

**WEST
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Enhancing wholesale
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in the southwest

WestConnect TTC/ATC

Workshop

AUGUST 19TH 2009

TTC/ATC Workshop Overview

- **Mod 29 update**
- **TTC/ATC Workshop Participants**
- **TTC/ATC Presentations**
 - **CCPG**
 - **SSPG**
 - **SWAT**

MOD 29 UPDATE

- **MOD-29 is one of three NERC accepted methods to Calculate TTC.**
 - **Flow gate method (Eastern Method)**
 - **System Rated Path (WECC Method)**
 - **Network Response (A Few Others)**
- **FERC accepts NERC standards but wants to remove the grandfathering of existing ratings.**
- **Comments were due back to NERC on May 26th, 2009.**
 - **SWAT submitted comments on behalf of its members.**
- **Current Status unknown!**

TTC/ATC Workshop Participants

CCPG: **Black Hills Power**
 Tri-State
 WAPA – RM

SSPG: **NVE**
 SMUD

SWAT: **APS**
 PNM
 EPE
 IID
 SRP
 SWTC

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CCPG Paths

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Black Hills Power Paths

Existing Paths For Black Hills

Path Name	TTC DETERMINE BY	TTC (TSGT Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
TSGTWSTATION-BHCE							
NORTH – SOUTH	TO	98	0	0	0	98	
SOUTH - NORTH	TO	98	0	0	0	98	
MIDW-TSGTWSTATION							
NORTH – SOUTH	TO	105	6	0	0	99	
SOUTH - NORTH	TO	105	0	0	0	105	
MIDW-PSCOWSTATION-BHCE							
NORTH – SOUTH	TO	80	0	0	0	80	
SOUTH – NORTH	TO	80	0	0	0	80	
COMA-READER-BHCE							
NORTH – SOUTH	TO	240	6	0	0	234	
SOUTH – NORTH	TO	240	0	0	0	240	

Existing Paths For Black Hills

Path Name	TTC DETERMINE BY	TTC (TSGT Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
CCW-BHCE							
WEST – EAST	TO	100	0	0	0	100	
EAST – WEST	TO	100	0	0	0	100	
BOON – BHCE							
WEST – EAST	TO	150	0	0	0	150	
EAST – WEST	TO	150	0	0	0	150	
MIDW-CRCMWSTATION-BHCE							
NORTH – SOUTH	TO	105	6	0	0	99	
SOUTH – NORTH	TO	105	6	0	0	99	
MIDW-PSCOWSTATION-LASANIM							
NORTH – SOUTH	TO	25	0	0	0	25	

Existing Paths For Black Hills

Path Name	TTC DETERMINE BY	TTC (TSGT Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
MIDW-BOON							
WEST – EAST	TO	105	6	0	0	99	
EAST – WEST	TO	105	6	0	0	99	
RC – RCEAST							
WEST – EAST	TO	200	0	0	200	0	
EAST – WEST	TO	200	0	0	200	0	
WYODAK - RC							
WEST – EAST	TO	354	65	0	154	135	
EAST – WEST	TO	354	30	0	75	249	
WYODAK - ANTELOPE							
NORTH – SOUTH	TO	442	300	0	105	37	
SOUTH - NORTH	TO	442	200	0	105	137	

Existing Paths For Black Hills

Path Name	TTC DETERMINE BY	TTC (TSGT Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
RC - SGW							
NORTH – SOUTH	TO	332	51	0	105	176	
SOUTH – NORTH	TO	332	105	0	0	227	
RC69-SGW							
NORTH - SOUTH	TO	200	51	0	149	0	
RC69 - WYODAK							
EAST - WEST	TO	200	65	0	135	0	
RC69 - ANTELOPE							
EAST - WEST	TO	200	65	0	135	37	

Existing Paths For Black Hills

Path Name	TTC DETERMINE BY	TTC (TSGT Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
WY69 - WYODAK							
EAST – WEST	TO	200	180	0	20	0	
WY69 - RC							
WEST - EAST	TO	200	30	0	170	0	
WY69 - ANTELOPE							
NORTH - SOUTH	TO	200	180	0	20	0	
WY69 - SGW							
WEST - EAST	TO	200	30	0	170	30	

Existing Paths For Black Hills

Path Name	TTC DETERMINE BY	TTC (TSGT Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
WYODAK - SGW							
WEST – EAST	TO	332	30	0	167	135	
EAST - WEST	TO	332	65	0	40	227	
ANTELOPE - SGW							
WEST - EAST	TO	332	30	0	167	135	
EAST – WEST	TO	332	65	0	230	37	
ANTELOPE - RC							
WEST - EAST	TO	354	30	0	189	135	
EAST - WEST	TO	354	65	0	252	37	

Black Hills Notes

NOTES	

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Tri-State Paths

Existing Paths For Tri-State

Path Name	TTC DETERMINE BY	TTC (TSGT Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
TOT 1A							
EAST – WEST	WECC	141	2	0	0	139	
TOT 2A							
NORTH – SOUTH	WECC	120	0	0	120	0	
TOT 3							
WEST - EAST	WECC	410	0	0	410	0	
TOT 5							
NORTH – SOUTH	WECC	260	0	0	260	0	

