

Via E-mail & USPS

January 10, 2007

Mr. J. Tyler Carlson
Regional Manager
Western Area Power Administration
Desert Southwest Region
P. O. Box 6457
Phoenix, AZ 85005-6457

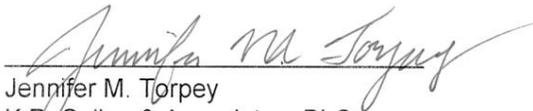
Re: Roosevelt Irrigation District Integrated Resource Plan

Dear Mr. Carlson,

As you know, Western Area Power Administration's ("Western") Integrated Resource Planning Approval Criteria require Western's customers to submit updated Integrated Resource (or Small Customer) Plans to the appropriate Regional Manager every five years after Western's approval of the initial Plan. Enclosed on behalf of Roosevelt Irrigation District ("RID"), pursuant to 10 C.F.R. § 905.13(b), is the second five-year update to RID's Integrated Resource Plan. This update was approved by RID's Board of Directors at a public meeting held on December 19, 2006.

If you have any questions regarding this Integrated Resource Plan, please do not hesitate to contact me.

Sincerely,



Jennifer M. Torpey
K.R. Saline & Associates, PLC

Enclosure

cc: John Li (w/encl.)
Joe Mulholland (w/encl.)
Stan Ashby (w/encl.)
Sheryl Sweeney (w/encl.)

INTEGRATED RESOURCE PLAN

SECOND FIVE-YEAR UPDATE

ROOSEVELT IRRIGATION DISTRICT

December 19, 2006

Table of Contents

	<u>Page #</u>
Profile Data	
<u>Board of Directors</u>	3
<u>Contact Persons</u>	3
District Goals and Objectives	5
Competitive Situation	
<u>District Contract Information</u>	5
<u>Regulations Applicable to District</u>	5
<u>Regulations Applicable to District Customers</u>	5
<u>Competition With District Service</u>	5
Load and Resource Information	
<u>Historical and 5-Year Load Forecast</u>	6
<u>Customer Profile Information</u>	6
<u>Supply Side Resources</u>	7
<u>Demand Side Resources</u>	8
Identification and Comparison of Resource Options	8
Designation of Options	9
Action Plan	
<u>Resource Action Plan</u>	9
<u>Conservation Action Plan</u>	10
<u>Validation and Evaluation</u>	10
Environmental Effects	11
Public Participation	11
Appendices	
Appendix A—Map of District Service Territory	
Appendix B—District Rate Schedules	
Appendix C—Load and Resource Information	
Appendix D—Discussion of the Groundwater Management Act	
Appendix E—Integrated Resource Plan Public Meeting Notice	

Profile Data

Roosevelt Irrigation District ("RID" or "the District") is an irrigation district organized in 1927 pursuant to Chapter 19 of Title 48 of the Arizona Revised Statutes. RID has been providing electrical service to its service area since 1928.

RID is governed by a three-member Board of Directors. It has a staff of 35 full-time employees supervised by a Superintendent. The staff and Superintendent are primarily engaged in the irrigation and drainage service aspects of RID's operations. With a service area of approximately 38,000 acres, RID utilizes its purchased power to service agricultural irrigation pumping loads, certain other agricultural related loads, and to provide for its own pumping loads. RID owns no portion of the electrical transmission or distribution lines. However, RID and certain of its customers do own distribution transformers. A map of RID's service area is provided in **Appendix A**.

The District's current Board of Directors and relevant contact persons are detailed below.

- **Board of Directors**

W. Bruce Heiden—President
Charles K. Youngker
Dwight B. Leister

- **Contact Persons**

Stan Ashby—Superintendent
Superintendent
Roosevelt Irrigation District
103 West Baseline
Buckeye, AZ 85326-1115
Ph: (623) 386-2046
Fax: (623) 386-4360

Sheryl A. Sweeney—Legal Counsel
Ryley, Carlock & Applewhite
One North Central Avenue,
Suite 1200
Phoenix, AZ 85004-4417
Ph: (602) 440-4824
Fax: (602) 257-6924

Kenneth R. Saline—Engineering Consultant
K. R. Saline & Associates, PLC
160 N. Pasadena, Ste. 101
Mesa, AZ 85201-6764
Ph: (480) 610-8741
Fax: (480) 610-8796

RID purchases Hoover power from the Arizona Power Authority (“the Authority”), SLCA/IP power from Western Area Power Administration (“Western”), and other power from Arizona Public Service Company (“APS”) and the Salt River Project (“SRP”). In addition, RID is a participant in the Hoover Resource Exchange Program and a party to an Integrated Resource Scheduling Agreement. These arrangements permit RID and other similarly situated utilities to integrate and exchange Hoover and SLCA/IP power resources. The power and energy from the Authority, Western, APS, and SRP are transmitted over the Parker-Davis transmission system, the Pacific Northwest-Pacific Southwest Intertie transmission system, the CRSP transmission system and the transmission systems of APS and SRP. The power and energy are delivered from the transmission system delivery points to the customers of RID over APS’s and SRP’s facilities under contracts with those entities. RID does not own any portion of the electrical transmission or distribution system. However, certain distribution transformers are owned by RID or its customers.

RID currently levies an acreage assessment to cover a small portion of its operating expense, the remainder being met out of water and power revenues. The policies for service and rates for power provided by RID to its customers are determined and set by its Board of Directors. Copies of RID’s current rate schedules are attached as **Appendix B**.

In addition to crop prices and operating costs, the overall financial feasibility of the farming operations is significantly impacted by water costs from irrigation pumping which is supplied with RID electrical power. RID purchases the majority of its power resources from the Authority and Western.

The current projection of the District loads for the upcoming 2-year and 5-year periods does not indicate that additional resources are needed. The resource scheduling and utilization of the District’s resources have been managed through the Authority’s Hoover Resource Exchange Program and through the District’s participation in an Integrated Resource Scheduling program for Hoover and SLCA/IP resources, respectively. These resource management programs have provided the necessary flexibility for the District to re-pattern its resources monthly to meet its changing loads and exchange the resources with other preference entities that can temporarily utilize the power during the same periods. With the continuation of these programs, and current loads and resources, there is not any long-term need for additional resources for the District. Therefore, the District will use its current entitlements of Hoover and SLCA/IP resources with intermittent purchases of APS and SRP supplemental power to meet its projected loads through the 5-year planning period.

District Goals and Objectives

- Provide Reliable Water Service and Electric Power at Lowest Practicable Cost, Consistent With Sound Business Principles
- Enhance Customer Financial Stability by Providing Services which Enhance Property Values and Provide Long-Term Stability in Water and Electric Power Rates

Competitive Situation

- **District Contract Information**

Arizona Power Authority (Hoover Power Contract)
Western Area Power Administration (SLCA/IP Contract)
Power Supply and Services Agreement with APS [approved by FERC]
Power Services Master Agreement with SRP

- **Regulations Applicable to District**

Energy Planning and Management Program (EPACT '00)
Arizona Department of Water Resources—Groundwater Management Act

- **Regulations Applicable to District Customers**

Arizona Department of Water Resources—Groundwater Management Act

- **Competition With District Service**

APS provides retail service in direct competition to District service and has several retail rates that are openly available to the customers of RID. In many instances, APS and RID serve power to different loads of the same customer.

There is competition for leasing the farm ground within RID. Many of the land owners in RID and other districts lease ground to tenant farmers who lease property based upon lease cost and water costs (i.e., pumping costs). Therefore, to the extent that the costs in RID become significantly higher than other areas, the competition for farm ground may significantly impact the irrigated acreage and electric load of the District.

Load and Resource Information

- **Historical and 5-Year Load Forecast:**

APS & SRP COMBINED SERVICE TERRITORY

Oct-Sep	Winter Demand CP @ Sub (kW)	Summer Demand CP @Sub (kW)	Peak Annual Growth	Energy @Substation (kWh)	Energy @Meters (kWh)	Load Factor
1997	14,633	17,580		67,348,171	63,416,497	44%
1998	13,950	16,418	-7%	59,735,008	56,413,234	42%
1999	13,624	18,173	11%	64,494,063	60,932,517	41%
2000	15,198	18,984	4%	77,450,229	73,214,998	47%
2001	15,265	19,098	1%	69,929,032	66,190,191	42%
2002	16,797	19,408	2%	82,071,947	77,763,867	48%
2003	17,289	18,907	-3%	77,027,529	72,912,492	47%
2004	15,718	18,579	-2%	76,088,969	71,962,053	47%
2005	14,334	18,277	-2%	63,914,285	60,441,054	40%
2006	12,935	17,292	-5%	69,969,604	66,184,973	46%
Current Forecast						
2007	12,935	17,292	0%	69,969,604	66,184,973	46%
2008	12,935	17,292	0%	69,969,604	66,184,973	46%
2009	12,935	17,292	0%	69,969,604	66,184,973	46%
2010	12,935	17,292	0%	69,969,604	66,184,973	46%
2011	12,935	17,292	0%	69,969,604	66,184,973	46%

See **Appendix C** for summaries of the historical monthly load information (by operating year) as well as graphical illustrations of how the District schedules its resources to cover its loads in a typical year.

