U.S. Department of Energy Energy Information Administration Form EIA-411 (2004)	*COORDINATED BULK POWER SUPPLY PROGRAM REPORT*	Form Approved OMB No. 1905-0129 Approval Expires

PURPOSE	Form EIA-411 collects information about regional electricity supply and demand projections for a five-year advance period and information on the transmission system and supporting facilities. The data collected on this form are used by the U.S. Department of Energy to monitor the current status and trends of the electric power industry and to evaluate the future of the industry.
RESPONDENTS	Each of the Regional Councils of the North American Electric Reliability Council (NERC) is asked to submit Form EIA-411 data compiled from data furnished by utilities and other electricity suppliers within their Council areas to NERC. NERC then compiles and coordinates these data and provides them to the Energy Information Administration.
RESPONSE DUE DATE	Each Regional Council should submit the completed Form EIA-411 to the North American Electric Reliability Council by April 30. After review, NERC should submit the completed Form EIA-411 to the EIA by July 15 of the year following the reporting year.
METHODS OF FILING RESPONSE	The North American Reliability Council (NERC) will oversee the methods of filing response of the data by of the Regional Councils. NERC then submits the compiled report to EIA. Submit the data via a secure file transfer process. Contact John Makens at John.Makens@eia.doe.gov for instructions. Maps and power flow cases can be transmitted electronically using a secure file transfer process. CD-ROM disks containing the data can also be mailed to EIA at the following address: John Makens, Survey Manager Energy Information Administration, Mail Stop EI-53 1000 Independence Avenue Washington, DC. 20585-0690 Retain a completed copy of this form for your files.
CONTACTS	***Data Questions:*** For questions about the data requested on Form EIA-411, contact: John Makens Telephone Number: (202) 287-1749 FAX Number: (202) 287-1960 Email: John.Makens@eia.doe.gov

ITEM-BY-ITEM INSTRUCTIONS

Schedule 1. Historical and Projected Peak Demand and Energy

1. Enter annual and seasonal peak demands and net energy for load for designated years.
2. Schedule 1 is to be reported in total by each Regional Council for all utilities, groups of utilities, such as Council subregions, Independent System Operators, or Regional Transmission Operators, within that Council. The reported capacity should comprise the sum of all non-coincident peak loads for the various operating entities within a NERC Region during the specified period. (Do not file coincident peak load.)

Schedule 2. Capacity for Existing Generators in Reporting Year

1. Using the Form EIA-860 electronic database, identify every generator that is dedicated to supplying the regional load, including generators that may be physically located outside the region's boundaries. For each such generator, report the information requested on lines 6, 8 and 9. If a known regional generator cannot be located in the Form EIA-860 database, notify either the NERC or EIA.
2. For line 6, **GADS Generator ID**, report the unique identification code or number assigned to this generator for use by the NERC Generator Availability Database.
3. For line 7, **Net Capacity As Reported on Form EIA-860**, report the amount of the capacity that was reported to EIA on the Form EIA-860.
4. For line 8, **Inoperable Capacity**, enter all generating resources that are expected to be unavailable due to scheduled outage at the time of peak. This includes maintenance outages and planned outages. Also included are all generating resources that are out of service for reasons such as legal, regulatory, or environmental restrictions. This does not include derated portions of generating capacity.
5. For line 9, **Net Operable Capacity**, enter line 7 less line 8.

Schedule 3. Historical and Projected Demand and Capacity

1. Schedule 3 is to be reported in total by each Regional Council for all utilities, groups of utilities, such as Council subregions, Independent System Operators, or Regional Transmission Operators, within that Council.
2. Enter demand and capacity for the summer (Part A) and winter (Part B) peak periods of the designated years for the NERC region. Peak demands reported should agree with the corresponding entries in Schedule 1, Part B.
3. For hydroelectric capacity, explain in footnote on Schedule 9, whether the projected years data are for an adverse water year, an average water year, or other.
4. The information in Schedule 3 is to be entered in megawatts (MW) for each peak period on the same basis as reported in Schedule 1, Part B.
5. For line 1**, Internal Demand**, the following instructions apply:

   Internal Demand is the sum of the metered (net) outputs of all generators within the system and the metered line flows into the system, less the metered line flows out of the system. The demands for station service or auxiliary needs (such as fan motors, pump motors, and other equipment essential to the operation of the generating units) are not included.

   Internal Demand includes adjustments for utility indirect demand-side management programs such as conservation programs, improvements in efficiency of electric energy use, rate incentives, and rebates. Internal Demand should not include Stand-by Demand (line 2) and should not be reduced by Direct Control Load Management or Interruptible Demand, which are reported on Lines 4 and 5, respectively.
6. For line 2, **Standby Demand**, enter the demand specified by contractual arrangement with a customer to provide power and energy to that customer as a secondary source or backup for an outage of the customer's primary source. Standby Demand is intended to be used infrequently by any one customer. If there are no arrangements for Standby Demand, report "0" on line 2.

