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NEW APPLICATION

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

KRISTIN K. MAYES, Chairman
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

E-01345A-10-0210

IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR APPROVAL OF TRANSMISSION COST ADJUSTOR CHARGES.	DOCKET NO. E-01345A-10-____ **APPLICATION**

I. INTRODUCTION

Pursuant to Decision No. 67744 (April 7, 2005), Arizona Public Service Company ("APS" or "Company") hereby requests that the Commission approve Revision No. 5 to Adjustment Schedule TCA-1 ("TCA-1"), effective July 1, 2010. *See* Attachment A. TCA-1 reflects the transmission rates authorized by the Federal Energy Regulatory Commission ("FERC") that will become effective for users of the APS transmission system as of June 1, 2010. A red-lined version of TCA-1 is also included with this Application as Attachment B.

II. BASIS FOR THE COMPANY'S REQUEST

In Decision No. 67744, the Commission approved a transmission cost rate adjustment mechanism, or TCA. In Decision No. 70179 (February 27, 2008), the Commission approved the first implementation of the TCA. In Decision No. 70400 (July 3, 2008), the Commission approved a second adjustment to the TCA and then again in Decision No. 71244 (August 6, 2009). Finally, the presently-effective TCA was approved as part of Decision No. 71448 (December 30, 2009) and is affixed hereto as Attachment C.[1]

[1] There was no change in the TCA rate at that time but merely some minor edits to the language of the schedule.

At the time the Commission entered Decision No. 71244, the Company was directed to submit a report on transmission additions that in part were reflected in the TCA. Attachment D hereto represents the 2009-2011 Transmission Additions Report requested by the Commission.

III. IMPACT OF THE PROPOSED TCA CHARGES

The impact on retail revenues from the new TCA charges is an overall reduction of approximately $10 million per year. Because the impact on specific customer classes is dependent upon not only the overall revenue requirement but the allocation of that revenue requirement and the billing determinants (kWh or kW, as appropriate) over which that revenue requirement is collected, the residential TCA charge will slightly decrease, smaller general service customers will see a larger but still modest decrease, and large general service customers will see a moderate increase. For a typical APS residential customer, the TCA would decrease roughly $0.13 per month or 0.1%. An analysis of typical customer bill impact is shown on Attachment E. The TCA charges also reflect any credits due to customers as a result of the previous year's review period of the FERC formula rate method.

When reviewing Attachment E, it is important to bear in mind that the FERC cost allocation method assigns transmission costs based on customer class demand during the four summer peak months. For that reason, the allocation of revenue requirement responsibility for transmission costs may vary from year to year, depending upon what class produced the greatest demand at system peak relative to other classes of retail customers. In 2009, the residential customer class contributed more demand to the summer peaks than in prior years, both in absolute terms and relative to other classes of APS customers, and its relative revenue requirement responsibility increased accordingly.[2] And, although the peak contribution of residential customers increased relative to other classes, 2009 residential energy sales were lower

[2] In 2008, residential customers were 53.02% of total retail summer demand, while the commercial and industrial customer classes were 40.36% and 6.62%, respectively. In 2009, residential customers comprised 54.5% of total retail demand.

than in previous years.[3] This also resulted in upward rate pressure for the residential class. Both these factors were more than offset for 2009 by the lower total revenue requirement. However, such relatively small swings in revenue requirement responsibility from one year to the next are to be expected, and they could just as easily produce the opposite result in future years. For example, the last TCA adjustment saw a decrease for large general service customers and an increase for residential and small general service customers, which is precisely the opposite of the situation this year. [4]

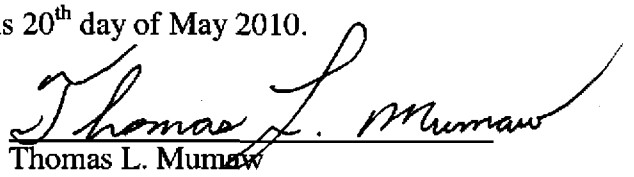
The review of the 2009 Annual Update of APS transmission costs performed by Staff and its consultant, identified adjustments to be made to certain rate-base and operating income items. These adjustments reduced 2009 retail transmission revenue requirement by some $4.2 million. The adjustment for this amount is included in the proposed TCA rates.

IV. CONCLUSION

APS requests that the rates become effective on July 1, 2010. The rates posted by APS on OASIS on May 17, 2010 are to become effective for transmission customers on June 1st. Retail transmission charges should be effective as close to that June 1 date as is possible.

APS believes the requested TCA charges are fully consistent with the terms of Decision Nos. 67744, 69663, 70179, 70400, 71244 and 71448. APS therefore requests that the Commission approve TCA-1, attached hereto as Attachment A, effective for all affected bills issued by the Company beginning in the first billing cycle of July, 2010.

RESPECTFULLY SUBMITTED this 20th day of May 2010.



Thomas L. Mumaw
Meghan H. Grabel
Attorneys for Arizona Public Service Company

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[3] Residential energy consumption fell 1.7% from 2008 to 2009.

[4] In 2008, large general service customers were 6.62% of total retail summer demand compared to 6.76% for 2009. Large general service customers billed kW fell almost 6% from 2008 to 2009.

The original and 13 copies of the foregoing were filed this 20th day of May 2010 with:

Docket Control
Arizona Corporation Commission
1200 West Washington
Phoenix, AZ 85007.

And copies of the foregoing were hand-delivered or e-mailed to:

Kristin K. Mayes, Chairman
Gary Pierce, Commissioner
Paul Newman, Commissioner
Sandra K. Kennedy, Commissioner
Bob Stump, Commissioner
Ernest Johnson
Steve Olea
Terri Ford
Barbara Keene
Steve Irvine
Rebecca Wilder
Janice Alward
Janet Wagner
Maureen Scott
Lyn Farmer
Jodi Jerich, Residential Utility Consumer Office

Attachment A

ADJUSTMENT SCHEDULE TCA-1
TRANSMISSION COST ADJUSTMENT

APPLICATION

The Transmission Cost Adjustment ("TCA") charge shall apply to all Standard Offer retail electric schedules with the exception of Solar-2. All provisions of the customer's current applicable rate schedule will apply in addition to this charge.

ANNUAL ADJUSTMENT

Standard Offer rate schedules covered by this charge include a transmission component of base rates that was originally established at $0.00476 per kilowatt-hour in accordance with A.C.C. Decision No. 67744. Decision No. 67744 also established the TCA. Decision No. 69663 modified the collection of transmission costs in retail rates to tie to the costs found in the FERC approved Open Access Transmission Tariff.

RATE

The charge shall be applied as follows:

Customer Class	TCA Charge
Residential	$0.002144/kWh
General Service 20 kW or less	$0.001602/kWh
General Service over 20 kW, under 3,000 kW	$0.740/kW
General Service 3,000 kW and over	$0.259/kW

Attachment B

ADJUSTMENT SCHEDULE TCA-1
TRANSMISSION COST ADJUSTMENT

APPLICATION

The *Transmission Cost* Adjustment ("TCA") charge shall apply to all Standard Offer retail electric schedules with the exception of Solar-2. All provisions of the customer's current applicable rate schedule will apply in addition to this charge.

ANNUAL ADJUSTMENT

Standard Offer rate schedules covered by this charge include a transmission component of base rates that was originally established at $0.00476 per kilowatt-hour in accordance with A.C.C. Decision No. 67744. Decision No. 67744 also established the TCA. Decision No. 69663 modified the collection of transmission costs in retail rates to tie to the costs found in the FERC approved Open Access Transmission Tariff.

RATE

The charge shall be applied as follows:

Customer Class	TCA Charge
Residential	$0.~~002258~~002144/kWh
General Service 20 kW or less	$0.~~001889~~001602/kWh
General Service over 20 kW, under 3,000 kW	$0.~~902~~740/kW
General Service 3,000 kW and over	$0.~~225~~259/kW

Attachment C

ADJUSTMENT SCHEDULE TCA-1
TRANSMISSION COST ADJUSTMENT

APPLICATION

The Transmission Cost Adjustment ("TCA") charge shall apply to all Standard Offer retail electric schedules, with the exception of Solar-2. All provisions of the customer's current applicable rate schedule will apply in addition to this charge.

