

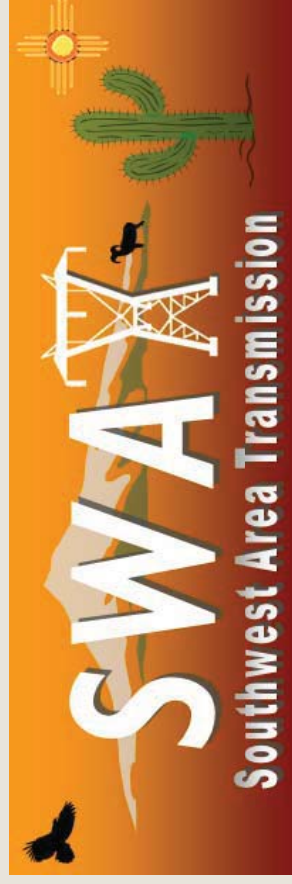
SWAT Update

1

ARIZONA 7TH BIENNIAL TRANSMISSION
ASSESSMENT

WORKSHOP # 2

AUGUST 16, 2012



August 16, 2012

SWAT's Purpose

2

May 20, 2009

Southwest Area Transmission Subregional Planning Group

CHARTER

I. Purpose

- The Southwest Area Transmission (SWAT) subregional planning group is a voluntary study group that has been created to serve the following purpose:
- *To provide an open and collaborative forum where interested parties are encouraged to participate in the planning, coordination, and implementation of a robust transmission system in Arizona, New Mexico, and