

Colorado Long Range Transmission Planning Group 2008 Study Progress

Stakeholder Update Meeting
September 26, 2008

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CLRTPG Progress

- 2018 Overview
- Review Scenario A & B Results
- Scenario C Results
- Scenario D Status

2018 Overview

- Multiple open and transparent stakeholder meetings
 - Discuss Loads and Resources
 - Resource Plans and Renewable Portfolio Standards
 - Generation Types and Mixes
 - Injection Locations and Scenarios
 - Limited Study Scope – Power Flow of Bulk System
- Investor Owned Utilities, Federal Power, Municipals, Cooperatives, Colorado Governor Energy Office, CPUC, Wind, Solar, and Environmental Industry Members and Advocacy Groups, and individual “interested” people

4 Scenarios – A,B,C,D

- A. Colorado resources suggested by Utility resource planners
 - Meets or exceeds Colorado's Renewable Portfolio Standard
 - "Stressed" from South to North

- B. Displace some northern CO resource with WY
 - Injected into CO via the proposed Wyoming-Colorado Intertie Project
 - Stressed North to South

- C. Up To 5% of the capacity in Colorado's Wind GDA's

- D. 2000 MW from Colorado's Central Solar Power GDA's

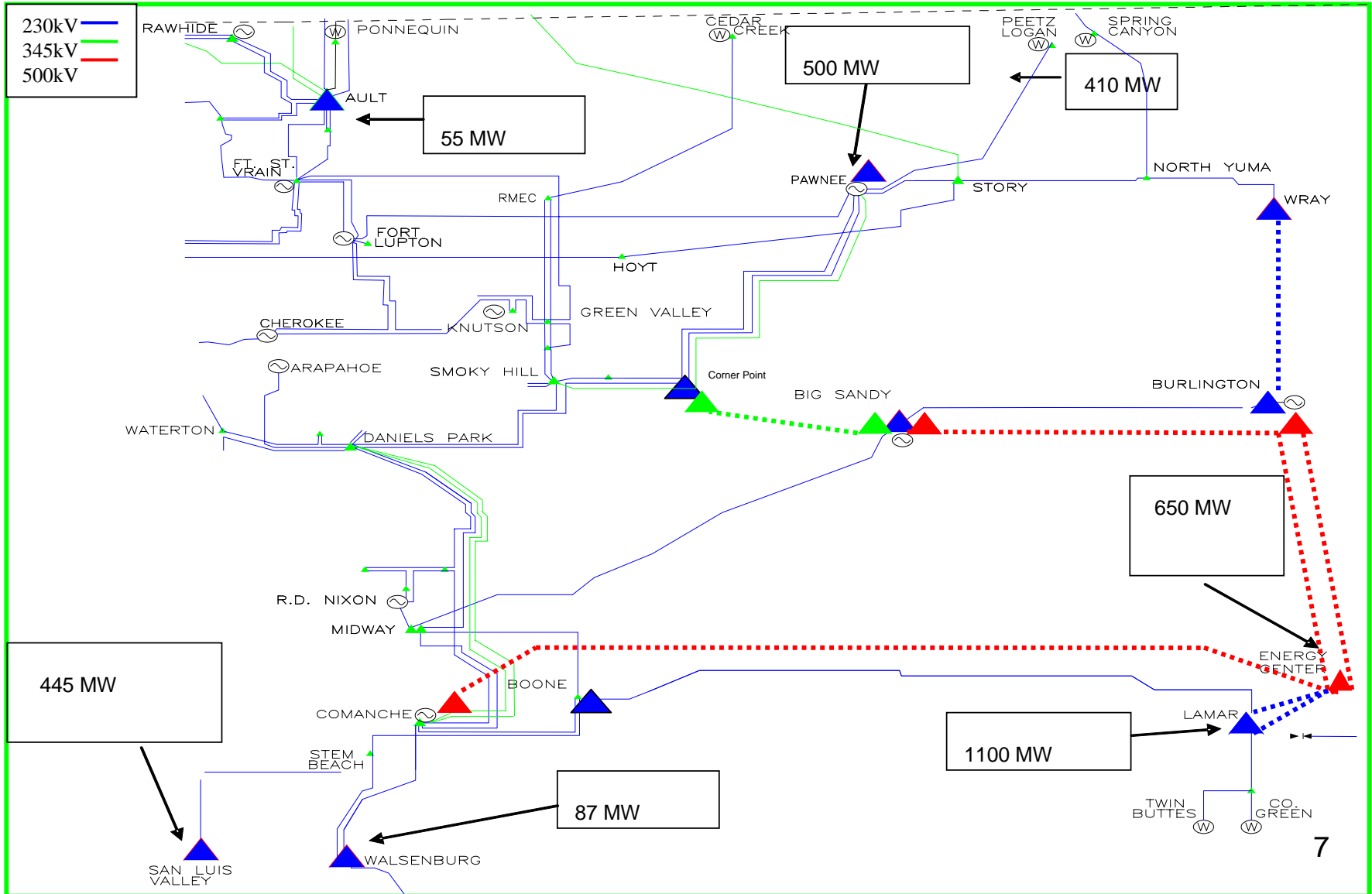
Scenario A

Scenario A

NEW resources

ERZ	Injection Location	Area	Injection Amount (MW)
Zone 1	Ault	73	55
Zone 1	Pawnee	70	500
Zone 1	Peetz	70	410
Zone 3	EC	70	650
Zone 3	Lamar	70	770
Zone 4	SLV	70	445
Zone 4	Walsenburg	70	87
TOTAL			2917

Scenario A Final representation 500 kV (>1750 MW of **NEW** injections in Lamar area)



Scenario A – Topology Summary

- Lamar area to:
 - Burlington 500kV (345kV)
 - Big Sandy 500kV (345kV)
 - Comanche 500kV (345kV)
- Big Sandy – Corner Point 345kV (230kV)
- Burlington - Wray 230kV