- **Customer Profile Information**

- Irrigation Pumping Plants—47%
- Non-Irrigation Ag-Related—22%
- District Facilities—28%
- Other—3%

See **Appendix C** for graphical illustrations.

- **Supply Side Resources**

The District anticipates that current federal resources under contract and continuation of the Integrated Resource Scheduling Agreement and the Authority Hoover Resource Exchange Program will be sufficient for the District to meet its monthly power and energy requirements through the short-term and long-term planning periods. Some APS and SRP supplemental power will continue to be purchased from time-to-time to cover any short-term power deviations. As noted in RID's previous Integrated Resource Plan ("IRP"), on December 31, 2005, the District's previous contractual arrangements with APS expired, while on September 30, 2004, the District's previous contractual arrangements with SRP expired. Due to economic and other considerations, it was determined that the most practicable option to replace these agreements was to negotiate successor contracts with APS and SRP. Beginning January 1, 2006, the District began operating under its new Power Supply and Services Agreement with APS and on July 1, 2005, the District began operating under its new Power Services Master Agreement with SRP. Detailed below are the District's current contractual commitments:

Arizona Power Authority (Hoover Power) at Buckeye or Pinnacle Peak Substations

- Hoover A Capacity & Energy
 - 3,100 kW (Maximum with Hoover Firming Capacity)
 - 10,596,000 kWh (Contract Entitlement)
- Expires September 30, 2017

Salt Lake City Area/Integrated Project Capacity at Pinnacle Peak and/or Rogers Substation

- Winter Season CROD: 1,638 kW
- Summer Season CROD: 4,876 kW
- Contract Term: Expires September 30, 2024
- Energy entitlements by fiscal year:

<i>Fiscal Year</i>	<i>Winter Season Energy (kWh)</i>	<i>Summer Season Energy (kWh)</i>
FY 2006	2,824,346	8,347,590
FY 2007	2,883,694	8,522,997
FY 2008	2,943,042	8,698,404
FY 2009 - FY 2024	3,002,390	8,873,811

Power Supply and Services Agreement (APS)

- Capacity & Energy as needed
- Wheeling from Buckeye Substation to meters
- Meter Reading and Customer Billing Services
- Losses from Substation to Meters

- Capacity loss factor: 7.9 %
- Energy loss factor: 5.5 %
- Expires December 31, 2020

Power Service Master Agreement (SRP)

- Capacity and Energy as needed
- Wheeling from Pinnacle Peak Substation to Meters
- Meter Reading Services
- Losses from Substation to Meters: current season losses:
 - Winter 4.9% for Demand and Energy
 - Summer 5.5% for Demand and Energy
- Expires September 30, 2024

- **Demand Side Resources**

The majority of the District’s electric power is utilized to pump groundwater for agricultural purposes. The following is a list of some of the on-going water conservation practices that are implemented by the District and its customers to efficiently utilize groundwater and therefore electricity.

Alternate Furrow Irrigation	Graded Furrow or Border	Use of Gated Pipe
Cut-Back Irrigation	Portable Sprinklers	Micro spray Systems
Angled Rows	Uniform Slopes	Tail Water Recovery
Shortened Field Lengths	Deficit Irrigation	Irrigation Scheduling
Land Leveling	Soil & Water Amendments	Concrete Ditch Lining
Precision Tillage	Cropping Pattern-Winter vs. Summer	Tiered Water Rates

Identification and Comparison of Resource Options

The identification of options for additional resources within this IRP is coordinated through an examination of the costs and benefits for each resource. Because the District and the majority of the District’s customers already implement numerous irrigation and agricultural efficiency practices in the operations and because the Arizona Groundwater Management Act heavily regulates the use of groundwater, opportunities for additional energy savings through demand side management (“DSM”) are very limited. However the District will continue to look for other opportunities for energy savings from evolving technological advances in agricultural practices. To the extent practicable, the District will also endeavor to promote customer awareness of pumping workshops and other similar forums for further education on advancements in water conservation practices and technology. For your information we have attached a comprehensive explanation of the Groundwater Management Act as **Appendix D**.

Designation of Options

If additional resources are needed, the least cost option is identified from a cost benefit analysis. This information is considered by the Board of Directors in public meetings and combined with other information to select an Action Plan for the District which conforms with the regulations and guidelines of the Energy Planning and Management Program. The selection of the District's Action Plan also includes consideration for reliability of service, economics, rate impacts and price elasticity, environmental effects, regulatory impacts and risks, legal considerations and risks, competitive impacts, social acceptance and public considerations and any other factors which may be identified from time-to-time which may be pertinent in selecting or implementing an Action Plan.

Action Plan

- **Resource Action Plan**

The time period covered by the District's Action Plan is the five-year period from 2007 through 2011.

The District has determined that to provide reliable electric power at the lowest practicable cost, consistent with sound business principles, the District will continue using its long-term entitlements of Hoover and SLCA/IP power to supply the District's projected long-term power requirements. The current federal resources and continuation of the Integrated Resource Scheduling procedures and the Authority Hoover Resource Exchange Program will be sufficient for the District to meet its monthly power and energy requirements through the short-term and long-term planning periods. Additional purchases of APS and SRP supplemental power will continue to be made from time-to-time to cover any short-term power deviations. The District is not experiencing any anticipated load growth and therefore does not need any new resources at this time. However, the District continues to participate in the Southwest Public Power Resources ("SPPR") Group in evaluating future resource opportunities. The SPPR Group represents 20 Participants comprised of thirty-nine public power entities providing service in Arizona, California, and Nevada. Although the District does not anticipate any immediate change in resource options due to the efforts of the SPPR Group, it may assist the District in accessing new long-term options in the future. The District continuously reevaluates the possible need for new resources, the availability of less costly resources and the potential for additional DSM activities. The District's Resource Action Plan enhances customer financial stability by providing services that will enhance property values and provide long-term stability in electric power rates.

Since no new resources are needed, there are no milestones to evaluate accomplishment of the Plan activities. Nevertheless, the District will monitor any

adjustments to the Plan for the long-term resource needs and will annually review its electric loads and resources for any significant changes. In the event the loads of the District are projected to materially increase above those levels represented in the Load and Resource information, other than normal deviations due to cropping changes or weather impacts, the District will review its forecast and evaluate the need for modifying its IRP and notify Western accordingly. In any event, the District will evaluate its load forecast and resource information in detail every five years and refresh its IRP, in accordance with Western's regulations.

- **Conservation Action Plan**

The District has decided to continue certain conservation activities to promote and maintain energy efficiency and customer awareness for conserving electric, water, and land resources.

Period: Calendar Year 2007 through 2011

Activity: Pump Testing Program

Goal: Test 100% of RID pumping plants twice every year for 5 years.

Activity Description: Irrigation Pump Efficiency Testing

- **Validation and Evaluation**

The District owns and operates its own pumps and is required to annually supply groundwater withdrawal information to the State of Arizona under the Groundwater Management Act. This information is usually determined using electrical usage information and pump tests. The District's program of testing pumping plants will continue to help RID prepare its groundwater reporting information and will also allow the District to evaluate each pumping plant and identify pumping plants which may be experiencing a decrease in overall pumping efficiency. Historically, this has been a very successful program for the District. Under this program, the District will attempt to periodically test each of its pumping plants. With the pump test information, and previous test information, an efficiency trend pattern can be prepared. From the test information, the associated cost savings that might result if the tested pump were operating at a theoretical 100% efficiency level can be developed based upon the current District rates. The efficiency information may assist the District in scheduling planned maintenance of the pumping plants and identify the financial benefit from performing the efficiency improvements on a more frequent basis. Overall, on a District wide basis, the ongoing pump testing and monitoring activity should encourage more frequent pump maintenance which will result in an overall efficiency improvement and energy savings. The Conservation Action Plan will be evaluated annually to determine whether 100% of the pumping plants have been tested in that year.

