

ORIGINAL



0000081376

RECEIVED

SDTP

**SALT RIVER PROJECT**

P. O. Box 52025  
Phoenix, AZ 85072-2025  
(602) 236-5262  
Fax (602) 236-3458  
kjbar@srpnet.com

2008 JAN 31 P 3:36

AZ CORPORATION COMMISSION  
DOCKET CONTROL

**KELLY J. BARR, ESQ.**

Manager, Regulatory Affairs & Contracts

January 31, 2008

Mr. Ernest Johnson  
Director, Utilities Division  
Arizona Corporation Commission  
1200 W. Washington Street  
Phoenix, AZ 85007

Arizona Corporation Commission

**DOCKETED**

JAN 31 2008

|             |           |
|-------------|-----------|
| DOCKETED BY | <i>KB</i> |
|-------------|-----------|

Re: Ten-Year Plan, Docket No. E-00000D-07-0376

Dear Mr. Johnson:

Enclosed are an original and thirteen (13) copies of The Salt River Project's 2008-2017 Ten-Year Plan filed pursuant to A.R.S. Section §40-360-02.

Please contact Mr. Robert Kondziolka, Manager, Transmission Planning Department at (602) 236-0971 if you have any questions concerning this plan.

Sincerely,

Kelly J. Barr

KJB/jkb

Enclosures (14)

SALT RIVER PROJECT  
10 YEAR PLAN  
2008 — 2017



SALT RIVER PROJECT

TEN-YEAR PLAN

2008 - 2017

Prepared for the

Arizona Corporation Commission

January 2008

SALT RIVER PROJECT  
OVERALL TRANSMISSION REVIEW  
2008 - 2017

This report updates and replaces the ten-year transmission plan of the Salt River Project Agricultural Improvement and Power District (SRP), submitted January 2007 pursuant to A.R.S. Section 40-360.02. The following general review is intended to complement and clarify the individual tabular pages included herein.

Any future facilities which might have appeared in previous ten-year plans, but which are not shown in this plan, are either completed or are no longer scheduled in the period covered.

**REGIONAL PLANNING FORUMS**

SRP is actively involved in numerous regional planning organizations, providing technical support and leadership. SRP's primary goal in its involvement in these regional planning entities is to provide a reliable and economical transmission system connected to available energy sources to provide reliable power at reasonable prices to our customers.

The regional planning organizations operate in public forums, perform study work cooperatively, and develop plans in a collaborative fashion while disseminating study results to a broad spectrum of interested and affected parties. Load growth and generation dispatch dynamics continue to be the most challenging issues facing SRP, the state of Arizona, and the southwest with respect to meeting electric system reliability. The regional planning organizations are addressing these challenges and SRP relies on the results generated through these organizations to develop and submit its ten-year plan.

Some of the regional planning organizations in which SRP participates are the Western Electricity Coordinating Council (WECC), specifically the Planning Coordination Committee (PCC) and the Transmission Expansion Planning Policy Committee (TEPPC). SRP also participates in the transmission planning activities of WestConnect. WestConnect is composed of 13 utility companies with transmission assets in 8 different states in the western United States that collaboratively assess stakeholder needs and develop cost-effective transmission enhancements. WestConnect is committed to coordinating its work with other regional industry efforts to achieve as much consistency as possible in the Western Interconnection. The WestConnect Planning Committee completed and approved its first annual Ten Year Transmission Plan in January 2008. SRP's transmission plans are included as part of the WestConnect Ten Year Transmission Plan. The Southwest Area Transmission Planning Group (SWAT), with its technical study work groups Central Arizona Transmission System (CATS) and CATS – Extra High Voltage (EHV), sends its report to WestConnect for dissemination of study results and other reporting responsibilities.

#### **CATS-HV PINAL COUNTY TRANSMISSION STUDY**

The CATS-HV group completed a study in 2007 that looked at the 10 Year transmission needs in the Pinal County area. The study identified transmission needs based on importing incrementally required resources from outside of the study area. The group plans to prepare a companion study in 2008 based on development of incrementally required resources within the study area. SRP continues to participate in this group because a large portion of the county is in SRP's service territory. SRP is also studying new resource options within Pinal County, some of which may require additional transmission infrastructure to be built.

## **CATS-EHV TRANSMISSION STUDIES**

The CATS-EHV group completed study work in 2007 that provided assessments of the extra high voltage system to ensure the proposed 10 year plans meet the collective needs of the state of Arizona. SRP continues to participate in this group since all of SRP's current and proposed 500kV transmission is included in these studies.

## **500kV TRANSMISSION**

The SRP 500kV transmission system is shown on Attachment A. This system provides major support to SRP's local transmission network and generally delivers bulk power from remote generation to the Valley.

### **Hassayampa - Pinal West**

In May 2004, SRP, acting as project manager (for SRP, Arizona Public Service<sup>1</sup>, Tucson Electric Power Company, Southwest Transmission Cooperative, Electric District 2, Electric District 3, and Electric District 4 of Pinal County), received a CEC (Case No. 124) for two parallel single circuit 500kV transmission lines from the Palo Verde hub (Hassayampa Switchyard) to a new Pinal West Substation in the Maricopa/Stanfield area. Determination of the centerline within the approved corridor for both of the lines is complete. The first line to Pinal West is currently under construction and is planned to be complete in 2008. The second line is currently beyond the ten-year planning timeframe; the timing of the second line will be dependent on load growth and location of future generation.

### **Pinal West – Southeast Valley/Browning**

In August 2005, SRP received a CEC for this joint participation project (Case No. 126), with an amendment to the CEC approved in November 2005. Project participants include SRP, Tucson

---

<sup>1</sup> Arizona Public Service withdrew from participation in the project on September 15, 2005.

Electric Power Company, Southwest Transmission Cooperative, Electric District 2, Electric District 3, and Electric District 4. This 500kV project begins at the Pinal West Substation and ends at the Browning Substation. SRP was also granted authority to construct an optional 230kV circuit on the 500kV structures between the Santa Rosa and Southeast Valley (SEV) Substations once the appropriate study work has been submitted to the Arizona Corporation Commission (ACC) to support the need for the 230kV circuit. The segment of the line from SEV to the Browning Substation was certificated for a double circuit 500/230kV transmission line and does not require additional study work.

SRP is in the process of designing and acquiring right-of-way for the individual segments that comprise this transmission line project and is constructing the project in segments. The 500kV circuit from Pinal West to Browning is expected to be in service by 2011. The completion dates for the individual substations and the various segments of the 500 and 230kV circuits are discussed below.

#### Pinal West – Pinal South Segment

The Pinal South Substation was sited during the proceedings for the siting of the Pinal West to Browning 500kV line. The station was envisioned as a terminal for 500kV and 230kV transmission lines to bolster the EHV system in Pinal County and provide for delivery of power and energy to the Local Load Serving Entities (LLSE's). In the last year, a number of entities have expressed interest in interconnecting to the 230kV and 500kV yards of this substation. The portion of the line from Thornton Road to Pinal South is planned as a double circuit 500/230kV line (see Desert Basin Power Line Project for details on the 230kV line). The estimated in-service date for the Pinal South Substation and the Pinal West to Pinal South segment of the 500kV line is 2011.

### Pinal South – Browning Segment

The segment from Pinal South to the Browning Substation is planned as a double circuit 500/230kV line and is expected to be in-service in 2011. The segment is being proposed to provide for access to new generating resources that may be developed in the area and that may be available to SRP customers. The SEV 500kV Substation currently has a “To Be Determined” in-service date. The purpose of the SEV Substation is twofold. It will provide interconnections into the EHV system to bring generation resources into the SRP service territory and it will also provide service to native SRP load. Either of these drivers could move the in-service date forward. The proposed SEV Substation will also include a co-location of a proposed 230/69kV substation, referenced as RS22. The RS22 230/69kV Substation’s expected in-service date is 2011.

### Dinosaur – Browning Segment

The 230kV portion of the double circuit 500/230kV transmission line from Dinosaur Substation to the existing Browning Substation in the Southeast Valley was completed in 2007. The poles to accommodate the 500kV circuit were installed in 2007 as part of the 230kV construction. The 500kV component is anticipated to be in-service in 2011.

