RLC ENGINEERING

CASE STUDY

Engineering and Construction Oversight for Wind Facility

OVERVIEW

This existing wind facility, was experiencing outages & damage due to extreme weather events. The location of the 10+ miles of overhead collector system along the ridgeline exposed it to harsh weather conditions of the mountain-top environment. RLC was engaged to determine the causes of the outages and make recommendations to reduce the amount of down time.

THE APPROACH

- Visually analyzed existing conditions of the overhead collector system and associated hardware. Identified deficiencies and areas of weakness within the current system.
- Evaluated outage event reports, identifying areas onsite which sustained the majority of outages and their causes.
- Developed recommendations for hardware replacement, re-tensioning, pole replacement program, and a line survey.
- Performed a Ground Lidar study to identify line conditions. Developed an "existing" plan and profile of the complete collection system.
- Prepared construction task lists and details for work activities.
- Performed re-tensioning to reduce phase-to-phase and phase-to-ground contact due to ice jumping and galloping. Replaced hardware with more robust and durable equipment.

THE CONCLUSION

RLC provided engineering and construction oversight services for the collector system upgrades. The lack of as-built collector system design parameters & drawings posed a substantial challenge in determining the current condition of the line. Ground LiDAR was employed with PLS-CADD to create an up-to-date line profile and to reverse-engineer design parameters. Once the existing profile was established system deficiencies and corrective measures were able to be identified.