Environmental Effects

The District is required, to the extent practical, to minimize adverse environmental effects of new resource acquisitions and document these efforts in the IRP. Since the District does not foresee the acquisition of any additional resources, there are no adverse environmental effects caused by new resource acquisition. Under the District's current resource plan, the District utilizes hydro resources to meet the majority of its electric loads. To the extent the District utilizes the Integrated Resource Scheduling procedures or the Authority Hoover Resource Exchange Program to exchange and better utilize the hydro resources of the District and other similarly situated utilities, such efforts should be environmentally beneficial since such increased utilization would offset steam generation purchases.

In addition to maximizing the hydro resources, the District and the District's customers are involved in substantial water conservation programs in their farming practices. The installed water conservation investment by the District's customers is extensive and far-reaching. Their ongoing conservation practices and ongoing maintenance of conservation investments continue to conserve significant amounts of groundwater annually. To the extent the District sponsors conservation activities and information activities with its customers, the conservation of groundwater is the fundamental achievement, which is environmentally beneficial and economically sound. In addition, the overall irrigation efficiency of each farmer is heavily regulated by the State of Arizona through the Groundwater Management Act. A comprehensive discussion of the Groundwater Management Act is provided in **Appendix D**.

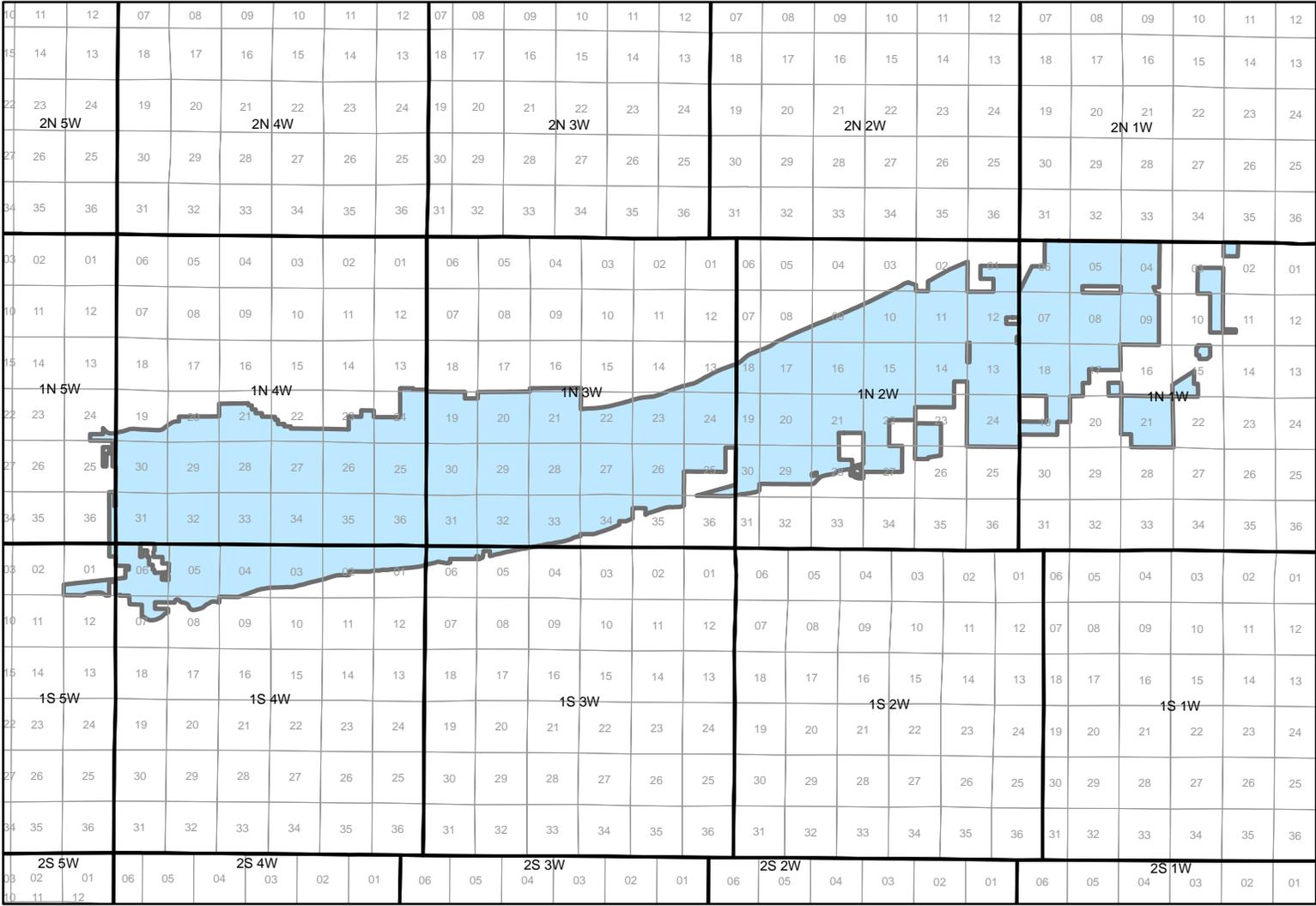
Public Participation

The District has held one public meeting to discuss the development of its IRP.

Prior to the meeting, the District posted notice in advance of the meeting, giving the time and place of the meeting and specifying that the District would be considering a draft IRP at the meeting. The notice was posted in accordance with statutory open meeting law requirements. The notice stated that the draft IRP would be available to the public in advance of the meeting and that public comment on the draft IRP would be accepted at the meeting. A copy of the notice is attached as **Appendix E**.

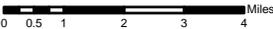
At the meeting, the draft IRP was presented to the Board. After discussion and the opportunity for public comment, the Board authorized the preparation of a final IRP, with such revisions as the Board deemed appropriate. There were no public comments.

APPENDIX A -- Map of Service Territory



8-29-06

Roosevelt Irrigation District



DISCLAIMER:
K.R. Saline & Associates, PLC
Do not warrant the accuracy
or location of the facilities shown



ROOSEVELT IRRIGATION DISTRICT

Electric Rates

Dairy Rate - Effective July 2006

Customer Charge	\$	49.50
Demand Charge	\$	8.90
Energy Charge	\$	0.04960
Taxes		6.3%

Gin Rate - Effective July 2006

	Summer	Winter
Customer Charge	\$ 49.50	\$ 49.50
Demand Charge	\$ 11.90	\$ 8.90
Energy Charge	\$ 0.04310	\$ 0.04310
Taxes	6.3%	6.3%

SunCor Rate - Effective July 2006

Customer Charge	\$	49.50
Demand Charge	\$	8.05
Energy Charge	\$	0.04860

Private Pumping Rate - Effective July 2006

Customer Charge	\$	49.50
Demand Charge	\$	5.00
Energy Charge	\$	0.04860

Roosevelt Irrigation District

COMBINED SERVICE TERRITORIES

Demand @ Pump (kW)

Year	October	November	December	January	February	March	April	May	June	July	August	September	Max
1997	11,068	7,553	8,656	7,973	9,915	13,542	14,298	12,407	15,593	16,236	15,804	11,799	16,236
1998	10,133	9,541	9,092	11,329	8,895	11,397	13,519	14,309	13,814	15,298	13,747	12,840	15,298
1999	8,926	10,491	9,607	10,531	8,795	10,844	13,298	14,281	15,532	16,632	16,109	14,101	16,632
2000	11,785	12,378	11,044	12,181	10,219	9,853	15,271	15,489	16,889	17,698	17,667	13,880	17,698
2001	10,908	7,743	9,352	8,784	10,032	11,478	15,147	14,682	16,807	17,588	17,425	15,207	17,588
2002	13,047	12,912	11,016	11,889	11,166	12,927	15,608	14,446	16,565	16,925	18,081	16,342	18,081
2003	15,043	12,372	9,531	12,341	9,563	12,374	16,259	15,827	16,008	17,201	17,536	15,876	17,536
2004	11,758	12,258	9,487	11,586	8,132	13,176	15,038	15,789	17,056	16,950	16,492	15,650	17,056
2005	12,537	10,504	8,927	8,533	8,873	11,256	12,551	14,183	16,052	16,889	15,737	15,451	16,889
2006	10,014	10,964	8,504	9,958	10,055	10,041	13,718	15,055	15,836	16,099	15,405	14,434	16,099

Demand @ Substation (kW)

