ORIGINAL

50TP

Tucson Electric Power Company
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Tucson, Arizona 85714

Ed Beck, Supervisor
Transmission Planning and Administration (SC210)

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January 28, 2005

Arizona Corporation Commission
Utilities Division
1210 West Washington
Phoenix, Arizona, 85007

Gentlemen:
Enclosed are fourteen copies of "Ten Year Plans" for both Tucson Electric Power Company (TEP) and UNS Electric, Docket No. E-00000D-05-0040, submitted by TEP in compliance with Title 40, Chapter 2, Article 6.2 of the Arizona Revised Statutes known as Power Plant and Transmission Line Siting Committee.

Please acknowledge receipt by returning a copy of this letter.

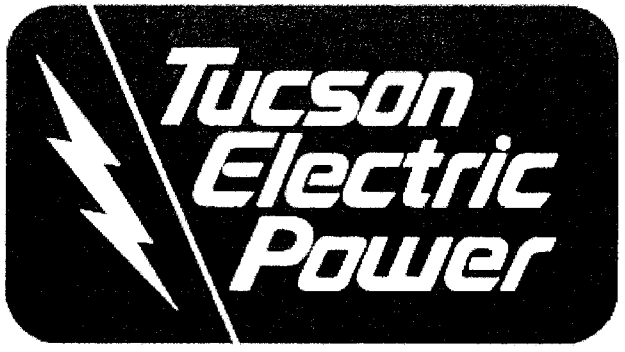
Sincerely,

Ed Beck by RAR

Ed Beck
Superintendent, Planning and Contracts

Bcc: M. Jerden
J. Pignatelli
S. Glaser
M. Flores
D. Thomas

ORIGINAL



A UniSource Energy Company

TUCSON ELECTRIC POWER COMPANY
TEN YEAR PLAN
FOR YEARS
2005-2014

SUBMITTED TO THE
ARIZONA CORPORATION COMMISSION
JANUARY 2005

DOCKET NO: E-00000D-05-0040

CONTENTS

SOUTHWEST AREA TRANSMISSION (SWAT) STUDY

TEP is a member of the SWAT regional planning group and participates in various SWAT subcommittees. SWAT subcommittees that TEP participates in are: SWAT Central Arizona Transmission EHV, SWAT Central Arizona HV, SWAT Colorado River Transmission, and SWAT Arizona-New Mexico. Each of these subcommittees has been involved in studying various generation and transmission projects to enhance and increase utilization of the existing system. The 2004 SWAT study work is complete and a draft report is in the process of being finalized but is not included in this submittal. The final SWAT report will be filed as an addendum upon its completion. The SWAT report will describe the efforts and results of the studies that fall under the SWAT organization. The EHV projects listed in the following summary reflect the analysis of the SWAT effort.

TEP performs an annual review of its 138kV system performance over a ten-year planning horizon. This results in a schedule for new facilities and upgrades to existing facilities assuring adequate transmission capacity within TEP's service territory as Tucson continues to grow. TEP's 138kV system is improved to accommodate new 138 / 14kV substations and increased line loading.

Load projection analysis looks at distribution system shortfalls and identifies the impact of load growth at each of TEP's distribution substations. This results in requirements for new 138/13.8 kV substations and new 138kV transmission lines. Load projection also provides input to the power flow analysis used to identify thermal overloads.

Power flow analysis looks for thermal overloads during normal and contingency operation based on WECC/NERC Level A, B and C reliability criteria. Contingencies include:

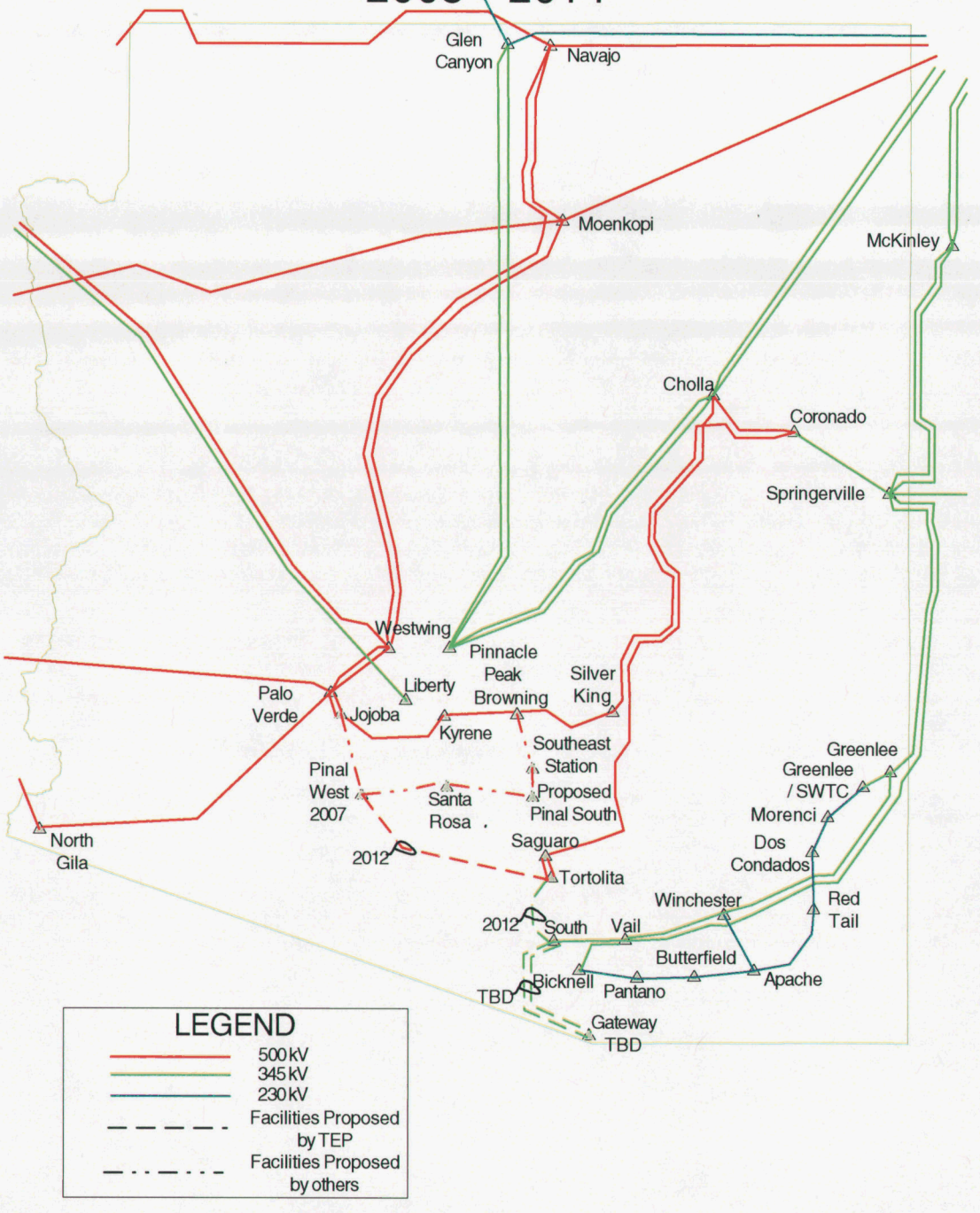
- Loss of major EHV import
- Loss of critical local generation
- Single 138kV circuit outages
- Credible 138kV multiple circuit outages
- Critical circuits initially out of service with system operating acceptably followed by a subsequent outage.

