THE EMISSIONS & GENERATION RESOURCE INTEGRATED DATABASE

eGRIDweb

VERSION 1.0
USERS MANUAL

eGRID2007 Data Years 2004 and 2005

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NOTICES

This document has been reviewed by the Climate Protection Partnerships Division (CPPD), Office of Atmospheric Programs (OAP), U.S. Environmental Protection Agency (EPA), and approved for distribution.

This document is available to the public through CPPD's website at http://www.epa.gov/egrid.

ACKNOWLEDGMENTS

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CONTENTS

ABBREVIATIONS AND ACRONYMS

CAMD	Clean Air Markets Division
CEM	Continuous Emissions Monitoring
CHP	Combined heat and power (cogeneration)
CH_4	Methane
CO_2	Carbon dioxide
CPPD	Climate Protection Partnerships Division
eGRID	Emissions & Generation Resource Integrated Database
eGRID2007	Emissions & Generation Resource Integrated Database for the year 2007 (2004 and 2005 data years)
EGC	Electric generating company
EIA	Energy Information Administration
EPA	U.S. Environmental Protection Agency
ETS	Emissions Tracking System
FAQ	Frequently Asked Questions
GHG	Greenhouse gas
GWh	Gigawatt-hour
Hg	Mercury
NERC	North American Electric Reliability Corporation
NO_x	Nitrogen oxides
N_2O	Nitrous oxide
OAP	Office of Atmospheric Programs
PCA	Power control area
Pechan	E.H. Pechan & Associates, Inc.
SO_2	Sulfur dioxide
TSD	Technical Support Document

SECTION I. eGRID

The **Emissions & Generation Resource Integrated Database** (eGRID) is a comprehensive source of data on the environmental characteristics of almost all electric power generated in the United States. eGRID is unique in that it links air emissions data with electric generation data for United States power plants.

eGRIDweb displays eGRID data in a user friendly way and allows you to export data that you select. You can download related documents, reports, and files; receive information about eGRID-related updates; view frequently asked questions; and provide feedback regarding eGRIDweb.

eGRIDweb version 1.0 displays data from eGRID2007 Version 1.1, the sixth and most recent edition of eGRID, which contains:

- year 2005 information configured to reflect the electric power industry's current structure known by December 31, 2007, including plant ownership and operators, parent company affiliations, company mergers, and grid configurations;
- year 2004 data; and
- years 2004 and 2005 State import-export and U.S. generation and consumption data.

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SECTION II. GETTING STARTED

This application is specifically recommended for use with (and has been tested with) Mozilla Firefox and Microsoft Internet Explorer browsers. The application works, with minor appearance differences, on Netscape, Chrome, Safari, and other browsers. JavaScript must be enabled in the browser.

1.   Click on the Data tab or "Click here to get started" on the Home screen.

2.   Select Data: On the Select Data screen, make your Data Year and Aggregation Level selections (defaults are Data Year=2005, Aggregation Level=Power Plant). For eGRID subregion and North American Electric Reliability Corporation (NERC) region, representational maps are available.

   a.   Filter your selection: If you do not want to directly select entities to view from the list at the bottom of the screen (which may span several pages, accessible by clicking on the arrows), you may filter your selections using one to three search filters.

   The first set of filters is built-in and is available for plants, both types of electric generating companies (EGCs), and eGRID subregions. After you select a built-in filter category, a second drop down box appears, from which you select a single filter, after which the list of possible entities appears at the bottom of the screen.

   The second filter is a non-case sensitive keyword search (activated by the "go" button), and the third filter is a first letter search. If you use more than one filter, then the available entities for selection are those that meet all of the filter criteria you have selected. Use "clear" to deactivate a filter.

   b.   Select from the list of entities to view. If the list is greater than sixty entities, then the list will span more than one screen – use arrows to navigate among screens – and check off the ones you want to select. Alternately, you may Select All of the complete list (not just those displayed on the first screen). Or, you may Select All and then uncheck some boxes to deselect some of them. Click the View Data button.

3.   View Data: After the selection is completed, eGRIDweb displays the first Emissions Profile screen. One entity is displayed at a time. If you selected more than one entity, use the arrows at the top of the screen to scroll though the entities. For given entities, you can:

   a.   Switch years [plants, the group of plant's boilers, the group of plant's generators, States, eGRID subregions, NERC regions, and the U.S.], types [EGC Location (Operator)-based to EGC Owner-based or vice versa, as well as Parent Company Location (Operator)-based to Parent Company Owner-based or vice versa].

   b.   View the different categories of data (e.g., Emissions Profile, Generation Resource Mix, Characteristics, Ownership, Boilers, Generators, State Import-Export Data, or U.S. Generation and Consumption Data, depending on the entities you are viewing).

   c.   Print the screen display using the print icon in the upper right.

4.	Export Data: After viewing data, you can click Export Data. The Export Screen will show up to ten of the selected entities and allow you to select format, years, and tabs whose displayed variables will be exported (to an XLS or CSV file, usually in a ZIP file).

You can return to the Select Data screen or the View Data screen. If you return to the Select Data screen, the previous selections will remained checked; click Reset to clear all the selections (the defaults will take effect) and start again.

Download various tables or files from other tabs:

a.	Greenhouse Gas (GHG) Emission Factors;
b.	Reports – Summary Tables for 2005, Summary Tables for 2004, Zip code – eGRID subregion – carbon dioxide (CO_2) output emission rate data file for 2005, eGRID subregion representational map for 2005, NERC region representational map for 2005, eGRID subregion representational map for 2004, NERC region representational map for 2004, and eGRID paper(s);
c.	Help – eGRID Technical Support Document.

Check the Notes tab for information about eGRIDweb updates or pertinent information; or go to the Help tab to provide feedback to the eGRIDweb developers.

SECTION III. FILTERS

There are three types of filters possible in the selection of entities to view. If more than one filter is chosen at the same time, the entities available for selection are those that meet all criteria (the filtering criteria are logically connected by ands). The filter types are listed below.