Year	October	November	December	January	February	March	April	May	June	July	August	September	Max
1997	11,996	8,223	9,405	8,617	10,663	14,633	15,466	13,334	16,846	17,550	17,075	12,677	17,550
1998	10,978	10,317	9,841	12,116	9,509	12,170	14,466	15,347	14,808	16,418	14,736	13,753	16,418
1999	9,592	11,285	10,322	11,326	9,419	11,610	14,253	15,307	16,669	17,863	17,290	15,107	17,863
2000	12,689	13,316	11,875	13,069	10,923	10,528	16,394	16,613	18,131	18,111	18,975	14,878	18,975
2001	11,744	8,363	10,069	9,463	10,759	12,267	16,243	15,701	18,016	18,864	18,682	16,279	18,864
2002	14,019	13,856	11,805	12,734	11,932	13,803	16,720	15,446	17,745	18,137	19,393	17,507	19,393
2003	16,152	13,286	10,280	13,229	10,239	13,220	17,412	16,968	17,169	18,464	18,826	17,024	18,826
2004	12,598	13,163	10,224	12,440	8,726	14,087	16,109	16,932	18,310	18,188	17,695	16,786	18,310
2005	13,415	11,286	9,595	9,176	9,542	12,005	13,379	15,206	17,232	18,144	16,904	16,597	18,144
2006	10,775	11,761	9,142	10,696	10,785	10,721	14,654	16,158	17,001	17,287	16,534	15,485	17,287

Energy @ Pump (kWh)

Year	October	November	December	January	February	March	April	May	June	July	August	September	Total
1997	2,744,065	2,215,383	3,683,675	2,716,398	3,495,302	5,354,689	7,761,470	6,109,951	8,398,720	10,309,295	7,632,235	2,995,314	63,416,497
1998	2,768,006	2,168,320	2,797,279	3,553,189	1,775,219	4,089,019	5,769,151	6,216,438	6,440,289	8,241,532	7,898,009	4,696,783	56,413,234
1999	1,817,663	2,450,852	3,263,065	3,209,499	3,131,401	4,878,756	5,379,223	6,516,267	8,244,765	8,107,525	9,222,355	4,711,146	60,932,517
2000	2,946,827	3,513,054	3,367,286	4,637,209	3,473,687	4,148,514	7,448,453	8,017,828	8,951,938	10,619,145	10,601,036	5,490,021	73,214,998
2001	2,272,435	1,905,083	2,989,324	2,875,325	2,681,479	3,895,509	7,475,186	7,186,108	8,641,119	10,328,260	9,981,528	5,958,835	66,190,191
2002	4,906,596	2,909,928	3,603,013	4,498,891	4,253,918	5,638,686	8,624,260	7,874,118	8,676,362	10,720,107	10,056,329	6,001,659	77,763,867
2003	3,766,309	2,829,890	3,151,136	3,709,198	2,373,682	4,009,821	8,071,517	8,289,918	8,785,691	10,625,710	8,960,169	8,339,451	72,912,492
2004	3,776,801	2,240,562	3,526,438	3,768,304	2,226,958	5,534,049	7,204,180	7,611,267	9,966,609	9,396,818	10,036,754	6,673,313	71,962,053
2005	3,552,322	2,131,766	3,162,787	2,200,956	1,880,080	3,012,391	5,401,302	6,764,525	8,561,786	9,261,557	7,985,923	6,525,659	60,441,054
2006	3,556,900	3,173,227	2,975,253	3,674,595	3,337,200	4,213,700	5,931,830	7,722,655	8,786,161	8,714,350	8,421,510	5,677,592	66,184,973

Energy @ Substation (kWh)

Year	October	November	December	January	February	March	April	May	June	July	August	September	Total
1997	2,921,364	2,360,831	3,923,224	2,890,969	3,718,206	5,696,313	8,259,043	6,469,449	8,902,464	10,938,905	8,092,021	3,175,382	67,348,171
1998	2,940,639	2,303,565	2,973,878	3,755,885	1,877,191	4,321,073	6,096,795	6,582,761	6,819,855	8,726,704	8,363,415	4,973,247	59,735,008
1999	1,924,392	2,594,104	3,454,287	3,398,036	3,316,122	5,166,748	5,696,396	6,895,521	8,724,619	8,579,392	9,759,106	4,985,340	64,494,063
2000	3,118,335	3,717,517	3,563,266	4,907,099	3,675,860	4,389,962	7,881,961	8,478,761	9,467,562	11,231,302	11,212,406	5,806,200	77,450,229
2001	2,404,000	2,015,811	3,162,744	3,042,054	2,836,376	4,119,491	7,904,959	7,584,299	9,123,203	10,906,565	10,539,041	6,290,488	69,929,032
2002	5,182,230	3,075,471	3,806,186	4,750,489	4,488,761	5,948,713	9,102,943	8,303,241	9,154,534	11,312,937	10,613,401	6,333,041	82,071,947
2003	3,977,250	2,989,908	3,331,561	3,915,660	2,505,186	4,228,382	8,514,852	8,760,723	9,285,839	11,232,941	9,471,175	8,814,052	77,027,529
2004	3,991,990	2,369,211	3,729,698	3,983,693	2,354,027	5,847,608	7,613,152	8,049,053	10,540,409	9,937,968	10,614,794	7,057,365	76,088,969
2005	3,746,062	2,253,671	3,344,101	2,326,781	1,986,614	3,176,962	5,693,261	7,160,710	9,062,669	9,803,383	8,452,920	6,907,152	63,914,285
2006	3,764,862	3,351,704	3,142,881	3,879,861	3,519,456	4,442,004	6,250,949	8,174,726	9,300,364	9,218,934	8,914,171	6,009,693	69,969,604

Roosevelt Irrigation District

APS Service Territory

Demand @ Meters (kW)

Year	October	November	December	January	February	March	April	May	June	July	August	September	Max
1997	6,031	5,051	5,330	3,737	3,245	6,246	6,995	5,100	8,341	8,914	8,480	4,773	8,914
1998	6,094	5,308	5,261	5,128	3,868	4,543	6,397	7,170	6,620	8,049	6,513	5,716	8,049
1999	5,165	6,496	5,485	6,408	3,897	6,461	6,282	7,068	8,452	9,546	8,854	6,722	9,546
2000	7,928	7,882	6,819	6,468	3,991	3,673	8,504	8,374	9,673	10,466	10,443	7,143	10,466
2001	7,421	6,199	6,375	6,208	5,376	4,660	8,080	7,184	9,531	10,312	10,009	7,935	10,312
2002	8,451	7,802	6,148	6,418	5,182	5,694	8,506	7,244	9,320	9,696	10,851	9,181	10,851
2003	9,597	7,912	7,462	7,219	5,217	5,849	8,982	8,563	8,873	10,032	10,349	8,695	10,349
2004	6,124	7,338	6,901	6,876	4,685	5,835	7,702	8,458	9,780	9,420	9,091	8,466	9,780
2005	6,689	6,983	6,034	5,916	6,147	4,838	5,213	7,035	8,767	9,724	8,970	8,814	9,724
2006	6,363	6,715	5,803	6,508	6,136	4,676	6,606	8,074	8,696	8,964	8,273	7,536	8,964

Demand @ Substation (kW)

Year	October	November	December	January	February	March	April	May	June	July	August	September	Max
1997	6,643	5,564	5,871	4,116	3,574	6,880	7,705	5,618	9,188	9,819	9,341	5,258	9,819
1998	6,713	5,847	5,795	5,568	4,200	4,933	6,946	7,785	7,188	8,739	7,072	6,206	8,739
1999	5,608	7,053	5,955	6,958	4,231	5,039	6,821	7,674	9,177	10,365	9,613	7,299	10,365
2000	8,608	8,558	7,404	7,023	4,333	3,988	9,233	9,092	10,503	10,466	11,339	7,756	11,339
2001	8,058	6,731	6,922	6,740	5,837	5,060	8,773	7,800	10,349	11,197	10,868	8,616	11,197
2002	9,176	8,471	6,675	6,969	5,626	6,182	9,236	7,865	10,119	10,528	11,782	9,969	11,782
2003	10,420	8,591	8,102	7,838	5,664	6,351	9,752	9,298	9,634	10,893	11,237	9,441	11,237
2004	6,649	7,967	7,493	7,466	5,087	6,336	8,363	9,183	10,619	10,228	9,871	9,192	10,619
2005	7,263	7,582	6,552	6,423	6,674	5,253	5,660	7,638	9,519	10,558	9,739	9,570	10,558
2006	6,909	7,291	6,301	7,066	6,662	5,077	7,173	8,767	9,442	9,733	8,983	8,182	9,733

Energy @ Meters (kWh)

