: Profile Model Spreadsheets Acronyms and Glossary		
<b>Proposed Effective Date</b>		January 1, 2009		
<b>Priority and Rank Assigned</b>		Priority of 1-Critical and Rank 2 under Project 80028_01, Small Renewables – RMWG/Distributed Generation.		
<b>Revision Description</b>		These changes allow for Load Profiling Methodology to better represent output of distributed renewable generation less than 50 kW. Appendix D will be modified to include new Load Profiles while new Profile Model Spreadsheets will be added to Appendix E. These spreadsheets are attached to this LPGRR as key documents.		
<b>Overall Market Benefit</b>		Allows for more accurate settlement of distributed renewable generation Resources with a capacity of less than 50 kW.		
<b>Overall Market Impact</b>		Minimal, until the population of small renewable Resources becomes significant.		
<b>Consumer Impact</b>		Enables settlement of renewable generation values that are not recorded on a 15 minute basis.		
<b>Procedural History</b>		<ul style="list-style-type: none"><li>➤ On 3/27/08, LPGRR030 was posted.</li><li>➤ On 4/02/08, COPS granted LPGRR030 Urgent status via email vote.</li><li>➤ On 4/08/08, a preliminary IA was posted.</li><li>➤ On 4/08/08, COPS considered LPGRR030 and its preliminary IA.</li><li>➤ On 4/15/08, an IA was posted.</li><li>➤ On 4/17/08, an updated IA was posted.</li><li>➤ On 4/18/08, PRS considered the IA.</li><li>➤ On 4/30/08, an updated IA was posted.</li></ul>		

## TAC Recommendation Report

	➤ On 5/8/08, TAC considered LPGRR030.
<b>COPS Decision</b>	<p>On 4/08/08, COPS voted to recommend approval of LPGRR030 as amended by COPS. There were two abstentions, one each from the Cooperative and the Investor Owned Utility (IOU) Market Segment. All Market Segments were present for the vote.</p> <p>On 4/08/08, COPS voted to endorse the PIA as amended by COPS. There was one abstention from the Investor Owned Utility (IOU) Market Segment. All Market Segments were present for the vote.</p>
<b>Summary of COPS Discussion</b>	On 4/4/08, Market Participants stated that after internal discussions, the solution proposed in this LPGRR is the best amongst the options. Some Market Participants preferred installing an Interval Data Recorder (IDR) meter, two separate meters, or one multi-channel meter for all Electric Service Identifiers (ESI IDs) with distributed renewable generation. It was explained that Customers will have to pay for any such metering and that it is not a scalable solution.
<b>PRS Decision</b>	On 4/18/08, PRS voted to endorse the IA. There was one abstention from the Consumer Market Segment. All Market Segments were present for the vote.
<b>Summary of PRS Discussion</b>	On 4/18/08, PRS considered the IA.
<b>TAC Decision</b>	On 5/8/08, TAC unanimously voted to recommended approval of LPGRR030 as recommended by COPS. All Market Segments were present for the vote.
<b>Summary of TAC Discussion</b>	On 5/8/08, there was no discussion.

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	<i>Data Aggregation process</i>	<i>Minimal ERCOT cost of less than \$50k</i>
	2	<i>867 process</i>	<i>Project with estimated cost of \$450k</i>
	3	<i>Creation of new Load Profiles for Premises with renewable generation Resources</i>	<i>Minimal ERCOT Operations and Maintenance (O&amp;M) costs</i>
	4		
<b>Market Benefit</b>		<b>Impact Area</b>	<b>Monetary Impact</b>
	1	<i>Consumer</i>	<i>Allows for settlement benefit</i>
	2	<i>REP</i>	<i>Minimal settlement benefit</i>
	3		
	4		

# TAC Recommendation Report

<b>Additional Qualitative Information</b>	1	<i>HB 3693 compliance</i>
	2	
	3	
	4	
<b>Other Comments</b>	1	
	2	
	3	
	4	

<b>Comments Received</b>	
<b>Comment Author</b>	<b>Comment Summary</b>
None.	