1.   Built-in:

Plant filters (9)
Power plants with a specific primary fuel
Power plants in a single State
Power plants in a single EGC Location (Operator)-based
Power plants in a single EGC Owner-based
Power plants in a single Parent Company Location (Operator)-based
Power plants in a single Parent Company Owner-based
Power plants in a single PCA
Power plants in a single eGRID subregion
Power plants in a single NERC region

EGC filters (2)
EGCs Location (Operator)-based – EGCs in a single Parent Company Location (Operator)-based
EGCs Owner-based – EGCs in a single Parent Company Owner-based

eGRID Subregion filter (1)
eGRID subregions in a single NERC region

There are no built-in filters for U.S. Total, State, NERC Region, Power Control Area (PCA), or Parent Company aggregation levels.

2.   Keyword search:

Keyword search is not case sensitive. The keyword search will find the characters in any part of the entity description. The keyword search will only find a single set of characters (e.g., you cannot search for plants with the words "station" or/and "project").

3.   Browse by first letter:

The letters of the alphabet are provided.

Linking:

You can switch between years for power plant (and the groups of boilers and generators in a plant), State, eGRID subregion, NERC region, and the U.S.

You cannot switch between years for a plant's individual boiler to boiler, individual generator to generator; or for EGC, parent companies, or PCAs.

You can switch between EGC Location (Operator)-based and EGC Owner-based, as well as between Parent Company Location (Operator)-based and Parent Company Owner-based for companies.

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SECTION IV. EXPORTS

Data:

Format type: Excel spreadsheet or Comma Separated Values (CSV), usually in a zip file
Either or both years of data
Displayed data from any or all of the tabs for the given entity(ies) selected

From GHG Emission Factors tab:

GHG Emission Factors Adobe PDF in a zip file

From Reports tab:

Summary Tables for 2005 as an Adobe PDF in a zip file
Summary Tables for 2004 as an Adobe PDF in a zip file
Zip code – eGRID subregion – CO_2 output emission rate for 2005 as an MS Excel spreadsheet in a zip file
[not yet provided]
eGRID subregion Representational map for 2005 as an Adobe PDF in a zip file
NERC region Representational map for 2005 as an Adobe PDF in a zip file
eGRID subregion Representational map for 2004 as an Adobe PDF in a zip file
NERC region Representational map for 2004 as an Adobe PDF in a zip file
eGRID Paper(s) as an Adobe PDF in a zip file

From Help tab:

eGRID2007 Technical Support Document (TSD) as an Adobe PDF in a zip file. Includes variable descriptions, methodologies, data caveats.
Frequently Asked Questions (FAQs)

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SECTION V. FAQs

I.   Category: Navigation

1.   How do I return to my selected data after I clicked on the GHG Emission Factors/Reports/Notes/Help tabs?

Click on the Data tab to return to your previous Select/View/Export Data screen.

2.   After I made my selection and viewed the data, I realized that I needed to make some modifications to previous selection. Do I have to start over again? And what if I want to begin with new selections?

No, you can return to Select Data in the top menu since the original selections will have remained checked and, therefore, can be modified. To make new selections, return to Select Data, click Reset in the top menu to clear all the selections (the defaults will take effect), and start again.

II.   Category: Selection

1.   How do I select entities that I want to view?

First choose the data year and aggregation level you want to view. Then check the entities you want to select from the list below; or use the Select All button and then uncheck any entities you want to deselect. You can refine the list of selection choices by choosing one to three filters.

2.   What is the difference between location (operator)-based and owner-based for EGC and parent company aggregation levels?

Location (operator)-based entities' data are aggregated from the plants' operators, while owner-based entities' data are aggregated from the plants' owners. Each plant has one operator; each plant has one or more owners, any of which may be different than the operator.

3.   Can I keyword search by the State abbreviation, which is sometimes shown in parentheses after the entity name in the selection list?

No, you can only keyword search the actual entity name. On the plant level, the State abbreviation in parentheses is not part of the actual plant name and is added after each plant name as a courtesy to the user to help distinguish, in most cases, plants with the same name that are located in different States. On the EGC level, the State abbreviation in parentheses is added after the EGC name in only several instances as a courtesy to the user to help distinguish companies with the same name that are located in different States. Please note that there are a many instances where text in parentheses is part of the actual entity name.

4.   What do the arrows on the Select Data screen do?

The arrows on the Select Data screen allow you to move backward and forward among the different pages that list all the entities that you could select that meet your criteria.

5.   What does "Browse by first letter" do?

It filters the entities available for selection by the first letter that you choose.

6.   What does "Reset" do?

It clears all the selections that you have on the Select Data screen and reinstates the defaults.

7.   What happens to my selections if I do not view them but instead go to a tab like Help or Reports first?

You will lose your selections if you do not first view the data, so after going to the desired tab, go back to the Data tab and select entities again. To preserve your selections before viewing a different tab, click View Data first. You can then return to the selection you were viewing by clicking on the Data tab.

8.   Can I select entities that meet one of several criteria?

Yes, you can do this manually. Select the entities that meet your first criteria, then, without clicking on Reset or changing the aggregation level, select more entities. You can use the built-in filters, Keyword search, and/or Browse by first letter. When you view the data, all of the selections you have made will be displayed.

III.   Category: Display

1.   Where can I find out how many records there are in the selection criteria?

When the selection criteria are completed, the number of records will be displayed to the right of the header Select <aggregation level> to View.

2.   What do the arrows on the View Data screen do?

The arrows on the View Data screen allow you to move backward and forward among the different entities you have selected to display.

3.   How do I find out what a variable means?

Please refer to the corresponding TSD, available from the Help tab, for descriptions of all the variables displayed in eGRIDweb.

4.   Can I switch years in all the aggregation levels?

No, you can switch years if you select the power plant (and groups of boilers and generators), State, eGRID subregion, NERC region, or the U.S. aggregation level. You cannot switch years if you select EGCs, parent companies, or PCAs.

5.   Why do some variables have N/A values?

The data were not available for eGRID purposes that year.

6.   **Why are CO$_2$, methane (CH$_4$), and nitrous oxide (N$_2$O) highlighted on the Emissions Profile screens?**

They are highlighted to emphasize that these three are GHGs.

