

PROJECT facts

U.S. DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY
NATIONAL ENERGY TECHNOLOGY LABORATORY

Systems, Analyses and
Planning

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NETL's 2007 COAL POWER PLANT DATABASE

Background

The National Energy Technology Laboratory (NETL) Coal Power Plant Database (CPPDB) consolidates large quantities of information on coal-fired power plants in a single location. The database contains 191 fields and provides information on over 1,700 boilers and associated units. The database supports Fossil Energy (FE) and NETL project management and analysis studies and is available in both the Excel and Access formats.

The consolidated version of the CPPDB is a single Excel spreadsheet containing the collected information. This update of the CPPDB has been upgraded to include pivot table and Access versions. The pivot table and Access versions of the database provide the user with methods of viewing and searching the data that were unavailable in previous versions.

Data and Resources

The NETL CPPDB contains emissions, generation, location, and firing information for all coal power plants in the United States. The information is based off of the most recent release of the Annual Steam-Electric Plant Operation and Design data form, Energy Information Agency (EIA) form 767, available at the time of the update. The most current data available at the time of the update is from 2005. All information collected from resources other than EIA 767 was collected for the corresponding year. Along with EIA form 767, the other resources used include:

- EIA form 423
- National Emissions Inventory database
- Clean Air Markets Database

Excel Version

The Excel Spreadsheet version of the database is similar to previous version and is for those who want to have full control of the data, manipulate the data within Excel, or/and may have existing tools or systems to use with the updated version. This version is structured in the same manner as the last version of the database. The columns are labeled using the identical color scheme and names as the previous version, created in 2005. Several additional few columns of data have been added including information regarding particulate data.

Pivot Table Version

The pivot table version of the database has been created for users already familiar with the use of pivot tables. Pivot tables allow users to easily create tables, restructure tables, and manipulate data. This version of the database contains nine separate Excel worksheets, each containing a unique default pivot table designed to provide a starting point for the user to create crosscuts of certain types of data. The main database, the source of the pivot table data, has been hidden to prevent users from unintentionally changing values.

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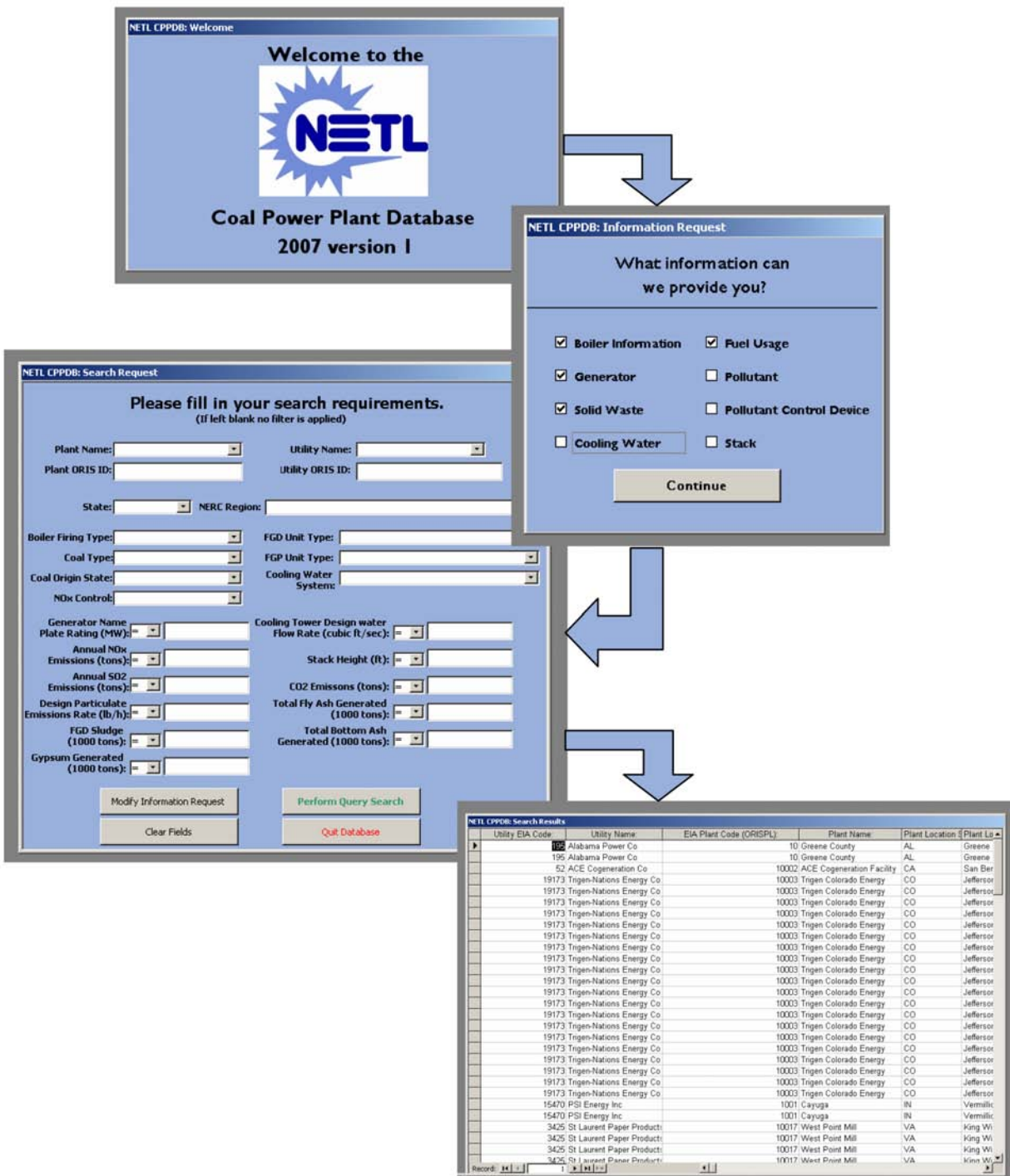
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Access Version

