

Case Study: Energy Assessment of an Industrial Plant



Project Title

Energy Efficiency Assessment for Granite Construction Company

Project Year

2018

Key BASE Personnel

Thomas Chan, P.E.

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Services Provided

- Detailed site inspection of targeted equipment;
- Develop detailed measurement & verification (M&V) plan for determining baseline energy consumption and proposed energy consumption with more energy efficient equipment;
- Perform power measurements and datalogging of targeted equipment /system;
- Verify energy savings after project implementation

Project Description

In early 2018, BASE was contracted by Sacramento Municipal Utility District (SMUD) to assist Granite Construction Company with analyses of several energy efficiency projects. Granite operates an aggregate plant that is used to break up sand, gravel, crushed stone, slag, recycled concrete, etc. for construction use. The targeted equipment included the scrubber motor to break up the clays in the aggregates, filtered/recycled water pumps, and supply water pumps.

The energy efficiency projects that the facility were interested in having BASE perform detailed analyses for included:

- Turn off Scrubber and Install New Conveyor Belts to Bypass Scrubber
- Redirect Flows from Filter/Recycled Water Pumps to Nearby Process Equipment and Install Variable Frequency Drives on Pumps
- Install Variable Frequency Drives on Supply Water Pumps

BASE's feasibility study outlined the potential energy savings due to installing the above measures and the utility incentives that the facility would receive.

Granite completed implementation of the energy efficiency projects at the end of 2018. BASE visited the facility and performed post-field measurements to verify the actual energy savings, which is expected to realize nearly 800,000 kWh/yr. The facility received approximately \$117,000 in incentives from SMUD for implementation of these projects.