



**EDS
DRAFT RARF Addendum 1 Guide**

v0.02

REVISION HISTORY

Date	Version	Description	Author
01/04/2007	0.01	Draft for Internal Review	D. Showalter
01/04/2007	0.02	Draft for Release with Addendum	D. Showalter

TABLE OF CONTENTS

IMPORTANT INFORMATION	4
ADDENDUM 1 – GENERAL INFORMATION	5
ADDENDUM 1 – ADDITIONAL ASSETS TAB	6
ADDENDUM 1 – PRIVATE NETWORK TAB.....	7
ADDENDUM 1 – GEN AND CC TABS.....	9
ADDENDUM 1 – WIND TAB	12

IMPORTANT INFORMATION

The purpose of this addendum is to gather additional planning data that was not defined when the EDS 4 RARF was distributed. The Addendum workbook contains some fields that are pre-populated from the RARF database. If these pre-populated values need to be changed please submit a revised RARF with the correct data. Do not change these pre-populated values on the addendum.

The Addendum has locked fields – these are typically information gathered from the RARF and used as reference. Corrections to these fields should be made on the RARF itself.

All data in this addendum is unit or site specific. No CC train or CC configuration information is included nor requested.

For both the RARF and the Addendum, the unit and site codes should not be changed, as these correlate to existing codes used in ERCOT systems. Also, the cover tab should reflect the currently registered name and Dun & Bradstreet number of the Resource Entity – not a QSE. If the pre-populated name and DUNs is incorrect please correct this on the RARF as well.

The fields that are pre-populated contain data from RARFs received prior to December 18, 2007. Recall that the planning data was not required until December 31, 2007. Therefore some of these pre-populated fields will be blank. These fields are for reference only, and are being read into the database with the December 31 RARF.

Why do Resource Entities need to fill out this Addendum and correct the RARF?

In order to avoid manual data corrections in the database, each field (row) of the RARF and addendum are only read into the database from one form. If the field is on the RARF – it will continue to be read from the RARF. Only new fields identified on the Addendum will be read into the ERCOT database. This helps with quality control and limits manual loading of information.

ADDENDUM 1 – GENERAL INFORMATION

All new fields are highlighted in Column A as “New Field”, as well as having black font in Column B. RARF fields are in “Blue”. See picture to the right for an example.

In general the following descriptions apply to each tab of the addendum:

- Column A will identify new fields. Any existing field on the RARF will be pre-populated if the data was available.
- Column B will identify the field name, and new fields will be included in the final iteration of the RARF, which is expected to be released in February 2008.
- Column C will describe the request.
- Column D and beyond will ask for the data. Again, if the field is locked, please correct it on the RARF.

Instructions for submitting this file:

- Please send completed document to NodalMarketTransition@ercot.com by January 31, 2008. This document can also be submitted as a Service Request.

ERCOT ASSISTANCE

ERCOT will host a WebEx on Thursday, January 10 to answer questions and discuss open issues. A notice will be sent when the details for this session are established.

Please contact your Account Manager or send a request to NodalMarketTransition@ercot.com if problems or questions arise.

ADDENDUM 1 – ADDITIONAL ASSETS TAB

This section applies to ALL generation resources.

The tab in the RARF Addendum entitled “Additional Assets Addendum” will be used to complete the model of the transmission system. The purpose of this tab is to capture lines and equipment other than the generator and step-up transformer that are owned and/or operated by the generation resource and not part of the operations of the TSP. This information is needed for the ERCOT system model, and is required per the Nodal Protocols in section 3.10.7. Examples include the transmission line to reach the first TSP-modeled substation or a capacitor bank in service between the generator and the TSP switching device.

The TSP for the resource may be able to provide information and assistance on getting this information filled out – including bus numbers and station information.

Another resource for existing PTI model information includes the *ERCOT Branch Data* zip file found in the Operations and System Planning (OSP) secure website. To login or to register for access for the OSP website, please go to <http://oldercot.ercot.com/tmaps/login.cfm> . Once a user is logged in, select the folder “Operations Model Data” then select the zip file for *ERCOT Branch Data*. This is a large file, so downloading and opening the file may take some time.

The first section, shown below, should be completed by all Resource Entities:

GENERAL	Notes
ERCOT Station Code Mnemonic for Generator Site	Populated to match RARF - this field should not be changed.
Required Resource Online Submitted to ERCOT? (Y/N)	Y or N.
Lines/Switch Devices/Cap/React owned by Generation Entity?	Y or N. If N - please disregard the questions below.

The rest of the fields on the worksheet tab should be filled out as applicable.

ADDENDUM 1 – PRIVATE NETWORK TAB

This tab is only included for stations/sites that are private use networks. If you expected to receive this tab and don't see it (or received this tab and didn't expect it), then please contact ERCOT to resolve.

As per Nodal Protocol: a private use network (PUN) has load not metered by ERCOT and is not only the auxiliary load for a generator on the PUN.