### **Palo Verde – Sun Valley (TS5), Sun Valley (TS5) – (TS9)**

SRP is participating in the siting and permitting work for two new 500kV lines. The first line is from the Palo Verde Nuclear Generating Station (or a new switchyard at Arlington Valley Energy facility) to a new 500/230kV station, Sun Valley, to be located on the south side of the Central Arizona Project near the Hassayampa Pump Station (approximately T4N, R4W). APS received a CEC (Case No. 128) for this segment of the project in August 2005. The second line will originate from Sun Valley and terminate at a new 500kV station (TS9) to be sited near the existing Raceway 230kV Substation in northwest Phoenix. The application for a CEC for this line has not been filed yet. APS is the project manager. This project is reflected in two separate detail sheets: Palo Verde

– Sun Valley (TS5) and Sun Valley (TS5) - (TS9). The parties expect that the Palo Verde – Sun Valley line will be in-service in 2010 and the Sun Valley – TS9 line to be completed by 2012.

**(TS9) – Pinnacle Peak**

SRP is also participating in the plan for a new 500kV line from the proposed TS9 Substation (planned to be constructed in the vicinity of the Raceway Substation) to a newly developed 500kV station at the Pinnacle Peak complex. APS is the project manager and received a CEC for this project in February 2007 (Case No. 131). This project reflects a 2010 in-service date.

**Sugarloaf (formerly Second Knoll)**

APS has made a request to interconnect into SRP's Coronado – Cholla 500kV line to provide service to Sugarloaf, a new 69kV distribution substation north of Snowflake, Arizona. The expected completion date for this project is 2009. SRP is showing this in its ten-year plan for informational purposes, as this is an APS project.

**Palo Verde - North Gila**

SRP participated in the siting of a new 500kV line from the Palo Verde Switchyard to the North Gila 500/69kV Substation. This new line will provide SRP with access to geothermal resources in the Imperial Valley area. APS is the project manager, and received a CEC for this project from the ACC in January 2008 (Case 135). The estimated in-service date for this line is 2012.

**230kV TRANSMISSION**

The SRP 230kV transmission system is shown on Attachments B (eastern 230kV system) and C (western 230kV system). SRP's 230kV transmission network is used to transmit power from the bulk power stations on the periphery of the Phoenix metropolitan area to the various load centers

in SRP's service territory. Additional transmission capacity will be required during the next ten years to meet load growth and for system reliability.

**Desert Basin Power Line Project (Desert Basin – Pinal South)**

SRP was awarded a CEC for the construction of this 230kV line in June 2007 in Decision No. 69647 by the ACC. This project consists of two components. The first component is approximately six miles of new 230kV transmission line originating at the Desert Basin Generating Station in Casa Grande and terminating at the junction of Thornton Road and Cornman Road where it will intersect with the already certificated Pinal West – Southeast Valley/Browning 500/230kV Project (Case 126, Decision No. 68093). The second component of the project will utilize the 500/230kV Pinal West – Southeast Valley/Browning route, where SRP will attach the 230kV circuit to the 500kV structures for approximately 15 miles to the Pinal South Substation south of Coolidge. This project is expected to be constructed in conjunction with the Pinal West to Pinal South segment of the SEV Project. The expected in-service date is 2011.

**RS26 (formerly Fountain Hills)**

SRP has identified the need for a 345/69kV, 230/69kV or 115/69kV receiving station in the Fountain Hills area. The projected load in the area will stress the underlying 69kV system to its limits by approximately 2014. Three methods of serving this station are being investigated. One method is to use the 115kV system and to construct a line from either Goldfield or Stewart Mountain into the Fountain Hills area. Another possibility is to construct a 230kV line from Goldfield (along the Salt River) into the Fountain Hills area. The third alternative is to interconnect to the APS Cholla - Pinnacle Peak 345kV line that runs north of the Rio Verde area. The final line routing will be determined through a public and environmental process to support preparation of an application for a CEC. SRP anticipates filing its CEC application in 2009 or 2010.

## **RS17**

SRP has identified the need for the future RS17 230/69kV Receiving Station in the Gilbert/Queen Creek area to support the forecasted customer load growth for the area. However, the need date has moved beyond SRP's ten-year planning window. The station site was established during a previous environmental study for the RS16 (Schrader) transmission line siting process (Case No. 86). Initial service to the RS17 Receiving Station will utilize existing transmission lines constructed in 1998 for the Schrader Project.

## **Dinosaur – RS21**

SRP has also included a potential line from the proposed Dinosaur (RS19) Receiving Station to the proposed RS21 Receiving Station. This project would support the future load growth requirements in the East Valley/north Pinal County portion of SRP's service territory. While the anticipated need for this project is beyond SRP's ten-year planning window, SRP is including this project in the event the project schedule is accelerated.

## **RS17 to RS24 and RS24 to RS22/Southeast Valley (SEV)**

Preliminary study work based on new load projections for the Southeast Valley indicate the need to provide additional transformer capacity to meet residential, commercial, and industrial load requirements. The RS24 Substation, to be located in the Queen Creek area, and the transmission lines connecting the substation to the system will provide the additional necessary capacity. The need for the facilities has been accelerated this year to 2012. SRP anticipates filing its CEC application in 2009.

## **Potential Future Projects**

A key element of SRP's transmission planning function is to utilize existing transmission corridors and open circuit positions on existing transmission structures, where feasible. The following

projects have been included in this plan as informational items that may become firm plans, as system studies look farther into the future. These potential projects include:

- Rogers to Browning
- Silver King to Browning
- Silver King to Browning 230kV/Superior tie
- Westwing to Pinnacle Peak
- Pinnacle Peak to Brandow with a possible loop into Rogers or Thunderstone
- Rogers to Corbell

When system conditions are such that these facilities are needed, more definitive descriptions and schedules will be provided.

SRP is continuing to assess its transmission needs in the northern Pinal County and eastern Maricopa County to accommodate the tremendous growth in that area. On Attachment B, SRP's eastern 230kV system, we show some concepts of a plan to provide for the growth envisioned in the area. These facilities are not described in detail in the narrative of this report but are included in the description sheets because while the need is apparent, the timeframe is beyond that of this plan.

SRP is identifying new requirements for future generation. Logical locations for new generation exist throughout Arizona. The Pinal South – Southeast Valley Project offers an opportunity to build a 230kV line to connect possible future generation to SRP's load service territory. This line was identified as a component of the CATS-HV Pinal County system study. The 230kV line would be attached to the 500kV structures approved in the Pinal West – Southeast Valley/Browning Project, Case 126. This project would require a compliance filing in accordance with Condition 23 of the

CEC for Case 126 (Decision No. 68093) prior to constructing the line. The in-service date for this project is currently projected for 2011.

### **EASTERN MINING AREA TRANSMISSION**

Additional transmission facilities will eventually be required in SRP's Eastern Mining Area (Attachment D). If mining loads increase between Superior and Hayden, a 230kV line from Silver King to New Hayden may be required. Depending on where new load is added, this 230kV line may have an intermediate termination at Knoll Station. The line may be constructed in phases, with the Silver King to Knoll line being constructed first, followed by Knoll to New Hayden line, when required. The existing 115kV line from Kearny to Hayden will be looped into the New Hayden Station. The in-service dates for these lines are contingent upon customer need, but are currently projected beyond this ten-year plan.

Attached as Appendix 1 to this report is a summary of SRP's six-year planning work of this past year to support the need for the work reflected in this plan.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
2008

---

LINE DESIGNATION: Hassayampa - Pinal West

SIZE:

- (a) Voltage 500kV
- (b) Capacity 1500MVA
- (c) Point of Origin Hassayampa Switchyard  
SEC 15, T1S, R6W
- (d) Point of Termination Pinal West Substation  
SEC 18, T5S, R2E
- (e) Length Approximately 51 Miles

ROUTING: South and east of the Hassayampa Switchyard along the existing Palo Verde - Kyrene 500kV line to a point where the gas pipeline splits from the transmission line, then generally along the pipeline (except in the Maricopa County Mobile Planning Area) to the new Pinal West Substation.

PURPOSE: The Central Arizona Transmission System Study identified a number of system additions necessary to accommodate load growth and access to energy sources in the central Arizona area. This project, comprised of two transmission lines, is one of the first segments of a series of transmission lines to serve the central Arizona region.