7.   **In the Emissions Profile screens, why are the number of decimal places for CO$_2$, CH$_4$, and N$_2$O different from those for nitrogen oxides (NO$_x$), sulfur dioxide (SO$_2$), and mercury (Hg)?**

CO$_2$, CH$_4$, and N$_2$O have a different number of decimal places to differentiate the data for the GHGs from the other pollutants. This formatting is consistent with the formatting of the eGRID2007 year 2005 Excel files, available on EPA's eGRID website.

8.   **In the Emissions Profile screen, why are CH$_4$, N$_2$O, and Hg expressed in pounds while NO$_x$, SO$_2$, and CO$_2$ are expressed in tons?**

CH$_4$, N$_2$O, and Hg are expressed in pounds because their emission values are much smaller than those for NO$_x$, SO$_2$, and CO$_2$.

9.   **Are power plant's boilers and generators linked between years?**

No, only the group of a plant's boilers, or the group of a plant's generators is related. Individual boilers or generators within a plant are not linked in eGRIDweb.

IV.   Category: Export

1.   **How do I export the data displayed?**

After you have viewed at least one selected entity, click on Export Data in the top menu, and make your selection.

2.   **What export formats are available?**

The available formats are Microsoft Excel (XLS) or Comma-Separated Values (CSV); the file may be included in a downloadable ZIP file.

3.   **Where can I download the representational maps (NERC and eGRID Subregion)?**

Please refer to the Reports tab to obtain the representational map for each corresponding data year.

4.   **Why doesn't the multipart export work when trying to export a lot of data?**

When you want to export a large amount of data (e.g., for some large EGC and plant exports), eGRIDweb needs to build the exported file using a multipart export function. In order for this function to work, you must enable cookies and JavaScript on your browser.

V.   Category: Print

1.   How do I print what is on the screen?

Click the print icon 🖶 located on the top right of each screen; only the one screen displayed in the eGRIDweb will be printed. You can also use the Print As-Is feature at the bottom of the page with slightly different results.

2.   Can I print multiple screens?

You can only print an individual screen at a time. However, if you export the data first, you may be able to print the data from multiple screens.

3.   How do I print out the explanation of the plant emission source(s) codes for each year?

Please refer to the corresponding years' TSD, available from the Help tab.

VI.   Category: File Formats

1.   How do I open the files that have a zip extension?

You need to download, install, and use a program to "unzip" (or decompress) the file. For PCs, you can go to http://www.download.com for a trial version of WinZip12 or free versions of other decompression software. You can also go to http://www.download.com/ZIP-Reader/3000-2250_4-10228628.html for a free version of PKWare's ZIP Reader. For Macs, you can go to http://www.download.com/StuffIt-Expander/3000-2250_4-10653042.html for a free version of StuffIt Expander.

2.   What are PDF files?

Please go to http://www.epa.gov/epahome/pdf.html to learn about a Portable Document Format (PDF) file and how to download and install the free software program so that you can open and view PDF files.

VII.   Category: Data Interpretation

1.   What is the coverage of the environmental characteristics in eGRID?

The environmental characteristics in eGRID are those associated with the generation of electricity, not with the consumption of electricity. These values do not account for transmission and distribution losses, imports and exports among subregions, or life-cycle emissions at electric generating units (e.g., emissions from the extraction, processing, and transportation of fuels).

2.   What does location (operator)-based and owner-based mean for electric generating companies (EGCs) and parent companies?

When aggregating data to the EGC (company) location (operator)-based level, the emissions, net generations, heat input, and nameplate capacity of all plants with a given operator (an EGC), will be summed, and the emission rates and resource mix will be calculated for this EGC location (operator)-based.

When aggregating data to the EGC (company) owner-based level, each plant that has an EGC that is at least a partial owner will have that owner's plant ownership percentage of emissions, net generation, heat input, and nameplate capacity summed, and the emission rates and resource mix will be calculated for this EGC owner-based.

The explanation would be analogous for parent company location (operator)-based and owner-based.

3.   Why is it called eGRID2007 when the data are from year 2005?

Although the operational data are from year 2005 Federal databases, eGRID2007's plant ownership and operators, parent company affiliations, company mergers, and grid configurations reflect the industry's current structure as was known by December 31, 2007.

4.   Why don't the boiler emissions for a plant sum up to the plant's emissions?

One reason might be that there are more units within the plant than those displayed in the eGRID boiler file, which consists of units reporting to EPA Clean Air Markets Division (CAMD)'s Emissions Tracking System (ETS)/ Continuous Emissions Monitoring (CEM) data system or the EIA-767.

Another reason might be that there have been adjustments made to the emissions at the plant level and not at the boiler level. All emissions rates are based on adjusted emissions. There are two types of possible emissions adjustments in eGRID: one if biomass is burned at the plant and one if the plant is a combined heat and power plant (CHP). The biomass adjustment is made at the boiler-fuel level and carried through to the plant level. The CHP adjustment is made at the plant level, and not at the boiler level. More detailed information can be found in the Methodology section of the eGRID TSD, which can be downloaded by first clicking on the Help tab and looking for the TSD section.

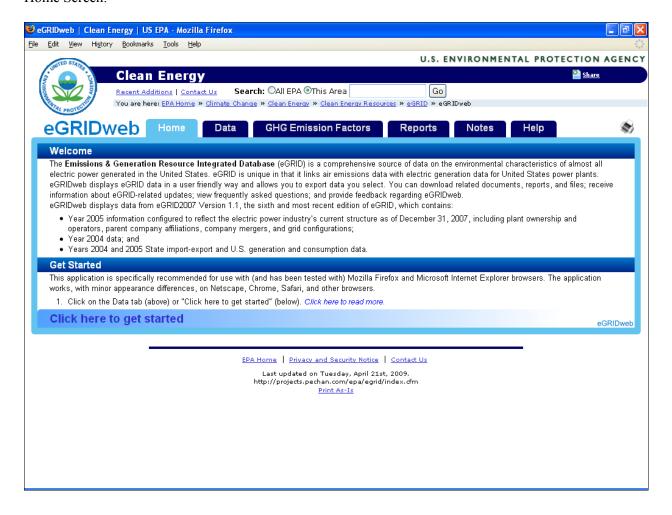*[This page intentionally left blank.]*

SECTION VI. ERROR MESSAGES

If there is no data available when you switch years for a specific plant, or switch years for a plant's boilers or generators as a group, or switch EGC types, or switch Parent Company types, an error message will be displayed.

