



NOTICE: This report is **mandatory** under the Federal Energy Administration Act of 1974 (Public Law 93-275) for all parts. Failure to comply may result in criminal fines, civil penalties and other sanctions as provided by law. For further information concerning sanctions and data protections see the provision on sanctions and the provision concerning the confidentiality of information in the instructions. **Title 18 USC 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.**

SCHEDULE 1. IDENTIFICATION

Survey Contact

First Name: _____ Last Name: _____
Title: _____
Telephone (include extension): _____ Fax: _____
Email: _____

Supervisor of Contact Person for Survey

First Name: _____ Last Name: _____
Title: _____
Telephone (include extension): _____ Fax: _____
Email: _____

Report For

Regional Entity: _____
Reporting Party (Regional Entity or subregion): _____

For questions about the data requested on Form EIA-411, contact the Survey Manager:

Jonathan DeVilbiss
Telephone Number: (202) 586-2992
FAX Number: (202) 287-1938
Email: Jonathan.DeVilbiss@eia.gov



Regional Entity: _____

Reporting Party: _____

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

LINE NO.		YEAR					
		Actual (2013)	Year 1 (RY 2014)	Year 2 (2015)	....	Year 9 (2022)	Year 10 (2023)
DEMAND (IN MEGAWATTS)							
1	Unrestricted Peak Demand						
1a	New Conservation (Energy Efficiency)						
1b	Estimated Diversity						
1c	Additions for non-member load						
1d	Stand-by Load Under Contract						
1e	Non-Controllable Demand Response						
2	Total Internal Demand						
2a	Direct Control Load Management						
2b	Interruptible Load						
2c	Critical Peak Pricing with Control						
2d	Load as a Capacity Resource						
3	Net Internal Demand						
4	Total Demand Response						
SUPPLY CATEGORIES (IN MEGAWATTS)							
5	TOTAL INTERNAL CAPACITY (sum of 6 and 8a)						
6	EXISTING CAPACITY (6a+6b+6c)						
6a	Certain						
6b	Other						
6c	Unavailable						
7	PEAK HOUR DEMAND PLUS AVAILABLE RESERVES						



Regional Entity: _____
 Reporting Party: _____

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

LINE NO.		YEAR					
		Actual (2013)	Year 1 (RY 2014)	Year 2 (2015)	....	Year 9 (2022)	Year 10 (2023)
FUTURE CAPACITY CATEGORIES (IN MEGAWATTS)							
8	FUTURE CAPACITY ADDITIONS						
8a	Tier 1 (Most Certain)						
8b	Tier 2						
8c	Tier 3 (Least Certain)						
9	ANTICIPATED CAPACITY (6a+8a)						
CAPACITY TRANSFERS (IN MEGAWATTS)							
10	CAPACITY TRANSFERS – IMPORTS						
10a	Prior Year Actual Imports						
10b	Firm						
10c	Expected						
11	CAPACITY TRANSFERS – EXPORTS						
11a	Prior Year Actual Exports						
11b	Firm						
11c	Expected						



Regional Entity: _____

Reporting Party: _____

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

LINE NO.		YEAR					
		Actual (2013)	Year 1 (RY 2014)	Year 2 (2015)	....	Year 9 (2022)	Year 10 (2023)
CAPACITY - Continued (IN MEGAWATTS)							
12	EXISTING, CERTAIN & NET FIRM TRANSFERS (6a+10b-11b)						
13	ANTICIPATED CAPACITY RESOURCES (12+8a)						
14	PROSPECTIVE CAPACITY RESOURCES						
15	ADJUSTED POTENTIAL CAPACITY RESOURCES						
RESERVE AND CAPACITY MARGINS							
16	TARGET RESERVE MARGIN FOR Region/Assessment Area						
17	EXISTING, CERTAIN & NET FIRM TRANSFERS						
17.1	Reserve Margin						
17.2	Capacity Margin						
18	ANTICIPATED RESOURCES						
18.1	Reserve Margin						
18.2	Capacity Margin						
19	PROSPECTIVE RESOURCES						
19.1	Reserve Margin						
19.2	Capacity Margin						
20	ADJUSTED POTENTIAL RESOURCES						
20.1	Reserve Margin						
20.2	Capacity Margin						