<b>Original Sponsor</b>	
<b>Name</b>	Ernie Podraza on behalf of the Profiling Working Group (PWG)
<b>Company</b>	Direct Energy
<b>Market Segment</b>	Independent Retail Electric Providers (IREP)

<b>Proposed Guide Language Revision</b>
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## 7.1 Current Methodologies

The following methodologies are used to establish Load Profiles:

<b>Type of Load</b>	<b>Load Profiling Methodology</b>
<b><i>Non- Price-Responsive</i></b>	
Non-interval metered	Adjusted Static Models
<a href="#"><u>Non-interval metered with distributed renewable generation</u></a>	<a href="#"><u>Adjusted Static Models and Engineering Estimates</u></a>
Non-metered	Engineering Estimates
Interval Data Recorder (Estimation)	proxy day
<b><i>Price-Responsive</i></b>	
Time-Of-Use	chunking
Direct Load control	Lagged Dynamic
Other price-responsive	to be determined

# TAC Recommendation Report

## 8.3.2.3 Comparisons for Engineering Estimates

- (1) Engineering Estimates are used in the ERCOT market ~~only~~ for non-metered Loads, such as lighting, and for metered Loads, such as those with distributed renewable energy generation. Engineering Estimates are typically based on an assumed operating schedule together with the assumption that the Load is approximately the same whenever the equipment is operating. If better or more current information is available ~~on operating schedules~~ for the ESI IDs in a profile segment using an engineering profile, this information may be compared with the assumptions of the estimate.
- (2) Monthly consumption data may also be compared with the profile monthly patterns using the methods described above for Adjusted Static Models.

## 8.4 Routine Profile Model Evaluations

- (1) Routine annual evaluation of model performance may include the following components using the procedures described in Section 8.2, Evaluation of Adjusted Static Profile Models Using Current Load Research Data and Section 8.3, Evaluating Profile Models without Current Load Research Data.
  - (a) For each adjusted static profile segment and Weather Zone where current Load research samples exist, compare the profile based on current Load research samples with the profile based on the current model.
  - (b) For each adjusted static profile segment, consider whether any current data are available that would indicate substantial changes in end-use saturation between current populations and those used to fit the models.
  - (c) For each engineering profile segment, consider whether any current data are available that would indicate substantial differences ~~in operating schedules~~ from those assumed in the engineering models.
    - (i) Possible sources of data on operating schedules and equipment saturations include:
      - (A) Regional data on equipment and operating hours from end-use consumption surveys published by the Energy Information Administration
      - (B) Regional or state data on operating practices published by the Census Bureau
      - (C) Economic data published by Texas state or local agencies
      - (D) Saturation or other studies by MPs, if available.

# TAC Recommendation Report

- (ii) Exhaustive review of such sources is not expected each year. However, ERCOT should periodically review what information may be available and consider the likelihood that practices have changed substantially in the region since the Load Profile models were last updated. In reporting on the evaluation, ERCOT shall indicate what sources were reviewed and/or the basis that major changes were not likely to have occurred was determined.
- (d) Review the magnitude of Load migrated into and out of each Load Profiling segment since the time the Load research data were collected.
- (e) For each adjusted static profile segment and Weather Zone, compare the patterns in current aggregate monthly consumption data with the monthly pattern of the current Load Profile Model.
- (2) If UFE is calculated by Weather Zone or other geographic subdivision, examine systematic patterns in UFE by day-type and hour for each such zone or region.

## 9.1 Assignment of Load Profile IDs

Transmission and/or Distribution Service Providers (TDSP) are responsible for initially assigning the Load Profile IDs of all Electric Service Identifiers (ESI IDs), as well as, any changes in assignment. ERCOT is responsible for calculating the Load Profile Type for the Load Profile ID as defined by the Annual Validation process in Section 11.2, Annual Validation of Load Profile Type. The Profile Decision Tree is a dynamic Microsoft Office Excel© file (*see* Appendix D) that contains the directions to use when assigning Load Profile IDs to ESI IDs.