Existing Paths For Tri-State

Path Name	TTC DETERMINE BY	TTC (TSGT Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
TSGT EASTERN COLORADO SYSTEM							
NORTH - SOUTH	WECC	120	0	0	120	0	
SAN JUAN –FOURCORNERS (1)							
NORTH – SOUTH	WECC	149	0	0	85	64	
SAN JUAN-SHIPROCK-FOURCORNERS (2)							
NORTH – SOUTH	WECC	134	0	0	134	0	
SOUTHERN NEW MEXICO (NM1)							
NORTH – SOUTH	WECC	110	0	0	110	0	

Tri-State Notes

NOTES	

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WAPA Paths

Existing Paths For WAPA

Path Name	TTC DETERMINE BY	TTC (WAPA Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
SCSW-AU							
EAST – WEST	WECC	173	91	0	82	0	
WEST - EAST	WECC	173	91	0	72	10	
DJ-SCSW							
NORTH – SOUTH	TO	299	63	0	236	0	
SOUTH - NORTH	TO	299	178	0	56	0	
SGW –SCSW							
NORTH – SOUTH	TO	227	21	0	97	104	
SOUTH - NORTH	TO	227	41	0	72	49	
YTW - DJ							
NORTH – SOUTH	SUBREGION	225	54	0	171	0	
SOUTH - NORTH	SUBREGION	170	0	0	170	0	

Existing Paths For WAPA

Path Name	TTC DETERMINE BY	TTC (WAPA Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
YTP – YTW							
NORTH – SOUTH	SUBREGION	298	100	0	25	173	
SOUTH - NORTH	SUBREGION	298	100	0	148	50	
SGW -ARH							
NORTH – SOUTH	TO	214	70	0	144	0	
HDN – BRU							
NORTH - SOUTH	SUBREGION	25	0	0	0	25	
DJ – ARH							
NORTH – SOUTH	TO	160	18	0	142	0	
SOUTH - NORTH	WECC	227	227	0	0	0	

Existing Paths For WAPA

Path Name	TTC DETERMINE BY	TTC (WAPA Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
ARH - AU							
NORTH – SOUTH	WECC	227	100	0	127	0	
SOUTH – NORTH	WECC	227	57	0	170	50	
AU - BSAN							
NORTH – SOUTH	TO	109	9	0	100	0	
SCSW - AU							
NORTH – SOUTH	WECC	173	91	0	82	0	
SOUTH – NORTH	WECC	173	91	0	72	10	
CRG - AU							
EAST – WEST	WECC	455	21	0	430	4	
WEST - EAST	WECC	425	50	0	262	43	

Existing Paths For WAPA

Path Name	TTC DETERMINE BY	TTC (WAPA Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
CRG - BLUE							
WEST – EAST	WECC	50	30	0	0	20	
EAST - WEST	WECC	50	20	0	0	30	
CRG – SJ345							
NORTH – SOUTH	WECC	170	20	0	118	0	
SOUTH – NORTH	WECC	170	50	0	20	0	
CRG - CCI							
NORTH – SOUTH	TO	532	0	0	504	28	
SOUTH – NORTH	TO	330	0	0	330	0	
CCI – MIDW							
EAST – WEST	WECC	250	21	0	158	0	
WEST - EAST	WECC	250	100	0	115	35	

Existing Paths For WAPA

Path Name	TTC DETERMINE BY	TTC (WAPA Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
CCI – SHR2							
NORTH - SOUTH	WECC	250	0	0	25	0	
SOUTH - NORTH	WECC	250	0	0	250	0	
CRG - BOZ							
EAST - WEST	WECC	285	0	0	20	31	
WEST - EAST	WECC	218	43	0	136	2	
CRG – VNL							
EAST - WEST	WECC	140	0	0	140	0	
WEST - EAST	WECC	140	0	0	140	0	
CCI - MIDW							
EAST – WEST	WECC	250	21	0	158	0	
WEST - EAST	WECC	250	100	0	115	35	

WAPA Notes

NOTES	
A	This project is under construction and is expected to be in service by the end of summer 2010.

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SSPG Paths

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NVE Paths

Existing Paths For NVE

Path Name	TTC DETERMINE BY	TTC (NVE Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
ALTURAS							
NORTH-SOUTH	WECC,NWPP	300	0	0	110	190	1
SOUTH-NORTH	WECC,NWPP	300	0	0	72	228	1
IDAHO – SIERRA							
NORTH-SOUTH	WECC,NWPP	500	VARI	0	389	111	1,2
SOUTH-NORTH	WECC,NWPP	262	VARI	0	262	0	1,2
INTERMOUNTAIN & PAVANT-GONDER 230 KV							
EAST – WEST	WECC,NWPP	343	VARI	0	367	3	1,2,3
WEST - EAST	WECC,NWPP	235	VARI	0	20	215	1,2,3
SILVER PEAK- CONTROL 55 KV							
SOUTH-NORTH	WECC,NWPP	17	0	0	4	13	1
NORTH-SOUTH	WECC,NWPP	17	0	0	17	0	1

