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**Arizona Electric Power Cooperative, Inc.**

**Integrated Resource Planning  
Actual Data Filing**

Arizona Corporation Commission

**DOCKETED**

MAR 31 2011

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**Demand and Supply  
2010**

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Docket # E-00000A-11-0113

**Pursuant to Rule R14-2-703 A-B  
Of the Arizona Administrative Code  
With Decision Number 60385 Modifications  
Corporation Commission – Fixed Utilities**

**Public Filing**

**March 31, 2011**

# **Arizona Electric Power Cooperative, Inc.**

**Integrated Resource Planning  
Actual Data Filing**

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## **Demand and Supply 2010**

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**Docket # E-00000A-11-0113**

**Pursuant to Rule R14-2-703 A-B  
Of the Arizona Administrative Code  
With Decision Number 60385 Modifications  
Corporation Commission – Fixed Utilities**

**Public Filing**

**March 31, 2011**

## 2010 Integrated Resource Planning Actual Data Filing

### R14-2-703. Utility reporting requirements

A. Demand side data. Each utility shall provide the Commission staff the demand data in subsection (A)(1) through (9) below within 90 days of the effective date of these rules and shall provide staff with updated and revised data by April 1 of each year thereafter. If records are not maintained for any item, the utility shall provide its best estimates, such as sample survey data, application factors from one years data to another year, or other methods, and fully describe how such estimates were made.

1. Hourly demand for the previous calendar year disaggregated by:
  - a. Sales to end users
  - b. Sales for resale
  - c. Energy losses
  - d. Other disposition of energy such as energy furnished without charge and energy used by the utility.
  
3. Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.

B. Supply-side data. Each utility shall provide the Commission staff the supply data indicated in subsection (B)(1) through (4) within 90 days of the effective date of these rules and shall provide staff with updated and revised data by April 1 of each year thereafter. If records are not maintained for any item, the utility shall provide its best estimates and fully describe how those estimates were made.

1. For each generating unit and purchased power contract for the previous calendar year:
  - a. In-service date
  - b. Book life or contract period
  - c. Capacity in megawatts (utility share)
  - d. Maximum unit or contract capacity by hour, or month, if such capacity varies over the year
  - e. Forced outage rate (generating units only)
  - f. Average heat rate of generating units and, if available, heat rates at selected output levels
  - g. Fuel cost for generating units in dollars per million Btu for each type of fuel,
  - h. Other variable operating and maintenance costs for units in dollars per megawatt hour
  - i. Purchased power energy costs for contract purchases in dollars per megawatt hour
  - j. Fixed operating and maintenance costs of generating units in dollars per megawatt for the year
  - k. Demand charges for purchased power

## 2010 Integrated Resource Planning Actual Data Filing

- l. Fuel types for generating units
  - m. Minimum capacity at which the unit would be run or power must be purchased
  - n. Whether, under standard operating procedures, the generating unit must be run if it is available to run
  - o. Maintenance schedules for generating units
  - p. Other data related to generation units and purchased power contracts which the utility uses in its production, planning and supply models
2. For the power supply system for the previous calendar year:
    - a. A description of unit commitment procedures
    - b. Production cost
    - c. Reserve requirements
    - d. Spinning reserves
    - e. Reliability of generation, transmission and distribution systems
    - f. Interchange purchase and sale prices
    - g. Energy losses
  3. The level of cogeneration and other forms of self-generation in the utility's service area for the previous calendar year.
  4. As available, a description and map of the utility's transmission system, including the capacity of each segment of the transmission system.

### **R14-2-703. Additional requirements from ACC Decision 58643**

"It is further ordered that each utility shall develop a database of existing renewable energy resources within its service area within six months from the effective date of this Decision; these inventories shall be revised annually and submitted to Staff each year as part of the historical data filings required under the IRP rules."

"It is further ordered that Arizona Public Service Company, Tucson Electric Power Company, Arizona Electric Power Cooperative, and Citizens Utilities Company shall increase their collection of end use load data, obtain commercial and industrial energy sales data by Standard Industrial Classification (SIC) category, collate that information with data on commercial and industrial customers such as number of employees in each SIC category, furnish Staff with a copy of the data to enable Staff to conduct independent analyses, and that Arizona Public Service Company, Tucson Electric Power Company, Arizona Electric Power Cooperative, and Citizens Utilities Company shall include the data described above in their annual IRP data filings."