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RATE

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Customer Class	TCA Charge
Residential	$0.002258/kWh
General Service 20 kW or less	$0.001889/kWh
General Service over 20 kW, under 3,000 kW	$0.902/kW
General Service 3,000 kW and over	$0.225/kW

Attachment D

Arizona Public Service Company
2009 Transmission Addition Dollars and O&M

[redacted]

1.	W362303	Dugas (VV01): 500/69kV Substation: Build New Substation	$26,532,473	This project is needed to provide the electrical source and support to the sub-transmission system to serve the electrical needs in the Verde Valley and Prescott areas. Also, the project will result in increased reliability and continuity of service for the Verde Valley and Prescott areas for loss of Verde - Cottonwood 69kV line.	N/A	N/A	$66,773	Nov-09
2.	W359055	Sugarloaf (Second Knolls): Build New 69kV yard	$13,649,090	This project will result in increased reliability and continuity of service to the Cholla - Showlow system for loss of either the Cholla - Zeniff or Cholla - Showlow 69kV lines.	This project increases the ability to incorporate Wind Generation into APS's 69kV system in the Cholla-Showlow system. One wind farm is already in-service and other wind farms have completed study work.	N/A	$103,051	Jul-09
3.	W362301	Milligan: (South East 3) 230/69kV Substation: Build new Substation in Eloy	$9,281,643	This is part of the TS9-Pinnacle Peak 500kV project. The overall project is needed to increase the import capability to the Phoenix Metro area and the export/scheduling capability from the Palo Verde area to provide access to both solar and gas resources. The project also strengthens the transmission system on the east side of the Phoenix Metro valley.	N/A	N/A	$11,679	Dec-09
4.	W359053	Sugarloaf (Second Knoll): Site Development For Entire Site And Access	$7,727,177	This is for the development of the Sugarloaf substation site. The Sugarloaf project will result in increased reliability and continuity of service to the Cholla - Showlow system for loss of either the Cholla - Zeniff or Cholla - Showlow 69kV lines.	This project increases the ability to incorporate Wind Generation into APS's 69kV system in the Cholla-Showlow system. One wind farm is already in-service and other wind farms have completed study work.	N/A	$58,340	Jul-09

[redacted]

5.	RHC7029	SPARE GSU TRANSFORMER	$5,697,191	APS standard practice is to have a spare GSU Transformer on site to minimize down time in the event of a transformer failure. Continuing to operate without a spare does not meet this business need. The alternative to rely on a viable spare being available from another company's inventory is very risky. Previous attempts to find such a spare have been unsuccessful.	N/A	N/A	$43,014	Jul-09
6.	WPC0040	CC5 Spare GSU Transformer	$5,178,396	APS standard practice is to have a spare GSU Transformer on site to minimize down time in the event of a transformer failure. Continuing to operate without a spare does not meet this business need. The alternative to rely on a viable spare being available from another company's inventory is very risky. Previous attempts to find such a spare have been unsuccessful.	N/A	N/A	$71,678	Feb-09
7.	W461339	Moenkopi: Replace Shunt Reactor	$4,666,069	This project is to replace the Edison Reactors at Moenkopi per the Edison Reactor Replacement Schedule. SR162 and SR163 are to be shipped to Four Corners to match up with SR164 (FC-MK line). Fire Wall & Oil Containment are required. Three reactors to be set on cribbing, dressed by Siemens while foundations & barriers are being installed. Siemens will transfer fully dressed reactors to new foundation. Additional cost to APS for cribbing and for additional move to new foundation.	N/A	N/A	$17,614	Oct-09
8.	W256684	Valley Farms: 115/69kV Substation	$4,038,920	This project will change out the Valley Farms 115/12kV transformer with a 100 MVA 115/69kV transformer and add a 69/12kV substation.	N/A	N/A	$40,658	May-09
9.	W378504	Sugarloaf (Second Knoll) 69kV Line	$3,650,583	This project will result in increased reliability and continuity of service to the Cholla - Showlow system for loss of either the Cholla - Zeniff or Cholla - Showlow 69kV lines.	This project increases the ability to incorporate Wind Generation into APS's 69kV system in the Cholla-Showlow system. One wind farm is already in-service and other wind farms have completed study work.	8.5	$41,343	Apr-09

[redacted]

10.	W335805	Upgrade Mead - Perkins Series	$3,612,838	This project plus upgrades on the Navajo-Crystal line will increase the non-simultaneous rating of the EOR path by 1245MW from 8055MW to 9300MW. Half of the 1245MW (622.5MW) will be allocated to the MPP.	The increase to the EOR rating will allow all of the participants to utilize the path for importing and exporting additional renewable energy.	N/A	$31,823	Jun-09
11.	W353264	Dugas (Verde Valley01): 500kV Loop In & Out	$2,609,772	This project will loop the Navajo - West Wing 500kV Line In & Out of the new Dugas 500kV switchyard and 500kV/69kV substation. The new switchyard is located two miles west of the Interstate 17 and Orme/Dugas Road Interchange and is adjacent to the east side of the Navajo - West Wing 500kV transmission line corridor. The loop In & Out requires the installation of two heavy angle lattice towers, two heavy angle monopoles, and installation of twin bundle 2156 ACSR conductor to match the existing circuits capacity. In addition, two existing tangent lattice towers and associated conductor & hardware will be removed.	N/A	N/A	$6,568	Nov-09
12.	W354983	Wickenburg Double Circuit	$2,543,890	Project is needed to provide the electrical support to the sub-transmission system to serve the need for electric energy in the Wickenburg area. The project will improve the continuity of service for the growing communities in the area for loss of Flying E - Wickenburg 69V line.	N/A	1.5	$22,407	Jun-09
13.	W419492	Sugarloaf Single Circuit to Zeniff Phase B	$2,529,597	This project will result in increased reliability and continuity of service to the Cholla - Showlow system for loss of either the Cholla - Zeniff or Cholla - Showlow 69kV lines.	This project increases the ability to incorporate Wind *Generation into* APS's 69kV system in the Cholla-Showlow system. One wind farm is already in-service and other wind farms have completed study work.	7.68	$19,098	Jul-09
14.	W410639	Westwing: Replace Failed T10 Spare Transformer (T788) ANPP 09-01	$2,121,711	Replace failed Westwing T10 spare transformer.	N/A	N/A	$21,359	May-09

15.	W305637	San Luis to Baja (SW3), 3 miles of 69 / 12kV Rebuild	$2,036,567	This project is needed to build approximately 3 miles of new 69 kV line from Baja to the San Luis substation to service the Baja load.	N/A	3	$10,251	Sep-09
16.	W479988	Dugas: 525/69kV Spare Transformer	$2,018,560	This is one of a set of spare transformers for Sugarloaf, Dugas & North Gila (Dugas is a central location for storage.) This is part of Homeland Security needs.	N/A	N/A	$5,080	Nov-09
17.	W479991	Dugas: 525/69kV Spare Transformer	$2,018,431	This is one of a set of spare transformers for Sugarloaf, Dugas & North Gila (Dugas is a central location for storage.) This is part of Homeland Security needs.	N/A	N/A	$5,080	Nov-09
18.	W479990	Dugas: 525/69kV Spare Transformer	$2,018,332	This is one of a set of spare transformers for Sugarloaf, Dugas & North Gila (Dugas is a central location for storage.) This is part of Homeland Security needs.	N/A	N/A	$5,079	Nov-09
19.	W388935	Milligan Substation -Saguaro Substation 230KV Fiber Optic cable Link	$1,855,791	This project will replace the East 3/8" EHS Stranded Steel Overhead Ground Wire (3/8" OHGW) with a 96 Count Fiber Optic Cable (OPGW) on the 230kV Transmission Line between Milligan Substation and the Saguaro Power Plant 230kV Switchyard (Saguaro), reinforcing H frame structures as required for a total distance of approximately 26 miles.	N/A	26	$2,335	Dec-09
20.	W419493	Sugarloaf Single Circuit to Zeniff	$1,811,145	This project will result in increased reliability and continuity of service to the Cholla - Showlow system for loss of either the Cholla - Zeniff or Cholla - Showlow 69kV lines.	This project increases the ability to incorporate Wind Generation into APS's 69kV system in the Cholla-Showlow system. *One wind farm is* already in-service and other wind farms have completed study work.	5	$13,674	Jul-09
21.	W451591	Dugas to Copper Canyon Phase 3	$1,728,872	A new 69kV line from Copper Canyon to Dugas is needed to prevent load shedding in the Cottonwood during an outage of the Cottonwood - Verde 69kV line.	N/A	2	$8,702	Sep-09
22.	W308977	Utting Substation - Vicksburg Tap	$1,675,145	This project will result in increased reliability and continuity of service to the La Paz Area for loss of the Eagle Eye - Salome 69kV line.	N/A	N/A	$23,187	Feb-09