ITEM-BY-ITEM INSTRUCTIONS (Continued)

Schedule 3. Historical and Projected Demand and Capacity (Continued)

7. For line 3, **Total Internal Demand**, enter sum of lines 1 and 2. Data should be the same as reported in Schedule 1, Part B, Peak Hour Demand.
8. For line 4, **Direct Control Load Management**, enter the magnitude of customer demand that can be interrupted at the time of the Regional Council seasonal peak by direct control of the System Operator by interrupting power supply to individual appliances or equipment on customer premises. This type of control usually reduces the demand of residential customers. Direct Control Load Management as reported here does not include Interruptible Demand (line 5).
9. For line 5, **Interruptible Demand**, enter the magnitude of customer demand that, in accordance with contractual arrangements, can be interrupted at the time of the Regional Council's seasonal peak by direct control of the System Operator or by action of the customer at the direct request of the System Operator. In some instances, the demand reduction may be effected by direct action of the System Operator (remote tripping) after notice to the customer in accordance with contractual provisions. For example, demands that can be interrupted to fulfill planning or operating reserve requirements normally should be reported as Interruptible Demand. Interruptible Demand as reported here does not include Direct Control Load Management (line 4).
10. For line 6, **Net Internal Demand**, enter line 3, less line 4, less line 5 (Internal Demand, less Direct Control Load Management and Interruptible Demand).
11. For line 7, **Total Net Operable Capacity**, for the reporting year (only), enter the sum of the values reported on Schedule 2, Line 9, for all generators included by the reporting region. For all other years, report the region's current projection of net operable capacity that it will use in assessing its future needs. Include the capacity from any generator, regardless of physical location, if that capacity is dedicated to satisfying the needs of the reporting region.
12. For line 7a, **Uncommitted Capacity**, enter the total amount of generating resources that are physically located in the Region, but are not dedicated to or contractually committed to serve load in the Region.
13. For line 7b1, **Reliability Derating Unit Specific Subtotal**, enter the total amount of reduction in the maximum capability of the units that can be specifically identified due to transmission constraints or the amount of generator capability that cannot be relied upon due to other issues, such as wind and hydro conditions.
14. For line 7b2, **Reliability Derating Group Subtotal**, enter the total amount of reduction in the maximum capability of the units that cannot be specifically identified (i.e., allocated or prorata derating) due to transmission constraints or the amount of generator capability that cannot be relied upon due to other issues, such as wind and hydro conditions.
15. For line 7c, **Other Generation,** enter the total amount of generation reported in the EIA 860 that is not included in Regional calculations of Planned Capacity Resources, e.g., behind the meter, self-use, etc.
16. For line 7d, **Subtotal Committed Capacity**, subtract lines 7a, 7b1, 7b2, and 7c from line 7.
17. For Line 8,**Generator Capacity, Less Than 1 Megawatt**, report the total of all grid-connected capacity less than 1 megawatt, regardless of physical location, that is dedicated to satisfying the needs of the reporting region.
18. For Line 8a, **Distributed Generator Capacity**, **Less Than 1 Megawatt**, report the amount of the capacity reported on line 8 that is comprised of distributed generators, as defined in the glossary.
19. For Line 8b, **Other Capacity**, **Less Than 1 Megawatt**, report the amount of the capacity reported on line 8 that is **not** comprised of distributed generators as defined in the glossary. (This should equal line 8, less line 8a.)
20. For Line 9, **Total Net Generator Capacity**, report the sum of line 7d plus line 8.
21. For Line 9b, **Distributed Generator Capacity, 1 Megawatt or Greater**, report the amount of the capacity reported on line 7 that is comprised of distributed generators, as defined in the glossary. This is broken out for informational purposes.

Schedule 3. Historical and Projected Demand and Capacity (Continued)

22. For line 10, **Total Capacity Purchases/Transfers**, enter total of all capacity purchases from sources outside the boundaries of the Reporting Party as reported in Schedule 4 at the time of the purchaser's peak demand. If not equal to the total in Schedule 4, Parts A and B, explain in a footnote on Schedule 9. Do not report capacity physically located outside the regions' boundaries as purchased capacity. Such capacity should be accounted for on Schedule 2.
23. For line 10a, **Full Responsibility Purchases**, enter total of all purchases for which the seller is contractually obligated to deliver power and energy to the purchaser with the same degree of reliability as provided to the seller's own native load (customers). Each purchaser and seller must agree on which of their transactions are reported under this heading.
24. For line 11, **Total Capacity Sales/Transfers**, enter total of all capacity sales to purchasers outside the boundaries of the Reporting Party, as reported in Schedule 4 at the time of the seller's peak demand. If not equal to the total in Schedule 4, Parts C and D, explain in a footnote on Schedule 9.
25. For line 11a, **Full Responsibility Sales**, enter total of all sales for which the seller is contractually obligated to deliver power and energy to the purchaser with the same degree of reliability as provided to the seller's own native load (customers). Each purchaser and seller must agree on which of their transactions are reported under this heading.
26. For line 12, **Planned Capacity Resources**, enter the sum of lines 9 plus 10 minus 11.

Schedule 4. Historical and Projected Capacity Purchases, Sales, and Transfers

1. Enter all projected capacity purchases and sales (in megawatts) that involve entities outside of the Council or Reporting Region. The totals should agree with the totals in Schedule 3, Line 10, **Total Capacity Purchases** and Line 11, **Total Capacity Sales**.
2. Some data may be non-coincident due to differences in the month of the seasonal peaks for the purchaser and seller. An example would be a transfer that changes magnitude from July to August. The transfer would be reported in July by the selling party whose peak occurs in July and reported in August by the purchasing party whose peak occurs in August.
3. Purchases from jointly owned shares of generators physically located outside the Regional Council, should not be reported as capacity in Schedule 4. These purchases should be accounted for in Schedule 3.
4. For column (a), **Other Party, EIA Code**, enter the five character numeric code for that party. A list of the EIA company codes, by reporting party name, is available at the EIA website, http://www.eia.doe.gov/cneaf/electricity/page/gen_companies/codesp1.html. If the name of the reporting party is not on this list, please enter the name of the party on the form and a code will be assigned by EIA.
5. For columns (a2) and (a3), Plant ID and Unit ID, enter the EIA code for those unit specific purchases, sales, and transfers, if known.

