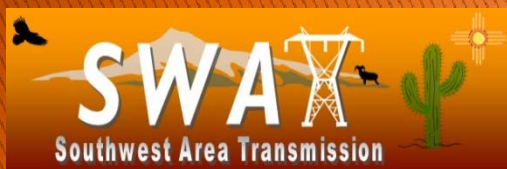


# Eldorado Valley Study Group SWAT Steering Committee Update

November 15, 2011



# EVSG Subcommittee Background

- ▶ Formed May 2010
- ▶ EVSG Purpose
  - “Coordinate the development of all projects coming into and leaving the Eldorado Valley” (geographic, path rating, electric) May 17, 2010 Agreement

## ✕ EVSG Tasks

- ✕ Inventory of facilities and projects <<complete>>
- ✕ Create a conceptual plan <<complete>>
- ✕ Technical analysis <<drafted for review>>

# EVSG Area Projects

1. TransWest Express (TWE) (WECC Phase 2 - (Ph2))
2. Southwest Intertie Project (SWIP)/  
Southern Nevada Intertie Project (SNIP)(LSP)  
(Ph2)
3. Chinook (TransCanada) (Ph1)
4. Zephyr (TransCanada) (Ph1)
5. Gateway South (PacifiCorp) (Ph2)
6. Centennial West (Clean Line) (Pre-PCR)
7. Navajo Transmission Project (NTUA)(Ph2)
8. SMRT Elements, various (WAPA) (Pre-PCR)
9. ON Line Project (NV Energy) (Ph2)
10. TCP Project (NV Energy/WAPA.) (Pre-PCR)
11. Pony Express (Eldorado Valley to Devers)  
(Pre-PCR)
12. Eldorado - Ivanpah 220 kV (Pre-PCR.)
13. Anova Project (Pre-PCR)
14. LV - LA Transmission Project (Energy Capital  
Partners/PDS) (Pre-PCR)
15. Solar Express (RETCO)(Pre-PCR)
16. West Tie (NVE) Pre-PCR)

Source: SWAT-EVSG Work Plan V5 4.29.2011.



# EVSG Study Plan – January 2011

- ▶ This high level feasibility study plan has been developed to model the conceptual plans for the termination stations proposed within the Eldorado Valley, as well as the potential impacts and benefits for new facilities that are planned to interconnect to the proposed termination stations.
- ▶ The study plan will not model specific projects, but will model a single injection level at **Agora** and document the impacts to the existing system by noting the loadings under normal and emergency single system conditions (N-0 and N-1 Only)
- ▶ From this base analysis, incremental 500kV will be modeled from the Eldorado Valley area to the southern California area load center and perform a similar analysis to determine the potential incremental increase in transfer capability.
- ▶ Branch Flow and Outage Distribution Factors will be noted for the base system as well as the post 500kV line case to assist with the predictive analysis on the capabilities of the Eldorado Valley area system (230kV and above).



# Eldorado Valley South Interface

ELDORADO VALLEY SOUTH INTERFACE	
MARKET PLACE-HLTAP-ADELANTO	500kV
MCCOULLGH-VICTORVILLE #1	500kV
MCCOULLGH-VICTORVILLE #2	500kV
ELDORADO-LUGO	500kV
ELDORADO-PISGAH	230kV
ELDORADO-CIMA	230kV
MOHAVE-LUGO	500kV
MEAD S-CAMINO E	230kV
MEAD S-CAMINO W	230kV
MEAD-VICTORVILLE	287kV

# Injections and Schedules

<b>INJECTION/ SCHEDULED AREA DISTRIBUTION</b>	
<b>CONTROL AREA</b>	<b>SCHEDULED DISTRIBUTION</b>
<b>NEVADA ( AREA 18)</b>	<b>1/7 OF TOTAL INJECTION</b>
<b>ARIZONA (AREA 14)</b>	<b>2/7 OF TOTAL INJECTION</b>
<b>SOUTHERN CALIFORNIA</b>	<b>4/7 OF TOTAL INJECTION</b>
<b>SCE (AREA 24)</b>	<b>55% of the Southern California Distribution</b>
<b>LADWP(AREA 26)</b>	<b>30% of the Southern California Distribution</b>
<b>SDG&amp;E(AREA 22)</b>	<b>15% of the Southern California Distribution</b>

# Technical Study Scenarios

Base Case Scenarios	
<b>Scenario #1</b>	Addition of the Agora 500kV Substation a. Loop-in the Market Place to Mead 500kV Line b. Loop-in the McCullough to Market Place 500kV Line c. Loop-in the McCullough to Eldorado 500kV Line
<b>Scenario #2</b>	Addition of a Market Place to Rancho Vista 500kV Line
<b>Scenario #3</b>	Addition of a Eldorado to Agora 500kV Line #2
<b>Scenario #4</b>	Addition of a McCullough to Marketplace 500kV Line and the addition of a Eldorado to McCullough 500kV Line