Existing Paths For NVE

Path Name	TTC DETERMINE BY	TTC (NVE Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
PG&E- SPP							
WEST – EAST	WECC,NWPP	100	0	0	0	100	1
EAST – WEST	WECC,NWPP	10	0	0	7	3	1,4
MARBLE – PLUMAS SIERRA							
WEST – EAST	WECC,NWPP	22	0	0	0	22	1
EAST – WEST	WECC,NWPP	22	0	0	7	15	1
TOT 2C							
NORTH - SOUTH	WECC	300	0	0	300	0	1
SOUTH - NORTH	WECC	300	0	0	0	300	1
CRYSTAL - ALLEN							
EAST – WEST	WECC	950	264	0	260	426	1,5
WEST - EAST	TO	950	150	0	8	792	1,5

Existing Paths For NVE

Path Name	TTC DETERMINE BY	TTC (NVE Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
MEAD –NV ENERGY							
SOUTH - NORTH	TO	3798	150	0		1276	1,9
NORTH - SOUTH	TO	3050	150	0		1784	1,6
ELDORADO – NV ENERGY							
SOUTH - NORTH	TO	797	0	0	0	797	1,9
NORTH - SOUTH	TO	797	0	0	797	0	1,7
MCCULLOUGH – NV ENERGY							
SOUTH - NORTH	TO	1350	0	0	171	1179	1,9
NORTH - SOUTH	TO	1350	0	0	17	1333	1

Additions & Changes For NVE

				EXPECTED					
PATH NAME	TTC DETERMINED BY	EXISTING TTC	CHANGE TTC	COMPLETION	TRM	CBM	COMMITTED USES	ATC	NOTE
PROJECT NAME									
NVEN -NVES									
NORTH - SOUTH	WECC	0	2000	DEC - 2012	0	0	600	1400	8
SOUTH - NORTH	WECC	0	1000	DEC - 2012	0	0	100	900	8

NVE Notes

NOTES	
1	All NVE numbers represent a point in time point in time of a dynamic number, see oasis posting. All TTC and ATC for specific numbers and changes. These numbers are for long term firm for 2010 as of today.
2	The variable TRM varies from about 180 to 399 and has to be available on path 16 an/or path 32.
3	Path 32 is the combination of two lines which have specific limitations. Import is limited to 343 for April and May and is at 370 the rest of the year.
4	Export across the Reno area is limited to 10 MW during May to Sept and is 50 MW the rest of the year.
5	The path can also be limited by internal system limitation of the “Northern Cut Plane” of 1,900 MW.
6	The scheduling path is also part of WECC Path 81 which has a 3,000 MW limit.
7	The capacity looks like it is released in short term
8	Line configuration is subject to change, same area as SWIP project.
9	The summation of the south to north of Mead, Eldorado, and McCullough paths make up the NVE Southern Cutplane which is limited 3,798 MW.

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SMUD Paths

SMUD Notes

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SWAT Paths

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APS Paths

Existing Paths For APS

Path Name	TTC DETERMINE BY	TTC (APS Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
FOUR CORNERS-CHOLLA 345KV							
EAST - WEST	TO	1340	0	0	1340	0	A
WEST - EAST	TO	1340	0	0	529	811	A

CHOLLA – PINNACLE PEAK 345KV							
EAST – WEST	WECC	1200	0	0	1200	0	
WEST - EAST	WECC	1200	0	0	130	1070	

CHOLLA-SAGUARO 500KV							
NORTH - SOUTH	TO	933	0	0	659	274	
SOUTH - NORTH	TO	933	0	0	10	923	

SOUTHERN NAVAJO 500KV							
NORTH - SOUTH	WECC	559	0	0	515	44	
SOUTH - NORTH	WECC	559	0	0	0	559	

Existing Paths For APS

Path Name	TTC DETERMINE BY	TTC (APS Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
PALO VERDE EAST							
WEST – EAST	OTHER	1913	0	0	1913	0	
EAST – WEST	OTHER	1913	0	0	350	1563	
PALO VERDE – RUDD 500KV							
WEST – EAST	OTHER	990	0	0	990	0	
EAST – WEST	OTHER	990	0	0	0	990	
MEAD – PERKINS 500KV							
WEST – EAST	WECC	349	0	0	0	349	B
EAST – WEST	WECC	349	0	0	200	149	B
HASSAYAMPA – NORTH GILA 500KV							
WEST – EAST	WECC	168	0	0	0	168	B
EAST – WEST	WECC	168	0	0	168	0	B

Additions & Changes For APS

				EXPECTED					
PATH NAME	TTC DETERMINED BY	EXISTING TTC	CHANGE TTC	COMPLETION	TRM	CBM	COMMITTED USES	ATC	NOTE
PROJECT NAME									
SOUTHERN NAVAJO									
SERIES COMP. UPGRADES									
NORTH - SOUTH	WECC	559	120	JUNE - 2010	0	0	315	364	C
SOUTH - NORTH	WECC	559	120	JUNE - 2010	0	0	679	0	C & D
PALO VERDE HUB - SUN VALLEY 500KV									
WEST - EAST	OTHER	0	400	JUNE - 2014	0	0	400	0	E
EAST - WEST	OTHER	0	400	JUNE - 2014	0	0	0	400	E
PALO VERDE - SUN VALLEY									
SUN VALLEY - TS9									
WEST - EAST	OTHER	400	400	JUNE-2016	0	0	800	0	E & F
EAST - WEST	OTHER	400	400	JUNE-2016	0	0	0	800	E & F
TS9 - PINICLE PEAK 500KV									
WEST - EAST	TO	0	500	JUNE-2011	0	0	500	0	G
EAST - WEST	TO	0	500	JUNE-2011	0	0	0	500	G