Schedule 5. Bulk Electric Transmission System Maps

1. Each Council is to submit a map(s) in electronic format, showing the existing bulk electric transmission system 230 kV and above, including ties to all other Councils, and the bulk electric transmission system additions projected for a five-year period beginning with the year following the reporting year.

Schedule 5. Bulk Electric Transmission System Maps (Continued)

2. Only major geographic features and State boundaries, bulk electric facilities, and the names of major metropolitan areas need be shown. The map scale to be used is left to the discretion of the Region or Reporting Party, but should be such as to allow convenient use of the map. Show the voltage level of all bulk electric transmission lines. The year of installation of all projected system additions may be shown at the option of the Council or Reporting Party.
3. The map requirement may be satisfied by either:
   (a) A single map in electronic format showing the existing bulk electric transmission system as of January 1 of the reporting year and system additions for a five-year period beginning with the reporting year; or
   (b) Separate maps for a set of subregions that comprise the whole region.
4. For Line 1, enter the number of maps provided.
5. For Line 2, enter the requested map information in columns (a) through (d).

Schedule 6. Projected Transmission Line Additions

1. This Schedule must be completed by each Regional Council for all transmission line additions at 230 kV and above projected for the five-year period beginning with the year following the reporting year.
2. For line 1, **Terminal Location (From)**, enter the name of the beginning terminal point of the line.
3. For line 2, **Terminal Location (To)**, enter the name of the ending terminal point of the line.
4. For line 3, **Company Name**, enter the company name.
5. For line 4, **EIA Company Code**, identify each organization by the six-character code assigned by EIA.
6. For line 5, **Type of Organization**, identify the type of organization that best represents the line owner including the following types of utilities – Investor-owned (I), Municipality (M), Cooperative (C), State-owned (S), Federally-owned (F), or other (O).
7. For line 6, **Percent Ownership**, if the transmission line will be jointly-owned, enter the percentages owned by each individual respondent.
8. For line 7, **Line Length**, enter miles between beginning and ending terminal points of the line, regardless of the number of conductors or circuits carried.
9. For line 8, **Line Type**, select physical location of the line conductor – overhead (OH), underground (UG), or submarine (SM).
10. For line 9, **Voltage Type**, select voltage as alternating current (AC) or direct current (DC).
11. For line 10, **Voltage Operating**, enter the voltage at which the line is normally operated in kilovolts (kV).
12. For line 11, **Voltage Design**, enter the voltage at which the line was designed to operate in kilovolts (kV).
13. For line 12, **Conductor Size**, enter the size of the line conductor in thousands of circular mils (MCM).
14. For line 13, **Conductor Material Type**, enter the line conductor material type – aluminum, ACCR, ACSR, copper, or other.
15. For line 14, **Bundling Arrangement**, enter the bundling arrangement/configuration of the line conductors – single, double, triple, quadruple, or other.
16. For line 15, **Circuits per Structure Present,** enter the current number of three-phase circuits on the structures of the line.

Schedule 6. Projected Transmission Line Additions (Continued)

17. For line 16, **Circuits per Structure Ultimate**, enter the ultimate number of three-phase circuits that the structures of the line are designed to accommodate.
18. For line 17, **Pole/Tower Type**, identify the predominant pole/tower material for the line – wood, concrete, steel, combination, composite material, or other. Also include the type of structure – single pole, H-frame structure, tower, underground, or other.
19. For line 18, **Capacity Rating**, enter the normal load-carrying capacity of the line in millions of volt-amperes (MVA).
20. For line 19, **Projected In-Service Date**, enter the projected date the line will be energized under the control of the system operator. Please provide a month and year (e.g. **12-2004**).

Schedule 7. Annual Data on Transmission Line Outages for EHV Lines, General Instructions for Part A and Part B

In general terms, an Outage is defined as the removal from service availability of a generation unit, transmission line, or other facility for either scheduled (planned) or unscheduled (unplanned) reasons. For this reporting purpose, individual outage duration should be reported following similar company standards and/or regional reliability guidelines. The outage durations reported on the Form EIA-411 represent the annual summation (in hours) of all these events for the reporting NERC region.

The duration of an outage is the amount of time that the transmission line was completely de-energized. For preferred reporting practices, do not start recording duration until the line is completely deenergized and stop recording duration when any portion of the line is reenergized. If practices differ, please footnote.

Outages that occur on inter-tie lines between utilities are to be reported only one by each reporting region.

<u>Scheduled Outages</u>

Information collected on scheduled outages is for the events where the duration was 1 hour or more in length. This includes line upgrades and the normal maintenance that is usually performed during non-peak load periods. Each time a line is removed from service, this is recorded as one scheduled outage (this includes accounting for periods where lines are returned to service on a periodic basis during the whole schedule work period).