If you are viewing a plant's data and you go to the boiler tab and there are no boiler data available, an error message will be displayed.
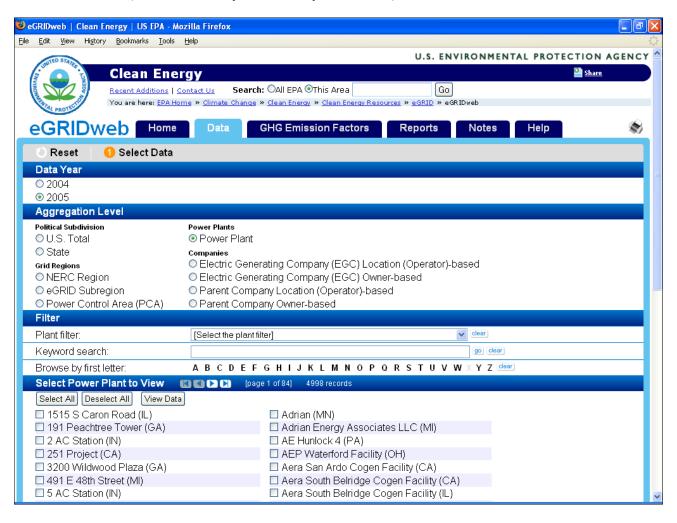
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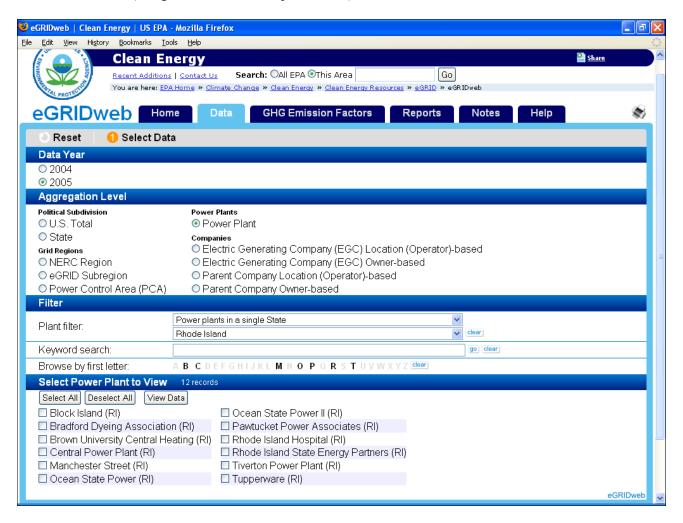
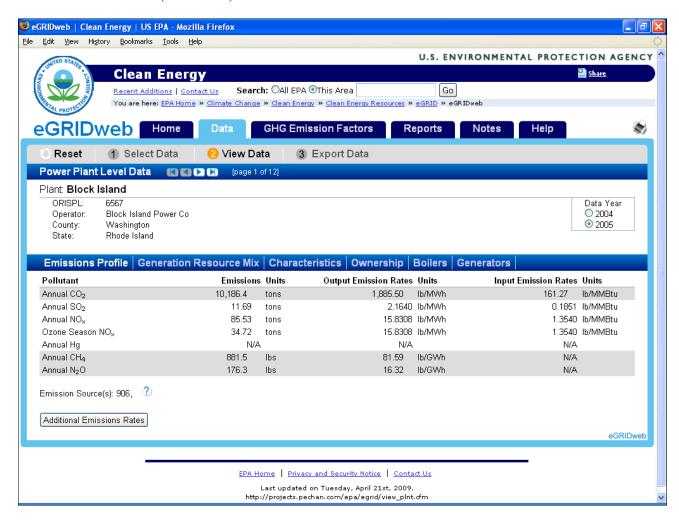# SECTION VII. SCREEN SHOTS

Home Screen:

Select Data Screen (defaults for data year and entity checked off):

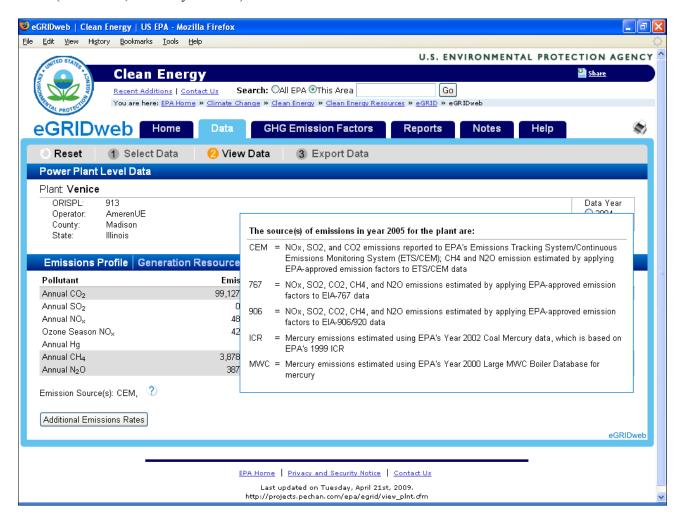Select Data Screen (using one of the built-in plant filters):