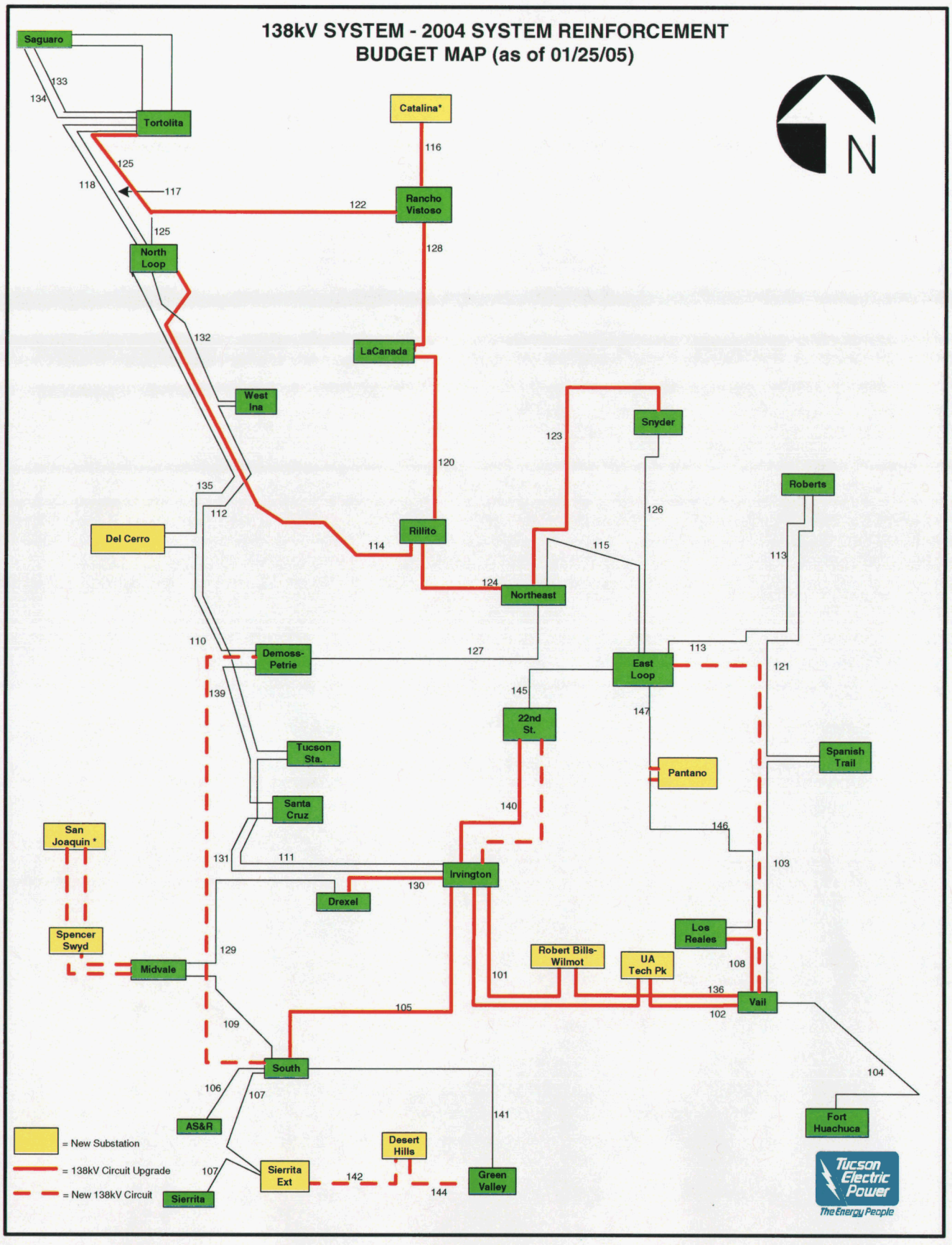
Thermal overloads are addressed with:

- New transmission lines
- Uprating existing lines (increase NESC clearances or larger ampacity wire)
- New generation (when more economical than transmission)
- Other cost effective measures

Transmission facilities are also added at 138kV to increase reliability at substations that are served radially.

Planned TEP EHV Transmission Facilities 2005 - 2014




138kV SYSTEM - 2004 SYSTEM REINFORCEMENT
BUDGET MAP (as of 01/25/05)
N
Saguaro
Tortolita
Catalina*
Rancho Vistoso
North Loop
LaCanada
West Ina
Del Cerro
Rillito
Snyder
Roberts
Northeast
Demoss-Petrie
East Loop
22nd St.
Tucson Sta.
Santa Cruz
Pantano
Spanish Trail
San Joaquin *
Irvington
Drexel
Spencer Swyd
Midvale
Robert Bills-Wilmot
UA Tech Pk
Los Reales
Vail
South
AS&R
Sierrita Ext
Sierrita
Desert Hills
Green Valley
Fort Huachuca
133
134
125
118
117
122
125
128
132
120
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123
126
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113
124
110
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113
121
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147
140
146
103
131
111
130
129
101
108
136
102
105
109
104
106
107
141
107
142
144
= New Substation
= 138kV Circuit Upgrade
= New 138kV Circuit
Tucson Electric Power
The Energy People

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Interconnection of Westwing – South 345 kV with future Hassyampa – Pinal West 500 kV via new Pinal West 500/345 kV Substation
Size	
a) Voltage	345-kV
b) Capacity	System dependent
c) Point of Origin	Westwing – South Line
d) Point of Termination	Future Pinal West substation (Sec. 6 T5S R1E)
e) Length	Less than 1 mile
Routing	Adjacent to Westwing – South 345 kV line.
Purpose	To reinforce Tucson Electric Power Company's EHV system and to provide a higher capacity link for the flow of power from the Palo Verde area into TEP's service territory.
Date	
a) Construction Start	2006
b) In-Service Date	2007
Is Certificate Necessary	Siting Case #124
Technical Studies	Studies completed via CATS, WATS, and Palo Verde – Southeast Station study groups.