23.	W133108	Mummy Mountain to Orangewood 69kV	$1,407,640	This project will rebuild sections of the Mummy Mountain - Orangewood 69kV line to SRP 12kV underbuild. The APS circuit on these sections will also be upgraded to 795 ACSS.	N/A	1	$12,399	Jun-09
24.	WF09RWTRA	Transmission Right of Way Capital Leases	$1,300,422	There were 15 right of way transactions/renewals encompassed in this project for 2009.	N/A	N/A		Jan-09
25.	W358543	Dugas Substation -Yavapai Substation 500kV Line: Install OPGW (Optical Ground Wire)	$1,205,236	This project will install 25 miles of 96 count Optical Ground Wire (OPGW) on existing 500kV towers between Yavapai Substation and the new Dugas Substation. Installation begins at Tower #179/1 inside Yavapai Sub and ends at Tower #204/1 just north of the new Dugas Sub. The 500kV In & Out project at Dugas Sub will complete the OPGW installation into the Dugas Yard. This cable will replace one of the existing 7-#8 AW static wires. This installation will provide one of the two communications paths to the new Dugas Sub.	N/A	25	$16,682	Feb-09
26.	W359500	Lincoln Street - Sherman Street Reconductor	$1,119,245	The Lincoln Street - Sherman Street 69kV transmission line must be rebuilt to preserve continuity of service for the loss of the Durango - West Phoenix 69kV transmission line.	N/A	1.1	$5,634	Sep-09
27.	W353150	Dugas (Verde Valley 01): Change Out Series Capacitor Bank C10 to 40.5OHMS & 1750A CBI 08-05 (NSTS)	$1,105,095	Series Cap Bank C10 (CBSE44) is obsolete and requires high cost and frequent maintenance. Based on condition and age, the capacitor bank requires replacement. The capacitor will be upgraded to 1750 amps and 40.5 Ohms to increase the path rating. The existing 2 step bank will be replaced with a single step bank.	N/A	N/A	$2,781	Nov-09
28.	W321957	Yavapai Sub: Add Ring Bu with 3-69kV breakers	$999,699	The Yavapai-OHM 69kV line and OHM 69kV switching station is needed for reliability to the Chino Valley area. The line will provide support during outages between Willow Lake-Chino Valley and prevent load shedding for the loss of the Willow Lake-Grey Bears 69kV line.	N/A	N/A	$11,322	Apr-09
29.	W460329	City of Yuma; 16 St Widening - Arizona Ave Intersection - Phs 2	$962,797	This is the second phase of the 16th Street road widening project that the City of Yuma is constructing. APS is relocating the 69/12kV running east/west along the S/S/O 16th street, and the 12kV running north along the W/S/O Arizona Ave.	N/A	N/A	$6,058	Aug-09

[redacted]

30.	W430314	Westwing-Navajo 500kV lattice tower installation for North Valley 500kV line drops at TS9 (APS/SRP)Participant	$931,364	APS to install four lattice 500kV transmission towers in the WW - NV 500kV circuits in preparation for the North Valley Project 500kV drops into Morgan (TS9) substation. This is part of the Morgan-Pinnacle Peak 500kV project. The overall project is needed to increase the import capability to the Phoenix Metro area and the export/scheduling capability from the Palo Verde area to provide access to both solar and gas resources. The project also strengthens the transmission system on the east side of the Phoenix Metro valley.	Helps schedule renewables to Phoenix Valley by increasing the scheduling capability from PV Hub and Navajo system.	N/A	$12,892	Feb-09
31.	W356995	Prescott City Substation - to White Spar Sub 69kV Rebuild	$839,335	Project is needed to provide electrical support to the sub-transmission system to serve the need for electric energy in the Prescott area and increase continuity of service in the area for loss of Prescott City - White Spar 69kV line.	N/A	1.2	$6,337	Jul-09
32.	W433280	Cholla: Replace 500kV CH152 Breaker & Associated CT'S (Cholla 5)	$816,472	Replace the 500kV live tank circuit breaker (Generator Breaker) CH152 and associated current transformers (CTs). The purpose of this project is to improve the reliability of the generation breaker and reduce the risk of damage to the generator resulting in an extended unit outage and reduce SF6 gas leakage to the atmosphere. A slow acting breaker could "close in" the generator out of phase causing extensive damage to the generator.	N/A	N/A	$2,055	Nov-09
33.	W373449	Dugas (Verde Valley01): Install New 3 Phase Reactor NSTS CBI 08-14	$745,060	Shunt Reactors SR77/78/79 at Westwing are at end of life and need to be replaced. A new substation (Dugas) is to "cut in" on the Navajo Westwing line in 2009 and the requirement for shunt reactors moves from Westwing to Dugas at that time. Therefore, SR77/78/79 are to be removed from Westwing and a new, three-phase reactor will be installed at Dugas.	N/A	N/A	$1,875	Nov-09
34.	W347722	Eastgate Double Circuit 69KV Line With UB 12KV	$742,841	This project will convert 1.5 miles of the existing Eastgate – Toltec Tap 69kV line to double circuit 69kV lines. With the addition of the Milligan 230/69kV substation the Toltec tap must be converted to a second circuit into the Eastgate substation to prevent three point relaying.	N/A	1.5	$6,543	Jun-09
35.	W403484	Pyramid Peak - Raceway (51st Ave Alignment) 7 miles	$742,375	State land right-of-way acquisition for the Pyramid Peak - Raceway 69kV line.	N/A	7		Oct-09

[redacted]

36.	W419491	Sugarloaf Single Circuit to Zeniff A	$666,649	This project will result in increased reliability and continuity of service to the Cholla - Showlow system for loss of either the Cholla - Zeniff or Cholla - Showlow 69kV lines.	This project increases the ability to incorporate Wind Generation into APS's 69kV system in the Cholla-Showlow system. One wind farm is already in-service and other wind farms have completed study work.	2.1	$9,228	Feb-09
37.	CK2X9	Unit 2 SNO Transformer Replacement	$639,858	The transformer needed to be replaced due to Dissolved Gas Analysis readings that indicated there was degradation inside the transformer tank. The transformer was replaced during the Unit 2 outage in the fall of 2009.	N/A	N/A	$805	Dec-09
38.	CHC0224	Unit 3 500KV Breaker CH1252 Replacement	$627,766	The purpose of this project is to replace an existing 500 kV breaker and CTs, which have become unreliable. Breaker is frequently leaking SF6 gas and is near its end of useful life.	N/A	N/A	$6,320	May-09
39.	W358218	North Black Canyon Underground Project	$605,098	The Gateway substation is needed to serve the need for electric energy for the North Phoenix area. It is also needed to preserve continuity of service for the loss of the Deadman Wash - New River 69kV transmission line.	N/A	N/A	$9,137	Jan-09
40.	W388936	Milligan Substation: 230kV Line Drop	$587,528	Construct the 230kV Lines Drops into Milligan Substation, cut two 230kV Single Circuit Taps into the existing Casa Grande-Saguaro 230kV Line at newly installed Milligan Substation, each Cut-in is a distance of approximately 265'.	N/A	N/A	$739	Dec-09
41.	W430319	Westwing-Navajo 500kV lattice tower installation for North Valley 230kV line drops at Raceway & TS9	$544,449	APS to install three 118' T-3 lattice 500kV transmission towers in the WW - NV 500kV circuits as described below, in preparation for the North Valley Project 230kV drops into Raceway and TS9 substations. This is part of the Morgan-Pinnacle Peak 500kV project. The overall project is needed to increase the import capability to the Phoenix Metro area and the export/scheduling capability from the Palo Verde area to provide access to both solar and gas resources. The project also strengthens the transmission system on the east side of the *Phoenix Metro valley.*	Helps schedule renewables to Phoenix Valley by increasing the scheduling capability from PV Hub and Navajo system.	N/A	$7,536	Feb-09

