AV Clearview Phase I Transmission Project – New Alternative Evaluation

ISO Stakeholder Meeting
August 6, 2013

Robert Sparks
Manager, Regional Transmission South

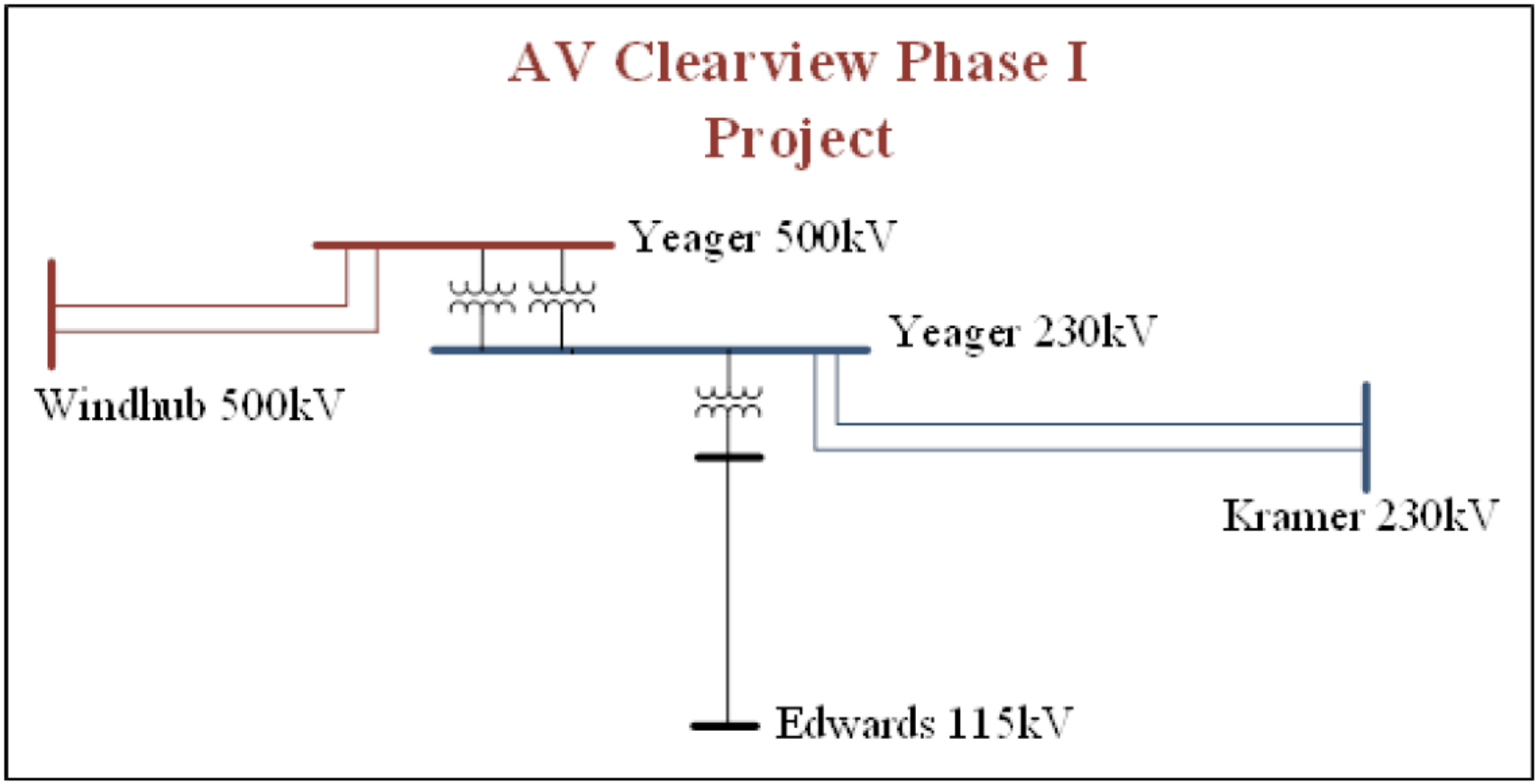
AV Clearview Phase I Transmission Project background

- High Desert Power Authority submitted a request to evaluate the AV Clearview Project as an alternative to SCE's Coolwater-Lugo 230 kV transmission project
- Details of ISO's evaluation are published in Section 3.4 of 2012-2013 Transmission Plan
- New project alternative was submitted to ISO after the 2012-2013 Transmission Plan was finalized
- This presentation provides a summary of the results of ISO's evaluation of the new alternative

AV Clearview Phase I Transmission Project overview

- New alternative consists of the following transmission elements:
  - new 500/230/115 kV Yeager Substation (near SCE's Edwards 115 kV substation)
  - two New 500/230kV Yeager Transformer Banks
  - new double circuit 500 kV from Windhub to Yeager
  - new double circuit 230 kV from Yeager to Kramer
  - new 230/115 kV step-down transformer bank at Yeager
  - new single circuit 115 kV from Yeager to SCE Edwards 115 kV substation (reliability back-up, normally open)

AV Clearview Phase I Transmission Project overview



Deliverability Assessment Results - 2012-2013 TPP Commercial Interest Portfolio starting case

- Both Coolwater-Lugo 230 kV and AV Clearview Phase I projects can deliver the Kramer zone renewable generation

- With the AV Clearview Phase I project alternative, the existing Kramer SPS may no longer be required

Deliverability Assessment Results – Cluster 3 & 4 Phase II starting case

- With either the Coolwater-Lugo 230 kV and AV Clearview Phase I projects the following SPS's are needed
  - Previously proposed Jasper SPS
  - Previously proposed Pisgah SPS
- With the AV Clearview Phase I project alternative, the existing Kramer SPS may no longer be required

Deliverability Assessment Results – Cluster 3 & 4 Phase II starting case

- With the AV Clearview Phase I project the following additional SPS/upgrades are needed
  - SPS to trip generation at Lockhart following N-1 outages
  - Upgrade Lugo-Jasper 230 kV line to mitigate N-0 overload
    - An upgrade of this line is part of the scope of work and cost for the Coolwater-Lugo 230 kV project. The scope and cost of this upgrade also needs to be added to the scope and cost of the AV Clearview Phase I alternative

Conclusion

- New AV Clearview Phase I alternative is not on its own an equivalent substitute for the Coolwater-Lugo 230 kV line in the context of the ISO Generation Interconnection study process
  - An upgrade of Lugo-Jasper 230 kV line would need to be added to the scope and cost estimate for the AV Clearview Phase I alternative in order for the two alternatives to be equivalent

Conclusion

NO	BUS	NAME	Type	Nameplate Capacity	Deliverable Capacity with Coolwater-Lugo 230 kV line project	Deliverable Capacity with AV Clearview project
1	Jasper 230 kV	Q135	Wind	60	60	60
2	Jasper 230 kV	Q552	Solar	60	60	60
3	Pisgah 230 kV	Q240	Solar	400	400	380
4	Pisgah 230 kV	Q241	Solar	400	200	0
			Total	920	720	500

Next Steps

- Stakeholders to provide comments by August 20, 2013
- ISO to continue working with project sponsors on refinements to project scopes and costs