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Pinal West Substation to Tortolita Substation
Size	
a) Voltage	500-kV
b) Capacity	System dependent
c) Point of Origin	Future Pinal West substation (Sec. 6 T5S R1E)
d) Point of Termination	Tortolita Substation (Sec. 14 T10S R10E)
e) Length	Approximately 60 miles
Routing	Unknown
Purpose	To reinforce Tucson Electric Power Company's EHV system and to provide a higher capacity link for the flow of power from the Palo Verde area into TEP's northern service territory.
Date	
a) Construction Start	2011
b) In-Service Date	2012
Is Certificate Necessary	Yes
Technical Studies	Studies in progress via CATS/SWAT

Note: An alternative project being evaluated is Pinal South – Tortolita 500 kV.

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Tortolita Station to Winchester Station
Size	
a) Voltage	500-kV
b) Capacity	System dependent
c) Point of Origin	Tortolita Substation (Sec. 14 T10S R10E)
d) Point of Termination	Winchester Substation
e) Length	Approximately 80 miles
Routing	As described in Siting Case No. 23
Purpose	To reinforce Tucson Electric Power Company's EHV system and to provide a higher capacity link for the flow of power from the Palo Verde area into TEP's eastern transmission system.
Date	
a) Construction Start	Under Review
b) In-Service Date	Under Review
Is Certificate Necessary	Siting Case No. 23
Technical Studies	Studies in progress via CATS/SWAT and internal TEP study efforts.

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Winchester Substation to Vail Substation – 2nd circuit
Size	
a) Voltage	345-kV
b) Capacity	System dependent
c) Point of Origin	Winchester Subtation
d) Point of Termination	Vail Substation (Sec. 4 T16S R15E)
e) Length	Approximately 40 miles
Routing	Parallel to existing Winchester – Vail Line
Purpose	To reinforce Tucson Electric Power Company's EHV system and to provide additional transmission capacity from the future Winchester Station into Tucson
Date	
a) Construction Start	Under Review
b) In-Service Date	Under Review
Is Certificate Necessary	Yes
Technical Studies	Studies in progress via CATS/SWAT and internal TEP study efforts.

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Vail Station to South Station – 2nd circuit
Size	
a) Voltage	345-kV
b) Capacity	System dependent
c) Point of Origin	Vail Substation (Sec. 4 T16S R15E)
d) Point of Termination	South Substation (Sec. 36 T16S R13E)
e) Length	14 miles
Routing	Parallel to existing Vail – South Line
Purpose	To reinforce Tucson Electric Power Company's EHV system and to provide additional transmission capacity between Vail and South Substations
Date	
a) Construction Start	Under Review
b) In-Service Date	Under Review
Is Certificate Necessary	No
Technical Studies	Studies in progress via CATS/SWAT and internal TEP study efforts.

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Springerville Substation to Greenlee Substation - 2nd circuit
Size	
a) Voltage	345-kV
b) Capacity	System dependent
c) Point of Origin	Springerville Substation (Sec. 34 T11N R30E)
d) Point of Termination	Greenlee Substation (Sec. 29 T5S R31E)
e) Length	110 Miles - 27 Miles in Arizona.
Routing	Parallel to existing Springerville to Greenlee line.
Purpose	To deliver power and energy from major TEP interconnections in the Four Corners and Eastern Arizona regions.
Date	
a) Construction Start	Under Study
b) In-Service Date	Under Study
Is Certificate Necessary	Issued in 1975, 1977, 1982 and 1986
Technical Studies	Base studies conducted in coordination with neighboring utilities formed the basis for the design of TEP's original EHV system in the 70's. This project is based on that original work. Detailed studies will be developed in the future upon a determination of need for this project by TEP.

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Tortolita Substation to South Substation.
Size	
a) Voltage	345-kV
b) Capacity	System dependent
c) Point of Origin	Tortolita Substation (Sec. 23 T10S R10E)
d) Point of Termination	South Substation (Sec. 36 T16S R13E)
e) Length	68 Miles
Routing	From Tortolita Substation south through Avra Valley to existing Westwing-South 345-kV transmission line right-of-way, then parallel to existing Westwing – South line to South Substation.
Purpose	To reinforce Tucson Electric Power Company's EHV system and to provide a high capacity link for the flow of power in Southern Arizona.
Date	
a) Construction Start	Under Review
b) In-Service Date	Under Review
Is Certificate Necessary	Siting Case #50
Technical Studies	Being re-evaluated as part of CATS/SWAT study