## 2010 Integrated Resource Planning Actual Data Filing

As per Docket No. U-0000-95-506, Decision No. 60385 the following sections of the IRP rules have been omitted from this Data Filing:

R14-2-703.A.2	hourly demand by customer class and entity
R14-2-703.A.4	number of customers by class
R14-2-703.A.5	heating and cooling degree days
R14-2-703.A.6	residential customer characteristics
R14-2-703.A.7	nonresidential customer characteristics
R14-2-703.A.8	reduction in load due to demand-side-management
R14-2-703.A.9	annual average prices of electricity

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 A.) Demand-side Data**

1.) Hourly demand for the previous year disaggregated by:

a.) Sales to end users

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Arizona Electric Power Cooperative, Inc. (AEPCO) sells at wholesale and to other utilities (distribution cooperatives) and does not sell directly to end users.

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 A.) Demand-side Data**

1.) Hourly demand for the previous year disaggregated by:

b.) Sales for resale

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 A.) Demand-side Data**

1.) Hourly demand for the previous year disaggregated by:

d.) Other disposition of energy such as energy furnished without charge and energy used by the utility.

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**2010 Monthly Energy Used for Station Operation – MWh**

<b>Month</b>	<b>Station Energy</b>
January	25,040.94
February	23,195.88
March	12,551.30
April	19,974.24
May	24,630.01
June	25,540.63
July	28,314.51
August	26,814.52
September	25,509.43
October	23,865.44
November	22,881.21
December	23,845.18
<b>Annual</b>	<b>282,163.30</b>

## 2010 Integrated Resource Planning Actual Data Filing

### R14-2-703 A.) Demand-side Data

- 3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.

Energy disaggregated by customer class is on the following pages. Below is AEPCO's total firm load by month for the previous ten years.

#### Total Firm Coincidental Peak Demand – MW

Month	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Jan	478	501	382	392	407	415	458	435	413	415
Feb	479	495	387	395	396	397	432	436	414	415
Mar	451	468	385	387	383	408	430	415	387	400
Apr	483	503	390	380	400	419	442	423	455	381
May	554	591	482	488	518	525	531	493	573	452
Jun	586	527	522	512	569	613	624	565	627	549
Jul	618	547	549	553	608	623	657	564	724	553
Aug	621	534	545	559	574	575	643	567	701	556
Sep	588	508	497	535	538	531	611	538	614	522
Oct	477	388	452	424	485	491	496	467	483	462
Nov	467	343	363	397	409	434	419	393	392	385
Dec	496	384	394	483	415	448	461	426	417	407

Note – Mohave Electric Cooperative, Inc and Sulphur Springs Valley Electric Cooperative are Partial Requirements Members of AEPCO. As such, AEPCO only serves a portion of their load. Therefore, there may be a requirement that Mohave and/or Sulphur report separately on the portion of their load not served by AEPCO.

## 2010 Integrated Resource Planning Actual Data Filing

### R14-2-703 A.) Demand-side Data

- 3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.

### Total Energy Served – MWh

Month	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Jan	278237	276101	238420	237394	256301	266470	288033	282716	240318	243220
Feb	262232	263719	221538	220292	228799	237919	248930	261017	209490	223247
Mar	282765	298960	242926	236239	254022	268679	277409	273957	216062	209300
Apr	274466	279649	235991	214790	254496	266747	273905	268390	198376	201994
May	313600	297843	256505	264297	279433	303026	306770	287687	273022	206492
Jun	314892	262529	271476	273001	301849	330848	337187	315939	261053	257748
Jul	329010	284787	313624	317715	346040	350902	364431	329605	342696	257492
Aug	331295	279352	309289	303949	320016	327156	352825	328042	316644	266470
Sep	288482	244326	269807	260063	292169	288662	317315	294168	268132	247253
Oct	271613	216073	244955	231478	259413	264387	282760	269114	224123	195806
Nov	268881	201734	221361	223121	230996	235500	257255	234854	190179	181819
Dec	284943	229574	237364	253461	261814	280721	287624	262961	242069	191836
<b>Annual</b>	<b>3500416</b>	<b>3134647</b>	<b>3063256</b>	<b>3035800</b>	<b>3285348</b>	<b>3421017</b>	<b>3594444</b>	<b>3408450</b>	<b>2982164</b>	<b>2682677</b>

Note – Mohave Electric Cooperative, Inc and Sulphur Springs Valley Electric Cooperative are Partial Requirements Members of AEPCO. As such, AEPCO only serves a portion of their energy needs. Therefore, there may be a requirement that Mohave and/or report separately on the portion of their energy not served by AEPCO.