42.	W422491	Redondo to Foothills Tap	$514,693	To prevent power interruption and maintain a 97 MW reserve requirement in the Yuma Area Sanguinetti and adjacent 69kV lines and rebuilds are needed.	N/A	1.5	$4,534	Jun-09
43.	W445239	Dugas Sub Re-Route Phase 2	$500,643	Dugas Sub Reroute Phase 2 will reroute the existing 69kV line around the new Dugas Sub. This job will allow the connection of the Dugas to Copper Canyon 69kV.	N/A	0.5	$5,040	May-09
44.	W447599	Rebuild Structure #22/4 & Add Anchors	$493,851	Rebuild structure #22/4 (Verde-Coconino 230kV line) which includes adding two poles to the structure and changing out the framing. Also added deadends, pole bands, and anchors to seven other structures. This job required extensive road work to be done in order to access these poles.	N/A	N/A	$3,729	Jul-09
45.	W361361	69KV Duct Crossings/Cap Canal To Dove Valley	$479,529	The Gateway substation is needed to serve the need for electric energy for the North Phoenix area. It is also needed to preserve continuity of service for the loss of the Deadman Wash - New River 69kV transmission line.	N/A	N/A	$1,810	Oct-09
46.	W459346	El Sol Luke Field Network Upgrade	$455,186	APS to install 11,700 feet of ADSS 48 count Fiber and 16,650 feet of AD non-self supporting 48 count fiber starting at El Sol substation to Meridian substation and then from Meridian substation to existing fiber out of Lakefield substation. This job provides communications and relays between all three substations.	This project helps facilitate the interconnection of a Biogas facility.	5.4	$2,291	Sep-09
47.	W265349	Ocotillo to Butte - 69kV Line (EV2)	$441,423	The third Butte - Ocotillo 69kV transmission line is needed to serve the need for electric energy for the area around Arizona State University.	N/A	0.5	$4,999	Apr-09
48.	W421800	Ehrenberg-Spectrum Energy Improvement	$427,050	Construction of a new 3 phase 33kV line from Ehrenberg Substation to accommodate Spectrum Energy for a new pump station.	N/A	0.5	$3,762	Jun-09
49.	W390888	Moenkopi: Upgrade Series Cap Bank C6 From 1750 amps to 2250 amps	$418,785	Series Cap Bank C6 (CBSE179) will be upgraded from 1750 amps /16.5 ohms to 2250 amps / 25.7 ohms to increase the path rating.	N/A	N/A	$1,581	Oct-09
50.	W256684	Valley Farms: 115/69kV Substation	$404,480	At Valley Farms, add 115/69kV and 69kV/12.47kV transformers, add 69kV bus and associated equipment. This work is required to serve the load in the Florence area.	N/A	N/A	$4,072	May-09
51.	W470522	M-107-6 Storm Damage	$385,762	Replaced 20 - 69kV poles on the Saddle Mountain - Harquahala 69kV line due to storm damage. Also replaced 28 poles that were 12kV underbuild.	N/A	N/A	$2,913	Jul-09
52.	W393447	Refurb T577 - Replace bushings	$377,038	Refurbish T577; 230/115kV transformer at Santa Rosa. Regasket, rebuild pumps, replace all bushings. Full drain required. Available as spare.	N/A	N/A	$474	Dec-09
53.	W366718	Install T201 relay control panel and relays	$363,048	Install T201 relay control panel and relays.	N/A	N/A	$1,827	Sep-09

54.	W464962	Chuska Mntns Relocate 44/2, 345-1	$346,891	The foundations at Tower # 44/2 on the east 345kV circuit have shifted causing the tower steel to bend & buckle. Continued movement of the foundations would eventually result in a tower collapse. This tower is located at 8,800 ft elevation in the Chuska Mountains of northwestern New Mexico and is part of the Four Corners to Cholla transmission system. Repairs at this site included: Site work and access road improvement, geotechnical analysis and foundation design, installation of reinforced foundations, fabrication of new tower steel, erection of longer leg extensions, transfer of the tower body to the new leg extensions.	N/A	N/A	$1,310	Oct-09
55.	W470014	M111-4: Strom Replace (20) 69KV POLE	$329,311	Replaced 20 - 69kV poles with 12kV underbuild on the Butterfield Tap - Gila Bend 69kV line due to storm damage.	N/A	N/A	$2,072	Aug-09
56.	W390036	City of Yuma; 16 St Widening	$326,727	This job will relocate the 517' of A795V 69kV wire and 1936' of R002W 12kV. This is the first of phase of two. The City of Yuma is widening County 16th Street (US 95). Construction is to be from Yuma Palms Parkway to Arizona Ave.	N/A	0.5	$3,289	May-09
57.	W430551	Zeniff Sub-Drops	$322,558	This project will result in increased reliability and continuity of service to the Cholla - Showlow system for loss of either the Cholla - Zeniff or Cholla - Showlow 69kV lines.	N/A	N/A	$2,435	Jul-09
58.	W322898	Transmission Substations: Transformer Fire Containment Basins	$313,884	This project is to account for the labor & material to construct fire containment basins around transformers that were installed in 2005 & 2006. This work will occur in various sub-transmission substations. Cactus, Coconino, Deer Valley, and Surprise substations were included in this work order.	N/A	N/A	$395	Dec-09
59.	W361935	81 Ave & Beardsley	$313,154	Relocation of two 69kV transmission line poles that are in conflict with the new City of Glendale/Peoria/ADOT road improvement project.	N/A	N/A	$394	Dec-09
60.	W391507	Climbing Inspection & pole replacement capital 2008 M-105	$297,369	This job will replace 20 poles on M105 line due to poor condition. The job will also remove two distribution poles to abandoned well bank.	N/A	N/A	$4,490	Jan-09
61.	W378473	T359 Type U Bushing Replacement	$265,511	This project replaced a T359 type U bushing.	N/A	N/A	$1,002	Oct-09
62.	W352810	56th St & Dove Valley 69 Relocate	$254,971	Relocated Cave Creek - Dixileta 69kV line with 12kV underbuild at 56th St & Dove Valley Rd due to conflict with customer project.	N/A	N/A	$3,850	Jan-09
63.	Total projects placed in-service in 2009 exceeding $250,000		$133,622,990				$803,404	
64.	All additional projects		$10,273,069				$78,075	
65.	Total additions		$143,896,059				$881,480	

[redacted]