DATE:

- (a) Right of Way/Property Acquisition: 2004
- (b) Construction to Start: 2007
- (c) Estimated In-Service Date: 2008 (1<sup>st</sup> line)  
To be determined (2nd line)

NOTES:

CEC for Case No. 124 was awarded in May 2004 (ACC Decision # 67012). SRP is lead and project manager for development of this project. Participants include SRP, Tucson Electric Power, Southwest Transmission Cooperative, and Electric Districts 2, 3, and 4.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
2009

---

LINE DESIGNATION: Sugarloaf (APS) Loop-in of Coronado – Cholla 500kV line

SIZE:

- (a) Voltage 500kV
- (b) Capacity 240MVA
- (c) Point of Origin Coronado-Cholla 500kV line  
SEC 9, T14N, R21E
- (d) Point of Termination A new Sugarloaf Substation  
SEC 9, T14N, R21E
- (e) Length Loop-in of existing line immediately adjacent to  
substation

ROUTING: The Sugarloaf Substation will be built adjacent to the existing Coronado – Cholla 500kV line.

PURPOSE: Provide service to residential loads in Show Low and the surrounding area.

DATE:

- (a) Right of Way/Property Acquisition: N/A
- (b) Construction to Start: 2008
- (c) Estimated In-Service Date: 2009

NOTES:

SRP is responding to an interconnection request from APS. This project entails building a new station immediately adjacent to an existing line. APS is the lead and project manager for this project.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
2010

---

LINE DESIGNATION: Palo Verde – Sun Valley (TS5)

SIZE:

(a) Voltage 500kV

(b) Capacity To be determined

(c) Point of Origin Palo Verde Switchyard or a new switchyard at Arlington Valley Energy facility

(d) Point of Termination Sun Valley 500/230kV substation to be constructed SEC 29, T4N, R4W

(e) Length Approximately 45 miles of single-circuit line

ROUTING: Generally west from Palo Verde/Hassayampa and then north and east for approximately 45 miles.

PURPOSE: This line will provide a 500kV interconnection to the APS transmission system and serve projected need for electric energy in the area immediately north and west of the Phoenix Metropolitan area. The project will increase the import capability into the valley and the export capability out of the Palo Verde/Hassayampa area.

DATE:

(a) Right of Way/Property Acquisition: 2005

(b) Construction to Start: 2008

(c) Estimated In-Service Date: 2010

NOTES:

CEC issued to APS in August 2005 for Case No. 128 (ACC Decision # 68063).

APS is the lead and project manager on the development of this project. SRP was a participant in the environmental siting work and anticipates being a participant in the development of the facilities.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
2010

---

LINE DESIGNATION: (TS9) – Pinnacle Peak

SIZE:

- (a) Voltage 500kV
- (b) Capacity To be determined
- (c) Point of Origin A new TS9 500kV Substation (adjacent to the Navajo -Westwing 500kV line and near the existing Raceway Substation)  
SEC 33, T6N, R1E
- (d) Point of Termination Pinnacle Peak 500kV Substation  
SEC 10, T4N, R4E
- (e) Length Approximately 26 miles

ROUTING: East from the new TS9 500kV Substation to a new Pinnacle Peak 500kV Substation

PURPOSE: This line is a result of joint planning through the SWAT forum. The project will increase the import capability of the system serving the Phoenix Metropolitan area and strengthen the transmission system on the east side of the Phoenix Metropolitan valley. The loop-in of the Navajo - Westwing 500kV line into TS9 will be part of the project.

DATE:

- (a) Right of Way/Property Acquisition: 2007
- (b) Construction to Start: 2008
- (c) Estimated In-Service Date: 2010

NOTES:

CEC for Case No. 131 was awarded in February 2007 (ACC Decision # 69343). SRP is a participant; APS is the lead and project manager.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
2011

---

LINE DESIGNATION: Pinal West – Southeast Valley/Browning

SIZE:

- (a) Voltage 500kV / 230kV
- (b) Capacity 1500MVA
- (c) Point of Origin Pinal West Substation  
SEC 18, T5S, R2E
- (d) Intermediate Point Pinal South Substation  
SEC 30, T6S, R8E
- (e) Intermediate Point RS22 and Southeast Valley Substation  
SEC 19, T3S, R9E
- (f) Intermediate Point Dinosaur Substation  
SEC 10, T2S, R8E
- (g) Point of Termination Browning Substation  
SEC 12, T1S, R7E
- (h) Length Approximately 100 miles

ROUTING: South and east from the Pinal West substation to approximately Teel Road, then east to the Santa Rosa substation. From Santa Rosa easterly to approximately the Santa Rosa Wash, then generally south to approximately a half mile north of I-8 where it turns east again. Then it runs easterly to about the location of the ED2 substation (Sec 25, T6S, R7E). From that point the line continues east to the Union Pacific Railroad, where it turns north. It generally runs north from this point to the Southeast Valley substation in the vicinity of the Magma Railroad and the CAP (approximate location of SEV), then north along the CAP to the existing 500kV corridor between Elliot and Guadalupe Roads. At that point it turns west into the Browning substation.

PURPOSE: The Central Arizona Transmission System Study identified a number of system additions necessary to accommodate load growth and access to energy sources in the central Arizona area. This transmission line is the second segment of a series of transmission lines to serve the central Arizona region. This segment will initially

provide an interconnection with the Palo Verde market area to market power to the Phoenix and central Arizona areas, and to accommodate the growth in development and population in Pinal County.

DATE:

|  |                  |
|--|------------------|
| (a) Right of Way/Property Acquisition:                   | 2005             |
| (b) Construction to Start for Remainder of Project:      | 2009             |
| (c) Est. In-Service for Pinal West to Pinal South 500kV: | 2011             |
| (d) Est. In-Service for Pinal South:                     | 2011             |
| (e) Est. In-Service for Pinal South to SEV/RS22 500kV:   | 2011             |
| (f) Est. In-Service for SEV:                             | To be determined |
| (g) Est. In-Service for RS22:                            | 2011             |
| (h) Est. In-Service for SEV/RS22 to Dinosaur 230kV:      | 2011             |
| (i) Est. In-Service for SEV/RS22 to Dinosaur 500kV:      | 2011             |
| (j) Actual In-Service for Dinosaur:                      | 2007             |
| (k) Actual In-Service for Dinosaur to Browning 230kV:    | 2007             |
| (l) Est. In-Service for Dinosaur to Browning 500kV:      | 2011             |

NOTES:

CEC for Case No. 126 was awarded in 2005 (ACC Decision # 68093 and # 68291)

SRP is lead and project manager for the development of this project. Participants include SRP, Tucson Electric Power, Southwest Transmission Cooperative, and Electric Districts 2, 3, and 4.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
2011

---

LINE DESIGNATION: Pinal South – Southeast Valley/RS22

SIZE:

- (a) Voltage 230kV
- (b) Capacity 875MVA
- (c) Point of Origin Pinal South  
SEC 30, T6S, R8E
- (d) Point of Termination Southeast Valley  
SEC 19, T3S, R9E
- (e) Length Approximately 30 miles

ROUTING: Second circuit on Pinal West to Browning 500kV line

PURPOSE: This transmission line was identified as a component of the CATS-HV Pinal County system study. SRP anticipates using the circuit for the delivery of remote generation in the area to the load service territory.

DATE:

- (a) Right of Way/Property Acquisition: As part of the Pinal West to Browning Project
- (b) Construction to Start: 2010
- (c) Estimated In-Service Date: 2011

NOTES:

The authorization for this line is provided for in the CEC for Case No. 126 (Pinal West to Browning), which was awarded in 2005 (ACC Decision # 68093 and # 68291). SRP must make a compliance filing in accordance with Condition 23 of the CEC for Case No. 126 prior to constructing this line.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
2011

---

LINE DESIGNATION: Desert Basin – Pinal South

SIZE:

- (a) Voltage 230kV
- (b) Capacity To be determined
- (c) Point of Origin Desert Basin Power Plant Switchyard  
SEC 13, T6S, R5E
- (d) Point of Termination Pinal South 230kV Substation  
SEC 30, T6S, R8E
- (e) Length Approximately 21 miles

**ROUTING:** For approximately 6 miles from the Desert Basin Generating Station in Casa Grande near Burris and Kortsen Roads generally south and east to a point on the certificated SEV 500kV line near Cornman and Thornton Roads (vicinity of the proposed CATSHV03 Substation). Then the 230kV line will be attached to the 500kV structures for approximately 15 miles to the proposed Pinal South Substation south of Coolidge, AZ.