Year	October	November	December	January	February	March	April	May	June	July	August	September	Total
1997	1,403,036	1,750,171	2,295,681	1,137,857	1,003,099	1,574,830	2,923,556	1,675,462	3,217,821	5,026,043	3,116,540	1,186,978	26,311,074
1998	1,691,832	1,326,525	1,914,084	1,717,308	1,172,458	1,435,137	2,132,739	2,185,245	2,217,242	3,330,223	2,783,246	1,925,635	23,831,674
1999	979,992	1,906,992	2,096,062	1,656,701	927,629	1,271,732	1,724,473	2,207,986	3,503,285	3,648,140	4,208,893	2,060,601	26,192,486
2000	2,050,328	2,536,113	2,270,899	2,172,266	1,096,606	1,074,637	3,076,049	2,910,789	4,134,631	5,354,173	5,575,016	2,498,163	34,749,670
2001	1,652,247	1,771,671	2,486,999	2,322,836	1,637,811	1,445,143	2,745,565	2,691,436	3,969,120	5,214,260	4,730,298	2,560,507	33,227,893
2002	2,679,305	2,054,075	2,139,841	2,202,749	1,397,623	1,569,319	3,409,769	2,638,652	3,864,300	5,137,580	4,989,798	2,783,902	34,866,913
2003	2,282,721	1,988,906	2,616,989	2,018,294	1,180,328	1,349,871	3,324,941	3,064,840	3,779,525	5,615,640	4,268,432	3,523,091	35,013,578
2004	1,707,674	1,455,396	2,639,172	2,009,682	1,089,383	1,718,136	2,639,103	2,965,158	4,363,698	4,252,004	4,575,038	2,791,644	32,154,088
2005	1,465,433	1,784,189	2,719,478	1,836,346	1,416,717	1,287,451	1,807,626	2,333,061	3,959,980	4,274,254	4,043,984	3,504,918	30,433,437
2006	1,868,343	2,177,460	2,087,384	2,295,136	1,416,549	1,496,678	1,741,865	3,072,804	3,718,628	3,912,653	3,921,516	2,716,681	30,425,697

Energy @ Substation (kWh)

Year	October	November	December	January	February	March	April	May	June	July	August	September	Total
1997	1,496,253	1,866,451	2,448,204	1,213,455	1,069,744	1,679,460	3,117,795	1,786,778	3,431,610	5,359,969	3,323,600	1,265,840	28,059,159
1998	1,804,236	1,414,658	2,041,254	1,817,257	1,240,696	1,518,663	2,256,867	2,312,429	2,346,288	3,524,046	2,945,234	2,037,709	25,259,337
1999	1,037,029	2,017,981	2,218,055	1,753,123	981,618	1,345,748	1,824,839	2,336,493	3,707,180	3,860,466	4,453,855	2,180,530	27,716,917
2000	2,169,659	2,683,717	2,403,068	2,298,694	1,160,430	1,137,182	3,255,078	3,080,200	4,375,271	5,665,792	5,899,488	2,643,559	36,772,138
2001	1,748,410	1,874,784	2,631,745	2,458,028	1,733,133	1,529,252	2,905,360	2,848,080	4,200,127	5,517,735	5,005,606	2,709,531	35,161,791
2002	2,835,243	2,173,624	2,264,382	2,330,951	1,478,966	1,660,655	3,608,221	2,792,224	4,089,206	5,436,593	5,280,210	2,945,928	36,896,203
2003	2,415,578	2,104,662	2,769,301	2,135,761	1,249,024	1,428,435	3,518,456	3,243,217	3,999,497	5,942,476	4,516,859	3,728,139	37,051,405
2004	1,807,062	1,540,102	2,792,775	2,126,648	1,152,786	1,818,133	2,737,675	3,137,733	4,617,670	4,499,475	4,841,310	2,954,121	34,025,490
2005	1,550,723	1,888,031	2,877,754	1,943,223	1,499,171	1,362,382	1,912,832	2,468,848	4,190,455	4,523,020	4,279,348	3,708,908	32,204,695
2006	1,977,083	2,304,190	2,208,872	2,428,715	1,498,994	1,583,786	1,843,243	3,251,644	3,935,056	4,135,083	4,149,752	2,874,795	32,191,213

Roosevelt Irrigation District

SRP Service Territory

Demand @ Meters (kW)

Year	October	November	December	January	February	March	April	May	June	July	August	September	Max
1997	5,037	2,502	3,326	4,236	6,670	7,296	7,303	7,307	7,252	7,322	7,324	7,026	7,324
1998	4,039	4,233	3,831	6,201	5,027	6,854	7,122	7,139	7,194	7,249	7,234	7,124	7,249
1999	3,761	3,995	4,122	4,123	4,898	6,203	7,016	7,213	7,080	7,086	7,255	7,379	7,379
2000	3,857	4,496	4,225	5,713	6,228	6,180	6,767	7,115	7,216	7,232	7,224	6,737	7,232
2001	3,487	1,544	2,977	2,576	4,656	6,818	7,067	7,498	7,276	7,276	7,416	7,272	7,498
2002	4,596	5,110	4,868	5,471	5,984	7,233	7,102	7,202	7,245	7,229	7,230	7,161	7,245
2003	5,446	4,460	2,069	5,122	4,346	6,525	7,277	7,264	7,135	7,169	7,187	7,181	7,277
2004	5,634	4,920	2,586	4,710	3,447	7,341	7,336	7,331	7,276	7,530	7,401	7,184	7,530
2005	5,848	3,521	2,893	2,617	2,726	6,418	7,338	7,148	7,285	7,165	6,767	6,637	7,338
2006	3,651	4,249	2,701	3,450	3,919	5,365	7,112	6,981	7,140	7,135	7,132	6,898	7,140

Demand @ Substation (kW)

Year	October	November	December	January	February	March	April	May	June	July	August	September	Max
1997	5,353	2,659	3,534	4,501	7,089	7,753	7,761	7,716	7,658	7,731	7,734	7,419	7,761
1998	4,265	4,470	4,046	6,548	5,309	7,237	7,520	7,562	7,620	7,679	7,664	7,547	7,679
1999	3,984	4,232	4,367	4,368	5,188	6,571	7,432	7,633	7,492	7,498	7,677	7,808	7,808
2000	4,081	4,758	4,471	6,046	6,590	6,540	7,161	7,521	7,628	7,645	7,636	7,122	7,645
2001	3,686	1,632	3,147	2,723	4,922	7,207	7,470	7,901	7,667	7,667	7,814	7,663	7,901
2002	4,843	5,385	5,130	5,765	6,306	7,621	7,484	7,581	7,626	7,609	7,611	7,538	7,626
2003	5,732	4,695	2,178	5,391	4,575	6,869	7,660	7,670	7,535	7,571	7,589	7,583	7,670
2004	5,949	5,196	2,731	4,974	3,639	7,751	7,746	7,749	7,691	7,960	7,824	7,594	7,960
2005	6,152	3,704	3,043	2,753	2,868	6,752	7,719	7,568	7,713	7,586	7,165	7,027	7,719
2006	3,866	4,470	2,841	3,629	4,123	5,644	7,482	7,391	7,560	7,554	7,551	7,303	7,560

Energy @ Meters (kWh)

Year	October	November	December	January	February	March	April	May	June	July	August	September	Total
1997	1,341,029	465,212	1,387,994	1,578,541	2,492,203	3,779,859	4,837,914	4,434,489	5,180,899	5,283,252	4,515,695	1,808,336	37,105,423
1998	1,076,174	841,795	883,195	1,835,881	602,761	2,653,882	3,636,412	4,031,193	4,223,047	4,911,309	5,114,763	2,771,148	32,581,560
1999	837,671	543,860	1,167,003	1,552,798	2,203,772	3,607,024	3,654,750	4,308,281	4,741,480	4,459,385	5,013,462	2,650,545	34,740,031
2000	896,499	976,941	1,096,387	2,464,943	2,377,081	3,073,877	4,372,404	5,107,039	4,817,307	5,264,972	5,026,020	2,991,858	38,465,328
2001	620,188	133,412	502,325	552,489	1,043,668	2,450,366	4,729,621	4,494,672	4,671,999	5,114,000	5,251,230	3,398,328	32,962,298
2002	2,227,291	855,853	1,463,172	2,296,142	2,856,295	4,069,367	5,214,491	5,235,466	4,812,062	5,582,527	5,066,531	3,217,757	42,896,954
2003	1,483,588	840,984	534,147	1,690,904	1,193,354	2,659,950	4,746,576	5,225,078	5,006,166	5,010,070	4,691,737	4,816,360	37,898,914
2004	2,069,127	785,166	887,266	1,758,622	1,137,575	3,815,913	4,617,077	4,646,109	5,602,911	5,144,814	5,461,716	3,881,669	39,807,965
2005	2,086,889	347,577	443,309	364,610	463,363	1,724,940	3,593,676	4,431,464	4,601,806	4,987,303	3,941,939	3,020,741	30,007,617
2006	1,688,557	995,767	887,869	1,379,459	1,920,651	2,717,022	4,189,965	4,649,851	5,067,533	4,801,697	4,499,994	2,960,911	35,759,276