Some information for a PUN needs to be submitted for the site and some allocated across units. The Private Network Addendum tab is requesting information on a site-wide basis. The information from the most recent RARF has been included for reference only. Also, please recall that most of the December 31, 2007 RARFs were not available to be loaded into the database prior to creating this addendum.

Please provide the additional information that was not asked for on the RARF. Some of these fields are new (black) and some were on the RARF, but were asked on a unit basis, not a site basis. These fields are still required for the unit allocation as well. The fields that should include site totals are:

New Field	Average Amount of Self-Serve private load (MW)	Site Total MW Load (also remains on RARF where load is allocated to each unit).
New Field	Average Amount of Self-Serve private reactive load (MVAR)	Site Total MVAR Load (also new field on Gen/CC tab to allocate to each unit).
New Field	Expected Typical Private Network Net Interchange (MW)	Enter as MW - typical net interchange for the site. Positive values indicate net generator on grid. Negative values indicate net load on grid.
New Field	Expected Typical Private Network Net Reactive Interchange (MVAR)	Enter as MVAR - typical net interchange for the site. Positive values indicate net generator on grid. Negative values indicate net load on grid.
New Field	Private Network Gross Unit Capability (MW)	Total generation capability of all the private network generators at the site in MW.
New Field	Private Network Gross Unit Reactive Capability (MVAR)	Total reactive capability of all the private network generators at the site in MVAR.

In the Gen or CC addendum tab, the new fields (black) will be included to allocate the total by unit.

The Load Characteristics are provided for reference, and any changes should be made to the RARF. These values are only read from the “Unit 1” column. If the values on the Private Network Addendum tab are not appropriate, please send an email to NodalMarketTransition@ercot.com or contact your account manager to ensure we get this information correctly.

Load Characteristics:
--Large Motor, percent of total MW load
-Small Motor, percent of total MW load
-Resistive (Heating) Load, percent of total MW load
-Discharge Lighting, percent of total MW load
-Other, percent of total MW load
--Large Motor, percent of total MVAR load
-Small Motor, percent of total MVAR load
-Discharge Lighting, percent of total MVAR load
-Other, percent of total MVAR load

Please note that this should be gross totals for the generation units, and only net values for the specific rows. A simple check would be to follow the equation below:

$$\text{Net Interchange} = \text{Gross Capability} - \text{Self Serve Load}$$

If you have questions, please send questions to NodalMarketTransition@ercot.com or contact your Account Manager.

ADDENDUM 1 – GEN AND CC TABS

This section applies to all generation except wind resources.

The sections of this worksheet should correspond to the RARF. The first new field (black) is to be used to provide the turbine rating in addition to the generator rating. If the generator rating needs to be corrected, please submit changes to the existing RARF field (currently Name Plate Rating). The MVAR rating is included because on many worksheets there was a typographical error that listed this as MVA. If this needs corrected, please submit changes to the existing RARF field.

Generator Name Plate Rating (MVA)	Nameplate MVA of generator unit. Provided as a reference.
Rating (MW)	Nameplate MW of generator unit. Provided as a reference.
Rating (MVAR)	Nameplate MVAR of generator unit. Provided as a reference.
Turbine Rating (MW)	MW rating of Turbine if different (larger or smaller) than Generator.

Please ensure we get four ratings – the generator nameplate ratings in MVA, MW, and MVAR and the turbine rating in MW. Please note the nameplate ratings should correspond to a nameplate power factor. ERCOT has not asked for the power factor as it can be obtained from the generator ratings given.

Having both the generator and the turbine ratings will give consistency to the model, ensuring we know the generator capabilities as well as turbine limitations.

There are several fields that apply only to Private Networks. The Private Network Addendum tab captures the site totals, and the fields that need to be allocated by unit are included here. This section should only appear for Private Networks.

Private Network (Y or N)	Carry over from PN Tab. If N - disregard this section. If Y - allocate totals from PN Tab across the unit fields
Average Amount of Self-Serve private load (MW)	Total MW Load allocated across the units.
Average Amount of Self-Serve private reactive load (MVAR)	Total MVAR Load allocated across the units.
Expected Typical Private Network Net Interchange (MW)	Enter as MW - typical net interchange - allocated across the units. Positive values indicate net generator on grid. Negative values indicate net load on grid.
Expected Typical Private Network Net Reactive Interchange (MVAR)	Enter as MVAR - typical net interchange - allocated across the units. Positive values indicate net generator on grid. Negative values indicate net load on grid.
Private Network Gross Unit Capability (MW)	Total generation capability of each unit.
Private Network Gross Unit Reactive Capability (MVAR)	Total reactive capability of each unit.
If Generation trips, does Load trip?	If the unit trips, does the load associated with this unit trip?
If yes, approximate percentage of Load that will trip?	If load trips, approximately what percentage of the associated load will trip within 1 minute?

The Load Characteristics are provided for reference, and any changes should be made to the RARF. These values are only read from the “Unit 1” column. If the values on the Private Network Addendum tab are not appropriate, please send an email to NodalMarketTransition@ercot.com or contact your account manager to ensure we get this information correctly.