### 9.1.1 Profile Decision Tree Revision and Approval Process

- (1) ERCOT Staff is responsible for updating the Profile Decision Tree annually; these annual updates are limited to the contents of the “Segment Assignment Tab” and shall be submitted by the ERCOT Staff to the Profiling Working Group (PWG) for review, to the Commercial Operations Subcommittee (COPS) for a recommendation, and to the Technical Advisory Committee (TAC) for approval. No later than five Business Days after the TAC approval ERCOT shall:
  - (a) Issue a market notice alerting Market Participants (MPs) of the change with the effective date ten days following the issuance of the market notice; and
  - (b) Electronically distribute the updated Profile Decision Tree to MPs.
- (2) Any revisions to the Profile Decision Tree other than the annual update shall be submitted through the Load Profiling Guide Revision Request (LPGRR) process described in Section 2, Load Profiling Guide Revision Process. ERCOT Staff may use an administrative LPGRR to revise the contents of the following Profile Decision Tree tabs:

# TAC Recommendation Report

- (a) Version Changes – a list of the changes in the revised version of the Profile Decision Tree;
- (b) FAQ – frequently asked questions related to the assignment of Load Profile IDs;
- (c) Use of Components – information about how each component of the Load Profile ID is used by ERCOT in the settlement process;
- (d) ZIPToZone – a table that maps Zone Improvement Plan (ZIP) Codes to Weather Zones;
- (e) Time-Of-Use (TOU) Schedules – a list of the TOU schedules and their corresponding TOU schedule codes;
- (f) Valid Profile IDs – a list of all Profile IDs that can be assigned to ESI IDs that are within the ERCOT region;
- (g) Non-ERCOT Profile IDs – a list of Load Profile IDs that can be assigned to ESI IDs that are within Texas, but outside of the ERCOT region; and
- (h) Non-Opt In Entities (NOIEs) – directions for NOIEs to use in determining Profile ID assignments.

## ***9.1.2 Assignment of Load Profile IDs for New Service Delivery Points***

TDSPs shall create and submit ESI IDs as new Service Delivery Points (SDP) are established. It is the responsibility of the TDSP to make the Load Profile ID assignment for each new ESI ID. To assign the Profile Type for new ESI IDs, the TDSP shall assign the default profile segment designated in the Profile Decision Tree on the “Profile Segments” worksheet.

## ***9.1.3 Assignment of Load Profile IDs for New Electric Service Identifiers Resulting from a Mass Transition***

When a Mass Transition involves moving SDPs from one TDSP to another, the gaining TDSP creates and submits ESI IDs for all gained SDPs. To assign the Load Profile ID for new ESI IDs, the gaining TDSP shall obtain the current Load Profile ID assignment from either the losing TDSP or ERCOT. For detailed information on the Mass Customer Transition Process, please refer to Retail Market Guide (RMG).

## ***9.1.4 Assignment of BUSOGFLT Profile Type***

- (1) Competitive Retailers (CRs) seeking to have the Oil & Gas Flat (OGFLT) Profile Segment assigned to one of their Business (BUS) ESI IDs shall follow the instructions on the Oil & Gas tab of Appendix D, Profile Decision Tree.

# TAC Recommendation Report

- (2) ERCOT shall review all assignments of the BUSOGFLT Profile Type on a quarterly basis, per Section 11.3.3, Validation of BUSOGFLT Profile Type.