An Access-compatible version of the database was created in order to allow quick searches of the substantial amount of data stored in the database, particularly for those users who are familiar with Access and prefer its functionality.

Multiple forms are used to govern the user's flow through the Access controls and to determine the user's needs. These forms were created to allow the user to select various categories of information to view and to enter specific search criteria that will hasten the search process. The results of the query are displayed in an output form. This form can be exported to Excel or other applications if the user wishes to work further with the data.



Access Version Form Flow

Objectives

- Update the 2003 data maintained in the CPPDB with 2005 data.
- Provide QA and QC checks of the updated database.
- Develop a spreadsheet that can be queried with pivot tables.
- Expand the available particulate matter data available in the CPPDB.
- Create a user-friendly Access version of the database.

Accomplishments

The CPPDB has been updated with the 2005 data available from each of the utilized resources. The database is available on the following web address: <http://www.netl.doe.gov/energy-analyses/technology.html>. The three versions of the database have been created and all the data maintained in these versions have been through an extensive QA/QC process. The QA/QC process involved a random spot check of over 350 individual data points to ensure the correct information was transferred from the resource to the database. Along with the spot check, all equations used in the database were analyzed to determine if they were appropriately applied.

Not only has the information maintained in the database been certified, both the pivot table and Access version have been through an extensive QA/QC process as well. All calculations and various functions of the pivot table version have been checked to ensure the correct values are displayed in the tables. The Access version of the database has been tested to ensure no bugs are found in the code and the data is displayed correctly.