Additions & Changes For APS

				EXPECTED					
PATH NAME	TTC DETERMINED BY	EXISTING TTC	CHANGE TTC	COMPLETION	TRM	CBM	COMMITTED USES	ATC	NOTE
PROJECT NAME									
PALO VERDE HUB – NORTH GILA 500KV #2 LINE									
EAST - WEST	WECC	0	UNKNOWN	JUNE-2014	0	0	UNKNOWN	UNKNOWN	H
WEST - EAST	WECC	0	UNKNOWN	JUNE-2014	0	0	UNKNOWN	UNKNOWN	H

APS Notes

NOTES	
A	These lines are a subset of Path 22
B	These lines are a subset of Path 49
C	Project is still being studied in the WECC 3-phase rating process and neither the in-service date nor the TTC/ETC/ATC is firm. Preliminary rating for the entire path is estimated at 2750MW.
D	Use is Westwing to TS9
E	Project is still being studied and neither the in-service date nor the TTC/ETC/ATC is firm. APS is currently an 80% participant in the project.
F	Project completes the full 500kV path from Palo Verde to TS9 and is expected to increase the rating on the Palo Verde-Sun Valley portion that will be constructed first.
G	Project is still being studied and neither the in-service date nor the TTC/ETC/ATC is firm. APS is currently a 50% participant in the project.
H	Project likely to be incorporated into Path 49. Project is still being studied and neither the in-service date nor the TTC/ETC/ATC is known at this time. APS is currently 40% participant.

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EPE Paths

Existing Paths For EPE

Path Name	TTC DETERMINE BY	TTC (EPE Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
SOUTHERN NEW MEXICO (NM1)							
WEST – EAST	WECC	645	0	0	645	0	
AFTON345-GREENLEE345							
EAST - WEST	TO	200	0	0	200	0	
AFTON345-HIDALGO345							
EAST - WEST	TO	286	0	0	200	186	
WEST - EAST	TO	286	0	0	286	0	
AFTON345-LUNA345							
EAST - WEST	TO	862	0	0	50	812	
WEST - EAST	TO	615	0	0	615	0	

Existing Paths For EPE

Path Name	TTC DETERMINE BY	TTC (EPE Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
AFTON345-SPRINGERVILLE345							
EAST - WEST	TO	657	0	0	50	607	
AFTON345-WESTMESA345							
SOUTH - NORTH	TO	30	0	0	30	0	
AMRAD345-GREENLEE345							
EAST - WEST	TO	200	0	0	200	0	
AMRAD345-SPRINGERVILLE345							
EAST - WEST	TO	205	0	0	133	72	

Existing Paths For EPE

Path Name	TTC DETERMINE BY	TTC (EPE Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
EDDY230-GREENLEE345							
EAST - WEST	TO	133	0	0	133	0	
WEST - EAST	TO	107	0	0	107	0	

EDDY230-HIDALGO345							
EAST - WEST	TO	133	0	0	133	0	

EDDY230-LUNA345							
EAST - WEST	TO	133	0	0	133	0	

EDDY230-SPRINGERVILLE345							
EAST - WEST	TO	133	0	0	133	0	
WEST - EAST	TO	133	0	0	133	0	

Existing Paths For EPE

Path Name	TTC DETERMINE BY	TTC (EPE Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
EDDY230-WESTMESA345							
SOUTH - NORTH	TO	30	0	0	30	0	

GREENLEE345-WESTMESA345							
EAST - WEST	TO	30	0	0	30	0	

HIDALGO345-SPRINGERVILLE345							
OTHER	TO	286	0	0	286	0	

HIDALGO345-WESTMESA345							
SOUTH - NORTH	TO	30	0	0	30	0	

Existing Paths For EPE

Path Name	TTC DETERMINE BY	TTC (EPE Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
JOJOBA500-KYRENE500							
WEST - EAST	TO	1034	0	0	642	392	
EAST - WEST	TO	1034	0	0	400	634	

JOJOBA500-PALOVERDE500							
EAST - WEST	WECC	1034	0	0	400	634	
WEST - EAST	WECC	1034	0	0	642	392	

JOJOBA500-WESTWING500							
OTHER	WECC	1034	0	0	642	392	

KYRENE500-PALOVERDE500							
EAST - WEST	WECC	1034	0	0	400	634	
WEST - EAST	WECC	1034	0	0	642	392	

Existing Paths For EPE

Path Name	TTC DETERMINE BY	TTC (EPE Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
PALOVERDE500-WESTWING500							
WEST - EAST	WECC	1034	0	0	642	392	
EAST - WEST	WECC	1034	0	0	400	634	

SPRINGERVILLE345-WESTMESA345							
SOUTH - NORTH	TO	30	0	0	30	0	

WESTMESA345-AMRAD115							
NORTH - SOUTH	TO	115	0	0	115	0	

Additions & Changes For EPE

				EXPECTED					
PATH NAME PROJECT NAME	TTC DETERMINED BY	EXISTING TTC	CHANGE TTC	COMPLETION	TRM	CBM	COMMITTED USES	ATC	NOTE
PICANTE 345/115 KV TRANSFORMER									
OTHER	NONE	0	200	MAY-2010	0	0	200	0	A

EPE Notes

NOTES	
A	This project is under construction and is expected to be in service by the end of summer 2010.