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 A.) Demand-side Data**

- 3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.
- 

**Residential Class - Energy Served – MWh**

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 A.) Demand-side Data**

- 3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.
- 

**Irrigation Class - Energy Served – MWh**

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 A.) Demand-side Data**

- 3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.
- 

**Small Commercial Class (< 350 kW) - Energy Served – MWh**

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 A.) Demand-side Data**

- 3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.
- 

**Large Commercial Class (>350 kW) – Energy Served – MWh**

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 A.) Demand-side Data**

- 3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.
- 

**Special Contracts – Energy Served – MWh**

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 A.) Demand-side Data**

- 3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.
- 

**Sales for Resale - Energy Served – MWh**

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 A.) Demand-side Data**

- 3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.
- 
- 

**Highway Lighting Class - Energy Served – MWh**

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

2.) For each generating unit and purchased power contract for the previous calendar year:

a.) In-service date

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**In-Service Date of Generating Units & Purchased Power Contracts**

<b>Unit/Contract</b>	<b>In-Service Date</b>
Gas Turbine 1	February, 1963
Steam Turbine 1	November, 1964
Gas Turbine 2	June, 1972
Gas Turbine 3	June, 1975
Gas Turbine 4	October, 2002
Steam Turbine 2	January, 1979
Steam Turbine 3	September, 1979
SCL-IP	January, 1969
Parker-Davis	January, 1969
South Point	May, 2009
Griffith	May, 2009
Powerex	June, 2010

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

a.) Book Life or Contract Period

**Expected Retirement Dates**

<b>Unit/Contract</b>	<b>Retirement Date</b>
Gas Turbine 1	***
Steam Turbine 1	***
Gas Turbine 2	***
Gas Turbine 3	***
Gas Turbine 4	***
Steam Turbine 2	December, 2035
Steam Turbine 3	December, 2035
SCL-IP	***
Parker-Davis	***
South Point	October, 2014
Griffith	October, 2014
Powerex	August, 2010

\*\*\* Indicates that no retirement date has been acknowledged or specified as of 12-31-10 and the unit/contract should be considered to be in-service through the long term planning horizon.

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

b.) Capacity in megawatts (utility share)

**2010 Maximum Capacity – MW**

<b>Unit/Contract</b>	<b>Maximum Capacity</b>
Gas Turbine 1	10
Steam Turbine 1	75
Gas Turbine 2	20
Gas Turbine 3	65
Gas Turbine 4	40
Steam Turbine 2	195
Steam Turbine 3	195
SCL-IP	8.86
Parker-Davis	23.8
South Point	50
Griffith	25
Powerex	35

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

c.) Maximum unit or contract capacity by hour, day or month, if such capacity varies over the year.

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**2010 Seasonal Contract Capacity – MW**

<b>Month</b>	<b>SLC-IP</b>	<b>Parker-Davis</b>	<b>Griffith</b>	<b>South Point</b>
January	2.398	18.284		
February	2.398	18.284		
March	2.398	23.637		
April	11.669	23.637		
May	11.669	23.637	25.000	50.000
June	11.669	23.637	25.000	50.000
July	11.669	23.637	25.000	50.000
August	11.669	23.637	25.000	50.000
September	11.669	23.637	25.000	50.000
October	2.398	18.284	25.000	50.000
November	2.398	18.284		
December	2.398	18.284		

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

d.) Forced outage rate (generating units only)

**2010 Actual and Planning Forced Outage Rates - %**

<b>Unit</b>	<b>Actual FOR</b>	<b>Planning FOR</b>
Steam Turbine 1	0.28	55.67
Gas Turbine 1	46.89	53.56
Gas Turbine 2	90.31	0.26
Gas Turbine 3	2.81	17.14
Gas Turbine 4	18.13	0.00
Steam Turbine 2	1.34	10.50
Steam Turbine 3	0.16	2.61
Summary of All Units	1.30	14.28

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

e.) Average heat rate of generating units, and, if available, heat rates at selected output levels.

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**2010 Average Heat Rate – Btu/kWh**

<b>Unit</b>	<b>Average Heat Rate</b>
Gas Turbine 1	39,152
Gas Turbine 2	17,535
Gas Turbine 3	23,679
Gas Turbine 4	13,058
Steam Turbine 1	22,204
Steam Turbine 2	10,901
Steam Turbine 3	10,793

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

f.) Fuel cost for generating units in dollars per million Btu for each type of fuel

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**2010 Variable Fuel Data**

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

g.) Other variable operating and maintenance costs for generating units in dollars per megawatt hour

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**2010 Variable Operating & Maintenance Costs - \$/MWh**

<b>Unit</b>	<b>Variable O&amp;M</b>
Combined Cycle (ST1 & ST1)	\$1.25
Gas Turbine 2	\$4.00
Gas Turbine 3	\$4.00
Gas Turbine 4	\$1.25
Steam Turbine 2	\$1.25
Steam Turbine 3	\$1.25

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

h.) Purchase power energy costs for contract purchases in dollars per megawatt hour.

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**2010 Purchased Power Energy Costs - \$/MWh**

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

- 1.) For each generating unit and purchased power contract for the previous calendar year:
    - i.) Fixed operating & maintenance costs of generating units in dollars per megawatt for the year.
- 

**2010 Fixed Operating & Maintenance Costs - \$/MW-yr**

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

j.) Demand charges for purchase power

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**2010 Purchased Power Demand Costs - \$/kw-month**

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

k.) Fuel types for generating units.