Regional Entity: _____

Reporting Party: _____

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

LINE NO.		YEAR					
		Actual (2013)	Year 1 (RY 2014)	Year 2 (2015)	....	Year 9 (2022)	Year 10 (2023)
DEMAND (IN MEGAWATTS)							
1	Unrestricted Peak Demand						
1a	New Conservation (Energy Efficiency)						
1b	Estimated Diversity						
1c	Additions for non-member load						
1d	Stand-by Load Under Contract						
1e	Non-Controllable Demand Response						
2	Total Internal Demand						
2a	Direct Control Load Management						
2b	Interruptible Load						
2c	Critical Peak Pricing with Control						
2d	Load as a Capacity Resource						
3	Net Internal Demand						
4	Total Demand Response						
SUPPLY CATEGORIES (IN MEGAWATTS)							
5	TOTAL INTERNAL CAPACITY (sum of 6 and 8a)						
6	EXISTING CAPACITY (6a+6b+6c)						
6a	Certain						
6b	Other						
6c	Unavailable						
7	PEAK HOUR DEMAND PLUS AVAILABLE RESERVES						



Regional Entity: _____
 Reporting Party: _____

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

LINE NO.		YEAR					
		Actual (2013)	Year 1 (RY 2014)	Year 2 (2015)	....	Year 9 (2022)	Year 10 (2023)
FUTURE CAPACITY CATEGORIES (IN MEGAWATTS)							
8	FUTURE CAPACITY ADDITIONS						
8a	Tier 1 (Most Certain)						
8b	Tier 2						
8c	Tier 3 (Least Certain)						
9	ANTICIPATED CAPACITY (6a+8a)						
CAPACITY TRANSFERS (IN MEGAWATTS)							
10	CAPACITY TRANSFERS - IMPORTS						
10a	Prior Year Actual Imports						
10b	Firm						
10c	Expected						
11	CAPACITY TRANSFERS - EXPORTS						
11a	Prior Year Actual Exports						
11b	Firm						
11c	Expected						



Regional Entity: _____

Reporting Party: _____

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

LINE NO.		YEAR					
		Actual (2013)	Year 1 (RY 2014)	Year 2 (2015)	....	Year 9 (2022)	Year 10 (2023)
CAPACITY - Continued (IN MEGAWATTS)							
12	EXISTING, CERTAIN & NET FIRM TRANSFERS (6a+10b-11b)						
13	ANTICIPATED CAPACITY RESOURCES (12+8a)						
14	PROSPECTIVE CAPACITY RESOURCES						
15	ADJUSTED POTENTIAL CAPACITY RESOURCES						
RESERVE AND CAPACITY MARGINS							
16	TARGET RESERVE MARGIN FOR Region/Assessment Area						
17	EXISTING, CERTAIN & NET FIRM TRANSFERS						
17.1	Reserve Margin						
17.2	Capacity Margin						
18	ANTICIPATED RESOURCES						
18.1	Reserve Margin						
18.2	Capacity Margin						
19	PROSPECTIVE RESOURCES						
19.1	Reserve Margin						
19.2	Capacity Margin						
20	ADJUSTED POTENTIAL RESOURCES						
20.1	Reserve Margin						
20.2	Capacity Margin						



Regional Entity: _____

Reporting Party: _____

SCHEDULE 6. PART B. CHARACTERISTICS OF PROJECTED TRANSMISSION LINE ADDITIONS

LINE NO.	TRANSMISSION LINE (a)	TRANSMISSION LINE (b)	TRANSMISSION LINE (c)
TRANSMISSION LINE IDENTIFICATION			
1	Project Name		
2	Project Status		
3	Tie line		
4a	Primary Driver		
4b	Secondary Driver		
5	Terminal Location (From)		
6	Terminal Location (To)		
TRANSMISSION LINE OWNERSHIP			
7	Company Name		
8	EIA Company Code		
9	Type of Organization		
10	Percent Ownership		
TRANSMISSION LINE DATA			
11	Line Length (miles)		
12	Line Type	[]OH []UG []SM	[]OH []UG []SM
13	Voltage Type	[]AC []DC	[]AC []DC
14	Voltage Operating (Kilovolts)		
15	Voltage Design (Kilovolts)		
16	Circuits per Structure Present		
17	Circuits per Structure Ultimate		
18	Capacity Rating (MVA)		
19	Original In-Service Date		
20	Expected In-Service Date		
21	Line Delayed?		
22	Cause of Delay		
LEGEND			
Line Type: OH=Overhead UG=Underground SM=Submarine		Voltage Type: AC=Alternating Current DC=Direct Current	



Regional Entity: _____

Reporting Party: _____

SCHEDULE 7. PART D, TRANSMISSION ELEMENT INVENTORY AND EVENT SUMMARY

(Report following data for each applicable voltage class)