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IID Paths

Existing Paths For IID

Path Name	TTC DETERMINE BY	TTC (IID Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
IID-SCE INTERTIE							
EAST - WEST	WECC	600	0	0	600	0	A
WEST – EAST	OTHER	600	0	0	0	600	B
IID-SDG&E INTERTIE							
EAST - WEST	WECC	239	0	0	0	239	C
WEST - EAST	OTHER	239	0	0	239	0	D
IID-WAPA INTERTIE							
EAST – WEST	TO	275	0	0	275	0	E
WEST – EAST	OTHER	275	0	0	0	275	F
IID-APS INTERIE							
EAST - WEST	TO	75	0	0	75	0	G
WEST – EAST	OTHER	75	0	0	10	65	H

IID Notes

NOTES	
A	IID-SCE intertie
B	IID -SCE intertie-short term only
C	IID - SDG&E intertie
D	IID - SDG&E intertie
E	IID - WAPA intertie
F	IID - WAPA intertie
G	IID - APS intertie
H	IID - APS intertie

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PNM Paths

Existing Paths For PNM

Path Name	TTC DETERMINE BY	TTC (PNM Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
NORTHERN NEW MEXICO (NM2)							
WEST – EAST	WECC	1849	127	0	1840	0	A,B
EAST - WEST	WECC	1412	0	0	190	1222	
SJ345-FOURCORNER 345KV							
SJ345-FOURCORNE345	TO	299	0	0	116	183	
FOURCORNE345-SJ345	TO	299	0	0	0	299	
SJ345-MCKINLEY 345KV							
SJ345-MCKINLEY 345KV	TO	150	0	0	150	0	
MCKINLEY345 – SJ 345KV	TO	150	0	0	94	56	

Existing Paths For PNM

Path Name	TTC DETERMINE BY	TTC (PNM Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
MCKINLEY345-SPRINGER 345KV							
MCKINLEY345-SPRINGER 345KV	TO	100	0	0	100	0	
SPRINGER345-MCKINLEY 345KV	TO	100	0	0	94	6	
SPRINGER345-CORONADO 345KV							
SPRINGER345-CORONADO 345KV	TO	100	0	0	100	0	
CORONADO345-SPRINGER 345KV	TO	100	0	0	25	75	
SJ345-GREENLEE 345KV							
SJ345-GREENLEE 345KV	TO	63	3	0	47	13	
GREENLEE345-SJ 345KV	TO	50	0	0	50	0	
SHIPROCK345-FOURCORNERS 345KV							
SHIPROCK345-FOURCORNE 345KV	TO	300	0	0	0	300	
FOURCORNE345-SHIPROCK 345KV	TO	300	0	0	0	300	

Existing Paths For PNM

Path Name	TTC DETERMINE BY	TTC (PNM Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
SJ345-SHIPROCK 345KV							
SJ345-SHIPROCK 345KV	TO	269	0	0	50	219	
SHIPROCK345-SJ 345KV	TO	269	0	0	0	269	
SJ345-HOBACK 345KV							
SJ345-HOBACK 345KV	TO	200	0	0	200	0	
HOBACK 345-SJ 345KV	TO	200	0	0	200	0	
GREENLEE345-HIDALGO 345KV							
GREENLEE345-HIDALGO 345KV	TO	160	3	0	157	0	
HIDAGO345 - GREENLEE 345KV	TO	300	0	0	130	170	
PALOVERDE500-EAST (WESTWING500,KYRENE500,JOJOBA500)							
PALOVERDE500-EAST	TO	669	0	0	358	311	
EAST-PALOVERDE500	TO	106	0	0	0	106	

Existing Paths For PNM

Path Name	TTC DETERMINE BY	TTC (PNM Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
WESTWING500-WESTWING 230KV							
WESTWING500-WESTWING 230KV	TO	181	0	0	134	47	
WESTWING230-WESTWING 500KV	TO	181	0	0	0	181	
KYRENE500-KYRENE 230KV							
KYRENE500-KYRENE 230KV	TO	298	0	0	0	298	
KYRENE230-KYRENE 500KV	TO	298	0	0	0	298	
FOURCORNE345-FOURCORNE 230KV							
FOURCORN345-FOURCORNE230 KV	TO	156	3	0	8	148	
FOURCORN230-FOURCORNE345 KV	TO	156	0	0	30	126	
HIDAGO345-LUNA345 KV							
HIDAGO345-LUNA 345KV	TO	214	3	0	99	112	
LUNA345-HIDAGO 345KV	TO	214	0	0	0	214	