1.	W360330	North Valley: 500kV TS9 - Raceway Build Line	$53,278,275	The project is needed to increase the import capability to the Phoenix Metro area and the export/scheduling capability from the Palo Verde area to provide access to both solar and gas resources. The project also strengthens the transmission system on the east side of the Phoenix Metro valley.	Helps schedule renewables to Phx Valley by increasing the scheduling capability from PV Hub and Navajo system.	1	$402,251	Jul-10
2.	W473934	Pinnacle Peak 500Kv Build New Substation -- *500Kv Portion of Yard*	$25,014,876	This is part of the TS9-Pinnacle Peak 500kV project. The overall project is needed to increase the import capability to the Phoenix Metro area and the export/scheduling capability from the Palo Verde area to provide access to both solar and gas resources. The project also strengthens the transmission system on the east side of the Phoenix Metro valley. This project includes (3) 500/230kV transformers, (4) 500kV 3000A, 63kA breakers, (14) 500kV, 3000A switches, (5) 500kV CCVTs, (9) 230kV CCVTs, (18) arrestors, insulators, buswork, connectors, misc. hardware, crane rentals, and steel structures.	Helps schedule renewables to Phx Valley by increasing the scheduling capability from PV Hub and Navajo system.	N/A	$31,477	Dec-10
3.	W360337	North Valley: Pinnacle Peak 500kV Build New Switchyard	$14,953,539	This is part of the TS9-Pinnacle Peak 500kV project. The overall project is needed to increase the import capability to the Phx Metro area and the export/scheduling capability from the Palo Verde area to provide access to both solar and gas resources. The project also strengthens the transmission system on the east side of the Phx Metro valley. This project includes the work for the Common Area at the Pinnacle Peak Substation. The Common Area includes the plant salvage, engineering, grading & drainage, dry well, SWPPP, below grade, control panels, communications, and control house.	Helps schedule renewables to Phx Valley by increasing the scheduling capability from PV Hub and Navajo system.	N/A	$18,817	Dec-10
4.	W473937	Morgan 500/230Kv Build New Substation - 500Kv Portion of Yard	$13,897,760	*This is part of the Morgan-Pinnacle Peak 500kV project.* The overall project is needed to increase the import capability to the Phoenix Metro area and the export/scheduling capability from the Palo Verde area to provide access to both solar and gas resources.	Helps schedule renewables to Phx Valley by increasing the scheduling capability from PV Hub and Navajo system.	N/A	$122,416	Jun-10
5.	W362354	TS9 - 500KV Substation	$10,900,000	This is part of the Morgan-Pinnacle Peak 500kV project. The overall project is needed to increase the import capability to the Phoenix Metro area and the export/scheduling capability from the Palo Verde area to provide access to both solar and gas resources.	Helps schedule renewables to Phx Valley by increasing the scheduling capability from PV Hub and Navajo system.	N/A	$96,011	Jun-10

6.	W360335	North Valley: TS9 500/230kV Build New Substation	$7,762,334	This is part of the Morgan-Pinnacle Peak 500kV project. The overall project is needed to increase the import capability to the Phoenix Metro area and the export/scheduling capability from the Palo Verde area to provide access to both solar and gas resources.	Helps schedule renewables to Phx Valley by increasing the scheduling capability from PV Hub and Navajo system.	N/A	$68,373	Jun-10
7.	W394743	Bagdad 115kV Relocate, Construct New 115-6 Line	$7,334,000	Freeport McMoRan Inc. (FMI) has future plans to expand the mine in the location of the existing 115kV transmission line. They have requested that APS move the line in a southerly direction beyond the limits of the planned expansion.	N/A	5.5	$9,229	Dec-10
8.	W327449	Palo Verde Switchyard ; Replace Seven SFA 500kv Breakers - Arizona Nuclear Power Project (ANPP)	$5,768,000	Replace seven SFA 500kV breakers at Palo Verde.	N/A	N/A	$7,258	Dec-10
9.	W458211	Cholla: Replace Series Cap Bank C15	$4,794,818	Replace series capacitor bank C15 (located at the Cholla end of the Cholla-Saguaro 500kV line). The bank is obsolete and requires high cost, frequent maintenance, and is unreliable. Based on its condition, age, and reliability the capacitor bank requires replacement. The bank's rating will be upgraded to meet system needs.	N/A	N/A	$6,033	Dec-10
10.	W481042	TS-6 Substation Purchase	$4,500,000	Purchase a 22 acre substation site to be served from the Morgan to Pinnacle Peak 230kV line and will provide for future growth in the north Metro Phoenix area.	N/A	N/A	$22,650	Sep-10
11.	W308852	North Black Canyon Corridor/Underground 69KV	$4,287,064	The Gateway substation is needed to serve the need for electric energy for the North Phoenix area. It is also needed to preserve continuity of service for the loss of the Deadman Wash - New River 69kV transmission line.	N/A	1.8	$32,367	Jul-10
12.	W360340	North Valley: Pinnacle Peak Upgrade 230kV Breakers	$3,161,680	This project is part of the North Valley 230kV project which is needed to serve the need for electric energy in the area immediately north of the Phoenix Metro area and the northern portions of the Phx Metro area. Additionally, improved reliability and continuity of service will result for the growing communities in the area; such as Anthem, Desert Hills, New River, and north Phoenix.	Helps deliver renewable resources to local load	N/A	$3,978	Dec-10
13.	W308848	North Black Canyon Corridor/Underground 69KV	$3,159,928	The Gateway substation is needed to serve the need for electric energy for the North Phoenix area. It is also needed to preserve continuity of service for the loss of the Deadman Wash - New River 69kV transmission line.	N/A	1.3	$23,857	Jul-10
14.	W461116	Moenkopi: CBI 10-02 NSTS 500KV Reactor Replacement (SR76)	$2,982,000	Replace the existing 3-phase 57 MVAR reactor (SR76) due to end of life with a 3-phase switchable 170 MVAR reactor. The existing reactor will be kept as a spare at Moenkopi.	N/A	N/A	$3,752	Dec-10

15.	W360339	North Valley: Raceway 230kV - Add New 230kV Bay	$2,828,329	This project is part of the North Valley 230kV project which is needed to serve the need for electric energy in the area immediately north of the Phx Metro area and the northern portions of the Phx Metro area. Additionally, improved reliability and continuity of service will result for the growing communities in the area; such as Anthem, Desert Hills, New River, and north Phoenix.	Helps deliver renewable resources to local load	N/A	$24,913	Jun-10
16.	W359356	Winslow to Cholla Phase 2	$2,518,302	This Project is needed to provide the electrical support to the sub-transmission system to serve the need for electric energy in the Winslow area. The project will improve the continuity of service for the growing communities in the area for loss of Cholla - Leupp 230kV line.	N/A	3.3	$3,169	Dec-10
17.	W270030	North Gila - Kinder Morgan Reconductor	$2,464,311	This project is needed to provide electrical support to the sub-transmission system to serve the need for electric energy in the Yuma area and increase continuity of service in the area for loss of N. Gila - Foothills 69kV line.	N/A	6.5	$21,706	Jun-10
18.	W426210	Coconino - Kachina 69kv	$2,443,042	This Project is needed to provide the electrical support to the sub-transmission system to serve the need for electric energy in the Flagstaff area. The project will improve the continuity of service for the growing communities in the area for loss of Verde - Oak Creek 69kV line.	N/A	4.7	$3,074	Dec-10
19.	W361817	Raceway to Pyramid Peak	$2,321,991	The Pyramid Peak - Raceway 69kV transmission line is needed to preserve continuity of service for the loss of either of the Happy Valley - Westwing 69kV or Adobe - Deer Valley 69kV transmission lines.	N/A	7	$20,453	Jun-10
20.	W300496	TS2 230/69kV Substation Land Purchase	$2,178,000	The TS2 substation is needed to serve the growing need for electric energy for the Southwest Valley. It is also needed to preserve the continuity of service for the loss of a transformer at either the Westwing, El Sol or Palm Valley substations.	N/A	N/A	$19,185	Jun-10
21.	W341466	Siting for the 230kV Infrastructure for West of the White Tank Mountains	$1,760,000	This project is needed to serve the need for electric energy in the largely undeveloped areas west of the White Tank Mountains. This project will provide the first portions of the transmission infrastructure in this largely undeveloped area and provides a transmission connection between the northern and southern transmission sources that will serve the area. Improved reliability and continuity of service will result for this portion of Maricopa County.	Helps deliver renewable resources to local load	N/A		Dec-10
22.	W467476	Sundance 230/69kV OH Extension; Procure & Construct For ED2	$1,688,329	This portion of the Sundance-Pinal Central 230kV project is being done to provide the other project participant, ED2, with a 230/69kV connection they need to serve their load.	N/A	N/A	$14,871	Jun-10

