



East Kern Wind Resource Area (EKWRA) 66kV Reconfiguration

Songzhe Zhu

Sr. Regional Transmission Engineer

Stakeholder Conference Call

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Agenda

- Scope of East Kern Wind Resource Area (EKWRA) 66kV reconfiguration project
- Impact to the bulk system
- Open discussion
 - Project schedule
 - Potential generation outage caused by EKWRA construction
 - Potential consequences for connected generators and customers in interconnection process
 - Other concerns
- Next Step

Summary of East Kern Wind Resource Area 66 kV Reconfiguration (EKWRA) Project

Project Proponent: SCE

Type of Project: reliability

Needs: NERC Category A/B/C violations (2011)

- Category A overloads (on-peak & off-peak)
- Category B voltage collapse and transient voltage dip (off-peak)
- Category C overloads and voltage collapse (on-peak & off-peak)

Project Scope

- Separate the existing Antelope – Bailey 66 kV system into two systems.
- The northern system will be served radially from Windhub Substation.

Costs

- < \$20M under TAC recovery for the southern Antelope area
- > \$50M non-TAC recovery for the northern Windhub area

Expected In-Service: December 31, 2013; some elements may be advanced

Interim Solution: OP-068

System configuration post-EKWRA project

- Northern 66kV system radially served from Windhub
- Antelope – Bailey 66kV system remains parallel to the bulk system
- Three normally opened (n.o.) tie lines between the northern system and Antelope – Bailey system:
 - Gorman (n.o.) – Kern River
 - Antelope – Cal Cement (n.o.) – Rosamond
 - Corum (n.o.) – Goldtown (n.o.) - Rosamond

System configuration post-EKWRA project (Cont.)

- Substations in the Northern 66kV system
 - Breeze, Cal Cement, Correction, Corum, Cummings, Goldtown, Havilah, Loraine, Monolith, Northwind, Walker Basin
- Lines in the Northern 66kV system
 - Windhub – Cal Cement
 - Windhub – Cal Cement – Monolith
 - Windhub – Goldtown – Midwind – Monolith – Morwind
 - Windhub – Enwind – Canwind – Varwind
 - Windhub – Flowind – Dutchwind
 - Cal Cement – Windpark
 - Arbwind – Monolith
 - Monolith – Loraine – Walker Basin – Havilah – Borel
 - Monolith – Breeze
 - Monolith – Cummings – Correction – Kern River

System configuration post-EKWRA project (Cont.)

- Existing Generation in the Northern 66kV system
 - Arbwind, Canwind, Dutchwind, Enwind, Flowind, Kern River, Midwind, Morwind, Northwind, Oakwind, Southwind, Zondwind
- LGIP/SGIP projects in the Northern 66kV system currently in ISO Queue
 - Queue # 79, 86B, 91, 348, 349, 521

System configuration post-EKWRA project (Cont.)