Existing Paths For PNM

Path Name	TTC DETERMINE BY	TTC (PNM Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
HILDAGO345 – HIDAGO 115KV							
HILDAGO345-HILDAGO 115KV	TO	448	0	0	110	338	
HILDAGO115-HILDAGO 345KV	TO	448	0	0	182	266	
EDDY230-AMRAD 345 KV							
EDDY230-AMRAD 345KV	TO	67	0	0	0	0	
AMRAD345-EDDY 230KV	TO	67	0	0	0	0	
AMRAD345-AMRAD 115KV							
AMRAD345-AMRAD 115KV	TO	115	0	0	0	115	
AMRAD115-AMRAD 345KV	TO	115	0	0	0	115	
LUNA345-LUNA 115KV							
LUNA345-LUNA 115KV	TO	200	3	0	157	40	
LUNA115-LUNA 345KV	TO	200	0	0	0	200	

PNM Notes

NOTES	
A	Path 48 rating is dynamically calculated in real-time and can be higher or lower than number shown. Rating shown is dependent on local dispatch. WECC Path rating of 1849 MW simultaneous with Path 47, 1970 MW non-simultaneous.
B	Path 48 Committed Uses do not include contingent firm.

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SRP Paths

Existing Paths For SRP

Path Name	TTC DETERMINE BY	TTC (SRP Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
PALO VERDE-KYRENE & WESTWING 500KV							
WEST - EAST	SUBREGION	1913	0	0	1909	4	
EAST - WEST	SUBREGION	1913	0	0	1050	863	
PALO VERDE-RUDD 500KV							
WEST - EAST	SUBREGION	990	0	0	990	0	
EAST - WEST	SUBREGION	990	0	0	0	990	
CORONADO-SILVERKING-KYRENE 500KV							
NORTH - SOUTH	WECC	1133	100	0	968	65	
SOUTH - NORTH	WECC	1133	0	0	402	731	
SOUTHERN NAVAJO 500KV							
NORTH - SOUTH	WECC	1404	210	0	1061	133	
SOUTH - NORTH	WECC	1404	0	0	587	817	

Existing Paths For SRP

Path Name	TTC DETERMINE BY	TTC (SRP Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
MEAD-PERKINS 500KV							
NORTH-SOUTH	WECC	349	0	0	236	113	
SOUTH-NORTH	WECC	349	0	0	236	113	
MARKETPLACE-MEAD 500KV							
NORTH-SOUTH	TO	556	0	0	0	556	
SOUTH-NORTH	TO	556	0	0	0	556	
MARKETPLACE-MCCULLOUGH 500KV							
EAST - WEST	TO	396	0	0	0	396	
WEST - EAST	TO	396	0	0	0	396	
MCCULLOUGH - NAVAJO 500							
WEST - EAST	WECC	356	0	0	356	0	

Existing Paths For SRP

Path Name	TTC DETERMINE BY	TTC (SRP Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
FOURCORNERS 345/230KV							
345/230KV	TO	300	0	0	50	250	
230/345KV	TO	300	0	0	0	300	
PALO VERDE –PINAL WEST 500KV							
WEST – EAST	SUBREGION	303	0	0	0	303	
EAST - WEST	SUBREGION	303	0	0	0	303	
CORONADO – SUGARLOAF 500KV							
EAST - WEST	TO	463	292	0	165	6	
WEST – EAST	TO	477	100	0	115	262	
SUGARLOAF - CHOLLA 500KV							
EAST - WEST	TO	409	299	0	105	5	
WEST – EAST	TO	496	100	0	115	281	

Existing Paths For SRP

Path Name	TTC DETERMINE BY	TTC (SRP Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
MOHAVE-ELDORADO 500KV							
NORTH-SOUTH	TO	158	0	0	0	158	
SOUTH-NORTH	TO	158	0	0	0	158	
ELDORADO-MEAD 500KV							
NORTH-SOUTH	TO	158	0	0	0	158	
SOUTH-NORTH	TO	158	0	0	0	158	
RUDD- LIBERTY 230KV							
NORTH-SOUTH	TO	638	70	0	461	107	
SOUTH-NORTH	TO	638	0	0	548	90	

Additions & Changes For SRP

				EXPECTED					
PATH NAME	TTC DETERMINED BY	EXISTING TTC	CHANGE TTC	COMPLETION	TRM	CBM	COMMITTED USES	ATC	NOTE
PROJECT NAME									
TS9 – PINNACLE PK									
WEST – EAST	SUBREGION	0	450	DEC-2010	0	0	0	450	A
EAST – WEST	SUBREGION	0	450	DEC-2010	0	0	0	450	A

PINAL WEST - PINAL CENTRAL – BROWNING									
PV-PW – PINAL CENTRAL – BROWNING									
WEST – EAST	SUBREGION	303	560	JUNE – 2013	0	0	512	351	B
EAST – WEST	SUBREGION	303	560	JUNE – 2013	0	0	0	863	B

DESERT BASIN – PINAL CENTRAL									
WEST - EAST	SUBREGION	0	450	JUNE -2013	0	0	0	450	C
EAST - WEST	SUBREGION	0	450	JUNE-2013	0	0	0	450	C