<u>Unscheduled Outages</u>

The information requested on unscheduled events covers both outages due to preventable events and those that cannot be foreseen or prevented (such as severe weather). The unscheduled outage of any circuit continues until that circuit is restored to service. If company practices are different from this, please footnote.

- For any set of outages that have more than one cause, please report the initial cause (i.e., the cause that occurred first).
- For an outage of a circuit to be considered, the line(s) must be deenergized. If the line recloses and trips again within a minute of the initial outage, it is only considered one outage. The line would need to remain in service for longer than one minute between the breaker operations to be considered as two outages.
- 'Failed tests' are not considered additional outages. If the operator or dispatcher tries to energize a circuit that has a fault on it, and it immediately re-opens, this is considered a 'failed test' and is not an additional outage. However if the test 'passed' and the line remained in service for longer than one minute, any additional outages will be recorded as a new outage.

Schedule 7. Annual Data on Transmission Line

Outages for EHV Lines, General Instructions for Part A and Part B (Continued)

- Removal of any transmission line (including radials) from service is considered as an outage. However, transmission lines that are removed for system stability (such as 'voltage control') should not be reported as an outage. These maybe reported separately as a footnote.
- When a tap off a transmission line is removed from service (scheduled or unscheduled outage) and the transmission line itself remains energized only the tap is considered out-of-service.

Schedule 7. Part A, Annual Data on Transmission Line Outages for EHV Lines, A.C. Lines, Specific Instructions

1. All transmission line outages involving Extra High Voltage (EHV) A.C. lines of 230 kV and above are to be aggregated by each Regional Council and reported on this schedule.
2. For line 1, if you are reporting an outage(s) of a voltage class that is not listed, identify the voltage class in column e.
3. For line 2, **Number of Scheduled Outages**, report the total number of scheduled outages that occurred in the reporting period for each voltage class.
4. For line 3, **Number of Circuits Involved**, report the total number of "circuit outages", that occurred during the reporting period, for all scheduled outages. For example, if there was one outage and five circuits are involved, the respondent should report 5 circuit outages. Alternatively, if there was one outage with two circuits involved and subsequently there is another outage with four circuits involved, the respondent should report 6 circuit outages, for each voltage class.
5. For line 4, **Scheduled Circuit-Hours Out of Service**, report the total scheduled circuit-hours out of service for all of the scheduled outages for each voltage class during the year. This is the sum across all circuits of the number of hours each circuit was out of service for scheduled reasons during the reporting period.
6. For line 5, **Number of Non-Momentary Unscheduled Outages,** report the number of non-momentary (lasting sixty seconds or longer) unscheduled outages that occurred during the reporting period for each voltage class.
7. For line 6, **Number of Circuits Involved**, report the total number of "circuit outages", that occurred during the reporting period, for all unscheduled outages, both momentary and non-momentary. For example, if there is one outage and five circuits are involved, the respondent should report 5 circuit outages. Alternatively, if there was one outage with two circuits involved and subsequently there was another outage with four circuits involved, the respondent should report 6 circuit outages, for each voltage class.
8. For line 7, **Unscheduled Circuit-Hours Out of Service**, report the unscheduled circuit-hours out of service for all of the unscheduled outages for each voltage class during the year. This is the sum across all circuits of the number of hours each circuit was out of service for unscheduled reasons during the reporting period.
9. For Line 8, **Weather**, includes all unscheduled outages caused by severe weather conditions (tornado, hurricane, lightning strikes, ice, high winds, etc.) that are the primary cause of the outage.
10. For Line 9, **Animals, Fire and Smoke, Human Accidents,** includes the events caused by actions where animal movement or nesting impacts electrical operations of equipment or facilities. Actions by humans (accidents or intention) that not employed or under contract by the utility in the responsible area that impact operations will be reported. Fire and conditions linked to this from whatever event that started the fire/smoke conditions need to be accounted for in this category.
11. For Line 10, **Vegetation**, includes outages initiated by vegetation in the proximity of transmission facilities. Reporting definition will be consistent with the NERC template and vegetation management criteria.

Schedule 7. Part A, Annual Data on Transmission Line Outages for EHV Lines, A.C. Lines, Specific Instructions (Continued)

12. For Line 11, **Operator Action**, includes any action traceable to employees and/or contactors for companies operating, maintaining, and/or providing assistance for actions that impacted any part of the operations of the Nation's power grids will be identified and reported in this category. Also, any failure or interpretation of standard industry practices and guidelines that cause an outage event will be reported in this category.
13. For Line 12, **Other or Unknown**, includes all other categories tracked by utility systems that are kept separate from the above groupings should be reported here. In addition, any unknown sources should also be reported in this category.
14. For line 10, **Number of Circuits with Outages**, sum lines 3 and 8.
15. For line 11, **Total Number of Outages Reported**, sum lines 2 and 7.