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Westwing Substation to South Substation (2nd circuit)
Size	
a) Voltage	345-kV
b) Capacity	System dependent
c) Point of Origin	Westwing Substation (Sec. 12 T4N R1W)
d) Point of Termination	South Substation (Sec. 36 T16S R13E)
e) Length	178 Miles
Routing	Parallel to existing Westwing to South line.
Purpose	To deliver power and energy from major TEP interconnections in the Northwest Phoenix region.
Date	
a) Construction Start	Under Review
b) In-Service Date	Under Review
Is Certificate Necessary	No
Technical Studies	Base studies conducted in coordination with neighboring utilities formed the basis for the design of TEP's original EHV system in the very early 70's. This project is based on that original work. Detailed studies will be developed in the future upon a determination of need for this project by TEP.

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	TEP-Citizens 345 kV Interconnection Line--South Substation to future Gateway Substation (2 ckts.)
Size	
a) Voltage	345-kV
b) Capacity	500 MW
c) Point of Origin	South Substation (Sec. 36 T16S R13E)
d) Points of Termination	Gateway Substation in (Sec. 12 T24S R13E)
e) Length	Approximately 60 Miles
Routing	Southerly from South Substation, in or near the Santa Cruz Valley to Nogales area.
Purpose	To provide an alternate transmission path to Citizen's Communication Company in Nogales, Arizona pursuant to ACC order.
Date	
a) Construction Start	Dependent upon permitting
b) In-Service Date	Dependent upon permitting
Is Certificate Necessary	Siting Case #111
Technical Studies	See record of Siting Case No. 111

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	TEP-Citizens 345 kV Interconnection Line--South Substation to future Gateway Substation (2 ckts.)
Size	
a) Voltage	345-kV
b) Capacity	500 MW
c) Point of Origin	South Substation (Sec. 36 T16S R13E)
d) Points of Termination	Gateway Substation in (Sec. 12 T24S R13E)
e) Length	Approximately 60 Miles
Routing	Southerly from South Substation, in or near the Santa Cruz Valley to Nogales area.
Purpose	To provide an alternate transmission path to Citizen's Communication Company in Nogales, Arizona pursuant to ACC order.
Date	
a) Construction Start	Dependent upon permitting
b) In-Service Date	Dependent upon permitting
Is Certificate Necessary	Siting Case #111
Technical Studies	See record of Siting Case No. 111

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Gateway Substation to Comision Federal de Electricidad (CFE) (2 ckts.)
Size	
a) Voltage	345-kV
b) Capacity	500 MW
c) Point of Origin	Gateway Substation (Sec. 12 T24S R13E)
d) Points of Termination	Arizona-Sonora boundary (Sec. 13 T24S R13E)
e) Length	Approximately 2 Miles
Routing	Southerly from Gateway Substation, in or near the Nogales area.
Purpose	To interconnect to the Comision Federal de Electricidad in Sonora, Mexico.
Date	
a) Construction Start	Dependent upon permitting
b) In-Service Date	Undetermined
Is Certificate Necessary	Siting Case #111
Technical Studies	See record of Siting Case No. 111

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

[Note: This project completed in 2004]

Line Designation	Loop-in of TEP Winchester Switchyard
Size	
a) Voltage	345-kV
b) Capacity	System Dependant
c) Point of Origin	Existing Greenlee – Vail 345 kV line Northeast of Pomerene, Arizona
d) Points of Termination	New Winchester Substation
e) Length	Less than 1 Mile
Routing	Southeasterly from existing TEP 345 kV Greenlee – Vail transmission line.
Purpose	To provide for interconnection of Southwest Transmission Cooperative 230 kV line.
Date	
a) Construction Start	2003
b) In-Service Date	2004
Is Certificate Necessary	Siting Case #121
Technical Studies	Study results provided to ACC by Southwest Transmission Cooperative – See Case No. 121

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Irvington Substation to East Loop Substation (through 22nd Street Substation).	
Size		
a) Voltage	138-kV	
b) Capacity	System dependent	
c) Point of Origin	Irvington Substation (Sec. 03 T15S R14E)	
d) Point of Termination	East Loop Substation (Sec. 08 T14S R15E)	
e) Length	9 Miles	
Routing	North and East of Irvington Substation, through 22nd Street Substation, then East and North to East Loop Substation.	
Purpose	To provide additional electric service to the central area of Tucson Electric Power Company's service area and to reinforce the local transmission system.	
Date		
a) Construction Start	1985	
b) In-Service Date	Phase 1 – 1994 (Completed)	Irvington Station to 22nd St. Substation
	Phase 2 – 2000 (Completed)	22nd St. Substation to East Loop Substation
	Phase 3 – Under Review	2nd Circuit of Phase I
Is Certificate Necessary	Siting Case #66	