CORONADO - SILVERKING									
SPRINGERVILLE UNIT4 UPGRADES									
NORTH-SOUTH	WECC	1133	361	MARCH – 2010	0	0	1476	18	D
SOUTH-NORTH	WECC	1133	361	MARCH - 2010	0	0	250	1244	D

Additions & Changes For SRP

				EXPECTED					
PATH NAME	TTC DETERMINED BY	EXISTING TTC	CHANGE TTC	COMPLETION	TRM	CBM	COMMITTED USES	ATC	NOTE
PROJECT NAME									
SOUTHERN NAVAJO									
UPGRADE SERIES COMP									
NORTH-SOUTH	WECC	1404	580	JUNE-10	210	0	1282	492	E
SOUTH-NORTH	WECC	1404	580	JUNE-10	0	0	833	1151	E

SRP Notes

NOTES	
A	This project is still being studied and neither the in-service date nor the TTC/ETC/ATC is firm.
B	This project is still being studied and neither the in-service date nor the TTC/ETC/ATC is firm.
C	This project is still being studied and neither the in-service date nor the TTC/ETC/ATC is firm.
D	Springerville Unit4 and associated transmission upgrades are under construction and expected to be completed by 3/2010
E	This project is still being studied and neither the in-service date nor the TTC/ETC/ATC is firm.

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SWTC Paths

Existing Paths For SWTC

Path Name	TTC DETERMINE BY	TTC (SWTC Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
APACHE115-PALOVERDE500							
APACHE115-PALOVERDE500	TO	19	0	0	19	0	
PALOVERDE500-APACHE115	TO	19	0	0	19	0	
APACHE115-VAIL345							
APACHE115-VAIL345	TO	193	0	0	173	20	
VAIL345-APACHE115	TO	193	0	0	193	0	
APACHE115-WESTWING500							
APACHE115-WESTWING500	TO	161	0	0	141	20	
WESTWING500-APACHE115	TO	161	0	0	161	0	
APACHE115-WINCHESTR345							
APACHE115-WINCHESTR345	TO	200	0	0	97	103	
WINCHESTR345-APACHE115	TO	200	0	0	25	175	

Existing Paths For SWTC

Path Name	TTC DETERMINE BY	TTC (SWTC Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
APACHE230-GREENLEE345							
APACHE230-GREENLEE345	TO	193	0	0	85	108	
GREENLEE345-APACHE230	TO	193	0	0	87	106	
APACHE230-GRENLESWT345							
APACHE230-GRENLESWT345	TO	193	0	0	85	108	
GRENLESWT345-APACHE230	TO	193	0	0	50	143	
APACHE230-PALOVERDE500							
APACHE230-PALOVERDE500	TO	19	0	0	19	0	
APACHE230-VAIL345							
APACHE230-VAIL345	TO	193	0	0	173	20	
VAIL345-APACHE230	TO	193	0	0	193	0	

Existing Paths For SWTC

Path Name	TTC DETERMINE BY	TTC (SWTC Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
APACHE230-WESTWING345							
APACHE230-WESTWING345	TO	161	0	0	141	20	
WESTWING345-APACHE230	TO	161	0	0	161	0	
APACHE230-WESTWING500							
APACHE230-WESTWING500	TO	161	0	0	85	108	
WESTWING500-APACHE230	TO	161	0	0	161	0	
APACHE230-WINCHESTR345							
APACHE230-WINCHESTR345	TO	420	0	0	100	320	
WINCHESTR345-APACHE230	TO	420	0	0	150	270	
BICKNELL230-VAIL345							
BICKNELL230-VAIL345	TO	193	0	0	173	20	
VAIL345-BICKNELL230	TO	193	0	0	193	0	

Existing Paths For SWTC

Path Name	TTC DETERMINE BY	TTC (SWTC Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
DOSCONDAD230-WESTWING500							
DOSCONDAD230-WESTWING500	TO	161	0	0	141	20	
WESTWING500-DOSCONDAD230	TO	161	0	0	161	0	
GREENLEE345-APACHE115							
GREENLEE345-APACHE115	TO	193	0	0	87	106	
GREENLEE345-DOSCONDAD230							
GREENLEE345-DOSCONDAD230	TO	193	0	0	87	106	
GREENLEE345-GRENLESWT345							
GREENLEE345-GRENLESWT345	TO	193	0	0	87	106	
GRENLESWT345-GREENLEE345	TO	193	0	0	85	108	

Existing Paths For SWTC

Path Name	TTC DETERMINE BY	TTC (SWTC Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
GREENLEE345-HACKBERRY230							
GREENLEE345-HACKBERRY230	TO	193	0	0	87	106	
GREENLEE345-HAYDEN115							
GREENLEE345-HAYDEN115	TO	120	0	0	70	50	
HAYDEN115-GREENLEE345	TO	120	0	0	40	80	
GREENLEE345-MORENCI230							
GREENLEE345-MORENCI230	TO	193	0	0	87	106	
MORENCI230-GREENLEE345	TO	193	0	0	85	108	
GREENLEE345-PALOVERDE500							
GREENLEE345-PALOVERDE500	TO	19	0	0	19	0	
PALOVERDE500-GREENLEE345	TO	19	0	0	19	0	