Schedule 7. Part B, Annual Data on Transmission Line Outages for EHV Lines, D.C. Lines, Specific Instructions

1. All transmission line outages involving Extra High Voltage (EHV) D.C. lines of ±100 kV and above are to be aggregated by each Regional Council and reported on this schedule.
2. For line 2, **Number of Scheduled Outages**, report the total number of scheduled outages that occurred in the year for each voltage class.
3. For line 3, **Number of Circuits Involved**, report the total number of "circuit outages", that occurred during the year, for all scheduled outages. For example, if there is one outage and five circuits are involved, the respondent should report 5 circuit outages. Alternatively, if there was one outage with two circuits involved and subsequently there was another outage with four circuits involved, the respondent should report 6 circuit outages, for each voltage class.
4. For line 4, **Scheduled Circuit-Hours Out of Service**, report the total scheduled circuit-hours out of service for all of the scheduled outages for each voltage class during the year. This is the sum across all circuits of the number of hours each circuit was out of service for scheduled reasons during the year.
5. For line 5, **Number of Non-Momentary Unscheduled Outages,** report the number of non-momentary (lasting sixty seconds or longer) unscheduled outages that occurred during the year for each voltage class.
6. For line 6, **Number of Circuits Involved**, report the total number of "circuit outages", that occurred during the year, for all unscheduled outages, both momentary and non-momentary. For example, if there is one outage and five circuits are involved, the respondent should report 5 circuit outages. Alternatively, if there was one outage with two circuits involved and subsequently there was another outage with four circuits involved, the respondent should report 6 circuit outages, for each voltage class.
7. For line 7, **Unscheduled Circuit-Hours Out of Service**, report the unscheduled circuit-hours out of service for all of the unscheduled outages for each voltage class during the year. This is the sum across all circuits of the number of hours each circuit was out of service for unscheduled reasons during the year.
8. For Line 8, **Weather**, includes all unscheduled outages caused by severe weather conditions (tornado, hurricane, lightning strikes, ice, high winds, etc.) that are the primary cause of the outage.
9. For Line 9, **Animals, Fire and Smoke, Human Accidents,** includes the events caused by actions where animal movement or nesting impacts electrical operations of equipment or facilities. Actions by humans (accidents or intention) that not employed or under contract by the utility in the responsible area that impact operations will be reported. Fire and conditions linked to this from whatever event that started the fire/smoke conditions need to be accounted for in this category.

Schedule 7. Part B, Annual Data on Transmission Line Outages for EHV Lines, D.C. Lines, Specific Instructions (Continued)

10. For Line 10, **Vegetation**, includes outages initiated by vegetation in the proximity of transmission facilities. Reporting definition will be consistent with the NERC template and vegetation management criteria.
11. For Line 11, **Operator Action**, includes any action traceable to employees and/or contactors for companies operating, maintaining, and/or providing assistance for actions that impacted any part of the operations of the Nation's power grids will be identified and reported in this category. Also, any failure or interpretation of standard industry practices and guidelines that cause an outage event will be reported in this category.
12. For Line 12, **Other or Unknown**, includes all other categories tracked by utility systems that are kept separate from the above groupings should be reported here. In addition, any unknown sources should also be reported in this category.
13. For line 13, **Number of Circuits with Outages**, sum lines 3 and 8.
14. For line 14, Total Number of Outages Reported, sum lines 2 and 7.

Schedule 8. Bulk Transmission Facility Power Flow Cases

1. Each Regional Council is to coordinate the collection of Schedule 8 data on basic electrical data and power flow information on prospective new bulk transmission facilities of 230 kV and above (including lines, transformers, HVDC terminal facilities, phase shifters, and static VAR compensators) that have been approved for construction and are scheduled to be energized over the next two years.
2. If the prospective bulk transmission facilities are represented in the respondent's current FERC Form 715 submission, please provide a copy of an annual peak load power flow case submitted which represents a period of at least two years into the future and complete Schedule 8 (see Instructions 6 through 13).
3. If the facilities are not represented in the respondent's current FERC Form 715 submission, please submit a power flow case(s) representing the prospective facilities and complete Schedule 8. The respondent may submit a single annual peak load power flow case that includes all prospective facilities to be energized in the next two years. Alternatively, the respondent may provide a copy of any annual peak load power flow case that includes the new facility for the year it is to be energized. If more than one facility is to be energized in a given year, it is acceptable to provide a single annual peak load power flow case that includes all the new facilities added in that year. The power flow shall be in the same format as used for the respondent's FERC Form 715 filing.
4. For each power flow case that is provided in response to Items 2 and 3 above, please identify on Schedule 8 all prospective facilities that are not currently in service and the projected in-service date of those facilities. Complete one page for each new power flow case. In each case, identify only the new facility by type and list bus numbers and names that the new facility is connected with electrically.
5. The EIA expects that in nearly all cases the power flow format will be one of the following:
    - The Raw Data File format of the PTI (Power Technologies, Inc.) PSS/E power flow program;
    - The Card Deck Image format of the Philadelphia Electric power flow program;
    - The Card Deck format of the WSCC power flow program;
    - The Raw Data File format of the General Electric (formerly Electric Power Consultant, Inc. or EPC), or the PSLF power flow program; or
    - The IEEE Common Format for Exchange of Solved Power Flows.

   Respondents submitting their own cases must supply the input data to the solved base cases and associated ASCII output data on MS/PC DOS format (version 3.x or higher), high density (1.44 MB), compact disk in the format associated with the power flow program used by the respondents in the course of their transmission studies, as described above.

Schedule 8. Bulk Transmission Facility Power Flow Cases (Continued)

6. For Line 1, enter the case name.
7. For Line 2, enter the year studied in this power flow case.
8. For Line 3, enter the case number assigned by respondent.
9. For Line 4, column a, enter the name of a prospective facility included on the power flow case.
10. For Line 4, column b, enter the type of facility, e.g. line, transformer, etc.
11. For Line 4, column c, enter the projected in-service date of the proposed facility. Please provide month and year (e.g. 12-2004).
12. For Line 4, column d and e, enter the number and name respectively of each bus to which the facility is connected. Use one line for each bus.
13. Repeat Instructions 9 through 12 for each prospective facility.