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Vail Substation to East Loop Substation (through Houghton Loop Switching Station*, Spanish Trail and Roberts Substations).	
Size		
a) Voltage	138-kV	
b) Capacity	System dependent	
c) Point of Origin	Vail Substation (Sec. 4 T16S R15E)	
d) Point of Termination	East Loop Substation (Sec. 8 T14S R15E)	
e) Length	22 Miles	
Routing	East and north from Vail Substation along existing transmission line to Irvington and Houghton Roads, then north along Houghton Road to Speedway Boulevard, then east and north to Roberts Substation and west along Speedway to East Loop Substation.	
Purpose	To provide additional electric service to the eastern portion of Tucson Electric Power Company's service area and to reinforce the local transmission system.	
Date		
a) Construction Start	1976	
b) In-Service Date	Phase 1 - 1977 (Completed)	Spanish Trail Substation and 138-kV lines to East Loop and Vail Substation
	Phase 2 - 1983 (Completed)	Roberts Substation and associated 138-kV lines
	Phase 3 – Under Review	Third 138-kV line from Vail to East Loop Substation

*Houghton Loop switching station has been removed from TEP's plans. Name retained for reference only.

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	East Loop Substation to Northeast Substation (through Snyder Substation)
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	East Loop Substation Sec. (8 T14S R15E)
d) Point of Termination	Northeast Substation Sec. (28 T13S R14E)
e) Length	13 Miles
Routing	North and west of East Loop Substation, then south and west to termination point.
Purpose	To provide additional electric service to the northeastern area of Tucson Electric Power Company's service area.
Date	
a) Construction Start	1985
b) In-Service Date	Phase 1 - 1987 (Completed) — Snyder Substation and 138-kV line to East Loop Substation
	Phase 2 – 1999-2005 — 138-kV line from Snyder Substation to Northeast Substation
	(Interim line in service. Final completion date dependent upon public improvements)
Is Certificate Necessary	Siting Case #47

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Loop existing North Loop Substation to DeMoss Petrie Station line through Del Cerro Substation (previously named Sweetwater Substation).
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	Sec. 20 T13S R13E
d) Point of Termination	Sec. 20 T13S R13E
e) Length	Less than one mile
Routing	Loop existing line at Camino del Cerro and Santa Cruz River; west on Camino del Cerro into future Del Cerro Substation.
Purpose	To provide additional electric service to the western part of Tucson Electric Power Company's service area and to reinforce the local distribution system.
Date	
a) Construction Start	Under Review
b) In-Service Date	Under Review
Is Certificate Necessary	Siting Case #62

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Loop existing Irvington Station to Vail Substation #1 line through Robert Bills –Wilmot (formerly Littletown) Substation.
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	Vail – Irvington Corridor (Sec. 36 T15S R14E)
d) Point of Termination	Robert Bills – Wilmot Substation (Sec. 23 T15S R14E)
e) Length	Approximately 3 Miles of double-circuited line.
Routing	Loop existing north line west of Vail Substation along the west side of Wilmot Road approximately 1.5 miles into future Robert Bills – Wilmot Substation
Purpose	To provide additional electric service to the south-central part of Tucson Electric Power Company's service area.
Date	
a) Construction Start	2004
b) In-Service Date	2005
Is Certificate Necessary	Siting Case #123

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Loop existing Vail Substation to East Loop Substation line through future Pantano and Los Reales Substations.
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	Phase 1: Sec. 24, T15S R15E Phase 2: Sec. 28, T14S R15E
d) Point of Termination	Phase 1: Sec. 24, T15S R15E Phase 2: Sec. 28, T14S R15E
e) Length	Substations are less than one span from the existing line.
Routing	Phase 1 Loop existing line east of Houghton Road and south of Valencia Road through Los Reales Substation. Phase 2 Loop existing line east of Pantano Road and south of Golf Links through Pantano Substation.
Purpose	To provide additional electric service to the eastern part of Tucson Electric Power Company's service area and to reinforce the local distribution system.
Date	
a) Construction Start	2001
b) In-Service Date	Phase 1 – Completed Phase 2 - 2007
Is Certificate Necessary	No