**PURPOSE:** Remove the Remedial Action Scheme that was previously installed on Desert Basin Generating Station; improve reliability of the 230kV system in the region by reducing the loading on existing lines in the area; increase local area system capacity; reduce reliance on second party transmission system; create the first 230kV component of the CATS-HV proposed transmission system for the central Arizona area; and establish the Pinal South Substation, identified as one of the future injection points of power and energy into the expanding central Pinal County load area, which will help local utilities serve local load.

DATE:

- (a) Right of Way/Property Acquisition: 2009
- (b) Construction to Start: 2010
- (c) Estimated In-Service Date: 2011

NOTES:

Authority for the portion of the 230kV line to be attached to the 500kV structures is provided for in the CEC granted in Case No. 126, awarded in 2005 (ACC Decision # 68093 and # 68291), and subsequently confirmed in Decision # 69183, which approved SRP's compliance filing for Condition 23 of the CEC.

SRP was granted a CEC for Case No. 132 in June of 2007 (ACC Decision # 69647) for the approximately six mile portion of the project not previously permitted from Desert Basin Generating Station to the vicinity of Cornman and Thornton Roads south of Casa Grande.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
2012

---

LINE DESIGNATION: Palo Verde - North Gila (APS)

SIZE:

- (a) Voltage 500kV
- (b) Capacity To be determined
- (c) Point of Origin Palo Verde Switchyard or nearby 500kV substation  
To be determined
- (d) Point of Termination North Gila 500/69kV Substation or another station  
adjacent to North Gila  
SEC 11, T8S, R22N
- (e) Length Approximately 115 miles of single-circuit line

ROUTING: Generally west from Palo Verde/Hassayampa to the Yuma area

PURPOSE: For SRP, this line will provide access to geothermal resources in the Imperial Valley area.

DATE:

- (a) Construction to Start: 2010
- (b) Estimated In-Service Date: 2012

NOTES:

CEC for Case No. 135 was awarded in January 2008.

SRP is a participant in this project; APS is the lead and project manager.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
2012

---

LINE DESIGNATION: Sun Valley (TS5) – TS9 500kV

SIZE:

- (a) Voltage 500kV
- (b) Capacity To be determined
- (c) Point of Origin Sun Valley 500/230kV Substation  
SEC 29, T4N, R4W
- (d) Point of Termination TS9 500kV Substation  
SEC 33, T6N, R1E
- (e) Length Approximately 40 miles

ROUTING: North from Sun Valley substation and then in a northeasterly direction to the new TS9 Substation

PURPOSE: This line will be needed to serve projected electric energy load in the area immediately north and west of the Phoenix Metropolitan area, and will increase the import capability into the Valley.

DATE:

- (a) Right of Way/Property Acquisition: N/A
- (b) Construction to Start: 2010
- (c) Estimated In-Service Date: 2012

NOTES:

An application for a CEC has not yet been filed. SRP is a participant; APS is the lead and project manager.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
2012

---

LINE DESIGNATION: RS17 - RS24  
SIZE:

- (a) Voltage 230kV
- (b) Capacity 875MVA
- (c) Point of Origin RS17 Substation  
SEC 1, T2S, R6E
- (d) Point of Termination Future RS24, Queen Creek area  
To be determined (T1 or 3S, R7 or 8E)
- (e) Length To be determined

ROUTING: Generally south and east from a point on the Santan to Schrader 230kV line near the future RS17 substation to the proposed RS24 substation in the south and east of the Queen Creek area.

PURPOSE: To meet expected load growth in the eastern distribution area.

DATE:

- (a) Right of Way/Property Acquisition: 2010
- (b) Construction to Start: 2011
- (c) Estimated In-Service Date: 2012

NOTES:

SRP does not hold a CEC for this project, but will be seeking a Certificate subsequent to an environmental and public process to site the line.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
2012

---

LINE DESIGNATION: RS24 – RS22/Southeast Valley

SIZE:

- (a) Voltage 230kV
- (b) Capacity 875MVA
- (c) Point of Origin Future RS24, Queen Creek area  
To be determined (T1 or 3S, R7 or 8E)
- (d) Point of Termination RS22/Southeast Valley Substation  
SEC 19, T3S, R9E
- (e) Length To be determined

ROUTING: Generally south and east from the proposed RS24 substation in the south and east of the Queen Creek area to the future RS22/Southeast Valley substation.

PURPOSE: To meet expected load growth in the eastern distribution area.

DATE:

- (a) Right of Way/Property Acquisition: 2010
- (b) Construction to Start: 2011
- (c) Estimated In-Service Date: 2012

NOTES:

SRP does not hold a CEC for this project, but will be seeking a Certificate subsequent to an environmental and public process to site the line.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
2014

---

LINE DESIGNATION: RS26 (Fountain Hills Station)

SIZE:

- (a) Voltage 115kV, 230kV, or 345kV
- (b) Capacity To be determined
- (c) Point of Origin To be determined
- (d) Point of Termination Fountain Hills Station  
Northeast Scottsdale/Fountain Hills area
- (e) Length To be determined

ROUTING: SRP will embark upon a facilities siting/environmental assessment/public process to determine the location of the station and the transmission lines supplying the station. Contingent upon final plan of service for the station and the transmission lines supplying the station.

PURPOSE: Provide a source for the development occurring in and around the Fountain Hills area, as well as relieve the stress on the lower voltage system currently supplying the Fountain Hills/Rio Verde area.

DATE:

- (a) Right of Way/Property Acquisition: 2010
- (b) Construction to Start: 2012
- (c) Estimated In-Service Date: 2014

NOTES:

SRP does not hold a CEC for this project, but will be seeking a Certificate subsequent to an environmental and public process to site the line.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
TBD

LINE DESIGNATION: Palo Verde – Saguaro Line

SIZE:

- (a) Voltage 500kV
- (b) Capacity To be determined
- (c) Point of Origin Palo Verde Generating Station  
Switchyard/Hassayampa Switchyard  
SEC 34, T1N, R6W
- (d) Potential Intermediate Point Pinal West Substation  
SEC 18, T5S, R2E
- (e) Point of Termination Saguaro Substation  
SEC 14, T10S, R10E
- (f) Length Approximately 125 miles

ROUTING: Generally south and east from the Palo Verde area to a point near Gillespie Dam, then generally easterly until the point at which the Palo Verde – Kyrene 500kV line diverges to the north and east. The corridor then is generally south and east again adjacent to a gas line corridor until meeting up with the Tucson Electric Power Company's Westwing – South 345kV line. The corridor follows the 345kV line until a point due west of the Saguaro Generating Station. The corridor then follows a lower voltage line into the 500kV yard just south and east of the Saguaro generating station.

PURPOSE: This line is the result of the joint participation CATS study. The line will be needed to increase the adequacy of the existing EHV transmission system and permit increased power delivery throughout the state.

DATE:

- (a) Right of Way/Property Acquisition: To be determined
- (b) Construction to Start: To be determined
- (c) Estimated In-Service Date: To be determined

NOTES:

A CEC was applied for and granted in March 1976 for this line (Case No. 24, ACC Decision # 46802). SRP is including this description sheet as a CATS participant with no defined in-service date.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
TBD

---

LINE DESIGNATION: RS17 Loop-In

SIZE:

(a) Voltage 230kV

(b) Capacity 875MVA

(c) Point of Origin RS17 Substation  
SEC 1, T2S, R6E

(d) Point of Termination RS17 Substation  
SEC 1, T2S, R6E

(e) Length 0

ROUTING: No new line construction.

PURPOSE: Service to customer load in the Gilbert/Queen Creek area.

DATE:

(a) Construction to Start: To be determined

(b) Estimated In-Service Date: To be determined

NOTES:

Authority for this work is included in the RS16 Project CEC (Case No. 86, ACC Decision # 59791 and # 60099).