23.	W414507	Milligan to Arica 69kV &12kV 2.5 Miles P4	$1,532,998	APS to install approximately 2.5 miles of 69kV line with double circuit underbuild 12kV from Milligan sub up to Tryon St. The purpose of this project is to build a new 69kV line from Milligan to Arica substation to serve the prison load in the city of Eloy.	N/A	2.5	$1,929	Dec-10
24.	W371913	Sundance to Pinal South	$1,400,000	Approximately 6 miles of land acquisition through private and state lands for the 230kV transmission line from Sundance Generating Station to the Pinal Central substation.	Helps the development of renewable resources in Pinal county by strengthening the transmission system in the area.	6	$1,762	Dec-10
25.	W413524	Wickenburg Ranches	$1,371,740	APS to install approximately 3.5 miles of double circuit 69kV (795AA) with a 96 count OPGW fiber line (F656C) from the existing White Spar to Wickenburg 69kV Line up to the new Flores substation.	N/A	3.5	$13,809	May-10
26.	W414504	Extend 69/12 on La Plama & Battaglia	$1,328,785	APS to install Approximately 2.9 miles of 69kV with single circuit underbuild 12kV from Tryon & Battaglia up to La Palma & Shedd Rd in Eloy. The purpose of this project is to build a new 69kV line from Milligan to Arica substation to serve the prison load in the city of Eloy.	N/A	2.9	$1,672	Dec-10
27.	W406714	Navajo: CBI 09-01R (NSTS) Replace (2) 500Kv Live Tank Breakers	$1,120,500	Replace two 25+ year old pressure live tank breakers which are obsolete, require high maintenance, and are expensive to overhaul. The pneumatic mechanisms, mechanical linkages and interrupters are complex, difficult to understand, troublesome and would now require a vendor presence to overhaul.	N/A	N/A	$12,690	Apr-10
28.	W422493	SW8 To Ivalon	$1,115,097	This project is needed to provide electrical support to the sub-transmission system to serve the need for electric energy in the Yuma area and increase continuity of service in the area for loss of N. Gila - Foothills 69kV line.	N/A	3.5	$1,403	Dec-10
29.	W453389	Pinnacle Peak: Fire Suppression Programme - New Pinnacle Peak Sub	$1,085,200	This is part of the Morgan-Pinnacle Peak 500kV project. This project is to install fire suppression at the new Pinnacle Peak 500/230kV facilities. This includes installing piping, operating system, and nozzles.	N/A	N/A	$1,366	Dec-10
30.	W457409	Saguaro: Add (2) New 34.5Kv 50Mva Shunt Reactor Banks	$1,004,000	This project will install two new shunt reactors, which are required for voltage suppression.	N/A	N/A	$11,370	Apr-10

31.	W360331	North Valley: TS9 230kV Substation Overhead Line Drops	$940,100	This project is part of the North Valley 230kV project which is needed *to serve the need for electric energy in the area immediately north of* the Phx Metro area and the northern portions of the Phoenix Metro area. Additionally, improved reliability and continuity of service will result for the growing communities in the area; such as Anthem, Desert Hills, New River, and north Phoenix.	*Helps deliver* renewable resources to local load	N/A	$9,464		May-10
32.	W320123	Bella Terra/69KV Overhead-Underground Conversion	$897,571	Provide an approximate 1850 feet of over-head to underground conversion of the Oak Creek to Oak Creek Tap 69kV over-head line so that the developer, BySynergy LLC, is able to construct the Bella Terra on Oak Creek subdivision located at Highway 89A and south along Red Rock Loop Road in Sedona.	N/A	0.4	$10,165		Apr-10
33.	W305333	East Holbrook Phase 3	$879,756	This project is needed to provide the electrical source and support to the distribution system to serve the electrical needs in the Holbrook area.	N/A	3.5	$1,107		Dec-10
34.	W333674	Climbing Inspection 2007 Capital 230-8	$850,081	Reliability	N/A	N/A	$7,488		Jun-10
35.	W464630	Prescott City to White Spar Sub 69kV Rebuild Phase 2	$775,907	Rebuild 1.2 miles of 69kV Single Circuit to Double Circuit. A second source into White Spar is needed to prevent Power interruption for loss of the Prescott City - White Spar 69kV line.	N/A	1.2	$976		Dec-10
36.	W441712	Cholla: Replace 345kV CH1032 (B1213) Breaker & Associated CT'S (CH3)	$750,000	This breaker is scheduled to be replaced on the SFA Breaker Replacement Schedule.	N/A	N/A	$944		Dec-10
37.	W436668	Four Corners 5: Replace (2) 500kV	$736,035	This project is to replace the SCE reactors at Four Corners per the SCE Reactor Replacement Schedule.	N/A	N/A	$11,114	Jan-10	
38.	W411636	Biscuit Flat to Adobe Relocate Overhead 69KV	$729,419	Relocation of 1 mile of the Adobe - Biscuit Flat 69kV transmission line to move it out of the way of the future APS 500kV transmission line.	N/A	1	$10,096	Feb-10	
39.	W394163	Climbing Inspection Capital 2008 230-1	$715,223	The line was found to have insufficient ground clearance. The conductors were re-sagged and brought up to the correct Ruling Span tension.	N/A	N/A	$6,300		Jun-10
40.	W461743	Sale of Land at Pinnacle Peak Sub to SRP	$685,252	This is for the development of the Morgan-Pinnacle Peak 500kV project. Specifically this project will help with the development of the Pinnacle Peak 500kV substation.	The Morgan-Pinnacle Peak project helps schedule renewables to Phoenix Valley by increasing the scheduling capability from PV Hub and Navajo system.	N/A	$7,760		Apr-10

41.	W473935	Pinnacle Peak 500kV Build New Substation – 230 Kv Portion of Yard	$651,073	This project is part of the Morgan-Pinnacle Peak Project for the 230kV portion of the yard. This includes (12) 230kV, 3000A,, 63kA breakers, (1) 345kV, 3000A switch, (24) 230kV, 3000A switches, (17) 230kV CCVTs, insulators, buswork, connectors, misc. hardware, crane rentals, and steel structures for materials to construction yard. Labor for above grade electrical installations, APS inspectors and project management.	The Morgan-Pinnacle Peak project helps schedule renewables to Phoenix Valley by increasing the scheduling capability from PV Hub and Navajo system.	N/A	$819		Dec-10
42.	W470790	Morgan Sub 69KV Relocate Phase 2	$619,079	Relocate the existing Humbug to Raceway 69kV line around the new Morgan sub. This work is necessary to provide room for the new 500/230kV drops into the new Morgan sub. This job requires removing 0.47 miles of 69kV line and installing 0.96 miles of 69kV line.	N/A	0.96	$5,453		Jun-10
43.	W478587	Arica-Milligan Tryon Portion	$595,628	APS to install approximately 1 mile of 69kV line with single circuit underbuild 12kV on Tryon from Alsdorf Rd to Battaglia Rd in Eloy. The purpose of this project is to build a new 69kV line from Milligan to Arica substation to serve the prison load in the city of Eloy.	N/A	1	$5,246		Jun-10
44.	W463074	Automated Train 44th St 69kv Overhead Relocation	$570,810	This project is to remove overhead 69kV, with 12kV underbuild & fiber, located at 40th St and Madison St. This overhead 69kV line is in conflict with the new automated train terminal into Sky Harbor Airport.	N/A	0.5	$8,619	Jan-10	
45.	W407451	*Dugas Substation Communication* Support - Microwave & Fiber	$565,832	This project is needed to establish system communications to Dugas 500/69kV substation required to provide the electrical source and support to the sub-transmission system to serve the electrical needs in the Verde Valley and Prescott areas. Also, the project will result in increased reliability and continuity of service for the Verde Valley and Prescott areas for loss of Verde - Cottonwood 69kV line.	N/A	N/A	$5,696		May-10
46.	W422505	Cholla-Pinnacle Peak 345kV Reconductor, Mogollon Rim	$542,389	Reconductor a one mile portion of the CH-PP 345kV line on the Mogollon Rim that was rebuilt years ago to single conductor rather than the original bundled design. The single conductor 1272 ACSR limits the current carrying capacity of the line.	Increasing the rating of this path will allow APS the ability to deliver more renewable resources to the Phoenix Valley from the Cholla and Four Corners.	1	$1,365		Nov-10