# Study Results

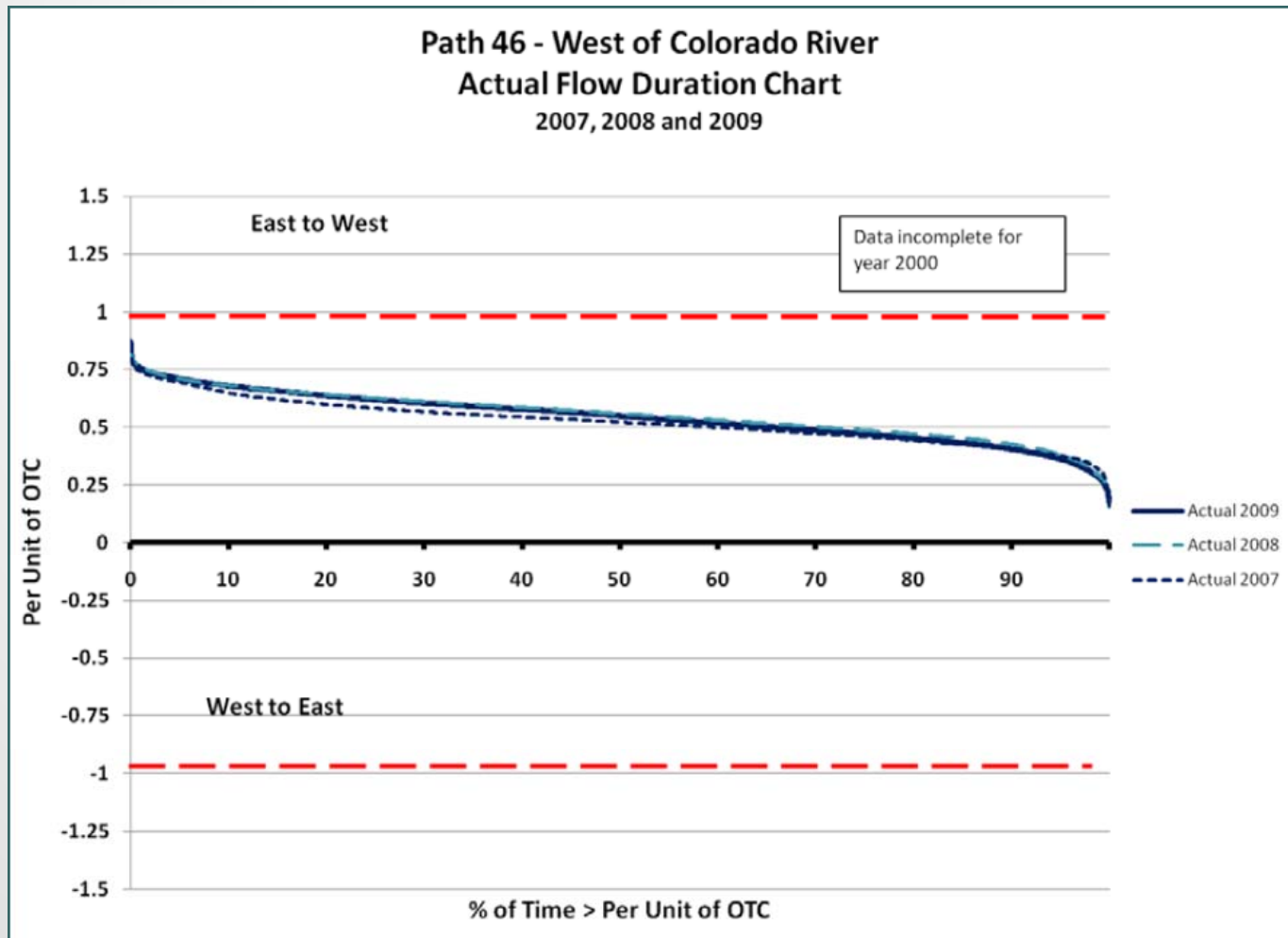
**Table of Results**

<b>Table of Results</b>			
<b>SCENARIO</b>		<b>AGORA INJECTION</b>	<b>ELDORADO VALLEY SOUTH INTERFACE FLOW</b>
		<b>(MW)</b>	<b>(MW)</b>
<b>#1</b>	<b>Agora 500kV Switch Yard</b>	<b>5600</b>	<b>6043</b>
<b>#2</b>	<b>Market Place/Rancho Vista 500kV Line</b>	<b>7700</b>	<b>7490</b>
<b>#3</b>	<b>Eldorado/Agora 500kV Line #2</b>	<b>8500</b>	<b>7968</b>
<b>#4</b>	<b>McCullough/Market Place 500kV Line &amp; Eldorado/McCullough 500kV Line</b>	<b>9800</b>	<b>8734</b>

# Technical Summary–High Level

- ▶ The addition of the Agora Substation with additional strengthening of the Eldorado Valley area system can provide a reasonable injection location for up to 9800MW.
- ▶ The addition of a new 500kV line from the Eldorado Valley to the load centers of the Los Angeles basin (e.g. Rancho Vista) can provide additional export capability of the Eldorado Valley South interface by as much as 2681MW

# WOR Path Historical Flows



# EVSG Next Steps

- ▶ EVSG subcommittee continuation and develop 2012 objectives
- ▶ Recommendations:
  - Update EVSG area map of proposed projects
  - Refine Technical Model based on revised Ten-Year Plans (NVE, VEA, developers, etc.)
  - Additional Power Flow Analysis of Ten-Year Plans
  - Explore options for Agora Substation concept for terminating proposed HVDC Projects
  - Others?