LINE NO.		In Report Year 2014 and Report Year 2015 report for voltage categories 200 kV and above. From Report Year 2016 forward report only for transmission elements that are part of the new BES definition.						
AC Circuit Voltage Class		Less Than 100 kV (a)	100-199 kV (b)	200-299 kV (c)	300-399 kV (d)	400-599 kV (e)	600-799 kV (f)	All Voltages (g)
1	Number of AC Circuits (Total)							
1a	Overhead							
1b	Underground							
2	Number of AC Circuit Miles (Total)							
2a	Overhead							
2b	Underground							
3	Number of AC Multi-Circuit Structure Miles							
DC Circuit Voltage Class		Less Than ± 100 kV (a)	± 100-199 kV (b)	± 200-299 kV (c)	± 300-399 kV (d)	± 400-499 kV (e)	± 500-599 kV (f)	± 600-799 kV (g)
4	Number of DC Circuits (Total)							
4a	Overhead							
4b	Underground							
5	Number of DC Circuit Miles (Total)							
5a	Overhead							
5b	Underground							
Transformer Low-Side Voltage Class		Less Than 100 kV (a)	100-199 kV (b)	200-299 kV (b)	300-399 kV (c)	400-599 kV (d)	600-799 kV (e)	Reserved (f)
6	Number of Transformers							
7	Total Number of Events (all Voltage Classes)							



Regional Entity: _____

Reporting Party: _____

SCHEDULE 8. ANNUAL DATA ON GENERATING UNIT OUTAGES, DERATINGS AND PERFORMANCE INDEXES For Conventional Units

SCHEDULE 8. PART A. ANNUAL DATA ON GENERATING UNIT OUTAGE HOURS AND COUNTS

LINE NO.	Conventional Generating Unit	Total Number of GADS Generator Units	Forced Outage		Maintenance Outage		Planned Outage	
			Hours (FOH)	Count (FO)	Hours (MOH)	Count (MO)	Hours (POH)	Count (PO)
		A	B	C	D	E	F	G
By Unit Type								
1	Coal Steam (ST)							
2	Other Fossil Steam (ST)							
3	Nuclear (NUC)							
4	Gas Turbines (GT)							
5	Combined Cycle (CT, CA)							
6	Int. Combust. Engines (IC)							
7	Hydro (HY)							
8	Other							
9	TOTAL							
By Capacity								
10	199 MW and below							
11	200-399 MW							
12	400-699 MW							
13	700 MW and above							
14	TOTAL							
Coal Units by Vintage								
Units that entered commercial operation in or before 1972								
15	Coal Steam – Subcritical							
16	Coal Steam – Supercritical							
Units that entered commercial operation in or after 1973								
17	Coal Steam – Subcritical							
18	Coal Steam – Supercritical							
Combined Cycle Units by Vintage								
Units that entered commercial operation in or before 2002								
19	Combined Cycle							
Units that entered commercial operation in or after 2003								
20	Combined Cycle							



Regional Entity: _____

Reporting Party: _____

SCHEDULE 8. PART B. ANNUAL DATA ON GENERATING UNIT DERATING HOURS AND COUNTS

LINE NO.	Conventional Generating Unit	Forced Derating		Maintenance Derating		Planned Derating		Equivalent Seasonal Derating Hours (ESDH)
		Equivalent Hours (EFDH)	Counts (Unique) (FD)	Equivalent Hours (EMDH)	Counts (Unique) (D4)	Equivalent Hours (EPDH)	Counts (Unique) (PD)	
		A	B	C	D	E	F	G
By Unit Type								
1	Coal Steam (ST)							
2	Other Fossil Steam (ST)							
3	Nuclear (NUC)							
4	Gas Turbines (GT)							
5	Combined Cycle (CT, CA)							
6	Int. Combust. Engines (IC)							
7	Hydro (HY)							
8	Other							
9	TOTAL							
By Capacity								
10	199 MW and below							
11	200-399 MW							
12	400-699 MW							
13	700 MW and above							
14	TOTAL							
Coal Units by Vintage								
Units that entered commercial operation in or before 1972								
15	Coal Steam - Subcritical							
16	Coal Steam - Supercritical							
Units that entered commercial operation in or after 1973								
17	Coal Steam - Subcritical							
18	Coal Steam - Supercritical							
Combined Cycle Units by Vintage								
Units that entered commercial operation in or before 2002								
19	Combined Cycle							
Units that entered commercial operation in or after 2003								
20	Combined Cycle							



Regional Entity: _____

Reporting Party: _____

SCHEDULE 8. PART C.1. ANNUAL DATA ON GENERATING UNIT PERFORMANCE INDEXES

Line No.	Conventional Generating Unit	Net Capacity Factor (NCF)	Net Output Factor (NOF)	Service Factor (SF)	Availability Factor (AF)	Unavailability Factor (UF)	Unit Derating Factor (UDF)	Equivalent Availability Factor (EAF)
		A	B	C	D	E	F	G
By Unit Type								
1	Coal Steam (ST)							
2	Fossil Steam (ST)							
3	Nuclear (NUC)							
4	Gas Turbines (GT)							
5	Combined Cycle (CT, CA)							
6	Int. Combust. Engines (IC)							
7	Hydro (HY)							
8	Other							
9	TOTAL							
By Capacity								
10	199 MW and below							
11	200-399 MW							
12	400-699 MW							
13	700 MW and above							
14	TOTAL							
Coal Units by Vintage								
Units that entered commercial operation in or before 1972								
15	Coal Steam – Subcritical							
16	Coal Steam–Supercritical							
Units that entered commercial operation in or after 1973								
17	Coal Steam – Subcritical							
18	Coal Steam–Supercritical							
Combined Cycle Units by Vintage								
Units that entered commercial operation in or before 2002								
19	Combined Cycle							
Units that entered commercial operation in or after 2003								
20	Combined Cycle							