47.	W397538	Segment 2 Of 69/12KV Line From SE12 To Milligan	$500,000	Purchase approximately 11 acres of Right of Way easements. 2 miles along La Palma Rd. between Shedd Rd. and Battaglia Dr. and 1 mile along Battaglia Dr. between La Palma Rd. and Sunshine Blvd.	N/A	3.3			May-10
48.	W446808	Relocate WW-Waddell Dam 230kV Line Drops at Raceway	$496,000	APS to relocate WAPA's Westwing-Raceway 230kV turning structure and line drops at Raceway substation. This is needed to make room for the APS 230kV line drops at Raceway from the Morgan-Pinnacle Peak 500/230kV line. This project is part of the North Valley 230kV project, which is needed to serve the need for electric energy in the area immediately north of the Phx Metro area and the northern portions of the Phx Metro area. Additionally, improved reliability and continuity of service will result for the growing communities in the area; such as Anthem, Desert Hills, New River, and north Phoenix.	Helps deliver renewable resources to local load	N/A	$4,993		May-10
49.	W358717	Sherman Street Substation to Lincoln Street Substation 69kV Line	$491,000	The Lincoln Street - Sherman Street 69kV transmission line must be rebuilt to preserve continuity of service for the loss of the Durango - West Phoenix 69kV transmission line.	N/A	1.1	$4,325		Jun-10
50.	W315283	Morgan to Pinnacle Peak 500/230kV Transmission Project CEC	$441,683	This is for the development of the Morgan-Pinnacle Peak 500kV project. Specifically it will help with developing and obtaining the CEC for the project.	The Morgan-Pinnacle Peak project helps schedule renewables to Phx Valley by increasing the scheduling capability from PV Hub and Navajo system.	26	$6,669	Jan-10	
51.	W442761	Orangewood to Mummy Mountain	$437,868	Lincoln Drive & 24th Street: converting existing 3-A795V+ NS to R795X+FOC, in collaboration with SRP (12kV). Also, adding additional 48 count FOC to existing 3-R795X+ FOC. The line is located inside the 24th Street water treatment plant.	N/A	0.5	$6,612	Jan-10	
52.	W461668	Clarkdale Substation Purchase	$400,000	This project is needed to provide the electrical source and support to the distribution system to serve the electrical needs in Clarkdale.	N/A	N/A	$3,020		Jul-10

53.	W473938	Morgan 500/230Kv Build New Substation - 230Kv Portion of Yard	$384,500	This project is part of the North Valley 230kV project which is needed to serve the need for electric energy in the area immediately north of the Phx Metro area and the northern portions of the Phoenix Metro area. Additionally, improved reliability and continuity of service will result for the growing communities in the area; such as Anthem, Desert Hills, New River, and north Phoenix.	Helps deliver renewable resources to local load	N/A	$3,387		Jun-10
54.	W392160	Installing and Upgrading Security/Alarm systems 2008	$362,869	Installing and Upgrading Security/Alarm systems at El Sol substation.	N/A	N/A	$457		Dec-10
55.	W420107	Blue Ridge to Winslow Reinsulate Phase 1	$319,524	This 69kV line is located in a designated high lighting area, this project is needed to better protect the line and increase reliability in the Winslow area.	N/A	12	$402		Dec-10
56.	W375145	North Gila: Upgrade 69kV & 500kV Relaying	$306,584	This project is to complete the relay upgrading project for North Gila substation.	N/A	N/A	$3,086		May-10
57.	W373369	Upgrade Navajo Security system, Install card reader access system, door alarm system, CCTV assessment	$303,087	Upgrade the Navajo Security system, installing a card reader access system, door alarm system, CCTV assessment system, and IP Network infrastructure for the control house.	N/A	N/A	$1,526		Sep-10
58.	W474808	Sanguinetti to 24 St. & 6E	$291,036	Build .5 mile double circuit 69 line from Sanguinetti Sub down 6E to 24 St. This project is needed to provide electrical support to the sub-transmission system to serve the need for electric energy in the Yuma area and increase continuity of service in the area for loss of N. Gila - Foothills 69kV line.	N/A	0.5	$4,028	Feb-10	
59.	W479340	Signal Peak Microwave Upgrade	$272,008	This project will replace manufacturer discontinued microwave radio and antenna hardware at the APS Signal Peak Electronic Station with new state-of-the-art hardware. Besides the obsolete equipment replacements, this project will add new microwave radio equipment to increase the available communications capacity supporting the APS Northeast service area.	N/A	N/A	$2,396		Jun-10
60.	W436440	Oil Leak at H2 & H3 Bushing Turrent	$269,914	The PP #3 transformer has developed oil leaks on the turrets/manholes of bushings H1, H2 & H3. The turret leak had worsened and was visible on the ground. The bushing was changed out due to containing dark oil. Fans were also replaced.	N/A	N/A	$3,736	Feb-10	
61.	W493959	SW-2-1 Storm Trouble	$261,515	This job replaced fifteen poles on SW2-1 (Eagle Eye-Salome 69kV line), due to storm damage.	N/A	N/A	$3,620	Feb-10	

62.	W473628	WW CBI 09-11 Circuit Breaker 230kV Install 1 - WW1624J replace with B4239 I.P.O. 3000A 63KA.	$255,000	Reactor circuit switcher WW1624J failed during operation due to over duty. It will be replaced with a new circuit breaker made for reactor switching.	N/A	N/A	$2,888	Apr-10
63.	Total estimated projects placed in-service in 2010 exceeding $250,000		$207,251,642				$1,145,600	
64.	All additional projects		$9,836,723				$74,759	
65.	Total additions		$217,088,365				$1,220,359	

1.	W359507	Copper Cyn - Dugas	$1,951,692	A new 69kV line from Copper Cyn to Dugas is needed to prevent power interruption during an outage of the Cottonwood - Verde 69kV line.	N/A	19	$17,191	Jun-11
2.	W284027	Desert Ridge SB1	$1,096,356	Relocation of existing Pinnacle Peak - Boulevard/Desert Ridge double circuit 69kV transmission line for a new commercial development.	N/A	N/A	$9,657	Jun-11
3.	W427281	McVay Tap Phase: 2	$1,031,153	This Project is needed to provide the electrical support to the sub-transmission system to serve the need for electric energy in the La Paz area. The project will improve the continuity of service for the growing communities in the area for loss of Eagle Eye - Salome 69V line.	N/A	5	$1,298	Dec-11
4.	W421823	Dugas-Raceway 500kV Line: Install OPGW (Optical Ground Wire) (45 miles)	$650,016	Install 45 miles of 96 count Optical Ground Wire (OPGW) on existing 500kV towers between Dugas and Morgan Substations. This OPGW will replace the east 7-#8 AW static wire on the east circuit of the parallel 500kV lines. The addition of this cable will complete a fiber link from Metro Phoenix north into Central Arizona. Also, this installation will provide the second fiber communication path to the recently completed Dugas Substation.	N/A	45	$818	Dec-11
5.	W359498	Granite Reef Substation Ug 69KV Feeder Lines - In & Out	$578,552	The Granite Reef substation is needed to serve the growing need for electric energy for the Northeast Valley area.	N/A	0.5	$5,096	Jun-11
6.	W466651	TS-12 230/69kV Substation Acquisition	$500,000	Costs to acquire approximately 12 acres of Arizona State Trust Land for a 230/69kV Transmission Substation near Red Rock, Pinal County.	N/A	N/A	$4,404	Jun-11
7.	W353149	Navajo: Replace CCVTs CC121/122/123/130/131/187/188/189/270/271/272/273 CBI 08-03 (NSTS)	$450,417	CCVTs CC121/122/123/130/131/187/188/189 are 36 years old Westinghouse PCMs and are at the end of life. Analysis has determined a characteristic age of approximately 22 years. CCVTs 270/271/273 are 26 year old GE CD51s and are nearing end of life and are teamed with CCVTs 130 and 131. All these CCVTs serve the Navajo East and West Bus and Unit 1, Unit 2, and Unit 3 metering applications.	N/A	N/A	$5,668	Mar-11
8.	W437451	Ocotillo-Kyrene 230kV Relocation @ I-10 (ADOT)	$400,000	APS to relocate 230kV N-S aerial crossing of I-10, west of SR143 for an ADOT road widening project of I-10.	N/A	N/A	$503	Dec-11