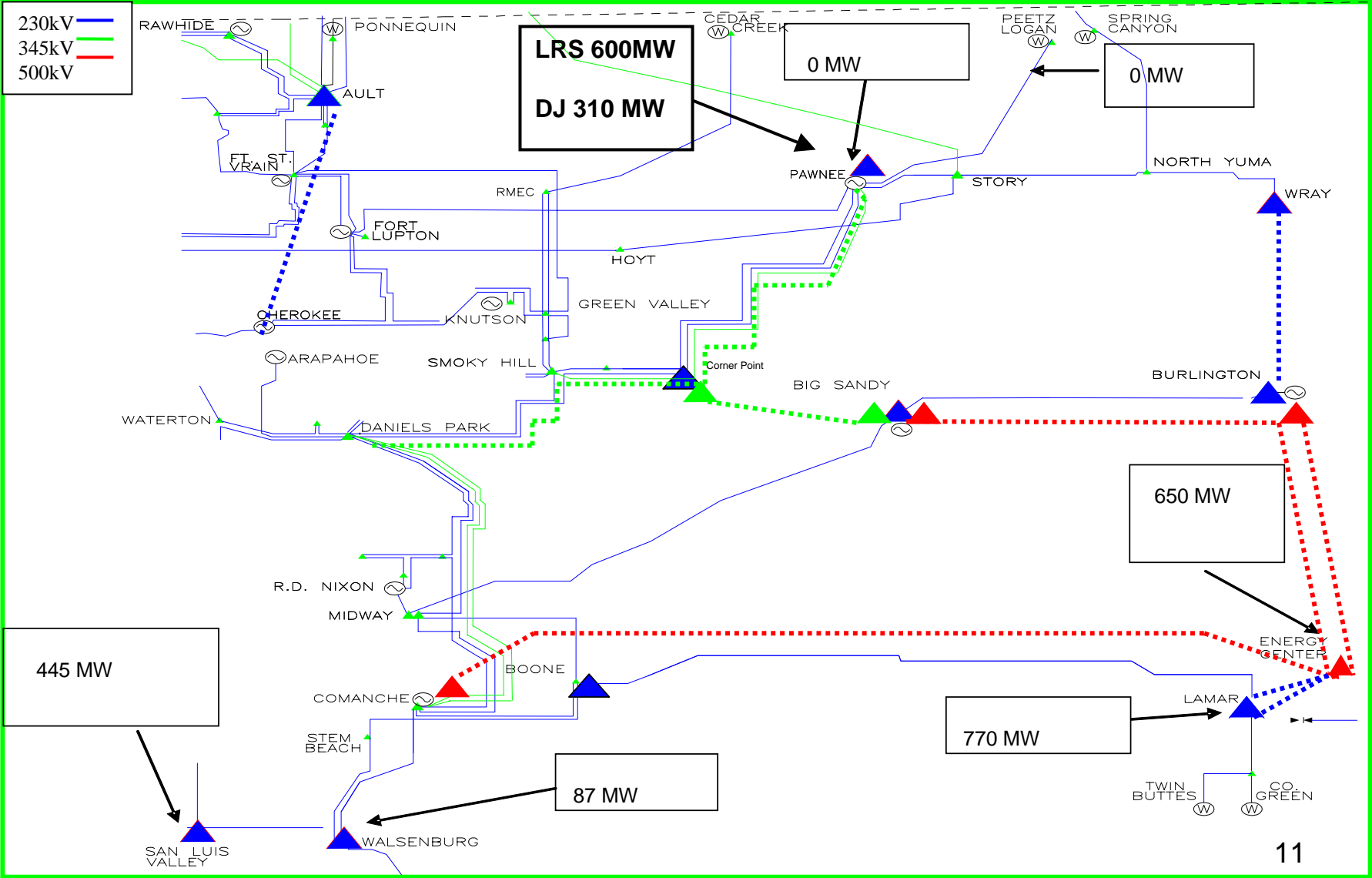
Scenario B

Scenario B

NEW resources

ERZ	Injection Location	Area	Injection Amount (MW)
Zone W1	Laramie River Station	73	600
Zone W2	Dave Johnston	73	310
Zone 1	Ault	73	55
Zone 1	Pawnee	70	0
Zone 1	Peetz	70	0
Zone 3	EC	70	650
Zone 3	Lamar	70	770
Zone 4	SLV	70	445
Zone 4	Walsenburg	70	87
TOTAL			2917

Scenario B Final representation



Scenario B – Topology Summary

- Second Pawnee - Smoky Hill 345kV
- Smoky Hill - Daniels Park 345kV
- Ault – Cherokee 230kV
- Big Sandy – Corner Point 345kV (230 kV)