View Data
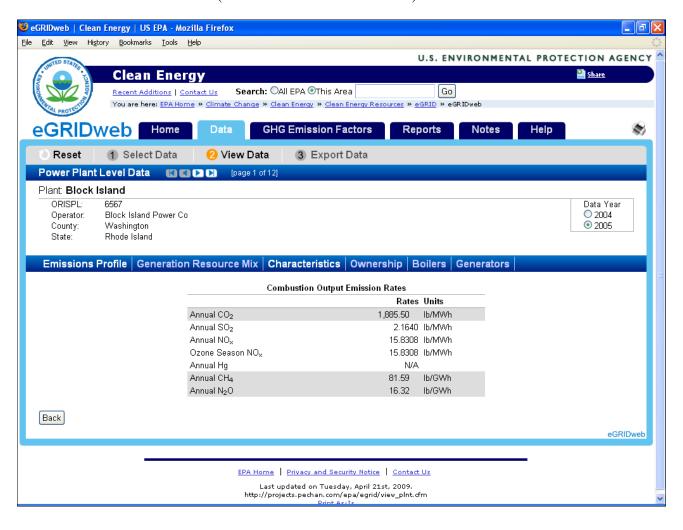Plant Emissions Profile (first screen):
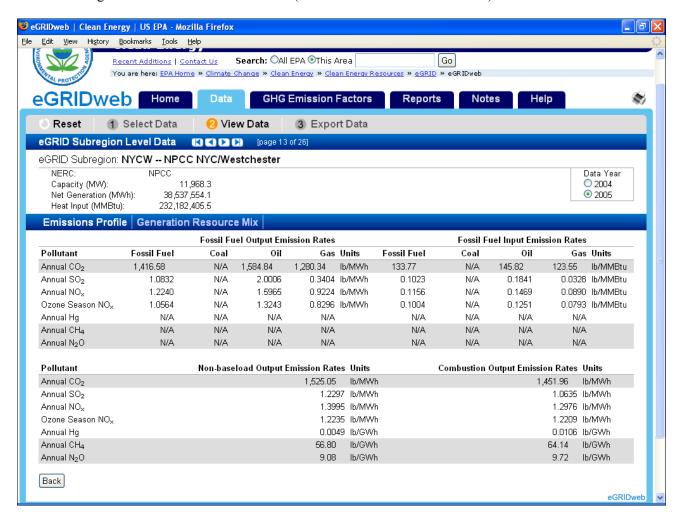
View Data

On the plant Emissions Profile (first screen), showing mouse over for all possible plant emission source codes (in this case, for data year 2005):
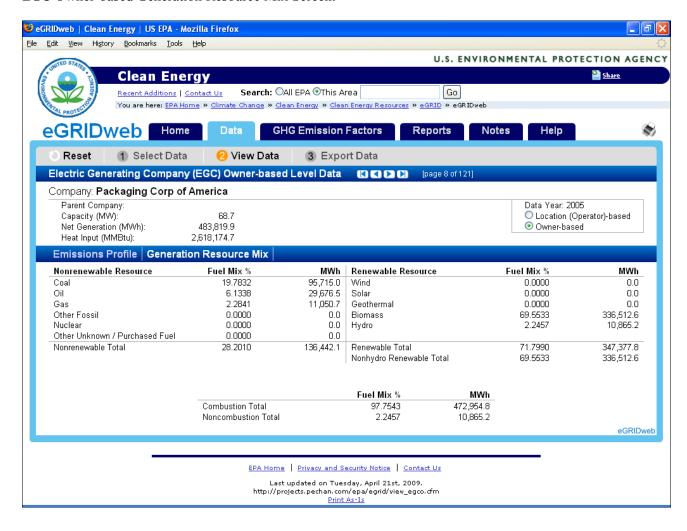
View Data Screen
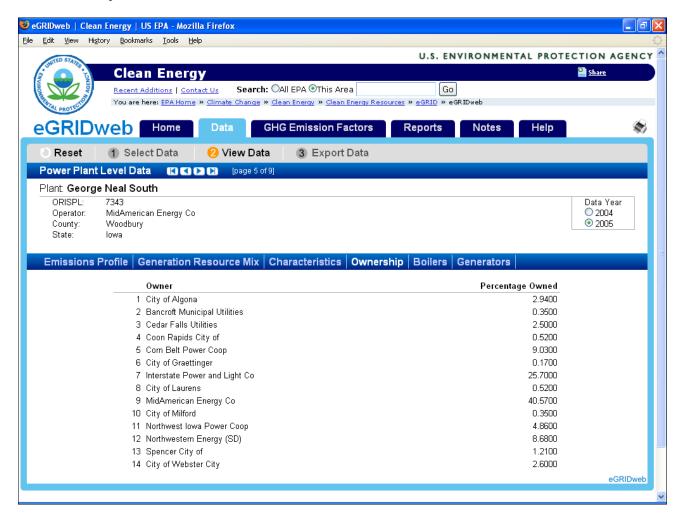Plant Additional Emissions Rates (second Emissions Profile screen):

View Data Screen
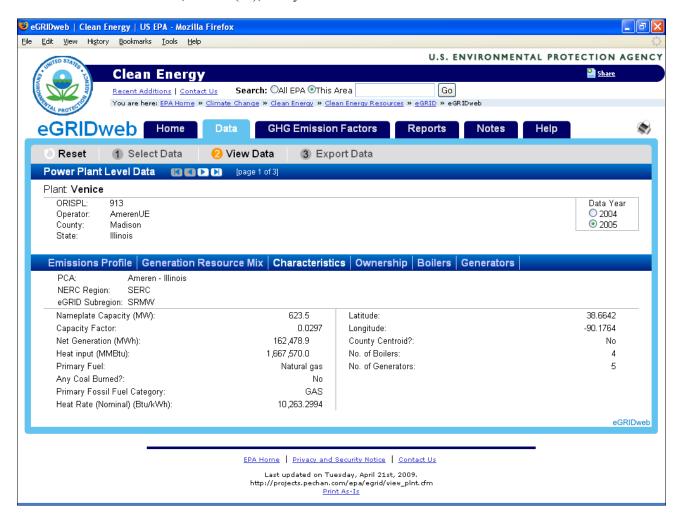eGRID Subregion Additional Emissions Rates (second Emissions Profile screen):

eGRIDweb | Clean Energy | US EPA - Mozilla Firefox

File   Edit   View   History   Bookmarks   Tools   Help

Recent Additions | Contact Us   Search: ○All EPA ●This Area [   ] [Go]
You are here: EPA Home » Climate Change » Clean Energy » Clean Energy Resources » eGRID » eGRIDweb

eGRIDweb | Home | Data | GHG Emission Factors | Reports | Notes | Help

↻ Reset   ① Select Data   ② View Data   ③ Export Data

eGRID Subregion Level Data   ◀◀ ◀ ▶ ▶▶   [page 13 of 26]

eGRID Subregion: **NYCW -- NPCC NYC/Westchester**

NERC:	NPCC
Capacity (MW):	11,968.3
Net Generation (MWh):	38,537,554.1
Heat Input (MMBtu):	232,182,405.5