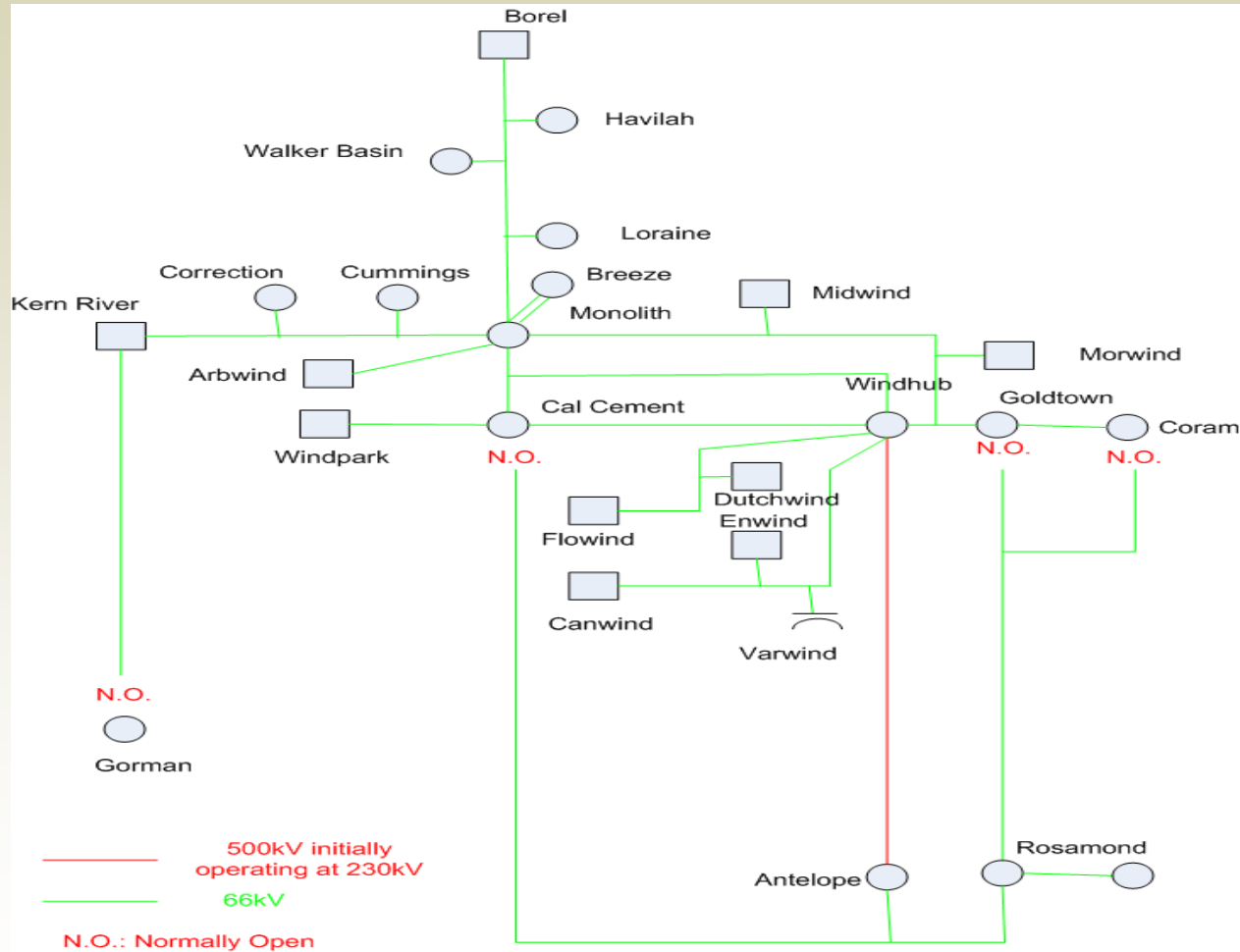
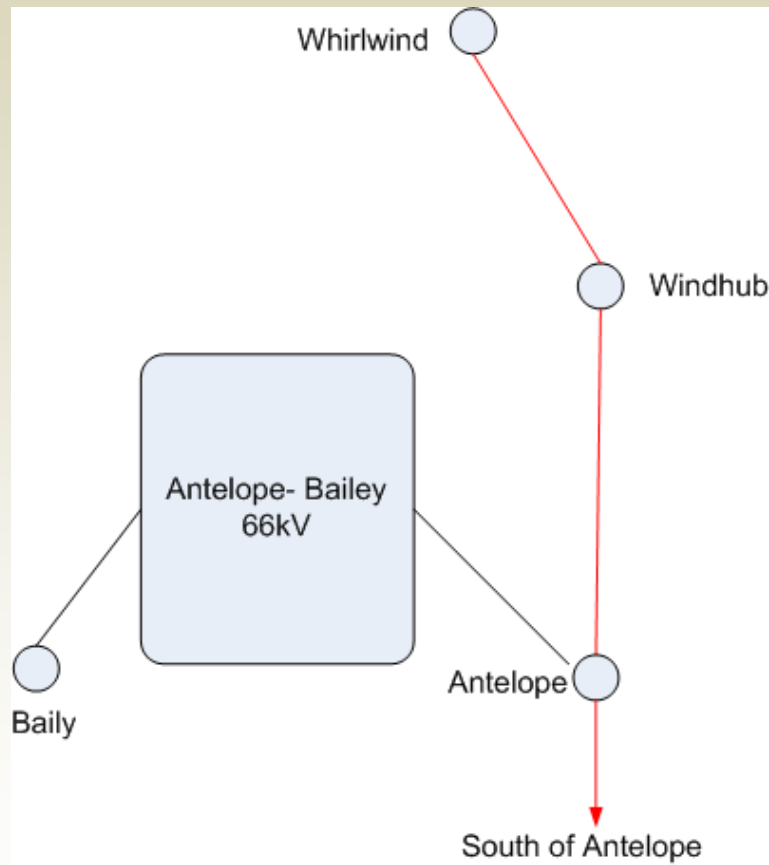
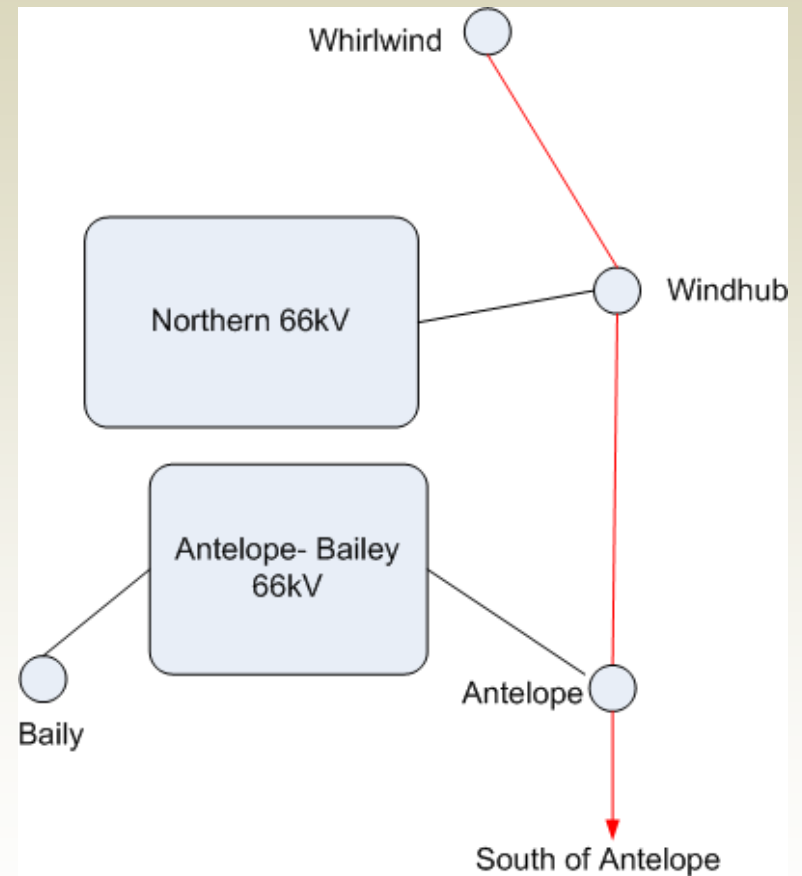


Illustration of Northern System Post EKWRA

Impact to the bulk system



Pre EKWRA Project



Post EKWRA Project

Impact to the bulk system (Cont.)

- Impact to south of Antelope flow is small
- Net generation out of Windhub may be reduced under peak conditions by EKWRA project
 - 2013 1-in-10 load forecast for the Northern 66kV system is 106MW
 - Existing wind output under summer peak condition is low
- Net generation out of Windhub may be increased under off-peak conditions by EKWRA project
 - Generation exceeds the loads in the Northern 66kV system

Open Discussion

- Project schedule
- Potential generation outage during construction of EKWRA
- Potential consequences for connected generators and customers in interconnection process
 - Change in POI; treatment of line loss
- Other concerns

Next Step

- The project was approved by ISO management to mitigate reliability problems.
- The ISO will analyze any policy issues triggered.