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**2010 Primary & Secondary Fuel Types for Each Unit**

<b>Unit</b>	<b>Primary Fuel</b>	<b>Secondary Fuel</b>
Combined Cycle (Gt-1 + St-1)	Gas	Oil
Gas Turbine 2	Gas	Oil
Gas Turbine 3	Gas	Oil
Gas Turbine 4	Gas	Oil
Steam Turbine 2	Coal	Gas
Steam Turbine 3	Coal	Gas

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

1.) Minimum capacity at which the unit would be run or power must be purchased.

**2010 Minimum Capacity – MW**

Unit	Minimum
Combined Cycle (Gt-1 + St-1)	35
Gas Turbine 2	6
Gas Turbine 3	15
Gas Turbine 4	10
Steam Turbine 2	120
Steam Turbine 3	120
SLC-IP Purchase *	0.258
Parker-Davis Purchase *	4.675
South Point	
Griffith	
Powerex Purchase	35

\*Contract capacity varies by month. Values shown are annual off-peak minimums.

## 2010 Integrated Resource Planning Actual Data Filing

### R14-2-703 B.) Supply-side Data

- 1.) For each generating unit and purchased power contract for the previous calendar year:
    - a.) Whether, under standard operating procedures, the generating unit must be run, if it is available.
- 

### Identification of Must-Run Units

Under standard operating procedures, if they are available to run, Steam Turbine 2 and Steam Turbine 3 must run.

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

o.) Maintenance schedules for generating units.

**2010 Scheduled Maintenance**

<b>Unit</b>	<b>Start Date</b>	<b>Start Hour</b>	<b>End Date</b>	<b>End Hour</b>	<b>Duration - HRs</b>	<b>Type of Outage*</b>
ST1	1/4/2010	14:30	1/9/2010	10:00	115.5	PO
ST1	1/9/2010	10:00	1/31/2010	24:00	542.0	PO
GT1	1/4/2010	14:30	1/9/2010	10:00	115.5	PO
GT1	1/9/2010	10:00	1/31/2010	24:00	542.0	PO
GT2	1/19/2010	11:11	1/20/2010	10:23	23.2	PO
GT3	1/4/2010	7:05	1/7/2010	17:00	81.9	PO
GT3	1/18/2010	8:25	1/19/2010	12:15	27.8	PO
GT3	1/28/2010	7:20	1/28/2010	12:09	4.8	MO
GT4	1/18/2010	9:00	1/18/2010	12:15	3.3	MO
ST1	2/1/2010	00:00	2/28/2010	24:00	672.0	PO
GT1	2/1/2010	00:00	2/28/2010	24:00	672.0	PO
GT2	2/3/2010	10:01	2/3/2010	11:03	1.0	MO
GT2	2/22/2010	7:45	2/22/2010	14:53	7.1	MO
GT4	2/3/2010	7:00	2/3/2010	8:32	1.5	MO
ST1	3/1/2010	00:00	3/31/2010	24:00	744.0	PO
GT1	3/1/2010	00:00	3/3/2010	8:23	56.4	PO
ST2	3/6/2010	3:00	3/31/2010	24:00	624.0	PO
ST3	3/13/2010	6:00	3/22/2010	12:48	228.7	PO
ST1	4/1/2010	00:00	4/30/2010	24:00	720.0	PO
ST2	4/1/2010	00:00	4/13/2010	7:54	295.9	PO
GT3	4/20/2010	8:45	4/20/2010	11:00	2.3	MO
GT4	4/19/2010	6:43	4/19/2010	16:30	9.8	PO
GT4	4/23/2010	8:04	4/23/2010	11:00	2.9	PO
ST1	5/1/2010	00:00	5/17/2010	2:10	386.2	PO
ST1	5/17/2010	2:10	5/31/2010	24:00	357.8	PO
GT1	5/3/2010	10:00	5/11/2010	9:26	191.4	PO
GT1	5/17/2010	2:10	5/31/2010	24:00	357.8	PO
ST1	6/1/2010	00:00	6/30/2010	24:00	720.0	PO