## **9.1.5 Assignment of Load Profile IDs for Distributed Renewable Generation**

- (1) CRs seeking to have the Profile Segments for photovoltaic, wind or other distributed renewable generation assigned to one of their Residential (RES) or Business (BUS) ESI IDs shall follow the instructions on the “DRG” tab of Appendix D, Profile Decision Tree.
- (2) ERCOT shall review all assignments of the Profile Segments for photovoltaic, wind and other distributed renewable generation on an annual basis, per Section 11.3.5, Validation of Profile Segments for Distributed Renewable Generation.

## **9.1.65 kVA Metered Loads**

Any TDSP that routinely measures kVA Demand instead of kW Demand shall coordinate with the PWG to determine the Power Factor that shall be used to estimate their kW Demand, in accordance with Section 10, kVA to kW Conversion. Approved Power Factors are listed in the Profile Decision Tree.

## **9.1.67 Load Profile ID Assignment for Non-ERCOT Electric Service Identifiers**

- (1) TDSPs are required to assign ESI IDs for all SDPs within Texas, not just those within the ERCOT Region. Therefore, a Load Profile ID shall also be submitted to ERCOT by the respective TDSP, even though the non-ERCOT information shall not be used in ERCOT settlements. To ensure that the non-ERCOT Load Profile IDs are not confused with the ERCOT Load Profile IDs, it is necessary to give them names that are different than those for ESI IDs within ERCOT.
- (2) A list of valid Load Profile IDs to be assigned to ESI IDs within Texas, but outside of the ERCOT Region (non-ERCOT ESI IDs), is included in the Profile Decision Tree under the “Non-ERCOT Load Profile IDs” worksheet. TDSPs shall submit for approval additional names or changes to ERCOT for their non-ERCOT Load Profile IDs. The Load Profile ID may be no more than 30 characters in length. A comprehensive listing of non-ERCOT Load Profile IDs shall be maintained in the Profile Decision Tree.

## **9.1.78 Load Profile ID Assignment for Non-Opt In Entities**

NOIEs are required to submit Load Profile IDs for the ESI IDs that represent the NOIE metering points, as defined in Protocol Section 10, Metering. The Load Profile ID shall be based on default values for four of the five fields in the Load Profile ID. The only component that shall be determined by the NOIE is the Weather Zone code. This is assigned based on the ZIP code at the metering point. The Profile Decision Tree contains details on Load Profile ID assignment for NOIEs.

# TAC Recommendation Report

## 11.3 Additional Validations

On a quarterly basis, at minimum, ERCOT shall perform additional validations to identify potentially incorrect Load Profile ID or Premise Type assignments. For those ESI IDs flagged for review, the issue dispute resolution process will be utilized to notify the TDSP of all identified issues. If a Load Profile ID or Premise Type change is necessary, the TDSP shall update the Load Profile ID in the ERCOT system using the appropriate TX SET transaction.

### *11.3.1 Validation of BUSNODEM Profile Type*

ERCOT shall review the most recent 12-months usage for all ESI IDs classified as Business No Demand (BUSNODEM) Profile Type and identify any data values that fall outside the expectations of the BUSNODEM Profile Type. ERCOT shall report any discrepancies to the respective TDSPs.

### *11.3.2 Validation of BUS Load Factor Profile Types*

ERCOT shall review all ESI IDs and their usage which are classified with a Business (BUS) Load factor Profile Type and identify those ESI IDs where no Demand values have been submitted during the 12-month period being reviewed.

### *11.3.3 Validation of BUSOGFLT Profile Type*

ERCOT shall verify that only eligible ESI IDs are assigned the BUSOGFLT Profile Type. Should an ESI ID be found to have been assigned the BUSOGFLT Profile Type erroneously, ERCOT shall work with the TDSP to have the Profile Type assignment corrected, and ERCOT shall notify the CR of record.

### *11.3.4 Validation of NMFLAT and NMLIGHT Profile Types*

ERCOT shall review all ESI IDs and their usage which are classified with either an NMFLAT or NMLIGHT Profile Type and calculate the Average Daily Use (ADU) for each ESI ID. ESI IDs with excessive fluctuation over the 12-month period being reviewed shall be reported to the TDSP.