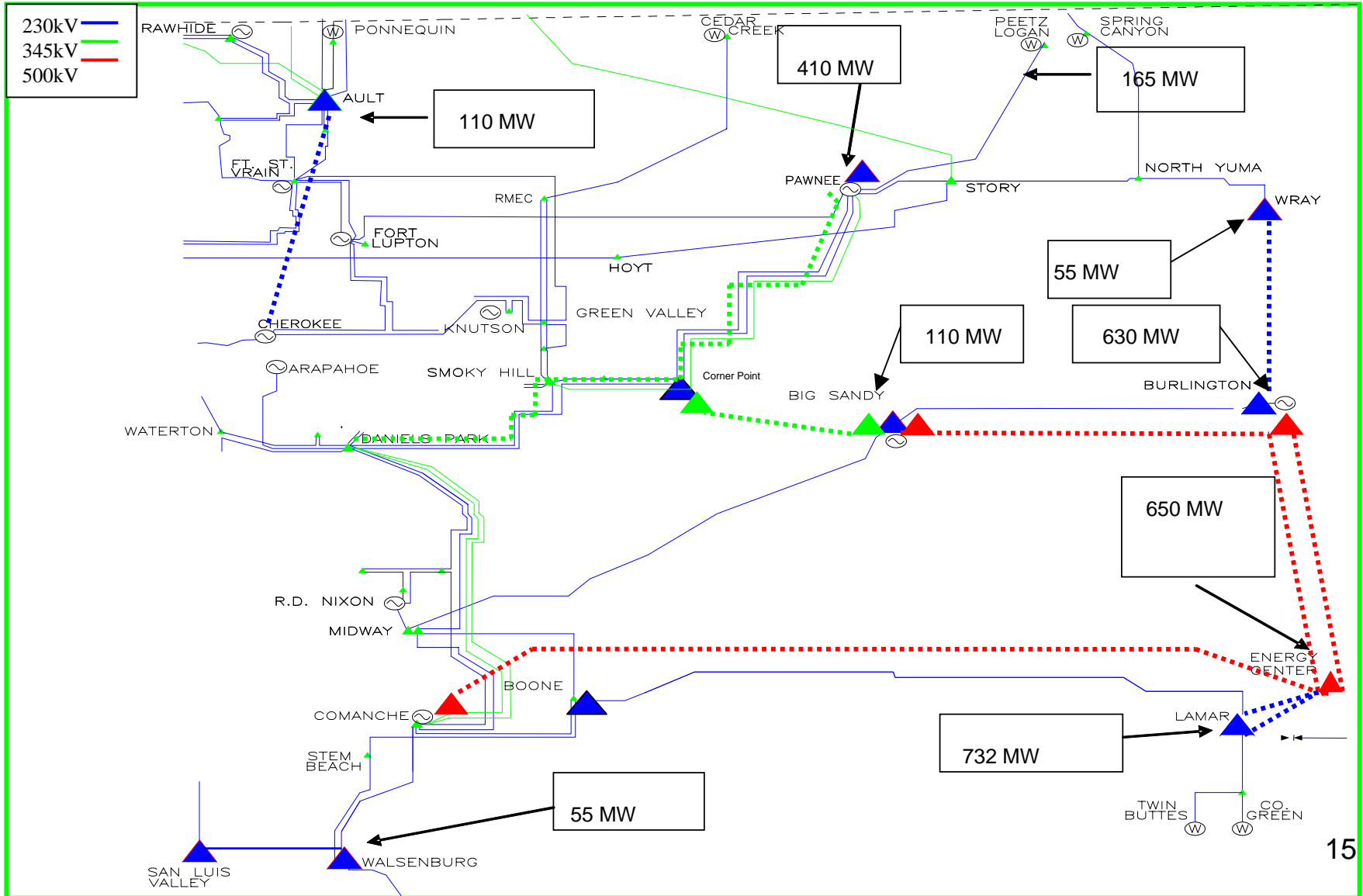
Scenario C

Resource Locations

Scenario	Ault	Peetz	Pawnee	Wray	Burlington	Lamar	Big Sandy	Walsenburg	SLV	Pueblo	LRS	DJ	TOTAL
A	55	410	500	0	0	1420	0	87	445	0	0	0	2917
B	55	0	0	0	0	1420	0	87	445	0	600	310	2917
Scaled C	110	165	410	55	630	1382	110	55	0	0	0	0	2917

- Uniformly apply scale factor to arrive at 2917 MW total
- 2.75% of Each GDA

Scaled Scenario C (total 2917 MW new)