**2010 Integrated Resource Planning Actual Data Filing**

Unit	Start Date	Start Hour	End Date	End Hour	Duration - HR:Min	Type of Outage*
ST1	7/1/2010	00:00	7/26/2010	10:42	610.7	PO
ST1	7/27/2010	12:00	7/28/2010	1:56	13.9	MO
GT1	7/1/2010	00:00	7/22/2010	9:10	513.2	PO
GT4	8/18/2010	3:00	8/18/2010	9:23	6.4	MO
ST-2	9/5/2010	4:00	9/6/2010	4:32	28.5	MO
GT-4	9/15/2010	6:45	9/15/2010	10:25	3.7	MO
GT-4	9/23/2010	6:00	9/23/2010	14:40	8.7	PO
ST-1	10/13/2010	9:06	10/13/2010	17:12	8.1	MO
ST-1	10/26/2010	8:00	10/28/2010	12:20	52.3	PO
GT-1	10/7/2010	5:30	10/31/2010	24:00	594.5	MO
ST-2	10/26/2010	4:54	10/26/2010	19:41	14.8	MO
GT-2	10/26/2010	8:00	10/28/2010	12:20	52.3	PO
GT-3	10/11/2010	5:30	10/31/2010	24:00	498.5	MO
GT-4	10/6/2010	7:00	10/6/2010	15:19	8.3	PO
GT1	11/1/2010	00:00	11/23/2010	16:13	544.2	PO
GT1	11/23/2010	16:44	11/30/2010	24:00	175.3	PO
GT3	11/1/2010	00:00	11/30/2010	24:00	720.0	PO
GT1	12/1/2010	00:00	12/7/2010	13:51	157.9	PO
GT1	12/7/2010	14:54	12/9/2010	16:53	50.0	PO
GT1	12/9/2010	17:23	12/9/2010	19:00	1.6	PO
GT3	12/1/2010	00:00	12/3/2010	19:56	67.9	PO
GT3	12/3/2010	21:28	12/7/2010	18:42	93.2	PO
GT3	12/7/2010	18:54	12/8/2010	6:50	11.9	PO
GT3	12/28/2010	8:55	12/28/2010	15:30	6.6	MO

\* PO – Planned Outage  
 MO – Maintenance Outage

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

**AEPCO Current Planning Maintenance Cycle Assumptions**

**Apache ST-1**

2010	1 week	January Timeframe
2011	1 week	January Timeframe
2012	1 week	January Timeframe
2013	4 weeks	January - February Timeframe
2014	1 week	January Timeframe
2015	1 week	January Timeframe
2016	1 week	January Timeframe
2017	6 weeks	January - February Timeframe
2018	1 week	January Timeframe
2019	1 week	January Timeframe
2020	1 week	January Timeframe
2021	4 weeks	January - February Timeframe
2022	1 week	January Timeframe
2023	1 week	January Timeframe
2024	1 week	January Timeframe
2025	6 weeks	January - February Timeframe

**Apache ST-2**

2010	4 weeks	March-April Timeframe
2012	4 weeks	March-April Timeframe
2014	6 weeks	March-April Timeframe
2016	4 weeks	March-April Timeframe
2018	4 weeks	March-April Timeframe
2020	5 weeks	March-April Timeframe
2022	4 weeks	March-April Timeframe
2024	4 weeks	March-April Timeframe

**Apache ST-3**

2010	1 weeks	March-April Timeframe
2011	6 weeks	March-April Timeframe
2013	4 weeks	March-April Timeframe
2015	4 weeks	March-April Timeframe
2017	6 weeks	March-April Timeframe
2019	4 weeks	March-April Timeframe
2021	4 weeks	March-April Timeframe
2023	6 weeks	March-April Timeframe
2025	4 weeks	March-April Timeframe

## 2010 Integrated Resource Planning Actual Data Filing

### AEPCO Current Planning Maintenance Cycle Assumptions (con't)

#### Apache GT-1

2010	5 weeks	January-March Timeframe
2011	2 days	January Timeframe
2012	4 weeks	January-February Timeframe
2013	2 days	January Timeframe
2014	8 weeks	January-March Timeframe
2015	2 days	January Timeframe
2016	4 weeks	January-February Timeframe
2017	2 days	January Timeframe
2018	10 weeks	October-December Timeframe
2019	2 days	January Timeframe
2020	4 weeks	January-February Timeframe
2021	2 days	January Timeframe
2022	8 weeks	January-March Timeframe
2023	2 days	January Timeframe
2024	4 weeks	January-February Timeframe
2025	2 days	January Timeframe

#### Apache GT-2

2010	2 days	January Timeframe
2012	2 days	January Timeframe
2013	5 weeks	February-April Timeframe
2014	2 days	January Timeframe
2015	2 days	January Timeframe
2016	2 days	January Timeframe
2017	2 days	January Timeframe
2018	2 days	January Timeframe
2019	2 days	January Timeframe
2020	2 days	January Timeframe
2021	2 days	January Timeframe
2022	2 days	January Timeframe
2023	2 days	January Timeframe
2024	2 days	January Timeframe
2025	2 days	January Timeframe