Data Year
○ 2004
● 2005

Emissions Profile | Generation Resource Mix

	Fossil Fuel Output Emission Rates					Fossil Fuel Input Emission Rates				
Pollutant	Fossil Fuel	Coal	Oil	Gas	Units	Fossil Fuel	Coal	Oil	Gas	Units
Annual CO₂	1,416.58	N/A	1,584.84	1,280.34	lb/MWh	133.77	N/A	145.82	123.55	lb/MMBtu
Annual SO₂	1.0832	N/A	2.0006	0.3404	lb/MWh	0.1023	N/A	0.1841	0.0328	lb/MMBtu
Annual NOₓ	1.2240	N/A	1.5965	0.9224	lb/MWh	0.1156	N/A	0.1469	0.0890	lb/MMBtu
Ozone Season NOₓ	1.0564	N/A	1.3243	0.8296	lb/MWh	0.1004	N/A	0.1251	0.0793	lb/MMBtu
Annual Hg	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	
Annual CH₄	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	
Annual N₂O	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	

Pollutant	Non-baseload Output Emission Rates	Units	Combustion Output Emission Rates	Units
Annual CO₂	1,525.05	lb/MWh	1,451.96	lb/MWh
Annual SO₂	1.2297	lb/MWh	1.0635	lb/MWh
Annual NOₓ	1.3995	lb/MWh	1.2976	lb/MWh
Ozone Season NOₓ	1.2235	lb/MWh	1.2209	lb/MWh
Annual Hg	0.0049	lb/GWh	0.0106	lb/GWh
Annual CH₄	56.80	lb/GWh	64.14	lb/GWh
Annual N₂O	9.08	lb/GWh	9.72	lb/GWh

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eGRIDweb

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View Data Screen
EGC Owner-based Generation Resource Mix Screen:
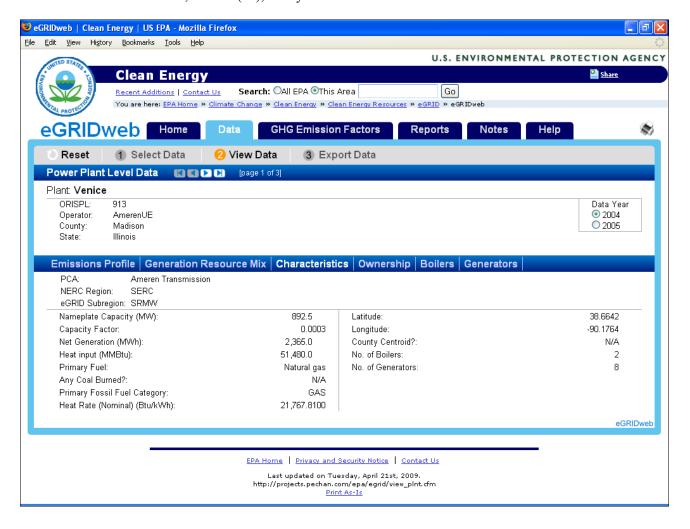
View Data Screen
Plant Ownership Screen:

View Data Screen
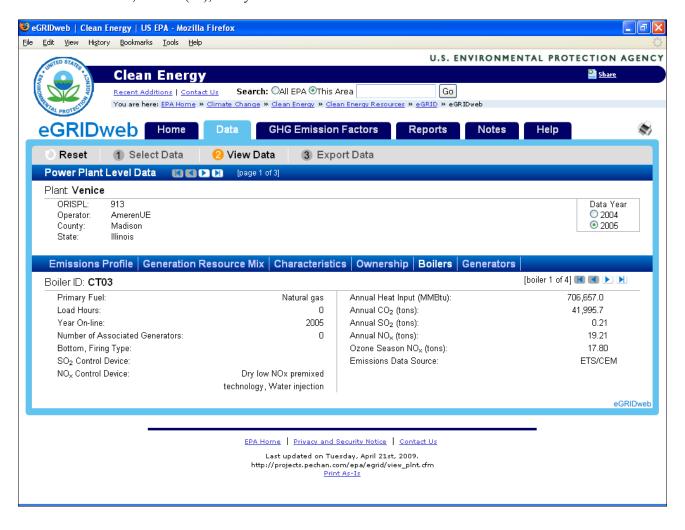Plant Characteristics Screen, Venice (IL), data year 2005:

View Data Screen
Plant Characteristics Screen, Venice (IL), data year 2004:
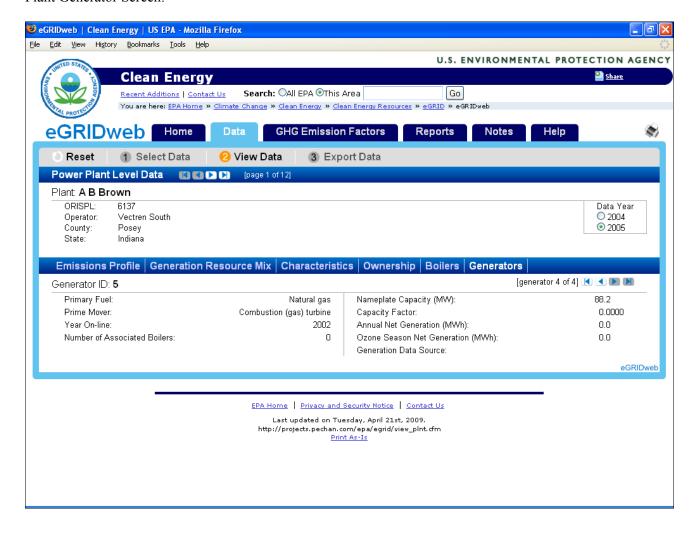
View Data Screen
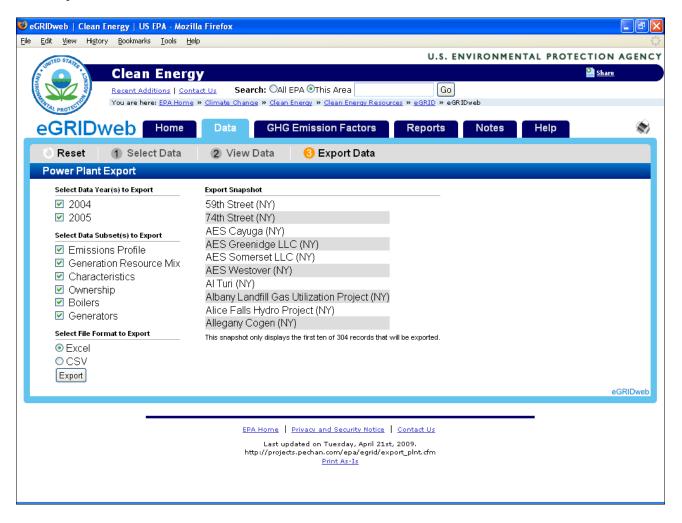Plant Boiler Screen, Venice (IL), data year 2004:
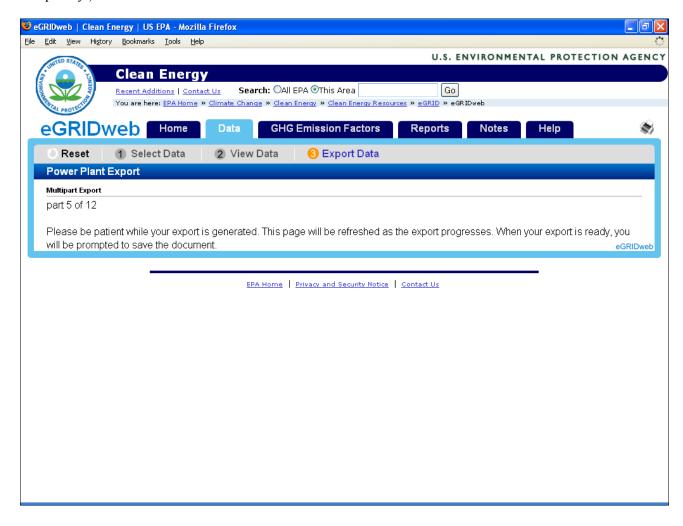
View Data Screen
Plant Boiler Screen, Venice (IL), data year 2005:
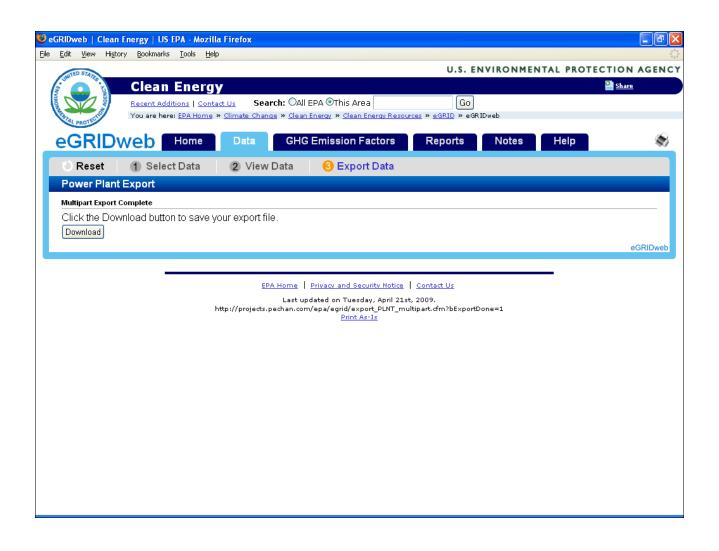
View Data Screen
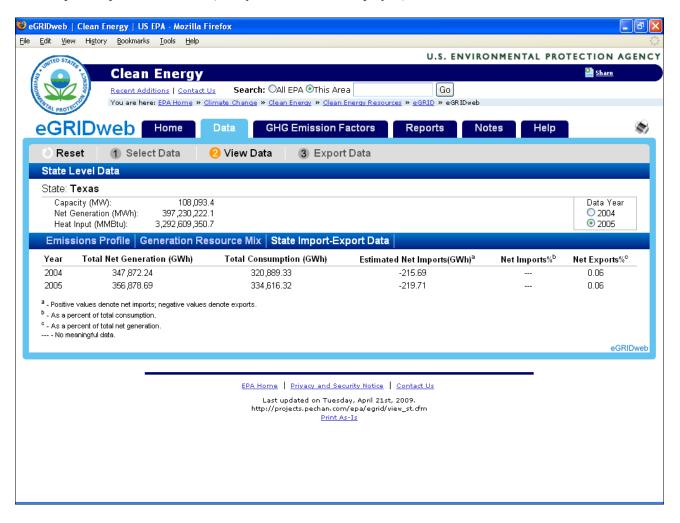Plant Generator Screen:

Plant Export Data Screen:

Plant (and EGC) display a multi export screen if you export many records and data elements. (Both JavaScript and Cookies must be enabled in the browser in order for the multi part export to work completely.) It takes a few minutes. There are two screens:
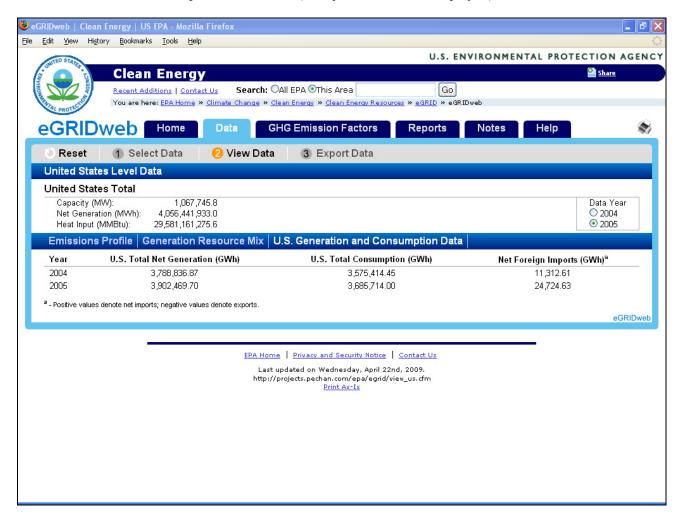
File   Edit   View   History   Bookmarks   Tools   Help

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eGRIDweb | Home | **Data** | GHG Emission Factors | Reports | Notes | Help |

⟳ Reset | ① Select Data | ② View Data | ❸ **Export Data**

Power Plant Export

Multipart Export Complete

Click the Download button to save your export file.