This information is included in this ten-year plan because the in-service date could advance into the ten-year reporting period.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
TBD

---

- LINE DESIGNATION: Dinosaur - RS21
- SIZE:
- (a) Voltage 230kV
  - (b) Capacity 875MVA
  - (c) Point of Origin Dinosaur Substation  
SEC 10, T2S, R8E
  - (d) Point of Termination Future RS21, Florence Junction area  
To be determined (T1 or 2S, R10E)
  - (e) Length To be determined
- ROUTING: Easterly from Dinosaur Substation (Queen Creek area) to the future RS21 Substation (Florence Junction area).
- PURPOSE: To meet expected load growth in the eastern distribution area.
- DATE:
- (a) Right of Way/Property Acquisition: To be determined
  - (b) Construction to Start: To be determined
  - (c) Estimated In-Service Date: To be determined

NOTES:

SRP does not hold a CEC for this project, but will be seeking a Certificate subsequent to an environmental and public process to site the line.

This information is included in this ten-year plan because the in-service date could advance into the ten-year reporting period.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
TBD

---

LINE DESIGNATION: Rogers – Browning

SIZE:

- (a) Voltage 230kV
- (b) Capacity 875MVA
- (c) Point of Origin Rogers Substation  
SEC 13, T1N, R5E
- (d) Point of Termination Browning Substation  
SEC 12, T1S, R7E
- (e) Length Approximately 9 miles

ROUTING: To be determined through environmental and public processes, but generally east and south from Rogers, using existing right of way, where possible.

PURPOSE: Provide adequate transmission facilities to deliver reliable power and energy to SRP's customers in the eastern valley area.

DATE:

- (a) Right of Way/Property Acquisition: To be determined
- (b) Construction to Start: To be determined
- (c) Estimated In-Service Date: To be determined

NOTES:

This information is included in this ten-year plan because the in-service date could advance into the ten-year reporting period.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
TBD

---

LINE DESIGNATION: Silver King - Browning

SIZE:

- (a) Voltage 230kV
- (b) Capacity 875MVA
- (c) Point of Origin Silver King Substation  
Parts of SEC 15 & 16, T1S, R13E
- (d) Point of Termination Browning 500/230kV Substation  
SEC 12, T1S, R7E
- (e) Length 38 miles\*

ROUTING: From Silver King in a westerly direction to Browning

PURPOSE: To deliver Coronado or other power in eastern Arizona into SRP's distribution service territory

DATE:

- (a) Right of Way/Property Acquisition: To be determined
- (b) Construction to Start: To be determined
- (c) Estimated In-Service Date: To be determined

NOTES:

A CEC exists for the segment of this line from the Browning Substation to a point on the Silver King – Kyrene 500kV line corridor in Apache Junction (T1S, R8E, Section 11 & 12) (Case No. 20).

This information is included in this ten-year plan because the in-service date could advance into the ten-year reporting period.

\* SRP proposes stringing 17 miles of conductor on existing lattice towers on Forest Service lands on structures built by Federal permit predating the AZ CEC process. The remaining 21 miles of the line will be new construction.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
TBD

---

LINE DESIGNATION: Silver King - Browning 230kV/Superior Tie

SIZE:

- (a) Voltage 230kV
- (b) Capacity 875MVA
- (c) Point of Origin Point on the Silver King to Browning 230kV transmission line  
SEC 34, T1S, R12E
- (d) Point of Termination Superior Substation  
SEC 34, T1S, R12E
- (e) Length Approximately 1/2 mile

ROUTING: Southeast from the proposed Silver King to Browning Line to the existing Superior Substation.

PURPOSE: To provide adequate transmission capacity to meet future load growth and/or to improve electric system reliability in SRP's eastern distribution service area.

DATE:

- (a) Right of Way/Property Acquisition: To be determined
- (b) Construction to Start: To be determined
- (c) Estimated In-Service Date: To be determined

NOTES:

SRP does not hold a CEC for this project, but will be seeking a Certificate subsequent to an environmental and public process to site the line.

This information is included in this ten-year plan because the in-service date could advance into the ten-year reporting period.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
TBD

---

LINE DESIGNATION: Westwing - Pinnacle Peak

SIZE:

- (a) Voltage 230kV
- (b) Capacity 875MVA
- (c) Point of Origin Westwing Substation  
SEC 12, T4N, R1W
- (d) Point of Termination Pinnacle Peak Substation  
SEC 10, T4N, R4E
- (e) Length Approximately 22 miles

ROUTING: Second circuit on APS Westwing - Pinnacle Peak 230kV transmission line (APS' North Valley Project).

PURPOSE: To provide additional transfer capability from the northwest Phoenix area to the northeast Phoenix area. In the event that Case 131 is approved, the need for this project is avoided.

DATE:

- (a) Right of Way/Property Acquisition: To be determined
- (b) Construction to Start: To be determined
- (c) Estimated In-Service Date: To be determined

NOTES:

A CEC for this route was issued in June 2003 (Case No. 120, Decision # 64473, North Valley Project). In the event that Case 131 is approved, the need for this project is avoided. APS is the lead and project manager.

This information is included in this ten-year plan because the in-service date could advance into the ten-year reporting period.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
TBD

---

LINE DESIGNATION: Pinnacle Peak - Brandow (with future tie into Rogers or Thunderstone)

SIZE:

- (a) Voltage 230kV
- (b) Capacity 875MVA
- (c) Point of Origin Pinnacle Peak Substation  
SEC 10, T4N, R4E
- (d) Point of Termination Brandow Substation  
SEC 11, T1N, R4E
- (e) Length To be determined

ROUTING: Use of available circuit position on existing SRP Pinnacle Peak – Papago Buttes 230kV structures from Pinnacle Peak to Brandow; easterly from a point on that line to a termination at either Rogers or Thunderstone.

PURPOSE: Provide adequate transmission capacity to accommodate SRP customer load.

DATE:

- (a) Right of Way/Property Acquisition: To be determined
- (b) Construction to Start: To be determined
- (c) Estimated In-Service Date: To be determined

NOTES:

A CEC was awarded for this circuit as a part of Case No. 69, Pinnacle Peak – Brandow/Papago Buttes 230kV line, dated January 1985.

This information is included in this ten-year plan because the in-service date could advance into the ten-year reporting period.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
TBD

---

LINE DESIGNATION: Rogers - Corbell

SIZE:

(a) Voltage 230kV

(b) Capacity 875MVA

(c) Point of Origin Rogers Substation  
SEC 13, T1N, R5E

(d) Point of Termination Corbell Substation  
SEC 10, T1S, R5E

(e) Length Approximately 12 miles

ROUTING: Use of available circuit position on existing 230kV structures in the area.

PURPOSE: Provide adequate transmission capacity to accommodate future load growth.

DATE:

(a) Right of Way/Property Acquisition: N/A

(b) Construction to Start: To be determined

(c) Estimated In-Service Date: To be determined

NOTES:

SRP will be using an open position on existing double circuit structures for its entirety. The line and structures were constructed prior to the siting statutes.

This information is included in this ten-year plan because the in-service date could advance into the ten-year reporting period.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
TBD

---

LINE DESIGNATION: Silver King - Knoll - New Hayden

SIZE:

- (a) Voltage 230kV
- (b) Capacity 875MVA
- (c) Point of Origin Silver King Substation  
Parts of SEC 15 & 16, T1S, R13E
- (d) Intermediate Termination Knoll Substation  
SEC 23, T3S, R13E
- (e) Point of Termination New Hayden Substation  
SEC 7, T5S, R15E
- (f) Length Approximately 35 miles

ROUTING: South from Silver King, looped into Knoll, continuing to the Hayden area.

PURPOSE: To increase the transmission capacity to serve a new mining load.

DATE:

- (a) Right of Way/Property Acquisition: To be determined
- (b) Construction to Start: To be determined
- (c) Estimated In-Service Date: Contingent upon customer need

NOTES:

SRP does not hold a CEC for this project, but will be seeking a Certificate subsequent to an environmental and public process to site the line.

This information is included in this ten-year plan because the in-service date could advance into the ten-year reporting period.