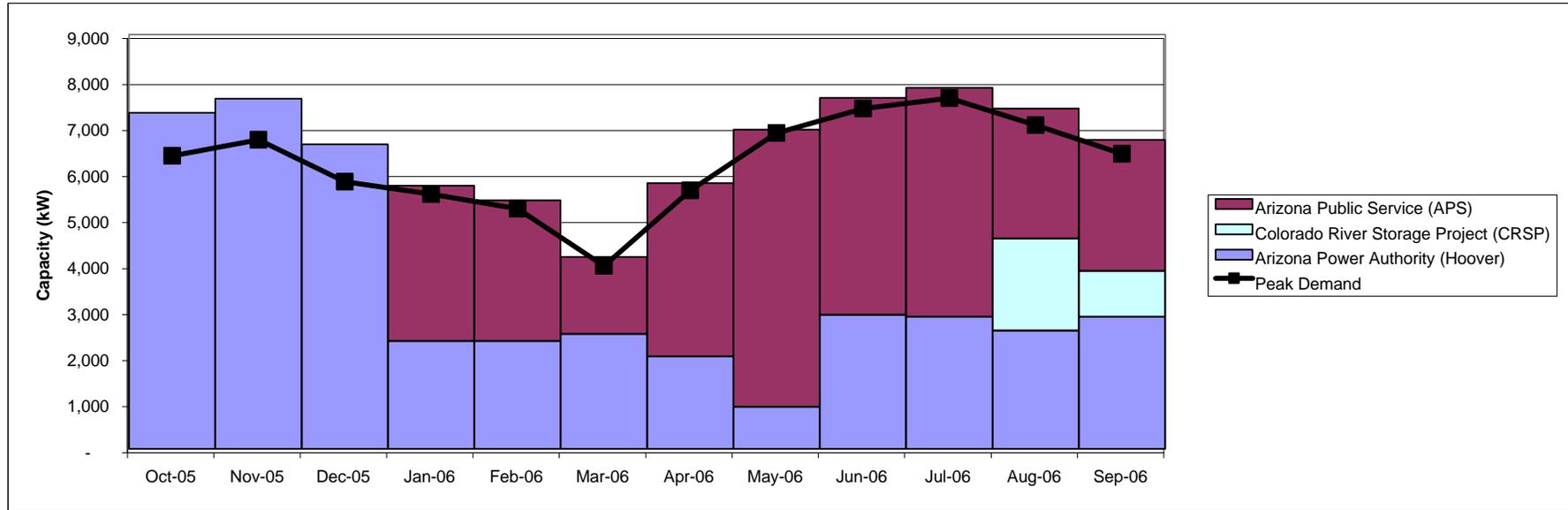
Energy @ Substation (kWh)

Year	October	November	December	January	February	March	April	May	June	July	August	September	Total
1997	1,425,111	494,380	1,475,020	1,677,514	2,648,462	4,016,853	5,141,248	4,682,671	5,470,854	5,578,936	4,768,421	1,909,542	39,289,012
1998	1,136,403	888,907	932,624	1,938,628	636,495	2,802,410	3,839,928	4,270,332	4,473,567	5,202,658	5,418,181	2,935,538	34,475,671
1999	887,363	576,123	1,236,232	1,644,913	2,334,504	3,821,000	3,871,557	4,559,028	5,017,439	4,718,926	5,305,251	2,804,810	36,777,146
2000	948,676	1,033,800	1,160,198	2,608,405	2,515,430	3,252,780	4,626,883	5,398,561	5,092,291	5,565,510	5,312,918	3,162,641	40,678,091
2001	655,590	141,027	530,999	584,026	1,103,243	2,590,239	4,999,599	4,736,219	4,923,076	5,388,830	5,533,435	3,580,957	34,767,241
2002	2,346,987	901,847	1,541,804	2,419,538	3,009,795	4,288,058	5,494,722	5,511,017	5,065,328	5,876,344	5,333,191	3,387,113	45,175,744
2003	1,561,672	885,246	562,260	1,779,899	1,256,162	2,799,947	4,996,396	5,517,506	5,286,342	5,290,465	4,954,316	5,085,913	39,976,124
2004	2,184,928	829,109	936,923	1,857,045	1,201,241	4,029,475	4,875,477	4,911,320	5,922,739	5,438,493	5,773,484	4,103,244	42,063,479
2005	2,195,339	365,640	466,347	383,558	487,443	1,814,580	3,780,429	4,691,862	4,872,214	5,280,363	4,173,572	3,198,244	31,709,590
2006	1,787,779	1,047,514	934,009	1,451,146	2,020,462	2,858,218	4,407,706	4,923,082	5,365,308	5,083,851	4,764,419	3,134,898	37,778,391

ROOSEVELT IRRIGATION DISTRICT

APS SERVICE TERRITORY

SCHEDULED RESOURCES TO COVER TYPICAL PEAK DEMAND



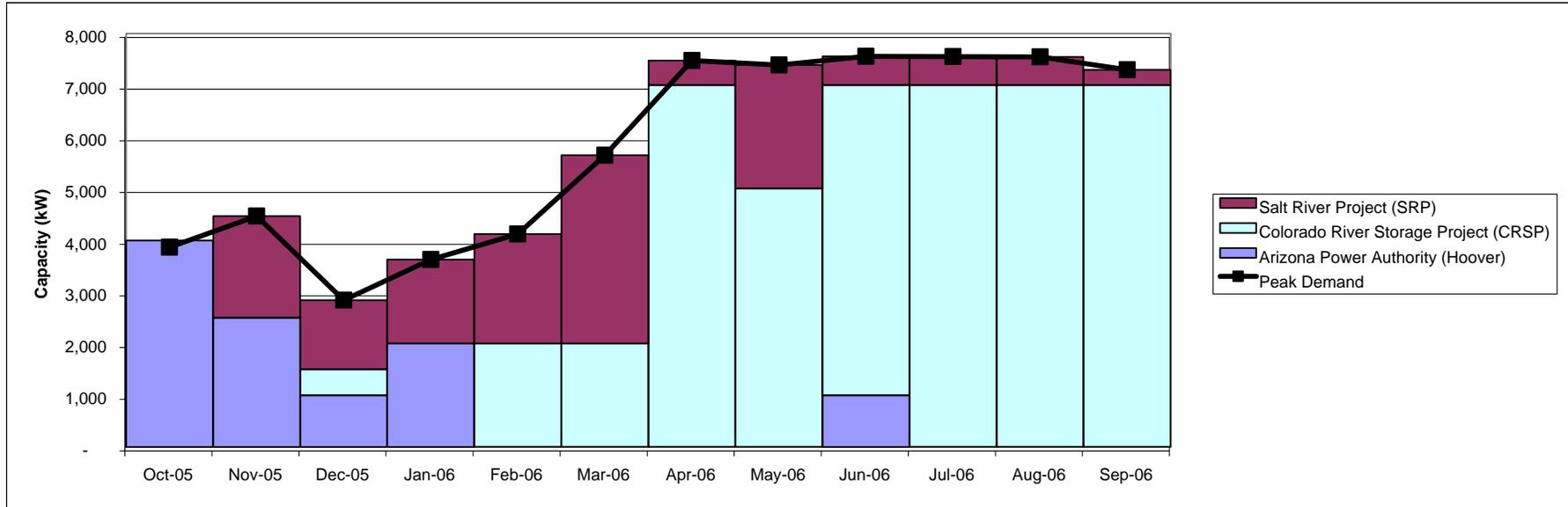
Resources

	<u>Oct-05</u>	<u>Nov-05</u>	<u>Dec-05</u>	<u>Jan-06</u>	<u>Feb-06</u>	<u>Mar-06</u>	<u>Apr-06</u>	<u>May-06</u>	<u>Jun-06</u>	<u>Jul-06</u>	<u>Aug-06</u>	<u>Sep-06</u>
Arizona Power Authority (Hoover)	7,300	7,604	6,617	2,344	2,344	2,496	2,008	908	2,908	2,866	2,566	2,866
Colorado River Storage Project (CRSP)	-	-	-	-	-	-	-	-	-	-	2,000	1,000
Arizona Public Service (APS)	-	-	-	3,373	3,057	1,676	3,765	6,027	4,714	4,979	2,827	2,845
Peak Demand	6,363	6,715	5,803	5,532	5,216	3,975	5,615	6,863	7,392	7,616	7,032	6,406