Existing Paths For SWTC

Path Name	TTC DETERMINE BY	TTC (SWTC Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
GREENLEE345-VAIL345							
GREENLEE345-VAIL345	TO	193	0	0	173	20	
VAIL345-GREENLEE345	TO	193	0	0	193	0	
GREENLEE345-WESTWING345							
GREENLEE345-WESTWING345	TO	161	0	0	141	20	
WESTWING345-GREENLEE345	TO	161	0	0	161	0	
GREENLEE345-WESTWING500							
GREENLEE345-WESTWING500	TO	161	0	0	141	20	
WESTWING500-GREENLEE345	TO	161	0	0	161	0	
GRENLESWT345-MORENCI230							
GRENLESWT345-MORENCI230	TO	193	0	0	50	143	
MORENCI230-GRENLESWT345	TO	193	0	0	85	108	

Existing Paths For SWTC

Path Name	TTC DETERMINE BY	TTC (SWTC Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
GRENLESWT345-VAIL345							
GRENLESWT345-VAIL345	TO	193	0	0	173	20	
GRENLESWT345-VAIL345	TO	193	0	0	193	0	
GRENLESWT345-WESTWING345							
GRENLESWT345-WESTWING345	TO	161	0	0	141	20	
WESTWING345-GRENLESWT345	TO	161	0	0	161	0	
GRENLESWT345-WESTWING500							
GRENLESWT345-WESTWING500	TO	161	0	0	141	0	
WESTWING500-GRENLESWT345	TO	161	0	0	161	0	
MORENCI230-VAIL345							
MORENCI230-VAIL345	TO	193	0	0	173	20	
VAIL345-MORENCI230	TO	193	0	0	193	0	

Existing Paths For SWTC

Path Name	TTC DETERMINE BY	TTC (SWTC Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
MORENCI230-WESTWING500							
MORENCI230-WESTWING500	TO	161	0	0	141	20	
WESTWING500-MORENCI230	TO	161	0	0	161	0	
PALOVERDE500-PINALWEST500							
PALOVERDE500-PINALWEST500	TO	19	0	0	19	0	
PINALWEST500-PALOVERDE500	TO	19	0	0	19	0	
PALOVERDE500-VAIL345							
PALOVERDE500-VAIL345	TO	19	0	0	19	0	
VAIL345-PALOVERDE500	TO	19	0	0	19	0	
PALOVERDE500-WESTWING500							
PALOVERDE500-WESTWING500	TO	19	0	0	19	0	
WESTWING500-PALOVERDE500	TO	19	0	0	19	0	

Existing Paths For SWTC

Path Name	TTC DETERMINE BY	TTC (SWTC Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
PINALWEST500-VAIL345							
PINALWEST500-VAIL345	TO	222	0	0	167	55	
VAIL345-PINALWEST500	TO	222	0	0	106	116	
PINALWEST500-WESTWING500							
PINALWEST500-WESTWING500	TO	161	0	0	106	55	
WESTWING500-PINALWEST500	TO	161	0	0	161	0	
VAIL345-HACKBERRY230							
VAIL345-HACKBERRY230	TO	193	0	0	193	0	
VAIL345-VAIL345							
VAIL345-VAIL345	TO	193	0	0	193	0	

Existing Paths For SWTC

Path Name	TTC DETERMINE BY	TTC (SWTC Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
VAIL345-WESTWING345							
VAIL345-WESTWING345	TO	161	0	0	106	55	
WESTWING345-VAIL345	TO	161	0	0	161	0	
VAIL345-WESTWING500							
VAIL345-WESTWING500	TO	161	0	0	106	55	
WESTWING500-VAIL345	TO	161	0	0	161	0	
WESTWING345-HACKBERRY230							
WESTWING345-HACKBERRY230	TO	161	0	0	161	0	
WESTWING345-WESTWING500							
WESTWING345-WESTWING500	TO	161	0	0	161	0	

Existing Paths For SWTC

Path Name	TTC DETERMINE BY	TTC (SWTC Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
WESTWING500-BICKNELL230							
WESTWING500-BICKNELL230	TO	161	0	0	161	0	
WESTWING500-HACKBERRY230							
WESTWING500-HACKBERRY230	TO	161	0	0	161	0	
WINCHESTER345-GREENLEE345							
WINCHESTER345-GREENLEE345	TO	193	0	0	85	108	
WINCHESTER345-MORENCI230							
WINCHESTER345-MORENCI230	TO	420	0	0	150	270	

Existing Paths For SWTC

Path Name	TTC DETERMINE BY	TTC (SWTC Share)	TRM	CBM	COMMITTED USES	ATC	NOTE
WINCHESTR345-APACHE115							
WINCHESTR345-APACHE115	TO	200	0	0	25	175	
WINCHESTR345-HACKBERRY230							
WINCHESTR345-HACKBERRY230	TO	420	0	0	150	270	
WINCHESTR345-WINCHESTR345							
WINCHESTR345-WINCHESTR345	TO	420	0	0	140	280	

SWTC Notes

NOTES	