SALT RIVER PROJECT  
TEN-YEAR PLAN  
TRANSMISSION FACILITIES  
TBD

LINE DESIGNATION: Point on the Kearny - Hayden 115kV line to New Hayden; double circuit loop

SIZE:

- (a) Voltage 115kV
- (b) Capacity 190MVA
- (c) Point of Origin Point on Kearny - Hayden 115kV Line, SEC 7, T5S, R15E
- (d) Point of Termination New Hayden Substation SEC 7, T5S, R15E
- (e) Length Approximately 0.75 miles

ROUTING: Southwest from the existing Kearny - Hayden 115kV line to the New Hayden Transmission Station.

PURPOSE: To increase the transmission capacity to serve a new mining load.

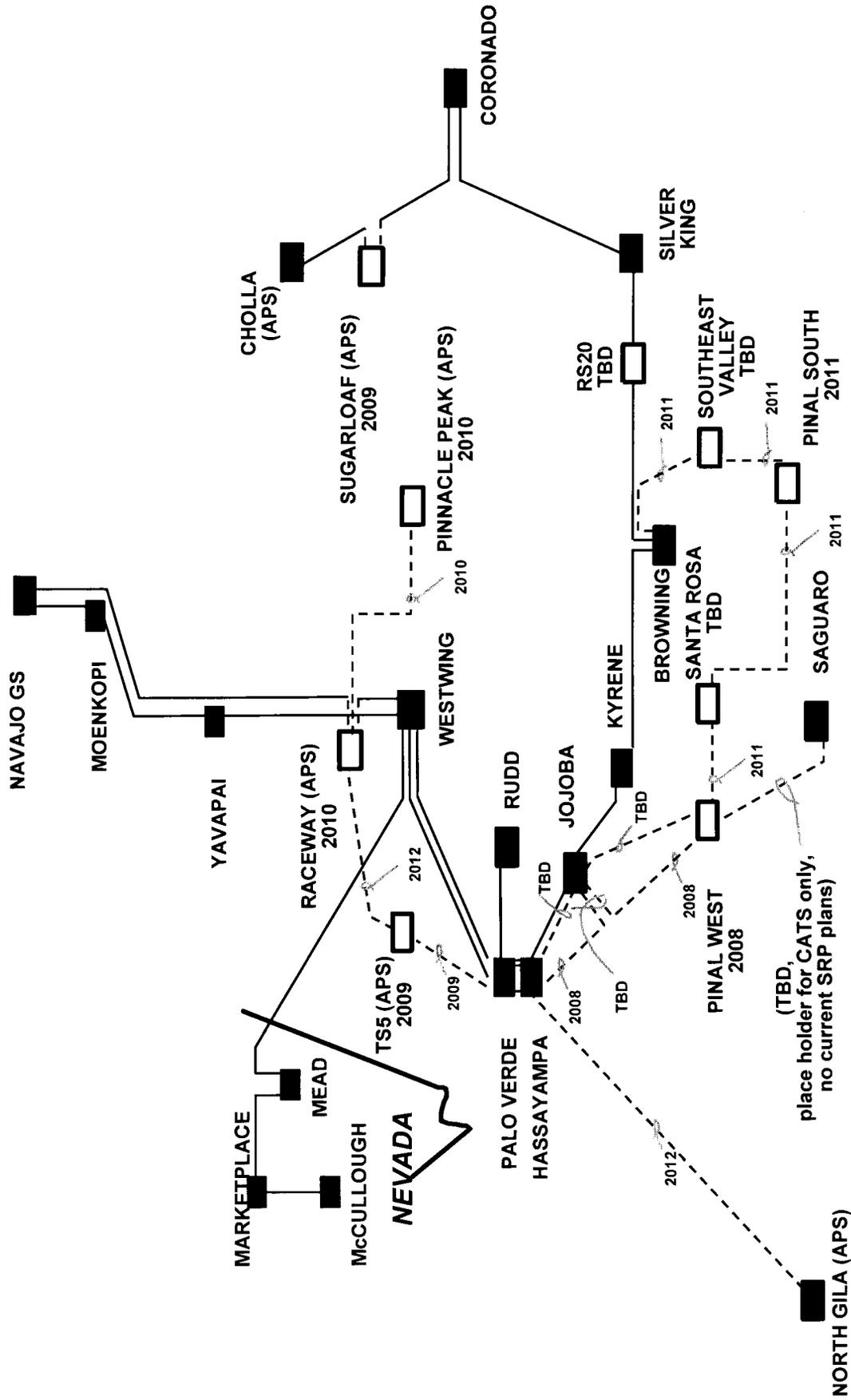
DATE:

- (a) Right of Way/Property Acquisition: To be determined
- (b) Construction to Start: To be determined
- (c) Estimated In-Service Date: Contingent upon customer need

NOTES:

SRP does not hold a CEC for this project, but will be seeking a Certificate subsequent to an environmental and public process to site the line.

This information is included in this ten-year plan because the in-service date could advance into the ten-year reporting period.



January 23, 2008

**SALT RIVER PROJECT  
500kV SYSTEM**

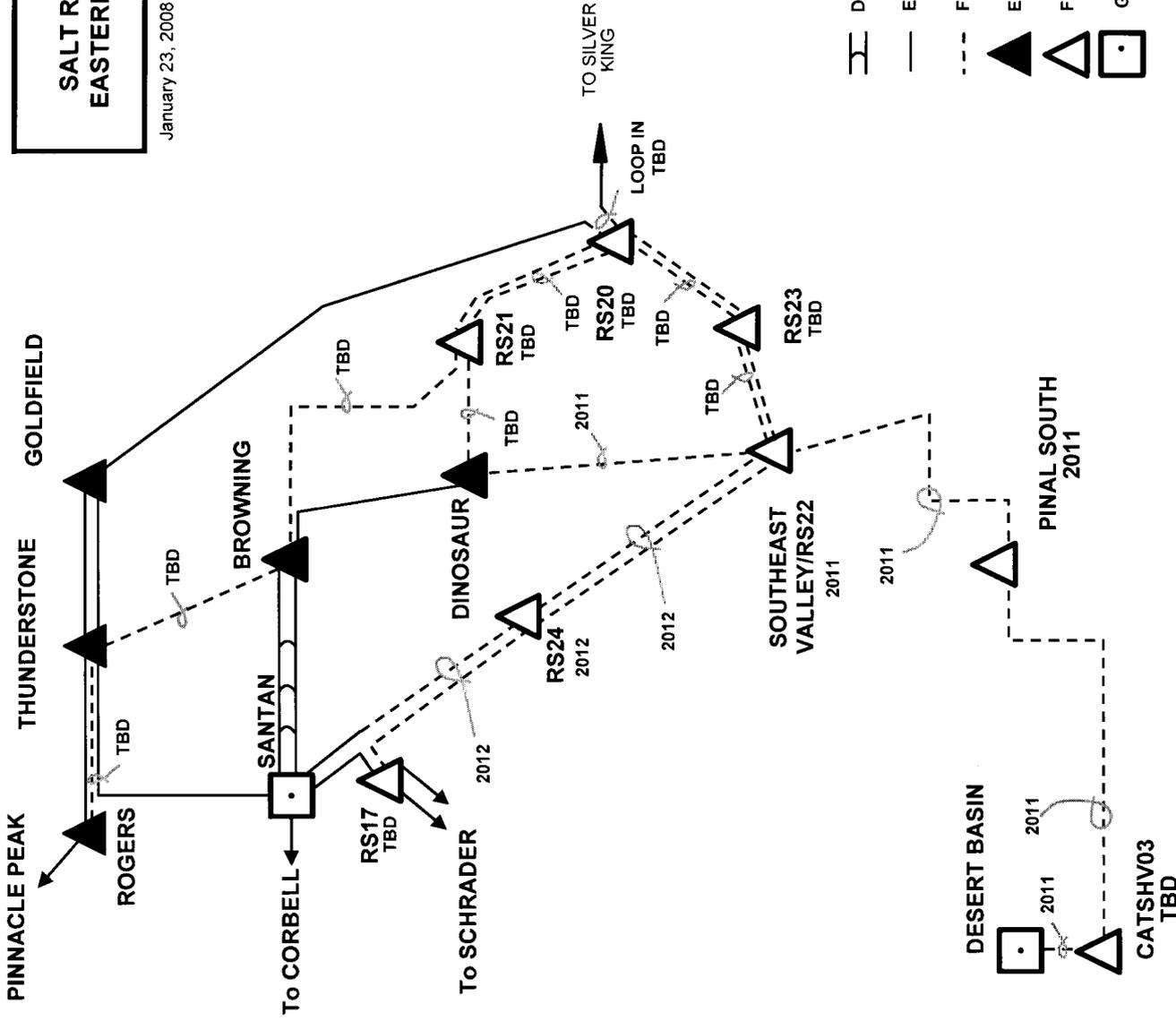
EXISTING 500kV SUBSTATION  
 FUTURE 500kV SUBSTATION  
 EXISTING LINES  
 FUTURE LINES