Utility EIA Code	Utility Name	EIA Plant Code (ORISPL)	Plant Name	Plant Location State	Plant Location County	Plant Location Latitude (degrees)	Plant Location Longitude (degrees)	EPA Region	NERC Region	Census Division	Boiler ID	Boiler In Service Date	Boiler Age as of 9/10/2007 (years)
195	Alabama Power Co	3	Barry	AL	Mobile	31.0069	-88.0103	4	Interstate Electric Reliability Council	Division 4: East South Central	1	2/11/1954	53.6
195	Alabama Power Co	3	Barry	AL	Mobile	31.0069	-88.0103	4	Interstate Electric Reliability Council	Division 4: East South Central	2	7/11/1954	53.2
195	Alabama Power Co	3	Barry	AL	Mobile	31.0069	-88.0103	4	Interstate Electric Reliability Council	Division 4: East South Central	3	7/11/1959	47.8
195	Alabama Power Co	3	Barry	AL	Mobile	31.0069	-88.0103	4	Interstate Electric Reliability Council	Division 4: East South Central	4	12/11/1968	37.8
195	Alabama Power Co	3	Barry	AL	Mobile	31.0069	-88.0103	4	Interstate Electric Reliability Council	Division 4: East South Central	5	10/11/1971	35.9
195	Alabama Power Co	7	Gadsden	AL	Etowah	34.0136	-85.9703	4	Interstate Electric Reliability Council	Division 4: East South Central	1	4/11/1949	58.4
195	Alabama Power Co	7	Gadsden	AL	Etowah	34.0136	-85.9703	4	Interstate Electric Reliability Council	Division 4: East South Central	2	7/11/1949	58.2
195	Alabama Power Co	8	Gorgas	AL	Walker	33.8446	-87.2003	4	Interstate Electric Reliability Council	Division 4: East South Central	10	10/11/1972	34.9
195	Alabama Power Co	8	Gorgas	AL	Walker	33.8446	-87.2003	4	Interstate Electric Reliability Council	Division 4: East South Central	6	4/11/1951	56.4
195	Alabama Power Co	8	Gorgas	AL	Walker	33.8446	-87.2003	4	Interstate Electric Reliability Council	Division 4: East South Central	7	7/11/1952	55.2
195	Alabama Power Co	8	Gorgas	AL	Walker	33.8446	-87.2003	4	Interstate Electric Reliability Council	Division 4: East South Central	8	5/11/1956	51.4
195	Alabama Power Co	8	Gorgas	AL	Walker	33.8446	-87.2003	4	Interstate Electric Reliability Council	Division 4: East South Central	9	6/11/1958	49.3
195	Alabama Power Co	10	Greene Cou	AL	Greene	32.6017	-87.7811	4	Interstate Electric Reliability Council	Division 4: East South Central	1	6/11/1965	42.3
195	Alabama Power Co	10	Greene Cou	AL	Greene	32.6017	-87.7811	4	Interstate Electric Reliability Council	Division 4: East South Central	2	7/11/1966	41.2
195	Alabama Power Co	26	E C Gaston	AL	Shelby	33.2442	-86.4567	4	Interstate Electric Reliability Council	Division 4: East South Central	1	5/11/1960	47.4
195	Alabama Power Co	26	E C Gaston	AL	Shelby	33.2442	-86.4567	4	Interstate Electric Reliability Council	Division 4: East South Central	2	7/11/1960	47.2
195	Alabama Power Co	26	E C Gaston	AL	Shelby	33.2442	-86.4567	4	Interstate Electric Reliability Council	Division 4: East South Central	3	6/11/1961	46.3
195	Alabama Power Co	26	E C Gaston	AL	Shelby	33.2442	-86.4567	4	Interstate Electric Reliability Council	Division 4: East South Central	4	6/11/1962	45.3
195	Alabama Power Co	26	E C Gaston	AL	Shelby	33.2442	-86.4567	4	Interstate Electric Reliability Council	Division 4: East South Central	5	8/11/1974	33.1
18642	Tennessee Valley Authority	50	Vidous Cre	AL	Jackson	34.8825	-85.7547	4	Interstate Electric Reliability Council	Division 4: East South Central	1	7/11/1952	55.2
18642	Tennessee Valley Authority	50	Vidous Cre	AL	Jackson	34.8825	-85.7547	4	Interstate Electric Reliability Council	Division 4: East South Central	2	10/11/1952	54.9
18642	Tennessee Valley Authority	50	Vidous Cre	AL	Jackson	34.8825	-85.7547	4	Interstate Electric Reliability Council	Division 4: East South Central	3	11/11/1952	54.9
18642	Tennessee Valley Authority	50	Vidous Cre	AL	Jackson	34.8825	-85.7547	4	Interstate Electric Reliability Council	Division 4: East South Central	4	1/11/1953	54.7
18642	Tennessee Valley Authority	50	Vidous Cre	AL	Jackson	34.8825	-85.7547	4	Interstate Electric Reliability Council	Division 4: East South Central	5	6/11/1954	53.3
18642	Tennessee Valley Authority	50	Vidous Cre	AL	Jackson	34.8825	-85.7547	4	Interstate Electric Reliability Council	Division 4: East South Central	6	7/11/1954	53.2
18642	Tennessee Valley Authority	50	Vidous Cre	AL	Jackson	34.8825	-85.7547	4	Interstate Electric Reliability Council	Division 4: East South Central	7	2/11/1961	46.6
18642	Tennessee Valley Authority	50	Vidous Cre	AL	Jackson	34.8825	-85.7547	4	Interstate Electric Reliability Council	Division 4: East South Central	8	2/11/1965	42.6
3265	Cleco Power LLC	51	Dolet Hills	LA	De Soto	32.0306	-93.5632	6	Southwest Power Pool	Division 7: West South Central	1	4/11/1986	21.4
189	Alabama Electric Coop In	56	Charles R L	AL	Washington	31.4833	-87.9125	4	Interstate Electric Reliability Council	Division 4: East South Central	1	3/11/1969	38.5
189	Alabama Electric Coop In	56	Charles R L	AL	Washington	31.4833	-87.9125	4	Interstate Electric Reliability Council	Division 4: East South Central	2	3/11/1979	28.5
189	Alabama Electric Coop In	56	Charles R L	AL	Washington	31.4833	-87.9125	4	Interstate Electric Reliability Council	Division 4: East South Central	3	5/11/1980	27.4