Load Characteristics:
--Large Motor, percent of total MW load
-Small Motor, percent of total MW load
-Resistive (Heating) Load, percent of total MW load
-Discharge Lighting, percent of total MW load
-Other, percent of total MW load
--Large Motor, percent of total MVAR load
-Small Motor, percent of total MVAR load
-Discharge Lighting, percent of total MVAR load
-Other, percent of total MVAR load

The two sections pictured below are omissions from the RARF. The voltage connection is needed for the step up transformer. Also, details about the total unit auxiliary load were missing. The auxiliary load characteristics should be completed on the RARF for each unit in percentage of total aux load. The percentages should add up to 100%, as it is allocating the total aux load that will now associated with the generator with these new fields.

Generator Step Up Transformer	
High Voltage Connection - Wye or Delta	Select high voltage connection - WYE or DELTA.
Low Voltage Connection - Wye or Delta	Select low voltage connection - WYE or DELTA.
Generator Aux Load	
Average Amount of Auxiliary load (MW)	Total MW Auxiliary Load. Fill out load characteristics on RARF.
Average Amount of Auxiliary reactive load (MVAR)	Total MVAR Auxiliary Load. Fill out load characteristics on RARF.

The PSSE Model section has been expanded to ensure your unit is modeled properly with ERCOT. More information on how to answer the model questions will come with the WebEx.

PSSE Model - Non-Wind Generation Resources	
Generator Form on file with ERCOT? (Y or N)	Select Y or N. ERCOT will work with you to find an answer if it is not readily available.
Turbine-Governor Form on file with ERCOT? (Y or N)	Select Y or N. A possible source of information include previously signed GARF. This is provided for reference. To correct/enter this field, please use the RARF.
Excitation Form on file with ERCOT? (Y or N)	Select Y or N. A possible source of information include previously signed GARF. This is provided for reference. To correct/enter this field, please use the RARF.
Do you have a Power System Stabilizer?	Select Y or N. A possible source of information include previously signed GARF. This is provided for reference. To correct/enter this field, please use the RARF.
If so, is Stabilizer Form on file with ERCOT? (Y or N)	Select Y or N. A possible source of information include previously signed GARF. This is provided for reference. To correct/enter this field, please use the RARF.
Compensator Form on file with ERCOT? (Y or N)	Select Y or N. A possible source of information include previously signed GARF. This is provided for reference. To correct/enter this field, please use the RARF.
Do you have a Over Excitation Limiter?	Select Y or N.
If so, is Over Excitation Limiter Form on file with ERCOT? (Y or N)	Select Y or N. ERCOT will work with you to find an answer if it is not readily available.
Do you have a Under Excitation Limiter?	Select Y or N.
If so, is Under Excitation Limiter Form on file with ERCOT? (Y or N)	Select Y or N. ERCOT will work with you to find an answer if it is not readily available.

If you have questions, please send questions to NodalMarketTransition@ercot.com or contact your Account Manager.

ADDENDUM 1 – WIND TAB

This section applies to all wind resources.

The sections of this worksheet should correspond to the RARF. In the Generator Unit Information section, information was requested on the type and quantity of each type of turbine in a unit. The omission was the MW rating per turbine.

Generator Unit Information	
Group 1 - MW Rating per Turbine	Added MW design ratings for each turbine group corresponding to the models and quantities on the RARF.
Group 2 - MW Rating per Turbine	Added MW design ratings for each turbine group corresponding to the models and quantities on the RARF.
Group 3 - MW Rating per Turbine	Added MW design ratings for each turbine group corresponding to the models and quantities on the RARF.
Group 4 - MW Rating per Turbine	Added MW design ratings for each turbine group corresponding to the models and quantities on the RARF.
Group 5 - MW Rating per Turbine	Added MW design ratings for each turbine group corresponding to the models and quantities on the RARF.

The section pictured below is an omission from the RARF. The voltage connection is needed for the step up transformer (to the transmission voltage).

Generator Step Up Transformer	
High Voltage Connection - Wye or Delta	Select high voltage connection - WYE or DELTA.
Low Voltage Connection - Wye or Delta	Select low voltage connection - WYE or DELTA.

The PSSE Model section has been modified to fit Wind Resources. Please disregard this section on the RARF, which applies to fossil fuel generation. This information is used to ensure your unit is modeled properly with ERCOT. More information on how to answer the model questions will come with the WebEx.

PSSE Model - Non-Wind Generation Resources	
PSSE Compatible Wind Generator Models submitted to ERCOT? (Y or N)	Select Y or N. ERCOT will work with you to find an answer if it is not readily available.
Do you have a Dynamic Reactive Device? (Y or N)	Select Y or N.
If so, is corresponding Dynamic Reactive Device Form on file with ERCOT?	Select Y or N. A possible source of information include previously signed GARF. This is provided for reference. To correct/enter this field, please use the RARF.

If you have questions, please send questions to NodalMarketTransition@ercot.com or contact your Account Manager.