Regional Entity: _____

Reporting Party: _____

SCHEDULE 8. PART C.2. ANNUAL DATA ON GENERATING UNIT PERFORMANCE INDEXES

LINE NO.	Conventional Generating Unit	Equivalent Forced Outage Rate (FOR)	Equivalent Maintenance Outage Rate (MOR)	Equivalent Planned Outage Rate (POR)	Forced Outage Rate Demand (FORd)	Equivalent Forced Outage Rate Demand (EFORd)
		A	B	C	D	E
By Unit Type						
1	Coal Steam (ST)					
2	Fossil Steam (ST)					
3	Nuclear (NUC)					
4	Gas Turbines (GT)					
5	Combined Cycle (CT, CA)					
6	Int. Combust. Engines (IC)					
7	Hydro (HY)					
8	Other					
9	TOTAL					
By Capacity						
10	199 MW and below					
11	200-399 MW					
12	400-699 MW					
13	700 MW and above					
14	TOTAL					
Coal Units by Vintage						
Units that entered commercial operation in or before 1972						
15	Coal Steam - Subcritical					
16	Coal Steam-Supercritical					
Units that entered commercial operation in or after 1973						
17	Coal Steam - Subcritical					
18	Coal Steam-Supercritical					
Combined Cycle Units by Vintage						
Units that entered commercial operation in or before 2002						
19	199 MW and below					
Units that entered commercial operation in or after 2003						
20	199 MW and below					



Regional Entity: _____

Reporting Party: _____

SCHEDULE 9. SMART GRID TRANSMISSION SYSTEM DEVICES AND APPLICATIONS

SCHEDULE 9. PART A. DYNAMIC CAPABILITY RATING SYSTEMS (DCRSs)

LINE NO.	AC Circuit Voltage Class	100- 299 kV (A)	300-799 kV (B)
1	Number of transmission circuits utilizing a dynamic capability rating system		
2	Miles of AC transmission lines utilizing a dynamic capability rating system		
3	Number of station transformers utilizing a dynamic capability rating system		

SCHEDULE 9. PART B. PHASOR MEASUREMENT UNITS (PMUs)

LINE NO.	AC Circuit Voltage Class	100- 299 kV (A)	300-799 kV (B)
1	Number of non-networked PMUs		
2	Number of networked PMUs		
3	Number of substations with at least one networked PMU installed		
4	Number of total substations		



Regional Entity: _____

Reporting Party: _____

SCHEDULE 9. PART C. SMART GRID PMU APPLICATIONS

LINE NO.	Application Type	Application Used
PMU APPLICATIONS		
A. Real-time Operations Applications		
1	Indicate whether PMUs are being used to support the following applications:	
1a	• Wide-area situational awareness	[] Yes, [] No
1b	• Frequency stability monitoring and trending	[] Yes, [] No
1c	• Power oscillation monitoring	[] Yes, [] No
1d	• Voltage monitoring and trending	[] Yes, [] No
1e	• Alarming and setting system operating limits, event detection and avoidance	[] Yes, [] No
1f	• Resource integration	[] Yes, [] No
1g	• State estimation	[] Yes, [] No
1h	• Dynamic line ratings and congestion management	[] Yes, [] No
1i	• Outage restoration	[] Yes, [] No
1j	• Operations planning	[] Yes, [] No
B. Planning and Off-line Applications		
2	Indicate whether PMUs are being used to support the following applications:	
2a	• Baseline power system performance	[] Yes, [] No
2b	• Event analysis	[] Yes, [] No
2c	• Static system model calibration and validation	[] Yes, [] No
2d	• Dynamic system model calibration and validation	[] Yes, [] No
2e	• Power plant model validation	[] Yes, [] No
2f	• Load characterization	[] Yes, [] No
2g	• Special protection schemes and islanding	[] Yes, [] No
2h	• Primary frequency (governing) response	[] Yes, [] No



Regional Entity: _____

Reporting Party: _____

SCHEDULE 10. COMMENTS

LINE NO.	Schedule (A)	Schedule Part (B)	Schedule Line No. (C)	Schedule Column (D)	Schedule Page (E)	Comment (F)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

