



QUALITY
INTEGRITY
PERFORMANCE
VERSATILITY

Rio Tinto and Kennecott Utah Copper Completes Solar Photovoltaic System

Rio Tinto and Kennecott Utah Copper have finished construction on a 39.13 kW, DC rated, ground mount solar photovoltaic (PV) system in Copperton, Utah. The PV system is designed to offset the majority of the lighting load at the company's Reverse Osmosis Water Treatment (RO) Plant and is designed and built to comply with all MSHA and OSHA regulations.

The PV system consists of 182 solar modules that are mounted on a 1-axis manual adjustable racking system and are, in turn, connected to a 50kW DC to AC inverter. The racking system has the capability of adjusting the elevation tilt angle from 20 degrees to 65 degrees. The panels are currently adjusted to a 40 degree elevation tilt angle and a 180 degree azimuth angle (South). When the elevation tilt angle of the panels is adjusted appropriately throughout the year, the approximate energy production of the system is 70,000 kilowatt hours per year. According to the EPA Greenhouse Gas Equivalence Calculator this is the equivalent of one of the following:

- Removing 9.6 passenger vehicles from the road annually.
- Not consuming 5,655 gallons of gas.
- Planting 1,289 trees.

This project is an excellent example of Rio Tinto and Kennecott Utah Copper's sustainable building development and practices. When teamed with other environmentally conscious contractors, sustainability can be a reality. A few essential sustainable design and construction tasks implemented on this project are:

- The system was fully modeled in 3D using Building Information Modeling (BIM) software tools, prior to beginning construction.
- A full photometric and shade study of the site was performed.



- The system was laid out at the site using the Trimble Total Station surveying and layout tool.
- All racking systems were pre-fabricated and assembled off-site and then delivered on site for installation.

All of these tasks combined with Quality, Integrity, and Performance help Hunt Electric Inc., Rio Tinto, and Kennecott Utah Copper come one step closer to their goals and their environmental commitments by creating a successful sustainable and renewable energy project.