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Extend 138-kV line from Midvale Substation through future Spencer Switchyard to future San Joaquin Substation.
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	Midvale Substation (Sec. 3 T15S R13E)
d) Point of Termination	Future San Joaquin Substation (physical location to be determined)
e) Length	Approximately 20 miles
Routing	Reviewing use of common utility corridor and existing subtransmission
Purpose	To provide additional electrical service to the far western portion of Tucson Electric Power Company's service area and to reinforce the local distribution system.
Date	
a) Construction Start	2008
b) In-Service Date	2009
Is Certificate Necessary	Under Review (dependent upon use of federal and/or Tohono r/w)

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	South Substation to DeMoss Petrie Substation
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	South Substation (Sec. 36 T16S R13E)
d) Point of Termination	DMP Substation (Sec. 35 T13S R13E)
e) Length	Approximately 18 miles
Routing	Unknown
Purpose	To reinforce Tucson Electric Power Company's 138kV system and to provide additional service to the western part of Tucson Electric Power Company's service area.
Date	
a) Construction Start	Under Review
b) In-Service Date	Under Review
Is Certificate Necessary	Yes

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation		South Substation to Cyprus Sierrita Extension Switchyard through future Desert Hills Substation and Green Valley Substation.
Size		
a) Voltage		138-kV
b) Capacity		System dependent
c) Point of Origin		South Substation (Sec. 36 T16S R13E)
d) Point of Termination		Cyprus-Sierrita Extension Switchyard (Sec. 10 T18S R12E)
e) Length		Approximately 24 miles
Routing		Reviewing use of existing subtransmission route.
Purpose		To provide additional electrical service to southern area of Tucson Electric Power Company's service area and to reinforce the local transmission & distribution system.
Date		
a) Construction Start		1995
b) In-Service Date	Phase 1 -1997 (Completed)	South 138-kV line to Green Valley.
	Phase 2 -2006	138-kV line from Green Valley through future Desert Hills Substation to future Cyprus-Sierrita substation
Is Certificate Necessary		Siting Case #84

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Loop Green Valley to Cyprus-Sierrita line through Desert Hills Substation.
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	Green Valley to Cyprus-Sierrita Corridor (Sec. 3 T19S R13E)
d) Point of Termination	Desert Hills Substation (Sec. 3 T19S R13E)
e) Length	Fewer than 3 spans
Routing	Loop existing north line west of Vail Substation along the west side of Wilmot Road approximately 1.5 miles into future Robert Bills – Wilmot Substation
Purpose	To provide additional electric service to the south-central part of Tucson Electric Power Company's service area.
Date	
a) Construction Start	2006
b) In-Service Date	2007
Is Certificate Necessary	No

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Rancho Vistoso Substation to future Catalina Substation
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	Rancho Vistoso Substation (Sec. 36 T11S R13E)
d) Point of Termination	Future Catalina Substation (physical location to be determined)
e) Length	Approximately 7 Miles
Routing	Reviewing use of WAPA corridor
Purpose	To provide additional electrical service to far northern area of Tucson Electric Power Company's service area and to reinforce the local distribution system.
Date	
a) Construction Start	2007
b) In-Service Date	2008
Is Certificate Necessary	Under Review

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Loop existing Irvington Station to Vail Substation #2 line through future University of Arizona Tech Park Substation.
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	Vail – Irvington Corridor
d) Point of Termination	Future U of A Tech Park Substation (physical location to be determined)
e) Length	Approximately 5 miles of double-circuited line
Routing	Loop existing Irvington – Vail #2 line into future U of A Tech Park substation
Purpose	To provide additional electric service to the U of A Tech Park expansion and the southern part of Tucson Electric Power Company's service area.
Date	
a) Construction Start	2009
b) In-Service Date	2010
Is Certificate Necessary	Yes

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

[Note: South T3 345/138 kV installation in 2005 may eliminate the contingency that drives this project]

Line Designation	Irvington – South and Irvington - Drexel 138 kV (lines #105 and #130)
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	N/A
d) Point of Termination	N/A
e) Length	
Routing	N/A
Purpose	Reconductor or make other modifications to the circuits to provide additional capacity on TEP's local 138 kV system during contingency operation; maintain existing capability and increase emergency capacity during system contingencies.
Date	
a) Construction Start	2008
b) In-Service Date	2009
Is Certificate Necessary	No
Technical Studies	Need for project being re-evaluated due to addition of South T3 345/138 kV transformer

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Tortolita – Rancho Vistoso and Rancho Vistoso - La Canada 138 kV (lines #122 and #128).
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	N/A
d) Point of Termination	N/A
e) Length	N/A
Routing	N/A
Purpose	Reconductor or make other modifications to the circuits to provide additional capacity on TEP's local 138 kV system during contingency operation; maintain existing capability and increase emergency capacity during system contingencies
Date	
a) Construction Start	2006
b) In-Service Date	2007
Is Certificate Necessary	No