parts of Colorado, west Texas, southern Nevada, and the Imperial Valley area of California. The open stakeholder participation envisioned in this process is intended to result in transmission expansion plans that meet a variety of needs and have a broad basis of support.*

SWAT Area

3

SWAT Footprint covers:

- Arizona
- New Mexico
- Southern Nevada
- Southern California (IID)
- West Texas (El Paso)

Meetings:

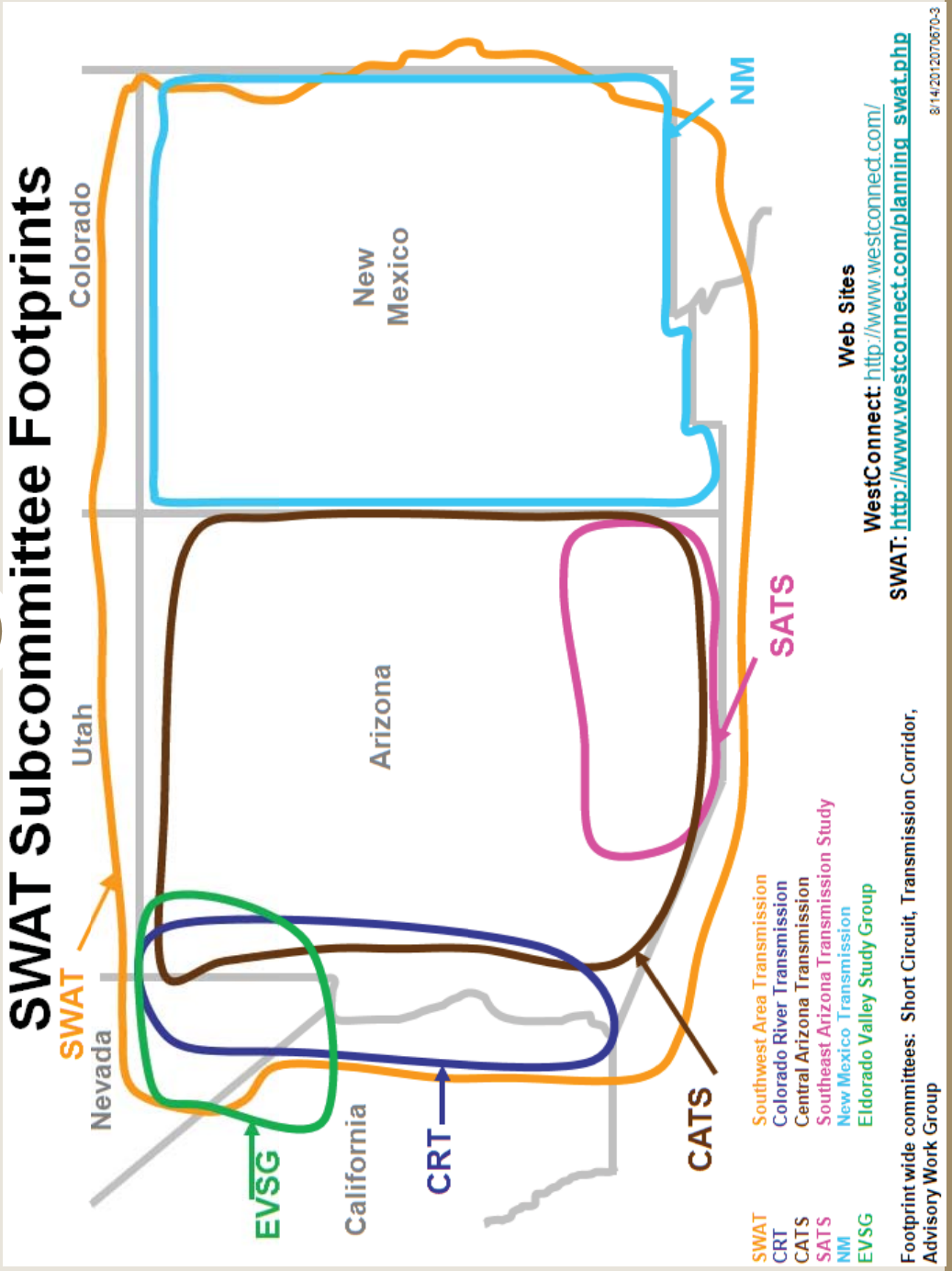
All SWAT Oversight, Subcommittee, Work Group or Study Group meetings are open to interested stakeholders. Four meetings per year in: February, May, August, and November