**2010 Integrated Resource Planning Actual Data Filing**

**AEPCO Current Planning Maintenance Cycle Assumptions (con't)**

**Apache GT-3**

2010	3 days	January Timeframe
2011	3 days	January Timeframe
2012	12 weeks	February-April Timeframe
2013	3 days	January Timeframe
2014	3 days	January Timeframe
2015	3 days	January Timeframe
2016	3 days	January Timeframe
2017	3 days	January Timeframe
2018	3 days	January Timeframe
2019	3 days	January Timeframe
2020	3 days	January Timeframe
2021	3 days	January Timeframe
2022	3 days	January Timeframe
2023	3 days	January Timeframe
2024	3 days	January Timeframe
2025	3 days	January Timeframe

**Apache GT-4**

2010	2 days	February Timeframe
2011	2 days	February Timeframe
2012	2 days	February Timeframe
2013	2 days	February Timeframe
2014	8 weeks	January - March Timeframe
2015	2 days	February Timeframe
2016	2 days	February Timeframe
2017	2 days	February Timeframe
2018	2 days	February Timeframe
2019	2 days	February Timeframe
2020	2 days	February Timeframe
2021	2 days	February Timeframe
2022	2 days	February Timeframe
2023	2 days	February Timeframe
2024	8 weeks	September-November Timeframe
2025	2 days	February Timeframe

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

**2009 Net Unit Generation – MWh**

<b>Month</b>	<b>St-1</b>	<b>Gt-1</b>	<b>St-2</b>	<b>St-3</b>	<b>Gt-2</b>	<b>Gt-3</b>	<b>Gt-4</b>
January	-238.15	0.00	84,300.25	112,685.51	0.05	14.06	905.81
February	-203.88	0.00	78,649.36	102,030.92	0.00	-55.24	125.12
March	-197.86	15.61	13,022.97	71,338.58	0.00	4,377.12	10,141.93
April	-169.45	0.00	45,196.73	99,094.76	0.00	157.35	188.78
May	-178.89	0.00	86,014.62	97,336.92	1.51	-28.71	372.54
June	-205.60	0.00	94,914.80	108,104.11	52.23	1,199.69	3,648.58
July	2,441.67	347.73	104,235.95	117,631.77	0.00	1,045.70	4,460.26
August	1,818.99	171.43	93,812.07	108,098.81	0.03	1,470.96	4,250.83
September	-218.36	0.00	88,732.83	111,568.65	0.21	2,897.58	3,998.02
October	-164.68	0.00	78,744.33	95,216.03	0.00	84.72	1,178.19
November	-180.72	3.74	77,252.95	94,213.92	0.20	-30.00	332.31
December	-130.89	16.81	79,343.40	101,310.25	0.17	329.74	496.52
<b>Annual</b>	<b>2,372.17</b>	<b>555.32</b>	<b>924,220.26</b>	<b>1,218,630.21</b>	<b>54.40</b>	<b>11,462.95</b>	<b>30,098.89</b>

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

- 1.) For each generating unit and purchased power contract for the previous calendar year:

  - p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

**Inventory of Existing Renewable Resources – 2010  
2010 Renewable Installations**

Cooperative	In-Service Month	Size Watts	Type	Technology	On Grid	Off Grid
DVEC	April 2010	750	Residential	PV		X
GCEC	May 2010	6,300	Residential	PV	X	
GCEC	July 2010	9,900	Residential	PV	X	
GCEC	August 2010	11,400	Residential	PV	X	
GCEC	November 2010	4,700	Residential	PV	X	
GCEC	December 2010	30,780	Residential	PV	X	
Trico	January 2010	86,265	Residential	PV	X	
Trico	February 2010	104,045	Residential	PV	X	
Trico	March 2010	65,030	Residential	PV	X	
Trico	April 2010	91,780	Residential	PV	X	
Trico	May 2010	34,930	Residential	PV	X	
Trico	June 2010	62,445	Residential	PV	X	
Trico	July 2010	6,235	Residential	PV	X	
Trico	August 2010	20,100	Residential	PV	X	
Trico	September 2010	38,229	Residential	PV	X	
Trico	October 2010	65,569	Residential	PV	X	
Trico	November 2010	30,120	Residential	PV	X	
Trico	December 2010	64,620	Residential	PV	X	
Trico	February 2010	5,000	Commercial	PV	X	
Trico	June 2010	5,890	Commercial	PV	X	
Trico	August 2010	21,800	Commercial	PV	X	
Trico	December 2010	355,660	Commercial	PV	X	
Trico	January, 2010	N/A	Residential	SWH	X	
Trico	February, 2010	N/A	Residential	SWH	X	
Trico	March, 2010	N/A	Residential	SWH	X	
Trico	April, 2010	N/A	Residential	SWH	X	
Trico	May, 2010	N/A	Residential	SWH	X	
Trico	June, 2010	N/A	Residential	SWH	X	
Trico	July, 2010	N/A	Residential	SWH	X	
Trico	September, 2010	N/A	Residential	SWH	X	
Trico	October, 2010	N/A	Residential	SWH	X	
Trico	November, 2010	N/A	Residential	SWH	X	
Trico	December, 2010	N/A	Residential	SWH	X	

**Total Watts            1,121,548**

\*PV=Photovoltaic, SWH=Solar Water Heating, Wind=Small Wind Generation

Note: Sulphur Springs Valley Electric Cooperative (SSVEC) and Mohave Electric Cooperative have elected to prepare their own 2010 REST Plans. Therefore, the totals above exclude SSVEC and MEC data.