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	La Canada - Rillito 138 kV (line #120).
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	N/A
d) Point of Termination	N/A
e) Length	N/A
Routing	N/A
Purpose	Reconductor or make other modifications to the circuits to provide additional capacity on TEP's local 138 kV system during contingency operation; maintain existing capability and increase emergency capacity during system contingencies
Date	
a) Construction Start	2007
b) In-Service Date	2008
Is Certificate Necessary	No

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Rillito – Northeast 138 kV (line #124)
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	N/A
d) Point of Termination	N/A
e) Length	N/A
Routing	N/A
Purpose	Reconductor or make other modifications to the circuits to provide additional capacity on TEP's local 138 kV system during contingency operation; maintain existing capability and increase emergency capacity during system contingencies
Date	
a) Construction Start	2010
b) In-Service Date	2011
Is Certificate Necessary	No

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10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	North Loop – Rillito 138 kV (line #114).
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	North Loop 138 kV Substation
d) Point of Termination	Rillito 138 kV Substation
e) Length	10.1 miles
Routing	N/A
Purpose	Reconductor or make other modifications to the circuits to provide additional capacity on TEP's local 138 kV system during contingency operation; maintain existing capability and increase emergency capacity during system contingencies
Date	
a) Construction Start	2006
b) In-Service Date	2007
Is Certificate Necessary	No

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Vail – Los Reales 138 kV (line #108).
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	Vail 138 kV Substation
d) Point of Termination	Los Reales 138 kV Substation
e) Length	4.6 miles
Routing	N/A
Purpose	Reconductor or make other modifications to the circuits to provide additional capacity on TEP's local 138 kV system during contingency operation; maintain existing capability and increase emergency capacity during system contingencies
Date	
a) Construction Start	2010
b) In-Service Date	2011
Is Certificate Necessary	No

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Vail – Wilmot – Irvington Reconductoring 138 kV (line #136 and 101)
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	Vail Substation
d) Intermediate Point	Wilmot 138 kV Substation
e) Point of Termination	Irvington 138 kV Substation
f) Length	Vail – Wilmot: 5.5 miles, Wilmot – Irvington: 5.5 miles
Routing	N/A
Purpose	Reconductor or make other modifications to the circuits to provide additional capacity on TEP's local 138 kV system during contingency operation; maintain existing capability and increase emergency capacity during system contingencies
Date	
a) Construction Start	2006 – engineering survey underway to determine most cost effective means to increase circuit capacity
b) In-Service Date	2007
Is Certificate Necessary	No

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Vail – Irvington #2 Reconductoring 138 kV (line #102)
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	Vail 138 kV Substation
d) Point of Termination	Irvington 138 kV Substation
e) Length	11.0 miles
Routing	N/A
Purpose	Reconductor or make other modifications to the circuits to provide additional capacity on TEP's local 138 kV system during contingency operation; maintain existing capability and increase emergency capacity during system contingencies.
Date	
a) Construction Start	2006 – engineering survey underway to determine most cost effective means to increase circuit capacity
b) In-Service Date	2007
Is Certificate Necessary	No

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

Line Designation	Irvington – 22nd Street Reconductoring 138 kV (line #140)
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	Irvington 138 kV Substation
d) Point of Termination	22nd Street 138 kV Substation
e) Length	3.40 miles
Routing	N/A
Purpose	Reconductor or make other modifications to the circuits to provide additional capacity on TEP's local 138 kV system during contingency operation; maintain existing capability and increase emergency capacity during system contingencies
Date	
a) Construction Start	2004 – engineering survey indicates that lowering underbuild allows operation at higher conductor temperature thus providing additional capacity during contingencies
b) In-Service Date	2005
Is Certificate Necessary	No

TUCSON ELECTRIC POWER COMPANY

10 YEAR PLAN

TRANSMISSION FACILITIES

[Note: This project has been completed]

Line Designation	22nd Street – East Loop Reconductoring 138 kV (line #145)
Size	
a) Voltage	138-kV
b) Capacity	System dependent
c) Point of Origin	22nd Street 138 kV Substation
d) Point of Termination	East Loop 138 kV Substation
e) Length	5.15 miles
Routing	N/A
Purpose	Lower distribution underbuild to provide additional capacity on TEP's local 138 kV system during contingency operation
Date	
a) Construction Start	2004
b) In-Service Date	2004 - COMPLETED
Is Certificate Necessary	No