Schedule 9. Footnotes

Identify each comment (footnote) by the appropriate schedule, part, line number, column identifier and page number. Use additional sheets, as required.

GLOSSARY	The glossary for this form is available online at the following URL: http://www.eia.doe.gov/cneaf/electricity/page/define.html
SANCTIONS	The timely submission of Form EIA-411 by those required to report is requested under Section 13(b) of the Federal Energy Administration Act of 1974 (FEAA) (Public Law 93-275), as amended. **Title 18 U.S.C. 1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.**
REPORTING BURDEN	Public reporting burden for this collection of information is estimated to average 120 hours per regional response and 18 hours per utility response, including the time of reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The burden includes not only the hours needed by the regional councils and NERC, but also for the members and regulated entities within each council. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Energy Information Administration, Statistics and Methods Group, EI-70, 1000 Independence Avenue S.W., Forrestal Building, Washington, D.C. 20585-0670; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503. A person is not required to respond to the collection of information unless the form displays a valid OMB number.
CONFIDENTIALITY	**The information contained on Schedule 5, Bulk Electric Transmission System Maps; and Schedule 8, Bulk Transmission Facility Power Flow Cases** will be kept confidential and not disclosed to the public to the extent that it satisfies the criteria for exemption under the Freedom of Information Act (FOIA), 5 U.S.C. §552, the DOE regulations, 10 C.F.R. §1004.11, implementing the FOIA, and the Trade Secrets Act, 18 U.S.C. §1905. The Energy Information Administration (EIA) will protect your information in accordance with its confidentiality and security policies and procedures. The Federal Energy Administration Act requires the EIA to provide company-specific data to other Federal agencies when requested for official use. The information reported on this form may also be made available, upon request, to another component of the Department of Energy (DOE); to any Committee of Congress, the General Accounting Office, or other Federal agencies authorized by law to receive such information. A court of competent jurisdiction may obtain this information in response to an order. The information may be used for any nonstatistical purposes such as administrative, regulatory, law enforcement, or adjudicatory purposes. Disclosure limitation procedures are applied to the statistical data published from EIA-411 confidential survey information to ensure that the risk of disclosure of identifiable information is very small. Any additional information reported on Form EIA-411 will not be treated as confidential and may be publicly released in identifiable form. In addition to the use of the information by EIA for statistical purposes, the information may be used for any nonstatistical purposes such as administrative, regulatory, law enforcement, or adjudicatory purposes.

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NOTICE: The information contained on Schedule 5, Bulk Electric Transmission System Maps; and Schedule 8, Bulk Transmission Facility Power Flow Cases will be kept confidential. All other data are not confidential. See instructions for reporting obligation, laws authorizing collection, purpose, confidentiality, and related information.
Title 18 U.S.C. 1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.

SURVEY CONTACTS: Persons to contact with questions about this form.

Contact Person 1:		Title:
Telephone: ( )	FAX: ( )	E-mail:
Contact Person 2:		Title:
Telephone: ( )	FAX: ( )	E-mail:

Council		
Reporting Party		

SCHEDULE 1. PART A. HISTORICAL AND PROJECTED PEAK DEMAND AND ENERGY - MONTHLY

LINE NO.	MONTH	YEAR 2004 PEAK HOUR DEMAND (MEGAWATTS) (a)	2004 NET ENERGY (THOUSANDS OF MEGA-WATTHOURS) (b)	2005 PEAK HOUR DEMAND (MEGAWATTS) (a)	2005 NET ENERGY (THOUSANDS OF MEGA-WATTHOURS) (b)	2006 PEAK HOUR DEMAND (MEGAWATTS) (a)	2006 NET ENERGY (THOUSANDS OF MEGA-WATTHOURS) (b)
1	January						
2	February						
3	March						
4	April						
5	May						
6	June						
7	July						
8	August						
9	September						
10	October						
11	November						
12	December						

SCHEDULE 1. PART B. HISTORICAL AND PROJECTED PEAK DEMAND AND ENERGY - ANNUAL

LINE NO.		YEAR 2004	2005	2006	2007	2008	2009
1	Summer Peak Hour Demand, June - September (Megawatts)						
		2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
2	Winter Peak Hour Demand, December - March (Megawatts)						
		2004	2005	2006	2007	2008	2009
3	Net Annual Energy (Thousands of Megawatthours)						

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SCHEDULE 2. CAPACITY FOR EXISTING GENERATORS IN REPORTING YEAR
(Complete One Column for Each Generator)

LINE NO		Generator (a)		Generator (b)		Generator (c)	
1	**EIA Plant Identification**	<pre-printed>		<pre-printed>		<pre-printed>	
2	**EIA Generator Identification**	<pre-printed>		<pre-printed>		<pre-printed>	
3	**Prime Mover Code**	<pre-printed>		<pre-printed>		<pre-printed>	
4	**Unit Code**	<pre-printed>		<pre-printed>		<pre-printed>	
5	**Ownership Code**	<pre-printed>		<pre-printed>		<pre-printed>	
6	**GADS Generator ID**						
		Summer	**Winter**	**Summer**	**Winter**	**Summer**	**Winter**
7	**Net Capacity as reported on Form EIA-860 (MW)**	<pre-printed>	<pre-printed>	<pre-printed>	<pre-printed>	<pre-printed>	<pre-printed>
8	**Inoperable Capacity**						
9	**Net Operable Capacity (line 7, less line 8)**						