**ATTACHMENT A**

ATTACHMENT B

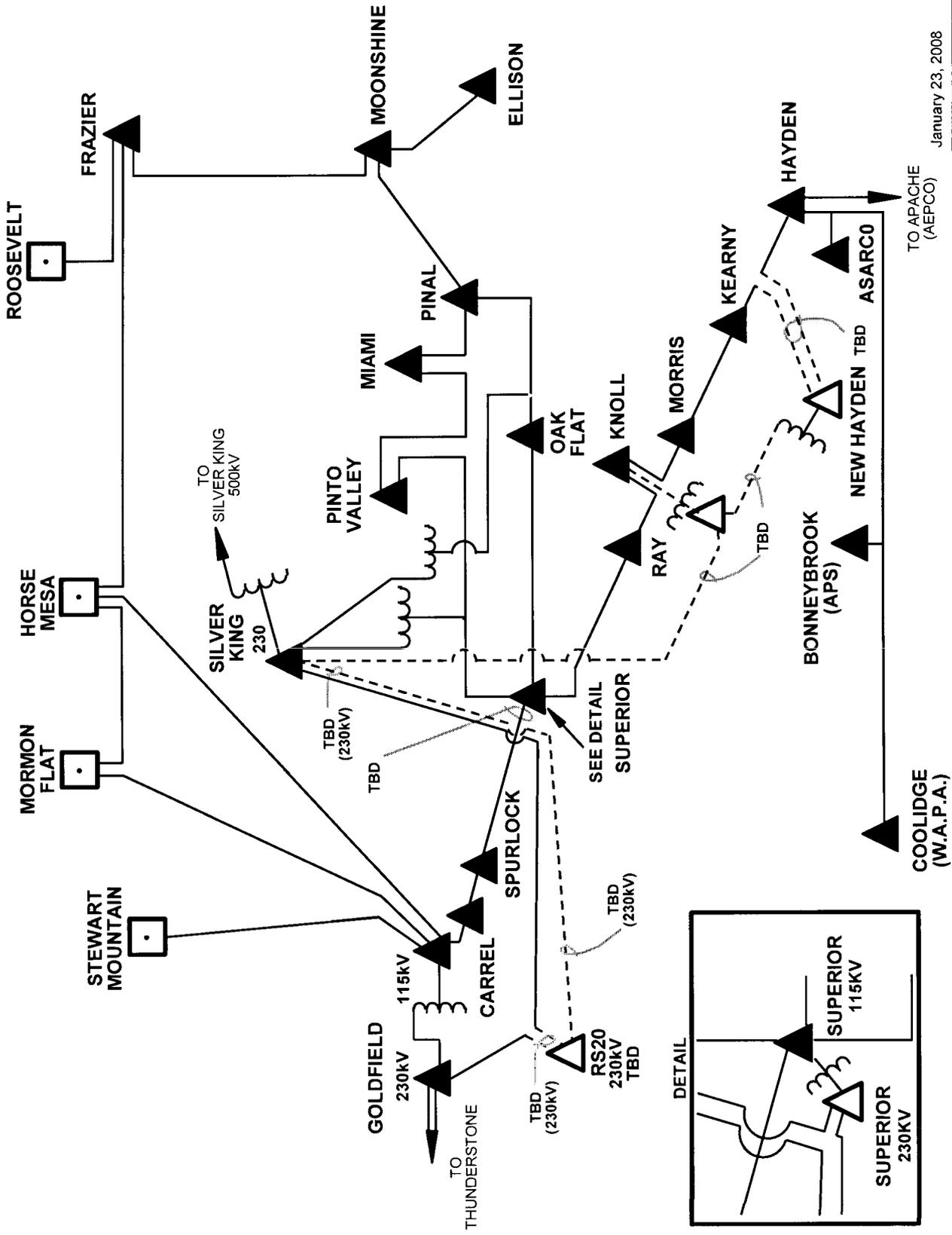
SALT RIVER PROJECT  
EASTERN 230KV SYSTEM

January 23, 2008



- DOUBLE CIRCUIT, PHASE TIED LINE
- EXISTING 230KV CIRCUIT
- FUTURE 230KV CIRCUIT
- EXISTING 230KV SUBSTATIONS
- FUTURE 230KV SUBSTATIONS
- GENERATING STATION





January 23, 2008

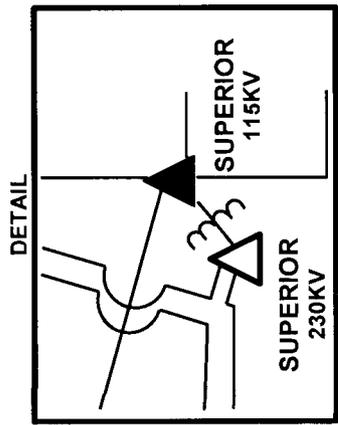
**SALT RIVER PROJECT  
EASTERN MINING  
AREA SYSTEM**

**ATTACHMENT D**

1/29/2008 000705-4

--- FUTURE LINE  
— EXISTING LINE

△ FUTURE SUBSTATION  
▲ EXISTING SUBSTATION  
□ GENERATING STATION



SALT RIVER PROJECT

# SRP Valley Projects

## APPENDIX 1



2008 CAPITAL PROJECT DESCRIPTION



Budget Year 2013/2014

EHV Diagrams 115, 230 & 500kV  
Area Switching Diagrams fountain2.pdf  
Rec. Station Diagrams  
Dist. Station Diagrams

**Date:** January 25, 2008

**Location:** Fountain/Rio Verde Area

**Job Title:** RS-26, New Receiving Station in the Fountain/Rio Verde area

**Project Summary:** Construct a new Fountain Area Receiving Station, RS-26, with 1-280MVA 345/69kV(or 230/69kV) transformer and connect it to 33E-25N 69kV substation by 5/2014.

**Description of Work:**

FOUNTAIN HILLS 345(230)KV RECEIVING STATION WORK

- Build two 345kV(230kV) buses with 6" EHPS AL tubing, bays 1-3.
- Install 3-345kV(230kV) 3000A breakers & 7-345kV(230kV) 3000A disconnects.
- Install 1-280MVA 345/69kV(230/69kV) transformer in the bay 2.

345kV(230kV) RECEIVING STATION SUBTOTAL \$6,000,000

FOUNTAIN HILLS 69 KV RECEIVING STATION WORK

- Build two 69kV buses with 6" EHPS AL tubing, bays 1-3.
- Install 2-69kV 3000A, 44kA I.C. breakers & 4-69kV 3000A disconnects.
- Terminate 69kV line from 33E-25N into bay 2.

69KV RECEIVING STATION SUBTOTAL \$670,000

33E-25N 69kV SUBSTATION WORK

- Install 1-69kV 2000A, 40kA I.C. breaker & 2-69kV 2000A disconnects.

33E-25N STATION SUBTOTAL \$245,000

69KV LINE WORK

- Build 1-954ACSS 69kV line from the new receiving station to 33E-25N substation.
- The furthest location of the Receiving Station from 33E-25N is 8 miles.

69KV LINE MAX. SUBTOTAL \$2,000,000

ESTIMATED TOTAL \$8,915,000

**In-Service Date:** April 30, 2014

Rob Kondziolka 1/28/2008

Manager

Date

Load Growth Project, TSP Contact Jeff Loehr or Jose Silva (69kV)

**Justification:**

- During summer peak loading with all projects in, the voltage in the Fountain area falls below the minimum acceptable level at several 69kV stations for an Evergreen/Pima outage. A new receiving station and associated 69kV line work in the area will provide more long-term voltage support than the addition of capacitor banks.