Arizona Public Service Company
2011 Transmission Estimated Addition Dollars and O&M

9.	W372513	Rebuild between Wickenburg Substation and White Spar Substation	$400,000	This line is over 60 years old and deteriorating. The rebuild is needed for reliability to the area.	N/A	45	$3,523	Jun-11
10.	Total estimated projects placed in-service in 2011 exceeding $250,000		$7,058,185				$48,158	
11.	All additional projects		$1,335,915				$10,153	
12.	Total additions		$8,394,100				$58,311	

Attachment E

ARIZONA PUBLIC SERVICE COMPANY
Estimated Monthly Bill Impacts of Proposed TCA-1

Residential (Average - All Rates)	Current Annual Average Monthly Bill (1)	Proposed Annual Average Monthly Bill (1,2)	Current Summer Monthly Bill	Proposed Summer Monthly Bill	Current Winter Monthly Bill	Proposed Winter Monthly Bill
Average kWh per Month	1,177	1,177	1,417	1,417	936	936
Base Rates	$ 131.67	$ 131.67	$ 170.43	$ 170.43	$ 92.90	$ 92.90
PSA- Forward Component	(2.14)	(2.14)	(2.57)	(2.57)	(1.70)	(1.70)
PSA - Historical Component	(3.15)	(3.15)	(3.79)	(3.79)	(2.50)	(2.50)
TCA	2.66	2.53	3.20	3.04	2.11	2.01
CRCC	0.40	0.40	0.48	0.48	0.32	0.32
EIS	0.19	0.19	0.23	0.23	0.15	0.15
RES	3.46	3.46	3.46	3.46	3.46	3.46
DSMAC	1.94	1.94	2.33	2.33	1.54	1.54
Total	$ 135.03	$ 134.90	$ 173.77	$ 173.61	$ 96.28	$ 96.18
Bill Impact		**$ (0.13)**		$ (0.16)		$ (0.10)
Percent Bill Impact		**-0.10%**				

Residential (Rate E-12)	Annual Average Monthly Bill (1)	Annual Average Monthly Bill (1,2)	Summer Monthly Bill	Summer Monthly Bill	Winter Monthly Bill	Winter Monthly Bill
Average kWh per Month	763	763	880	880	645	645
Base Rates	$ 92.19	$ 92.19	$ 115.21	$ 115.21	$ 69.16	$ 69.16
PSA- Forward Component	(1.39)	(1.39)	(1.60)	(1.60)	(1.17)	(1.17)
PSA - Historical Component	(2.04)	(2.04)	(2.35)	(2.35)	(1.72)	(1.72)
TCA	1.73	1.64	1.99	1.89	1.46	1.38
CRCC	0.26	0.26	0.30	0.30	0.22	0.22
EIS	0.12	0.12	0.14	0.14	0.10	0.10
RES	3.46	3.46	3.46	3.46	3.46	3.46
DSMAC	1.26	1.26	1.45	1.45	1.06	1.06
Total	$ 95.59	$ 95.50	$ 118.60	$ 118.50	$ 72.57	$ 72.49
Bill Impact		**$ (0.09)**		$ (0.10)		$ (0.08)
Percent Bill Impact		**-0.09%**				

Commercial (Rate E-32, 0-20 kW)	Annual Average Monthly Bill (1)	Annual Average Monthly Bill (1,2)	Summer Monthly Bill	Summer Monthly Bill	Winter Monthly Bill	Winter Monthly Bill
Average kWh per Month	1,357	1,357	1,445	1,445	1,269	1,269
Base Rates	$ 189.17	$ 189.17	$ 210.66	$ 210.66	$ 167.68	$ 167.68
PSA- Forward Component	(2.47)	(2.47)	(2.62)	(2.62)	(2.31)	(2.31)
PSA - Historical Component	(3.63)	(3.63)	(3.86)	(3.86)	(3.39)	(3.39)
TCA	2.57	2.18	2.73	2.32	2.40	2.03
CRCC	0.46	0.46	0.49	0.49	0.43	0.43
EIS	0.22	0.22	0.23	0.23	0.20	0.20
RES	11.76	11.76	12.52	12.52	11.00	11.00
DSMAC	2.24	2.24	2.38	2.38	2.09	2.09
Total	$ 200.32	$ 199.93	$ 222.53	$ 222.12	$ 178.10	$ 177.73
Bill Impact		**$ (0.39)**		$ (0.41)		$ (0.37)
Percent Bill Impact		**-0.19%**				

Notes:
(1) Bill excludes regulatory assessment charge, taxes and fees. Adjustor levels and interim base rate surcharge in effect as of May 1, 2010.
(2) Bill includes impact of proposed revised charges in Adjustment Schedule TCA-1.

ARIZONA PUBLIC SERVICE COMPANY
Estimated Monthly Bill Impacts of Proposed TCA-1

Commercial (Rate E-32, > 20 kW)	Current Annual Average Monthly Bill (1)	Proposed Annual Average Monthly Bill (1,2)	Current Summer Monthly Bill	Proposed Summer Monthly Bill	Current Winter Monthly Bill	Proposed Winter Monthly Bill
Average kWh per Month	72,100	72,100	79,410	79,410	64,789	64,789
Base Rates	$ 6,863.50	$ 6,863.50	$ 8,121.00	$ 8,121.00	$ 5,606.00	$ 5,606.00
PSA- Forward Component	(130.94)	(130.94)	(144.21)	(144.21)	(117.66)	(117.66)
PSA - Historical Component	(192.80)	(192.80)	(212.34)	(212.34)	(173.25)	(173.25)
TCA	217.38	178.34	231.81	190.18	202.95	166.50
CRCC	24.37	24.37	26.84	26.84	21.90	21.90
EIS	11.54	11.54	12.71	12.71	10.37	10.37
RES	128.70	128.70	128.70	128.70	128.70	128.70
DSMAC	173.54	173.54	185.06	185.06	162.02	162.02
Total	$ 7,095.29	$ 7,056.25	$ 8,349.57	$ 8,307.94	$ 5,841.03	$ 5,804.58
Bill Impact		**$ (39.04)**		$ (41.63)		$ (36.45)
Percent Bill Impact		**-0.55%**				

Industrial (Rate E34/35)	Annual Average Monthly Bill (1)	Annual Average Monthly Bill (1,2)	Summer Monthly Bill	Summer Monthly Bill	Winter Monthly Bill	Winter Monthly Bill
Average kWh per Month	4,008,132	4,008,132	4,083,098	4,083,098	3,933,165	3,933,165
Base Rates	$ 278,565.00	$ 278,565.00	$ 283,775.00	$ 283,775.00	$ 273,355.00	$ 273,355.00
PSA- Forward Component	(7,278.77)	(7,278.77)	(7,414.91)	(7,414.91)	(7,142.63)	(7,142.63)
PSA - Historical Component	(10,717.74)	(10,717.74)	(10,918.20)	(10,918.20)	(10,517.28)	(10,517.28)
TCA	1,733.97	1,995.99	1,766.48	2,033.41	1,701.45	1,958.56
CRCC	1,354.75	1,354.75	1,380.09	1,380.09	1,329.41	1,329.41
EIS	641.31	641.31	653.30	653.30	629.31	629.31
RES	386.10	386.10	386.10	386.10	386.10	386.10
DSMAC	5,549.32	5,549.32	5,653.37	5,653.37	5,445.27	5,445.27
Total	$ 270,233.94	$ 270,495.96	$ 275,281.23	$ 275,548.16	$ 265,186.63	$ 265,443.74
Bill Impact		**$ 262.02**		$ 266.93		$ 257.11
Percent Bill Impact		**0.10%**				

Notes:
(1) Bill excludes regulatory assessment charge, taxes and fees. Adjustor levels and interim base rate surcharge in effect as of May 1, 2010.
(2) Bill includes impact of proposed revised charges in Adjustment Schedule TCA-1.