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SCHEDULE 3. PART A. HISTORICAL AND PROJECTED DEMAND AND CAPACITY -- SUMMER

LINE NO.		YEAR					
		2004	2005	2006	2007	2008	2009
DEMAND (IN MEGAWATTS)							
1	Internal Demand						
2	Standby Demand						
3	Total Internal Demand (sum of lines 1 and 2)						
4	Direct Control Load Management						
5	Interruptible Demand						
6	Net Internal Demand (line 3, less line 4, less line 5)						
NET CAPACITY (IN MEGAWATTS)							
7	Total Net Operable Capacity (sum of Schedule 2, line 9 across all generators) col 1 only, out years projected						
7a	Uncommitted Capacity						
7b1	Reliability Derating Unit Specific subtotal						
7b2	Reliability Derating Group Subtotal						
7c	Other Generation						
7d	Subtotal Committed Capacity (line 7- 7a – 7b – 7c)						
8	Generator Capacity, less than 1 megawatt (8a + 8b)						
8a	Distributed Generator Capacity, less than 1 megawatt						
8b	Other Capacity, less than 1 megawatt						
9	Total Net Generator Capacity (sum of line 7d and line 8)						
9b	Distributed Generator Capacity, 1 megawatt or greater						
PURCHASES AND SALES (IN MEGAWATTS)							
10	Total Capacity Purchases/Transfers						
10a	Full Responsibility Purchases						
11	Total Capacity Sales/Transfers						
11a	Full Responsibility Sales						
CAPACITY SUMMARY (IN MEGAWATTS)							
12	Planned Capacity Resources (sum of lines 9 plus 10 minus 11)						

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SCHEDULE 3. PART B. HISTORICAL AND PROJECTED DEMAND AND CAPACITY -- WINTER

LINE NO.		YEAR					
		2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
DEMAND (IN MEGAWATTS)							
1	Internal Demand						
2	Standby Demand						
3	Total Internal Demand (sum of lines 1 and 2)						
4	Direct Control Load Management						
5	Interruptible Demand						
6	Net Internal Demand (line 3, less line 4, less line 5)						
NET CAPACITY (IN MEGAWATTS)							
7	Total Net Operable Capacity (sum of Schedule 2, line 9 across all generators) col 1 only, out years projected						
7a	Uncommitted Capacity						
7b1	Reliability Derating Unit Specific subtotal						
7b2	Reliability Derating Group Subtotal						
7c	Other Generation						
7d	Subtotal Committed Capacity (line 7- 7a – 7b – 7c)						
8	Generator Capacity, less than 1 megawatt (8a + 8b)						
8a	Distributed Generator Capacity, less than 1 megawatt						
8b	Other Capacity, less than 1 megawatt						
9	Total Net Generator Capacity (sum of line 7d and line 8)						
9b	Distributed Generator Capacity, 1 megawatt or greater						
PURCHASES AND SALES (IN MEGAWATTS)							
10	Total Capacity Purchases/Transfers						
10a	Full Responsibility Purchases						
11	Total Capacity Sales/Transfers						
11a	Full Responsibility Sales						
CAPACITY SUMMARY (IN MEGAWATTS)							
12	Planned Capacity Resources (sum of lines 9 plus 10 minus 11)						

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SCHEDULE 4. PART A. HISTORICAL AND PROJECTED CAPACITY PURCHASES/INCOMING TRANSFERS (MEGAWATTS) - SUMMER

		YEAR							
LINE NO.	OTHER PARTY EIA CODE (a)	PLANT ID	UNIT ID	2004 (b)	2005 (c)	2006 (d)	2007 (e)	2008 (f)	2009 (g)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11	Total								

SCHEDULE 4. PART B. HISTORICAL AND PROJECTED CAPACITY PURCHASES/INCOMING TRANSFERS (MEGAWATTS) - WINTER

		YEAR							
LINE NO.	OTHER PARTY EIA CODE (a)	PLANT ID	UNIT ID	2004/2005 (b)	2005/2006 (c)	2006/2007 (d)	2007/2008 (e)	2008/2009 (f)	2009/2010 (g)
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22	Total								

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SCHEDULE 4. PART C. HISTORICAL AND PROJECTED CAPACITY SALES/OUTGOING TRANSFERS (MEGAWATTS) - SUMMER

		YEAR							
LINE NO.	OTHER PARTY EIA CODE (a)	PLANT ID	UNIT ID	2004 (b)	2005 (c)	2006 (d)	2007 (e)	2008 (f)	2009 (g)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11	Total								

SCHEDULE 4. PART D. HISTORICAL AND PROJECTED CAPACITY SALES/OUTGOING TRANSFERS (MEGAWATTS) - WINTER

		YEAR							
LINE NO.	OTHER PARTY EIA CODE (a)	PLANT ID	UNIT ID	2004/2005 (b)	2005/2006 (c)	2006/2007 (d)	2007/2008 (e)	2008/2009 (f)	2009/2010 (g)
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22	Total								