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

- 1.) For each generating unit and purchased power contract for the previous calendar year:
    - p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.
- 

**2010 Blended Fuel Cost for Apache St-2**

**Confidential**

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

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**2010 Blended Fuel Cost for Apache St-3**

**Confidential**

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## 2010 Integrated Resource Planning Actual Data Filing

### R14-2-703 B.) Supply-side Data

2.) For the power supply system for the previous calendar year

a.) A description of unit commitment procedures

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### 2010 Commitment Procedures

In a normal year, Apache Steam units 2 & 3 are about equal in production costs. When both Steam Units 2 & 3 were committed, they were dispatched as equally as possible. The remaining units were measurably different in production costs, with the smaller units being more expensive to operate than the larger ones.

As a preference customer in 2009, AEPCO also had contract entitlements to Parker-Davis hydro and Salt Lake City Area Integrated Projects capacity (Colorado River Storage Project hydro). These hydro contracts were AEPCO's least expensive resources and were scheduled to the extent allowed in each contract against AEPCO's loads. This tends to level the output required from Apache Station and maximize station efficiency. AEPCO also entered into short-term economy and take-or-pay agreements that were used for fuel displacement and maintenance outage coverage. These other contract resources fit into the same operational mode as the aforementioned hydro contracts.

Thus, subject to availability, the units were generally committed in economic order against the net of load minus hydro and short-term, take-or-pay contracts. Departures from strict economic order occurred when short-term forecasts of net loads did not justify startup of the next higher-cost unit or continued commitment of a particular unit. In these cases, a smaller unit (i.e. the 20 MW peaker versus the 69 MW peaker, for instance) was started instead.

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

2.) For the power supply system for the previous calendar year

b.) Production cost

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**2010 Production Costs**

**Confidential**

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**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

2.) For the power supply system for the previous calendar year

c.) Reserve Requirements

---

**2010 Actual Daily Average Reserve Requirements - MW**

<b>Month</b>	<b>Actual Reserves</b>	<b>Reserve Requirement</b>
January	89	41
February	86	40
March	72	36
April	86	62
May	98	70
June	88	62
July	91	61
August	98	62
September	93	61
October	100	67
November	101	68
December	100	69

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

2.) For the power supply system for the previous calendar year

d.) Spinning reserves

---

**2010 Actual Daily Average Spinning Reserves - MW**

<b>Month</b>	<b>Actual Reserves</b>	<b>Reserve Requirements</b>
January	43	21
February	37	21
March	49	16
April	42	18
May	49	21
June	47	21
July	51	21
August	56	20
September	53	21
October	52	19
November	52	19
December	51	20

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

2.) For the power supply system for the previous calendar year

e.) Reliability of generation, transmission and distribution systems

---

**2010 Transmission and Distribution Reliability**

<b>Month</b>	<b>Outage Hrs:Min:Sec</b>	<b>Average Number of Customers Affected</b>
January	0:13:25	7,445
February	0:00:00	0
March	0:00:00	0
April	0:24:04	590
May	1:02:30	896
June	3:11:27	20,682
July	1:56:08	31,437
August	2:56:55	28,242
September	2:22:37	5,187
October	3:44:30	13,170
November	1:23:09	18,279

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

2.) For the power supply system for the previous calendar year

e.) Reliability of generation, transmission and distribution systems.

**2010 Generation Reliability – Unscheduled Outage Hours**

<b>Month</b>	<b>St-1</b>	<b>Gt-1</b>	<b>St-2</b>	<b>St-3</b>	<b>Gt-2</b>	<b>Gt-3</b>	<b>Gt-4</b>	<b>Total</b>
Jan	0.00	0.00	76.33	0.00	14.02	9.74	23.68	123.77
Feb	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.47
Mar	0.00	143.53	0.00	0.00	0.00	8.37	160.81	312.71
Apr	0.00	0.00	0.00	0.00	21.50	0.00	134.90	156.40
May	0.00	0.00	0.00	0.00	0.37	0.00	12.57	12.94
Jun	0.00	0.00	0.00	0.00	1.42	0.00	3.52	4.94
Jul	0.45	73.21	84.88	0.00	0.00	1.53	1.60	161.67
Aug	0.08	17.90	1.63	9.30	2.75	0.00	4.83	36.49
Sep	0.00	0.00	0.00	0.00	33.80	0.00	0.48	34.28
Oct	0.00	0.00	0.00	1.42	0.00	0.00	0.00	1.42
Nov	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.43
Dec	0.00	0.00	0.00	2.92	0.00	0.72	7.35	10.99
<b>Annual</b>	<b>0.53</b>	<b>234.64</b>	<b>162.84</b>	<b>13.64</b>	<b>73.86</b>	<b>20.36</b>	<b>350.64</b>	<b>856.51</b>