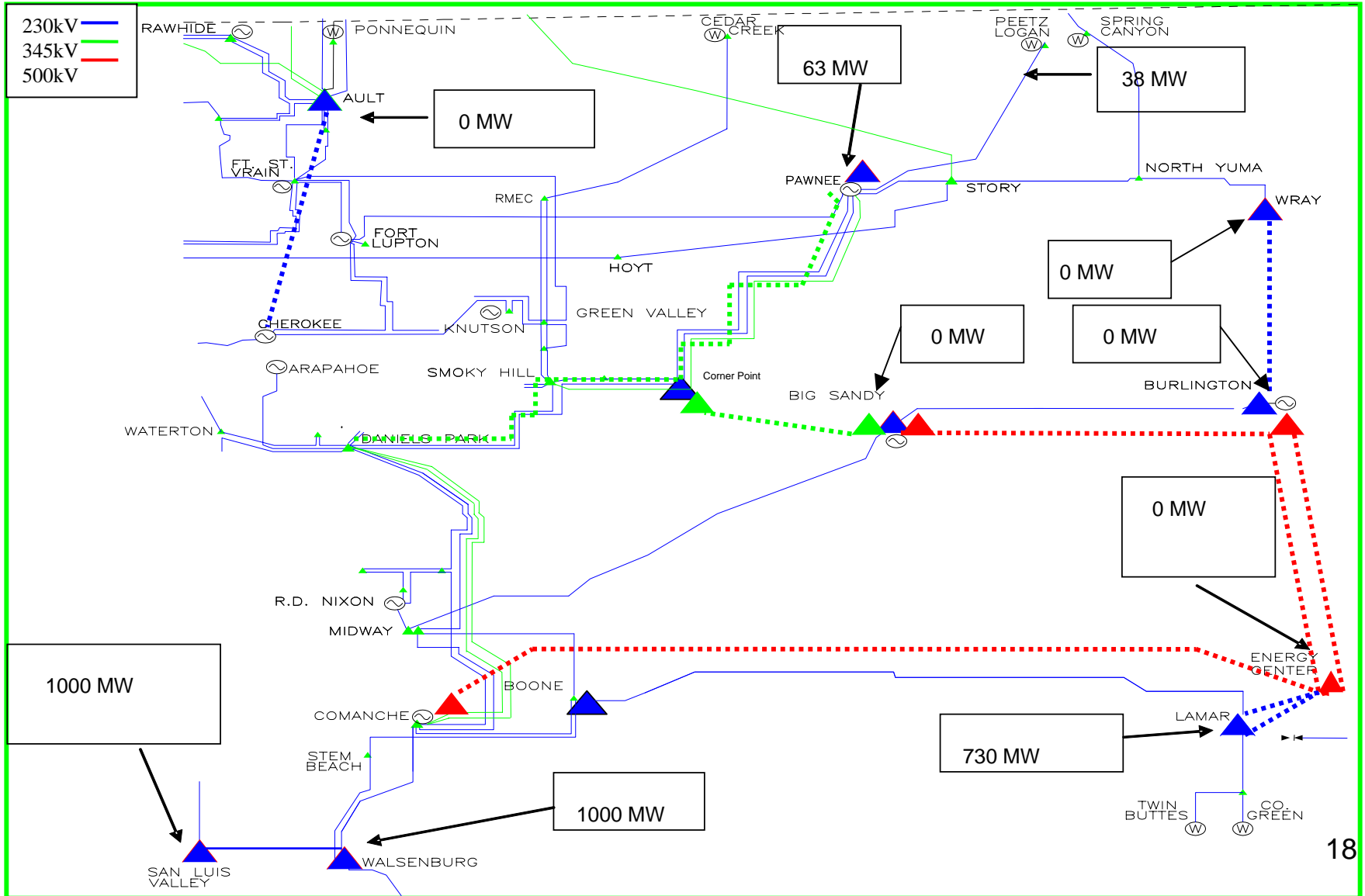


Scenario C – Topology Summary

- No New Bulk Electric System Additions Required
- Underlying System Issues Not in the Scope of This Study

Scenario D

Scenario D injections (total 2836 MW new)



Questions or Comments?