Meeting materials located at:

http://www.westconnect.com/planning_swat.php

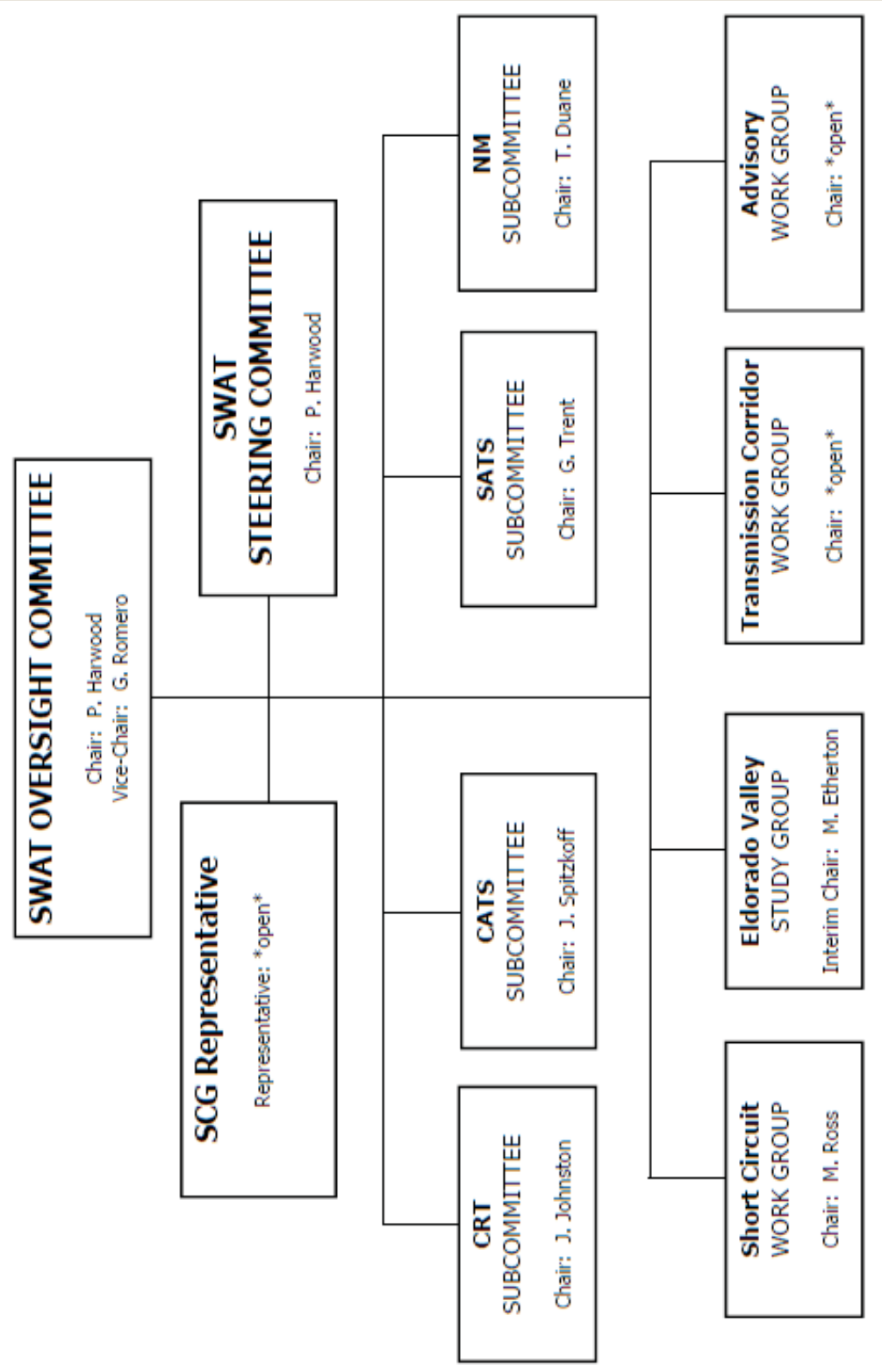


SWAT Subcommittees & Footprints

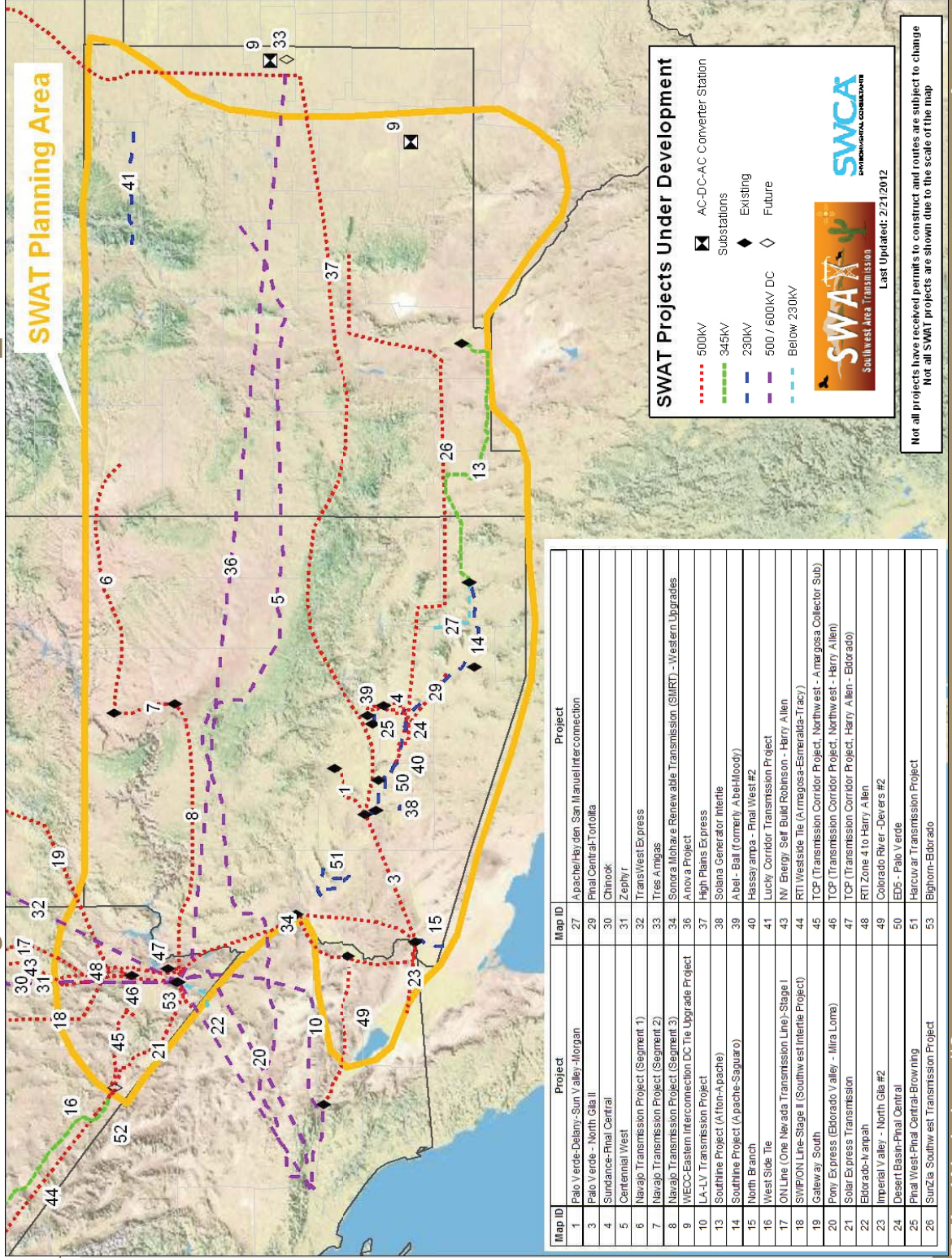


SWAT Structure and Subcommittees

5



Projects in SWAT footprint



Committee Updates

7

- **Central Arizona Transmission System, “CATS”**
 - Was the initial Project Coordination Review Group for Centennial West transmission line project (CW now has separate project review group to obtain more CA participation)
 - Coordinated power flow cases
 - Forum for BTA study results ⁽¹⁾:
 - ✦ Ten Year Snapshot (a.k.a Project Outage or N-1-1) Study
 - ✦ Reliability Must Run (RMR)
 - ✦ Extreme Corridor outage

(1) Results of Ten Year Snapshot, RMR, and Extreme Corridor studies were shared at the BTA Workshop #1, July 10, 2012

Committee Updates continued

8

- **Southeast Area Transmission, “SATS”**
 - SATS was the Project Coordination Review Group for the Southline project.
 - In 2010 completed an assessment of the SATS transmission system for the planned transmission configurations in 2011, 2015, 2020.
 - ✦ In 2010, the SATS aggregate load forecast was within 3% (or 100MW) of the aggregate load forecast provided in 2009. The aggregate load forecast was developed by summing the load forecasts provided by the individual participants.
 - ✦ SWTC reported that proposed voltage switched capacitor banks in 2013 and 2020 should mitigate the delta V issues identified in the 2009 SATS report.
 - ✦ The transmission system in the SATS footprint can reliably meet the needs of Southeastern Arizona with the projects proposed by the SATS participants. Any overloads noted in the study can be mitigated with planned projects, operating procedures, or automated actions.