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

2.) For the power supply system for the previous calendar year

f.) Interchange purchase & sale prices

**2010 Interchange Purchases**

<b>Month</b>	<b>MWh</b>	<b>Amount - \$ *</b>	<b>\$/MWh</b>
January	58,664	\$2,688,659.12	\$45.83
February	51,054	\$2,144,250.30	\$42.00
March	114,024	\$4,104,082.96	\$35.99
April	71,226	\$2,212,034.77	\$31.06
May	36,679	\$1,470,122.61	\$40.08
June	83,359	\$4,327,622.20	\$51.92
July	94,475	\$5,127,201.26	\$54.27
August	83,939	\$4,418,678.06	\$52.64
September	47,536	\$2,072,511.88	\$43.60
October	26,518	\$1,326,290.69	\$50.01
November	15,731	\$386,441.51	\$24.57
December	22,410	\$602,673.02	\$26.89
<b>Annual</b>	<b>705,615</b>	<b>\$30,880,568.37</b>	<b>\$43.76</b>

\* Does not include Transmission

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

2.) For the power supply system for the previous calendar year

f.) Interchange purchase & sale prices

**2010 Interchange Sales**

<b>Month</b>	<b>MWh</b>	<b>Amount - \$</b>	<b>\$/MWh</b>
January	59,455	\$3,746,954	\$63.02
February	59,928	\$3,575,923	\$59.67
March	40,657	\$2,639,308	\$64.92
April	48,997	\$3,248,782	\$66.31
May	35,571	\$2,686,910	\$75.54
June	66,560	\$3,932,161	\$59.08
July	80,750	\$5,161,164	\$63.92
August	67,552	\$3,920,305	\$58.03
September	51,869	\$3,283,655	\$63.31
October	38,127	\$2,852,992	\$74.83
November	42,491	\$2,976,218	\$70.04
December	35,317	\$2,666,263	\$75.50
<b>Annual</b>	<b>627,272</b>	<b>\$40,690,636</b>	<b>\$64.87</b>

\* Monthly amounts have been normalized for prior period adjustments

**2010 Integrated Resource Planning Actual Data Filing**

**R14-2-703 B.) Supply-side Data**

2.) For the power supply system for the previous calendar year

g.) Energy losses

**2010 Energy Losses**

<b>Month</b>	<b>MWh</b>	<b>Percent</b>
January	12,132.28	4.70%
February	7,509.30	3.22%
March	5,392.34	2.49%
April	6,975.63	3.32%
May	15,089.63	6.81%
June	-7,615.57	-2.82%
July	14,187.46	4.38%
August	6,716.92	2.30%
September	3,982.28	1.57%
October	7,823.76	3.75%
November	4,664.84	2.39%
December	5,421.04	2.69%
<b>Annual</b>	<b>82,279.90</b>	<b>2.85%</b>

## 2010 Integrated Resource Planning Actual Data Filing

### R14-2-703 B.) Supply-side Data

- 3.) The level of cogeneration and other forms of self-generation in the utility's service area for the previous calendar year.
- 

Chemstar has 2.3 MW of generation in Mohave Electric Cooperative's service area, which is started upon notification from AEPCO that a peak load condition is about to occur. Eurofresh, Inc. has a self-generation unit in Sulphur Springs Valley Electric Cooperative's service area.

The Phelps Dodge Corporation has installed capacity of 135,964 kW at its Morenci location. Of this, approximately 60 MW is considered readily available. This generation is normally only run when the cost of non-firm energy is higher than Phelps Dodge's cost of generation, when non-firm energy is unavailable, or when substation problems limit their import capability.

There may be additional self-generation or cogeneration in the service area of which AEPCO is not aware.

## 2010 Integrated Resource Planning Actual Data Filing

### R14-2-703 B.) Supply-side Data

- 4.) As available, a description and map of the utility's transmission system, including the capacity of each segment of the transmission system.
- 

AEPCO has divested itself of all transmission assets. Southwest Transmission Cooperative, Inc. and other third party contractors serve our transmission needs. Southwest Transmission, as a courtesy, provided the transmission line diagrams.