Excel Version

CUSTOMER SERVICE

1-800-553-7681

WEBSITE

www.netl.doe.gov

Benefits

The CPPDB is very useful for project planning purposes. The data contained within the database describes the layout of the coal-fired power generation in the United States. Any person interested in managing a coal-related project can refer to the database to plan the most effective application of resources.

This database is also useful to any person interested in understanding the U.S. coal generation landscape. The three versions allow all parties—from engineers to laymen—easy access to information contained in the database. NETL's database can be a valuable tool for performing various analyses on our nation's existing coal-fired fleet.

EIA Plant Code (ORISPL)	Plant Name	Generator ID	Steam Type	Generator Nameplate Rating (MW)	Net Annual Electrical Generation (MW-h)	Net Plant Heat Rate (Btu/kWh)	Turbine Capacity Factor	Turbine Flow (10 ⁶ gal/yr)
3098	Elrama Power Plant	1	Subcritical	100	292,751	12,711	0.334	88
		2	Subcritical	100	341,597	12,918	0.390	88
		3	Subcritical	125	285,181	12,671	0.260	87
		4	Subcritical	185	672,784	11,405	0.415	1.3
3113	Portland	1	Subcritical	172	782,336	10,692	0.519	1.1
		2	Subcritical	255	1,386,782	10,014	0.621	1.7
3115	Titus	1	Subcritical	75	430,662	10,960	0.655	5
		2	Subcritical	75	420,236	11,171	0.640	5
		3	Subcritical	75	422,283	11,063	0.643	5
3118	Conemaugh	1	Supercritical	936	6,050,583	9,399	0.738	6.3
		2	Supercritical	936	6,891,121	9,334	0.840	6.3
3122	Homer City Station	1	Supercritical	660	4,231,138	7,765	0.732	4.8
		2	Supercritical	660	4,825,071	9,740	0.835	4.8
		3	Subcritical	692	4,543,018	10,083	0.749	4.7
3130	Seward	FB1	(blank)	585	2,808,282	5,142	0.548	1.1
3131	Shawville	1	Subcritical	125	687,481	10,950	0.628	88
		2	Subcritical	125	609,528	11,039	0.557	88
		3	Subcritical	188	960,274	10,342	0.583	1.2
		4	Subcritical	188	941,587	10,318	0.572	1.2
3136	Keystone	1	Supercritical	936	6,806,585	9,675	0.830	6.3
		2	Supercritical	936	6,666,258	9,436	0.813	6.3
3138	New Castle Plant	3	Subcritical	98	379,812	11,570	0.442	88
		4	Subcritical	114	387,596	11,483	0.388	88
		5	Subcritical	136	547,499	11,550	0.460	97
3140	PPL Brunner Island	1	Subcritical	363	2,235,595	10,153	0.703	2.2

Pivot Table Version