ROOSEVELT IRRIGATION DISTRICT

SRP SERVICE TERRITORY

SCHEDULED RESOURCES TO COVER TYPICAL PEAK DEMAND



Resources

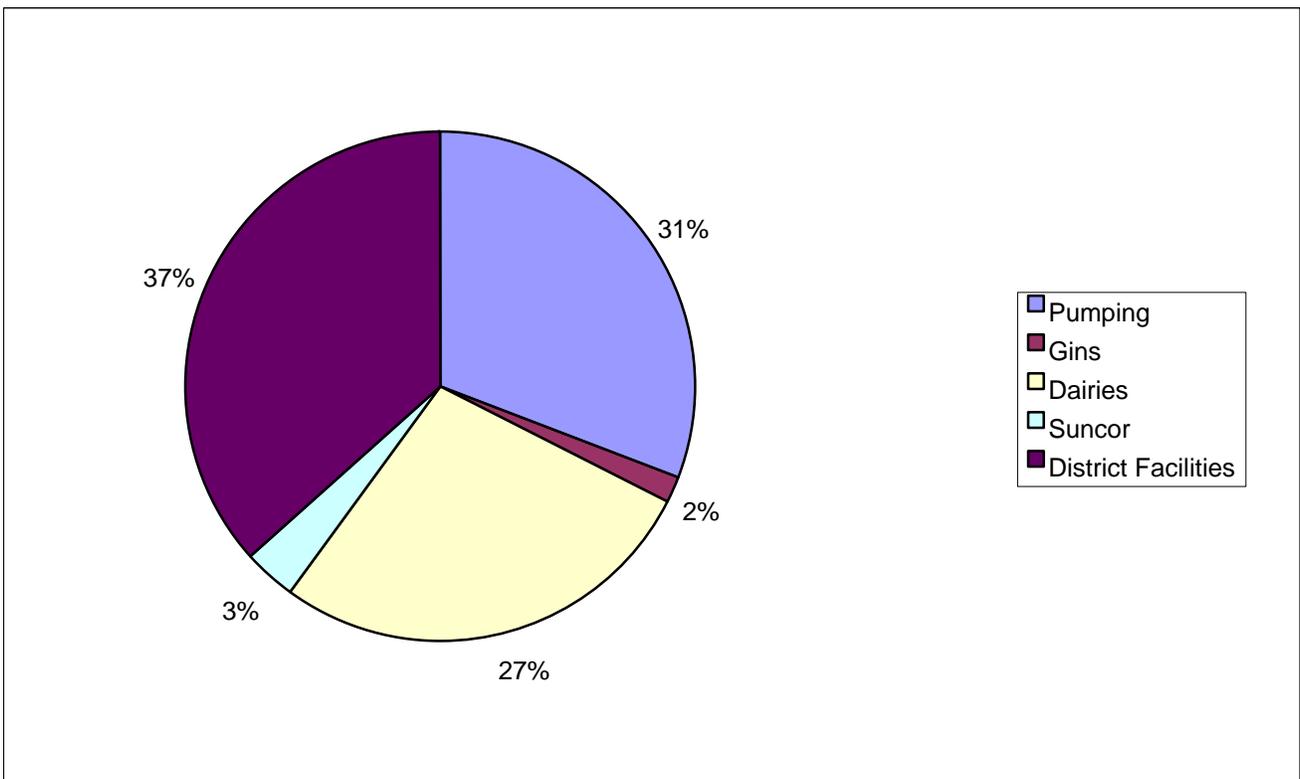
	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06
Arizona Power Authority (Hoover)	4,000	2,500	1,000	2,001	-	-	-	-	1,000	-	-	-
Colorado River Storage Project (CRSP)	-	-	500	-	2,000	2,000	7,000	5,000	6,000	7,000	7,000	7,000
Salt River Project (SRP)	-	1,970	1,341	1,628	2,123	3,644	482	2,391	560	554	551	303
Peak Demand	3,866	4,470	2,841	3,629	4,123	5,644	7,482	7,391	7,560	7,554	7,551	7,303

ROOSEVELT IRRIGATION DISTRICT

APS SERVICE TERRITORY

Customer Profile

Customer Type	# of Meters
<i>Pumping</i>	1 53
<i>Gins</i>	2 3
<i>Dairies</i>	3 47
<i>Suncor</i>	6
<i>District Facilities</i>	<u>63</u>
Total	172



ROOSEVELT IRRIGATION DISTRICT

SRP SERVICE TERRITORY

Customer Profile

Customer Type

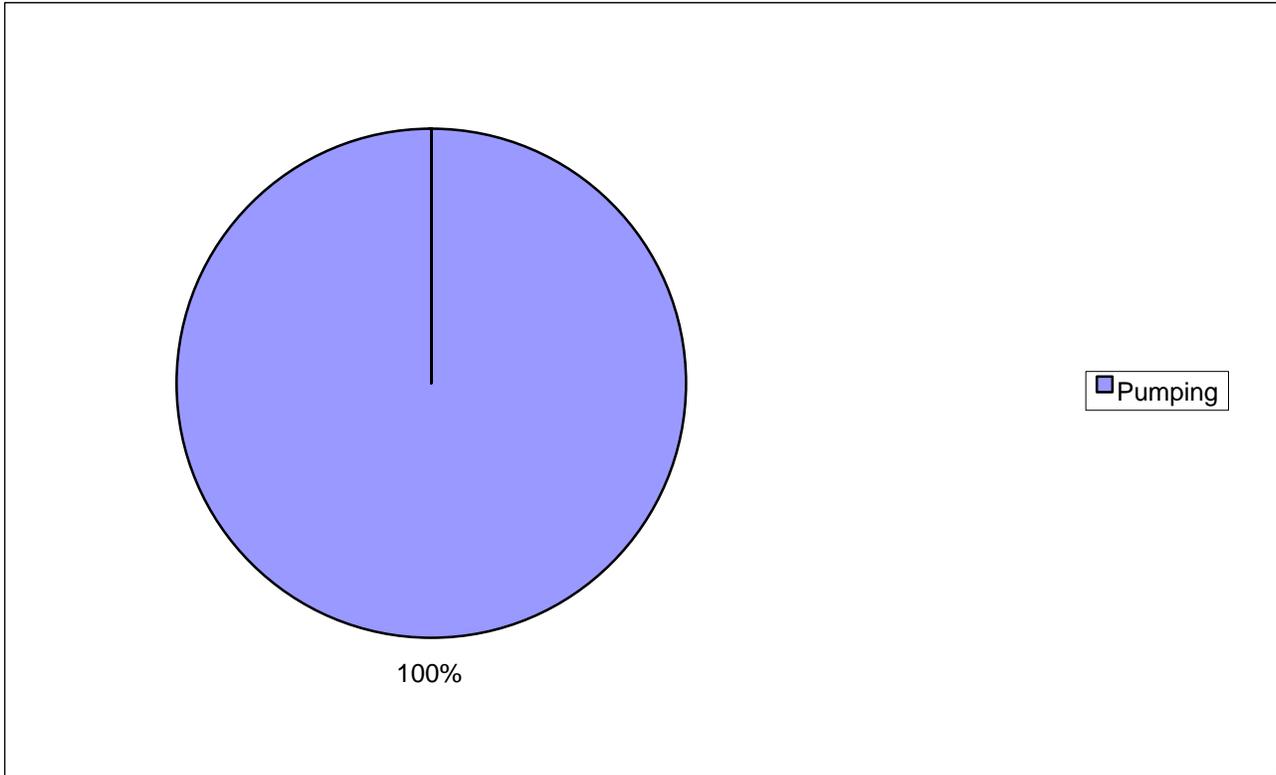
Pumping

Total

of Meters

52

52



APPENDIX D

CONSERVATION REGULATION

The District and its customers actively undertake to reduce water use and power use through a variety of conservation activities.

The greatest potential for conservation from District customers lies in water conservation. Because the District's customers rely primarily on deep-well irrigation to provide water to crops, saving water means saving electricity.

In 1980, the Arizona legislature enacted a comprehensive regulatory program to manage and conserve the State's groundwater resources. The Groundwater Code designated certain large area of the State as Active Management Areas ("AMAs"). A.R.S. § 45-411. Within the AMAs, groundwater use for irrigation purposes is heavily regulated. Farmers within AMAs must obtain certificates of irrigation grandfathered groundwater right in order to continue irrigating their property. See A.R.S. §§ 45-416, 45-465.

The District is located within the Phoenix AMA. The management goal for the Phoenix AMA is to achieve "safe yield" by January 1, 2025. A.R.S. § 45-562.A. "Safe yield" means a balance between the amount of groundwater withdrawn in the AMA and the amount of natural or artificial groundwater recharge in the AMA. A.R.S. § 45-561.6.