### *11.3.5 Validation of Profile Segments for Distributed Renewable Generation*

ERCOT shall verify that only eligible ESI IDs are assigned Profile Segments for DRG. For ESI IDs found to have been assigned a Profile Segment for DRG erroneously, ERCOT shall work with the TDSP to have the Profile Segment assignment corrected.



# TAC Recommendation Report

## ***11.3.56 Comparison of Electric Service Identifier Profile Type to Electric Service Identifier Premise Type***

ERCOT shall review and identify all ESI IDs with conflicting Profile and Premise Type combinations. Any discrepancies shall be reported to the TDSP.

## ***11.3.67 Validation of Service Address Zone Improvement Plan Code***

ERCOT shall validate that the service address Zone Improvement Plan (ZIP) code for each ESI ID is located within the ERCOT region, and shall perform consistency checks for Congestion Zone, TDSP service area, and substation. ERCOT shall provide lists to the TDSP of any ESI IDs which have been identified as having a suspect ZIP code or substation assignment.

## ***11.3.78 Validation of Weather Zone Code***

ERCOT shall compare the current ESI ID Weather Zone component of the Load Profile ID to the Weather Zone assignment based on the current Profile Decision Tree utilizing the service address ZIP code in ERCOT's system. Any discrepancies shall be reported to the TDSP.

## ***11.3.89 Comparison of Meter Data Type Code to Profile Type Code***

ERCOT shall compare the Meter Data Type code component of the Profile ID to the Load Profile Group code for all ESI IDs. Any discrepancies shall be reported to the TDSP.

## ***11.3.910 Comparison of Weather Sensitivity Code to Meter Data Type Code***

ERCOT shall verify that all ESI IDs with a Meter Data Type of Non-Interval Data Recorder (NIDR) are assigned a Weather Sensitivity code of NWS. ERCOT shall also verify that only ESI IDs having a Meter Data Type of IDR which were identified by ERCOT during the most recent weather sensitivity analysis as being weather sensitive are assigned a weather sensitivity code of WS. Any discrepancies shall be reported to the TDSP. The annual procedures for reviewing of the weather sensitivity code are located in Protocol Section 11.4.3.1, Weather Responsiveness Determination.

## **APPENDIX D**

### **Profile Decision Tree**

**See electronic Microsoft Office Excel© file on the ERCOT Website**

# TAC Recommendation Report

[\[LPGRR030: Effective up on system implementation\]](#)

See electronic Microsoft Office Excel<sup>®</sup> files on the ERCOT Website posted with the [Load Profiling Guide.](#)

## APPENDIX E

### Load Profile Model Spreadsheets

See electronic Microsoft Office Excel<sup>®</sup> files on the ERCOT Website posted with the **Load Profiling Guide.**

These files are a representation of the Load Profile Models used in settlements.

[\[LPGRR030: Effective up on system implementation\]](#)

See electronic Microsoft Office Excel<sup>®</sup> files on the ERCOT Website posted with the [Load Profiling Guide.](#)

## ACRONYMS AND GLOSSARY

### Acronyms

~~RET~~ Renewable Energy Technology

### Glossary

R [Back to Top]

#### **Representative Interval Data Recorder (RIDR)**

The technique for profiling premises participating in special pricing programs which consists of implementing a statistically representative load research sample on the program population. The sample data is then used to develop the Representative IDR (RIDR) for profiling these premises.

#### **Residential (RES)**

Load Profile Group designation for ESI IDs served within a residential rate class.

#### **Retail Electric Provider (REP)**

# TAC Recommendation Report

A person that sells electric energy to retail Customers in this state. As provided in PURA §31.002(17), a Retail Electric Provider may not own or operate generation assets. As provided in PURA §39.353(b), a Retail Electric Provider is not an Aggregator.

~~Renewable Energy Technology (RET)~~

~~Energy technologies defined by PURA §39.904.~~