2008 CAPITAL PROJECT DESCRIPTION



Budget Year 2013/2014

**Date:** January 25, 2008

**Location:** Fountain/Rio Verde Area

**Job Title:** New Receiving Station in the Fountain/Rio Verde area

**Project Summary:** Construct a new Fountain Area Receiving Station with 1-280MVA 345/69kV(or 230/69kV) transformer and connect it to 33E-25N 69kV substation by 5/2014.

|           | Voltage @ Evergreen & Wheeler for outage of Evergreen-Pima 69kV line |               |                                      |         |
|-----------|--|---------------|--------------------------------------|---------|
|           | without the Fountain Hills Rec. station                              |               | with the Fountain Hills Rec. station |         |
| Year      | 2014   | 2015          | 2014                                 | 2015    |
| Evergreen | 0.949pu  | case diverges | 0.993pu                              | 0.988pu |
| Wheeler   | 0.950pu  | case diverges | 0.992pu                              | 0.987pu |

**NOTE:** The Fountain area has 25MVAR of caps added at 33E-25N in 2010.

**2003, 2004 Project Summary:** The project was removed from the six-year planning period with the addition of FT#3 switching station and 25MVAR cap bank at 33E-25N.

**2002 Project Summary:** Construct a new Fountain Area Receiving Station or a new 69kV line of unknown mileage and origin in the Fountain area by 05/08

**2001 Project Summary:** Construct a new Fountain Area Receiving Station or a new 69kV line of unknown mileage and origin in the Fountain area by 05/07.



**2008 CAPITAL PROJECT DESCRIPTION**  
**Fiscal Year 2011/2012**

**Project # VAL-699**  
**Revision # 0, Page 1 of 2**  
**Last Edit: January 28, 2008**

**Job Title: RS-24 New 230kV Line and 230/69kV Station**

**Project Summary:** Construct the new RS-24 230/69kV station with one 280MVA 230/69kV transformer. Construct approximately 20 miles of new double circuit 230kV line from SEV to RS-24 to the RS-17 site. Split the parallel on the existing Santan - Schrader 230kV circuit to tie in the new 230kV lines from RS-24 to Santan and Schrader. Loop Hunt - Morcom and Egan - Rittenhouse 69kV lines into the new 69kV yard.

**In-Service Date:** April 30, 2012

**Coordinate Location:** NEAR 43E-12S AT A TO BE DETERMINED SITE

**Load Growth Project**

**Contact(s):** TSP: Tom Novy, Jeff Loehr

**Approved By:** REKONDZI January 28, 2008 (See Project Funding Priority List for Funding Status)

EHV Diagrams 115, 230 & 500: Valley 230kV  
 Area Switching Diagrams: Santan2  
 Rec. Station Diagrams: SEV 230kV, RS-24 230kV, Santan 230kV, Schrader 230kV  
 Dist. Station Diagrams: RS-24 69kV

**Description of Work:**

|  |                       |                     |
|--|-----------------------|---------------------|
| <u>RS-24 Station Work</u>  | FY 11/12 CBI 350-6090 | <u>\$17,700,000</u> |
| <ul style="list-style-type: none"> <li>➤ Construct 1 - 230kV Substation (230kV bays 1 - 4, 69kV bays 1 - 12)</li> <li>➤ Install 1 - 230/69kV Power Transformer (280MVA)</li> <li>➤ Install 5 - 230kV Circuit Breaker (44kA i.c. - 3000A) Locations TBD</li> <li>➤ Install 7 - 69kV Circuit Breaker (44kA i.c. - 3000A) Locations TBD</li> </ul>  |                       |                     |
| <u>Santan 230kV Station Work</u>   | FY 11/12 CBI 350-3903 | <u>\$1,600,000</u>  |
| <ul style="list-style-type: none"> <li>➤ Install 2 - 230kV Circuit Breaker (63kA i.c. - 3000A) ST702 and ST705</li> <li>➤ Upgrade 1 - 230kV Circuit Breaker (63kA i.c. - 3000A) ST708</li> <li>➤ Install 4 - 230kV Disconnect Switch (3000A) ST701, 703, 704, 706</li> <li>➤ Upgrade 2 - 230kV Disconnect Switch (3000A) ST707, 709</li> <li>➤ Install 1 - 230kV Line Relay for new line</li> </ul>  |                       |                     |
| <u>Schrader 230kV Station Work</u>   | FY 11/12 CBI 350-3903 | <u>\$1,300,000</u>  |
| <ul style="list-style-type: none"> <li>➤ Install 1 - 230kV Disconnect Switch (3000A) SCR629</li> <li>➤ Install 1 - 230kV Line Relay for new line</li> </ul>  |                       |                     |
| <u>SEV 230kV Station Work</u>  | FY 11/12 CBI 350-3903 | <u>\$2,000,000</u>  |
| <ul style="list-style-type: none"> <li>➤ Install 2 - 230kV Circuit Breaker (63kA i.c. - 3000A)</li> <li>➤ Install 4 - 230kV Disconnect Switch (3000A)</li> </ul>   |                       |                     |
| <u>230kV Line Work</u>   | FY 11/12 CBI 350-6090 | <u>\$20,000,000</u> |
| <ul style="list-style-type: none"> <li>➤ Construct 20 miles of 230kV Transmission Line (double circuit 230kV with double circuit 69kV underbuild capable) from SEV to the RS-24 site to the existing Santan-Schrader 230kV line near the RS-17 site</li> <li>➤ Reconfigure the existing Santan - Schrader 230kV line by removing the parallel to create two circuits, split one circuit with the new line</li> <li>➤ Terminate 230kV Transmission Line from RS-24 into Santan Bay 0</li> <li>➤ Terminate 230kV Transmission Line from RS-24 into Schrader Bay 2</li> </ul> |                       |                     |
| <u>69kV Line Work</u>  | FY 11/12 CBI 350-1074 | <u>\$2,500,000</u>  |
| <ul style="list-style-type: none"> <li>➤ Construct 1 miles of 69kV 2-954ACSS Transmission Line - Double Circuit from RS-24 to the existing Hunt - Morcom line to loop that line into RS-24</li> <li>➤ Construct 5 miles of 69kV Transmission Line Underbuild on 230kV Line from RS-24 to the existing Egan - Rittenhouse line to loop that line into RS-24</li> <li>➤ Install 2 - 69kV Drop Pole (Steel) to accomodate drops into RS-24</li> </ul>   |                       |                     |
| <u>69kV Right of Way</u>   | FY 11/12 CBI 350-1801 | <u>\$177,000</u>    |
| <ul style="list-style-type: none"> <li>➤ 69kV ROW</li> </ul>   |                       |                     |



**2008 CAPITAL PROJECT DESCRIPTION**  
*Fiscal Year 2011/2012*

*Project # VAL-699*  
*Revision # 0, Page 2 of 2*  
*Last Edit: January 28, 2008*

**Job Title: RS-24 New 230kV Line and 230/69kV Station**

**Description of Work: (cont.)**

|                                     |                        |                            |
|-------------------------------------|------------------------|----------------------------|
| 69kV Right of Way                   | FY 12/13 CBI 350-1801  | <u>\$1,423,000</u>         |
| ➤ 69kV ROW (placeholder for budget) |                        |                            |
| 69kV Right of Way                   | FY 13/14 CBI 350-1801  | <u>\$502,000</u>           |
| ➤ 69kV ROW (placeholder for budget) |                        |                            |
|                                     | FY 2011/2012           | <u>\$45,277,000</u>        |
|                                     | FY 2012/2013           | <u>\$1,423,000</u>         |
|                                     | FY 2013/2014           | <u>\$502,000</u>           |
|                                     | <b>ESTIMATED TOTAL</b> | <b><u>\$47,202,000</u></b> |

**Justification:**

- RS-24 230kV lines are required to accomodate projected new generation resource additions in the Pinal County area in the 2012-2013 timeframe.
- The addition of RS-24 delays the need for 230/69kV transformers at Browning and Dinosaur by several years
- The addition of RS-24 delays the need for multiple 69kV line upgrades or new 69kV lines
- RS-24 is part of the saturated load plan for 69kV service in the Queen Creek area. Constructing this project now will reduce the number of interests impacted by a new line in a rapidly developing area of the valley.
- The RS-24 project is scheduled to be sited in the 2008-2009 timeframe.

**2007 Project Summary:** This project was not identified in the 2007 Electric System Plan.