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SCHEDULE 5. BULK ELECTRIC TRANSMISSION SYSTEM MAPS

LINE NO.				
1	Specify the Number of Maps Provided:			
2	For each map provide file name, coverage, and map software:			
	MAP NUMBER (a)	FILE NAME (b)	YEARS PROJECTED (c)	MAP SOFTWARE (d)

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SCHEDULE 6. PROJECTED TRANSMISSION LINES

LINE NO.		TRANSMISSION LINE (a)	TRANSMISSION LINE (b)	TRANSMISSION LINE (c)
TRANSMISSION LINE IDENTIFICATION				
1	Terminal Location (From)			
2	Terminal Location (To)			
TRANSMISSION LINE OWNERSHIP				
3	Company Name			
4	EIA Company Code			
5	Type of Organization			
6	Percent Ownership			
TRANSMISSION LINE DATA				
7	Line Length (miles)			
8	Line Type	[ ] OH [ ] UG [ ] SM	[ ] OH [ ] UG [ ] SM	[ ] OH [ ] UG [ ] SM
9	Voltage Type	[ ] AC [ ] DC	[ ] AC [ ] DC	[ ] AC [ ] DC
10	Voltage Operating (Kilovolts)			
11	Voltage Design (Kilovolts)			
12	Conductor Size (MCM)			
13	Conductor Material Type (Select codes from legend below)			
14	Bundling Arrangement (Select codes from legend below)			
15	Circuits per Structure Present			
16	Circuits per Structure Ultimate			
17	Pole/Tower Type (Select codes from legend below)	Pole Material: [ ] Pole Type: [ ]	Pole Material: [ ] Pole Type: [ ]	Pole Material: [ ] Pole Type: [ ]
18	Capacity Rating (Megavoltamperes)			
19	Projected In-Service Date (e.g., 12-2004)			

LEGEND

Line Type	Voltage Type	Conductor Material Type	Bundling Arrangement	Pole/Power Type: Pole Material	Pole/Power Type: Pole Type
OH=Overhead UG=Underground SM=Submarine	AC=Alternating Current DC=Direct Current	AL = Aluminum ACCR = Aluminum Composite Conductor Reinforced ACSR = Aluminum Core Steel Reinforced CU = Copper OT = Other	1 = Single 2 = Double 3 = Triple 4 = Quadruple OT = Other	W = Wood C = Concrete S = Steel B = Combination P = Composite O = Other	P = Single pole H = H-frame T = Tower U = Underground O = Other

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SCHEDULE 7. PART A, ANNUAL DATA ON TRANSMISSION LINE OUTAGES FOR EHV A.C. LINES
(Report following data for each applicable EHV Voltage Class)

LINE NO.						
1	Applicable A.C. Voltage Class	230 kV (a)	345 kV (b)	500 kV (c)	765 kV (d)	Other (specify) (e)
	Scheduled Outages for Specified Voltage Class					
2	Number of Scheduled Outages					
3	Number of Circuits Involved					
4	Scheduled Circuit-Hours Out of Service					
	Unscheduled Outages for Specified Voltage Class					
5	Number of Non-Momentary Unscheduled Outages					
6	Number of Circuits Involved					
7	Unscheduled Circuit-Hours Out of Service					
	Causal Categories for Unscheduled Outages of Specified Voltage Class (Percent)					
8	Weather					
9	Animals, Fire and Smoke, Human Accidents					
10	Vegetation					
11	Operator Action					
12	Other or Unknown					
	Total Outages for Specified Voltage Class					
13	Number of Circuits with Outages (sum of lines 3 and 6)					
14	Total Number of Outages Reported (sum of lines 2 and 5)					

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SCHEDULE 7. PART B, ANNUAL DATA ON TRANSMISSION LINE OUTAGES FOR EHV D.C. LINES
(Report following data for each applicable EHV Voltage Class)

LINE NO.						
1	Applicable D.C. Voltage Class	± 100-199 kV (a)	± 200-299 kV (b)	± 300-399 kV (c)	± 400-499 kV (d)	± 500 kV or greater (e)
2	Number of Scheduled Outages					
3	Number of Circuits Involved					
4	Scheduled Circuit-Hours Out of Service					
	Unscheduled Outages for Specified Voltage Class					
5	Number of Non-Momentary Unscheduled Outages					
6	Number of Circuits Involved					
7	Unscheduled Circuit-Hours Out of Service					
	Causal Categories for Unscheduled Outages of Specified Voltage Class (Percent)					
8	Weather					
9	Animals, Fire and Smoke, Human Accidents					
10	Vegetation					
11	Operator Action					
12	Other or Unknown					
	Total Outages for Specified Voltage Class					
13	Number of Circuits with Outages (sum of lines 3 and 6)					
14	Total Number of Outages Reported (sum of lines 2 and 5)					

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SCHEDULE 8. BULK TRANSMISSION FACILITY POWER FLOW CASES

LINE NO.		
1	**Case Name:**	
2	**Year of Study:**	
3	**Case Number:**	

	PROSPECTIVE FACILITIES AND CONNECTIONS				
				CONNECTIONS	
4	NAME OF FACILITY (a)	TYPE OF FACILITY (b)	PROJECTED IN-SERVICE DATE (e.g., 12-2004) (c)	BUS NUMBER (d)	BUS NAME (e)

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SCHEDULE 9. FOOTNOTES

LINE NO.	SCHEDULE (a)	PART (b)	LINE NO. (c)	COLUMN (d)	PAGE (e)	COMMENT (f)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
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