Committee Updates continued

9

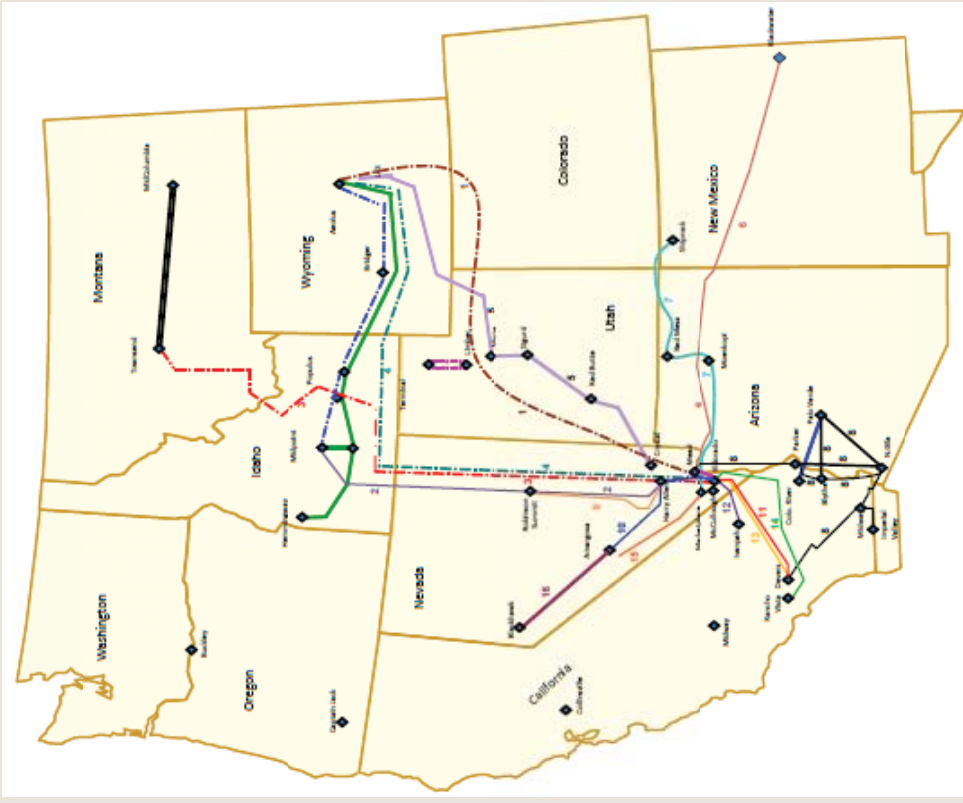
- Eldorado Valley Study Group, “EVSG”
 - Formed May 2010
 - EVSG Purpose
 - ✦ “Coordinate the development of all projects coming into and leaving the Eldorado Valley” (geographic, path rating, electric)
- EVSG 2010 Agreement
- EVSG 2010 Tasks
 - ✦ Inventory of facilities and projects <<complete>>
 - ✦ Create a conceptual plan <<complete>>
 - ✦ Technical analysis <<complete>>

Committee Updates continued

10

- TransWest Express (TWE) (WECC Phase 2 – (Ph2))
- Southwest Intertie Project (SWIP)/ Southern Nevada Intertie Project (SNIP)(LSP) (Ph2)
- Chinook (TransCanada) (Ph1)
- Zephyr (TransCanada) (Ph1)
- Gateway South (PacifiCorp) (Ph2)
- Centennial West (Clean Line) (Pre-PCR)
- Navajo Transmission Project (NTUA)(Ph2)
- SMART Elements, various (WAPA) (Pre-PCR)
- ON Line Project (NV Energy) (Ph2)
- TCP Project (NV Energy/WAPA.) (Pre-PCR)
- Pony Express (Eldorado Valley to Devers) (Pre-PCR)
- Eldorado - Ivanpah 220 kV (Pre-PCR.)
- Anova Project (Pre-PCR)
- LV – LA Transmission Project (Energy Capital Partners/PDS) (Pre-PCR)
- Solar Express (RETCO)(Pre-PCR)
- West Tie (NVE) Pre-PCR)