The goal of safe yield is to be met by applying increasingly stringent conservation requirements, the retirement of certain water uses, and augmentation of the groundwater supply with other sources of water. To date, efforts have focused primarily on conservation requirements.

The management goal of safe yield will be achieved through the enactment and enforcement of five different management plans. A.R.S. § 45-563. The Arizona Department of Water Resources ("the Department") is charged with the task of promulgating and enforcing the management plans. The first management plan ("FMP") covered the period 1980 to 1990.¹ A.R.S. § 45-564. The second management plan covered the period 1990 to 2000. A.R.S. § 45-565. The third management plan covers the period 2000 to 2010. A.R.S. § 45-566. The fourth management plan will cover the period 2000 to 2010. A.R.S. § 45-567. The fifth and final management plan will cover the period 2020 to 2025, and beyond. A.R.S. § 45-568.

¹ The first management plan for the Phoenix AMA was developed over the first several years after the adoption of the Groundwater Code. It became effective for most Phoenix AMA water users on January 1, 1987.

For the first management period, the Department was directed by statute to include conservation measures for irrigation in the first management plan. Specifically, the Department was required to establish an irrigation water duty for each farm in the AMA. A.R.S. § 45-564. Section 45-564.A.1. provides that the Department shall establish:

An irrigation water duty for each farm unit in the active management area. The irrigation water duty shall be calculated as the quantity of water reasonably required to irrigate the crops historically grown in a farm unit and shall assume conservation methods being used in the state which would be reasonable for the farm unit including lined ditches, pump-backs systems, land leveling and efficient application practices, but not including a change from flood irrigation to drip irrigation or sprinkler irrigation.

A.R.S. § 45-564.A.A. (Emphasis added.) Lined ditches, pump-back systems, land leveling and good management practices are conservation methods that are currently in use throughout the District.

The first management plan for the Phoenix AMA established the initial irrigation water duties and total water allotments for each farm. In order to establish the water duties, the Department first considered the types of crops, the number of acres of each and the amount of water historically used on each farm. The Department then determined a farm's historic irrigation efficiency by comparing historical water use to the amount of water the Department determined was adequate for the crop's total irrigation requirement.²

Research by the Department indicated that with good management practices, all irrigation systems could achieve more than 55% irrigation efficiency. Taking into account the achievable level of efficiency and the average historic efficiency, the Department set the minimum irrigation efficiency for District lands at 55%.

If a farm's historic efficiency was less than 55%, the Department assigned an irrigation efficiency that required the farm to either meet a 55% efficiency level or to reduce water use by 6%, whichever resulted in greater water savings.³ (FMP, p. 51)

If a farm's historic efficiency was between 55% and 70%, the Department assigned an irrigation efficiency requirement of either 70% or a percentage that reflected a 6% reduction in water use, whichever gave the higher water duty. (FMP, p. 51).

² "Total irrigation requirement" takes into account the crop's consumptive use, special crop needs (such as frost protection water), leaching requirements and "effective" precipitation. Historic irrigation efficiencies in the Phoenix AMA ranged generally between 55% and 85%. (FMP, pp. 46-48)

³ The Department determined that a 6% reduction in water use could be achieved by employing good irrigation management practices. (FMP, p. 51)

If a farm's historic efficiency was between 70% and 85%, the Department assigned the historic efficiency as the required efficiency. The Department concluded that efficiencies in this range reflected satisfactory conservation methods. (FMP, p. 51).

If a farm's historic use was greater than 85%, the Department assigned an 85% irrigation efficiency requirement. The Department considered 85% efficiency the maximum reasonable efficiency for the first management period. (FMP, p. 51).

Based upon the assigned irrigation efficiency requirements, the Department calculated water duties (the amount of water use permitted per acre) and total water allotments for each farm.

In December, 1989, the Department promulgated the management plan for the second management period (1990 to 2000). For the second management plan, the Department was directed to impose the following further conservation requirements on irrigation. A.R.S. § 45-565.A.1. provides that the Department shall:

Establish a new irrigation water duty for each farm unit to be reached by the end of the second management period any may establish one or more intermediate water duties to be reached at specified intervals during the second management period. The irrigation water duty and any intermediate water duties shall be calculated as the quantity of water reasonably required to irrigate the crops historically grown in the farm unit and shall assume the maximum conservation consistent with prudent long-term farm management practices within Areas of similar farming conditions, considering the time required to amortize conservation investments and financing costs.

A.R.S. § 45-565.A.1. (Emphasis added)

Under the second management plan, the Department established two interim water duties and a final water duty for each farm. The first interim water duty and the total allotment were effective from January 1, 1992 to December 31, 1994. The second interim water duty and total allotment were effective from January 1, 1995 to December 31, 1999. The final water duty and allotment was scheduled to become effective January 1, 2000, and remain in effect until altered under the third management plan.

In setting the final water duty under the second management plan. The Department concluded that most farms within the Phoenix AMA were capable of achieving 85% irrigation efficiency. The Department determined that level basin irrigation is economically prudent and feasible, and that with level basin irrigation and good management practices most farms could achieve 85% irrigation efficiency. Farms with limiting soils or poor water quality were generally assigned a 70% efficiency requirement. Citrus farms, because they cannot economically be leveled, were assigned a 65% efficiency level.

There has been considerable debate and extensive additional study regarding whether the 85% efficiency requirement can be met, even under the best of circumstances. The implementation of the final water duty under the second management plan has been suspended, pending the conclusion of additional study and negotiation. In the fall of 2001, the Department and the agricultural community reached an agreement in principle to reduce the required efficiency to 80% for most farms. In 2002, the statutes were amended to provide that the maximum irrigation efficiency to be imposed is 80%.

The effect of the Groundwater Code is to cause an overall, continuing reduction in water use by the farms served by the District and many other Arizona preference customers. Compliance with the water conservation measures imposed under the State regulatory scheme necessarily results in significant power savings.

Conservation has been an economic necessity to growers in the area served by the District since the first pump was installed over sixty years ago. The land was uneven, ditches were unlined and the lengths of water runs were often long. Growers learned that more even fall of the land and less fall per measured distance resulted in a more efficient use of their water resource and a savings in their cost of operation. Land was leveled with more uniformity and less fall. Growers worked with such agencies as the Soil Conservation Service and the University of Arizona Cooperative Extension Service. Experience and education taught them that such practices as the lining of ditches was a major conservation tool that would save water for unlimited years into the future if properly maintained. In the early years, many miles of ditches were concrete lined by hand. As technology advanced, it became possible to concrete line ditches mechanically. Miles and miles of ditches were lined, until today there are practically no head or carry ditches in the District that are not either concrete lined or underground pipeline. Long water runs were proven to be inefficient and were eliminated by dividing field lengths in half and in some cases into quarters by placing new lined ditches across them. As technology improved, lands were releveled and today with laser leveling it is possible to level to a fraction of a degree or even dead level.

Fields are also situated to enable growers to use run off water from one field and apply it to another field. In the very early 1950's growers started building water recovery systems. The systems called sumps or pump backs, retain runoff water in ponds and use small, energy efficient pumps to push the water to the high corner of the farm and reuse the water in the irrigation system. It is a major conservation tool used by most growers to ensure that no water is wasted and that energy is conserved.

As technology advances, District growers continue to be more efficient in their operations. New water efficient crop varieties have been introduced, new types of irrigation systems are being installed and highly accurate high technology moisture measuring instruments are in use to determine the exact moisture needs of crops. All of these activities increase the efficiency of water and energy use.

ROOSEVELT IRRIGATION DISTRICT

DIRECTORS
W. BRUCE HEIDEN, PRESIDENT
DWIGHT B. LEISTER
CHARLES K. YOUNGKER

103 WEST BASELINE ROAD
BUCKEYE, ARIZONA 85326
TELEPHONE (623) 386-2046
FAX (623) 386-4360

STANLEY H. ASHBY
SUPERINTENDENT

PUBLIC NOTICE

Roosevelt Irrigation District ("the District") will be holding a board meeting at **1:30 pm** on **December 19, 2006** at **103 West Baseline Road** . At that board meeting the District will review and approve its updated Integrated Resource Plan. This Integrated Resource Plan, which is required by the Western Area Power Administration, details the District's power resource plan for the next five years. The final Integrated Resource Plan will be available to the public prior to the meeting. Written comments regarding the Integrated Resource Plan will be accepted anytime prior to or at the meeting. Public comments will also be accepted at this time. Please contact **Stan Ashby** at **623-386-2046** for more information.