[Download]

eGRIDweb

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Last updated on Tuesday, April 21st, 2009.

http://projects.pechan.com/epa/egrid/export_PLNT_multipart.cfm?bExportDone=1

Print As-Is

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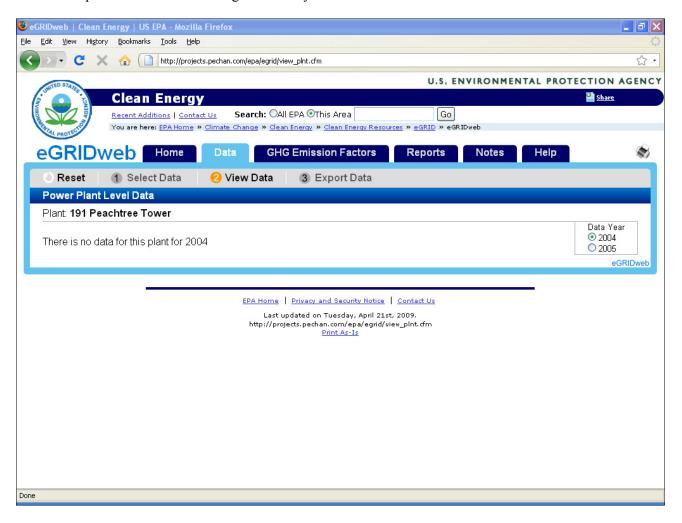State Import-Export Data Screen (both years of data are displayed):

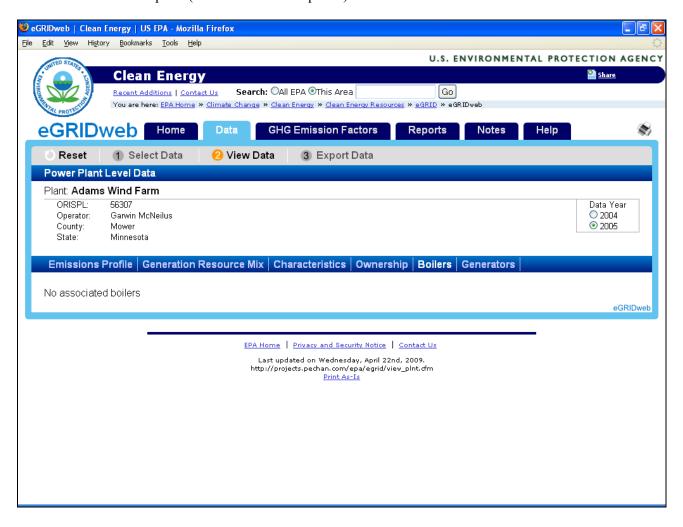U.S. Generation and Consumption Data Screen (both years of data are displayed):
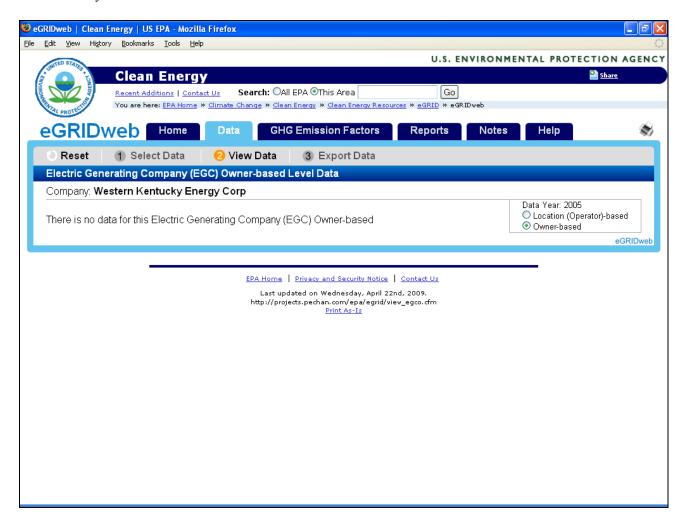
eGRIDweb Application Error Messages:

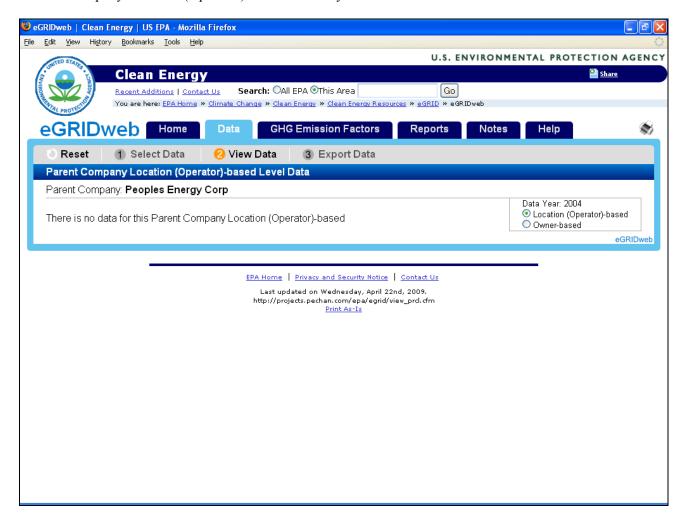1. No plant data when switching from data year 2005 to 2004:

2.	No boilers in a plant (for noncombustion plants):

3. No EGC data when switching from EGC Location (Operator)-based to EGC Owner-based for data year 2005:

4. No Parent Company data when switching from Parent Company Owner-based to Parent Company Location (Operator)-based for data year 2004:

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SECTION VIII. CONTACT US

For further information, contact us at eGRIDweb@pechan.com.

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