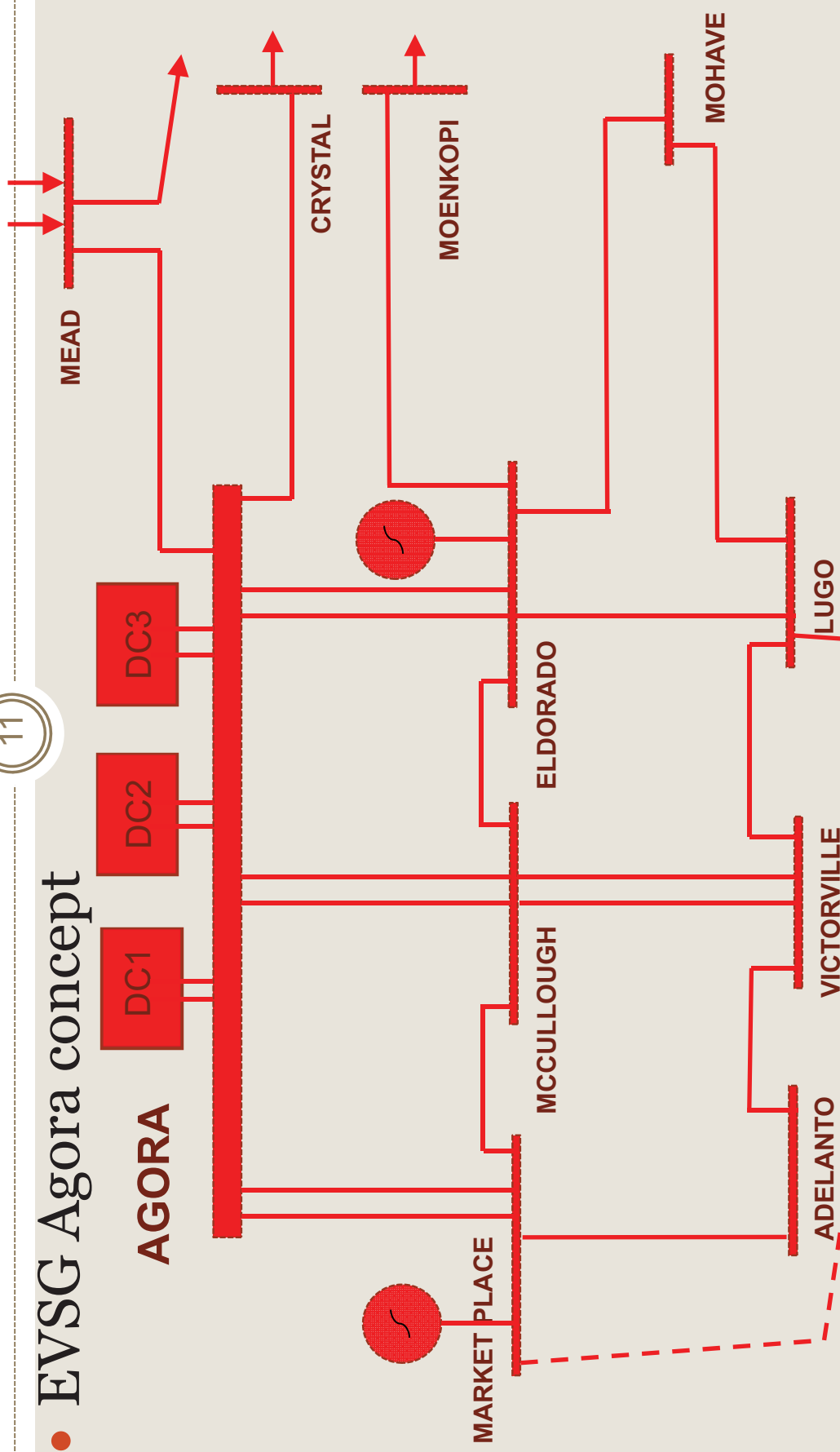
Source: SWAT-EVSG Work Plan V5 4-29-2011.



Committee Updates continued

11

- EVSG Agora concept



Committee Updates continued

12

- **EVSG Technical Analysis**

- Performed a **high level feasibility** study to model the conceptual plans for the termination stations proposed within the Eldorado Valley
- Identified the potential impacts and benefits for new facilities that are planned to interconnect to the proposed termination stations.
 - ✦ Did not model specific projects, but modeled a single injection level at **Agora**
 - ✦ Documented 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** was modeled from the Eldorado Valley area to the **southern California** area load center to determine the potential incremental increase in transfer capability.

Committee Updates continued

13

- **EVSG Findings**

- 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

Committee Updates continued

14

- **Colorado River Transmission, “CRT”**
- Yuma and Mohave RMR Study Updates ⁽²⁾

(2) Results of Yuma and Mohave RMR studies were shared at the BTA Workshop #1, July 10, 2012

Committee Updates continued

15

- **Short Circuit Working Group**
 - Finalized combined short circuit database representing 2010
 - Updating the combined short circuit database (latest topography is 2010)
 - ✦ Merging “seams” between participating entities

Next Meetings

16

- **August 21, 2012 – Westminster, Colorado**
 - Tri-State's office
- **November 13, 2012 – Tucson, Arizona**
 - Tucson Electric's office

Questions?

17

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New Leadership:

Chair: Patrick Harwood
Western Area Power Administration
Harwood@wapa.gov

Vice-Chair: Gary Romero
Power Engineers
Gary.Romero@powereng.com