## SCADA DESIGN





## **SCADA AND CONTROL DESIGN & IMPLEMENTATION**

APEX CLEAN ENERGY | VARIOUS SITES, US | 2018-2019

NV5 currently provides SCADA engineering services to APEX Clean Energy for utility-scale renewable projects throughout the U.S. Project scope typically includes the following tasks:

- Owner's Engineer Design Reviews
- · Operational Studies, Preliminary Design, and Pricing
- Detailed Communication and Control Designs
- Protection and Control Design
- Communication and Controls Implementation
- Communication and Controls Commissioning/Tuning
- Project Support

We provide vendor-independent solutions and advice, typically resulting in improved performance at a lower cost for the client, as well as collaborative problem solving through preliminary design including, estimated costs, detailed designs, and solution Implementation and support.

## **CHALLENGES & SOLUTIONS**

All of the projects were sensitive to the requirements of project cost, system performance
and schedule. To ensure these requirements were met our team remained flexible and
worked closely with the client to overcome any challenges that arose and to understand
their needs and concerns. We developed solution options and worked with the customer
to determine the project approach and scope, performed detailed designs in a transparent
manner with customer participation, and directly supported implementation until the
solution was complete and working as expected.

## **SERVICES**



SCADA, Automation, and Communications



Design, Electrical, and Substation Engineering



Protection & Control and Communication Design



Control Design & Implementation



Study

- SCADA
- Communication
- Instrumentation & Controls
- Clean Power Generation
- Low & High Voltage
- Renewable Energy
- Electrical