

GENERAC®

INDUSTRIAL POWER

MCVICAR LIFT STATION

Southern California

CASE STUDY

CHALLENGE:

Upgrade an existing generator system that would provide adequate capacity for emergency operation that complied with emissions requirements.

SOLUTION:

Generac 500 kW diesel generator

RESULT:

A new system that provides uninterrupted service to the local community and helps support the facility's current power needs

“The upgraded booster plant now meets the growing water demands and the emergency standby generator meets the air district emissions requirements as well as the local sound ordinances.”



Updated Generator System Helps Meet Current and Future Needs

With an increase in water customer demand, McVicar Lift Station, part of Southern California Water Municipality, was looking to upgrade their existing booster station, equipped with two 125HP pumps. The existing standby generator did not have adequate capacity for emergency operation of the existing pumps, and did not comply with South Coast Air Quality Management District (SCAQMD) requirements. In order to support the facility properly, the generator would need to be replaced. The new unit had to be regulatory-compliant and be a size that meets current and future needs.

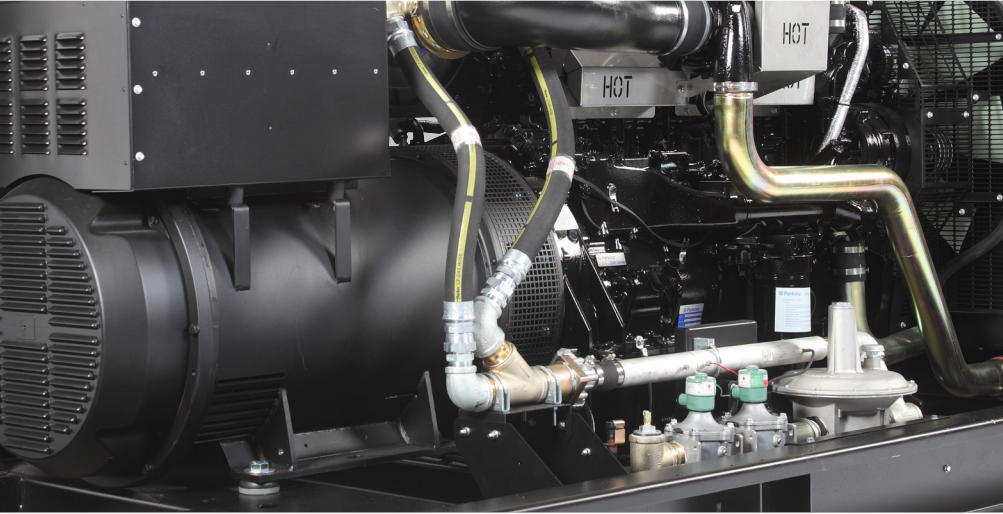
McVicar Lift Station is required to have emergency backup power. A lift station, or pump station, is used for pumping wastewater or sewage from a lower to higher elevation, and without power, a sewage backup could happen. To increase reliability and safety, they specified a diesel standby power generator and turned to Yale Chase Power Systems, a Generac Industrial Power dealer.

As a diesel generator was specified, Yale Chase Power Systems first needed to determine what emissions standards the unit had to meet. Under the federal Clean Air Act, the Environmental Protection Agency (EPA) establishes health-based air quality

standards for cities and counties. SCAQMD develops rules based on control measures identified in the Air Quality Management Plan and are designed to reduce air pollution for specific sources. According to SCAQMD, emissions of Nitrogen Oxides (NOx) from diesel-fired emergency engines are 200 to 600 times greater, per unit of electricity produced, than new or controlled existing central power plants fired on natural gas. NOx is a primary component of smog. Diesel-fired engines also produce significantly greater amounts of fine particulates and toxic emissions compared to natural gas fired equipment. In order to own and operate an emergency backup generator, it is required to have a permit and the generator must meet SCAQMD's Best Available Control Technology (BACT) requirements.

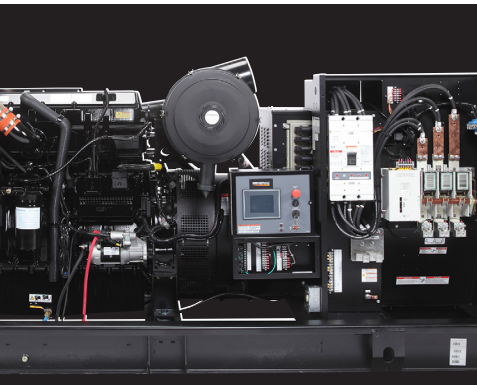
With many Generac diesel generator models meeting SCAQMD's requirements, the next challenge Yale Chase Power Systems had to face was updating old equipment. The facility needed more backup power to support the addition of a new third pump, but the facility also wanted some flexibility in case they needed to expand further in the future. Also, since there are residences close by, Yale Chase Power Systems needed to address noise limitations for the gen-set as well.

CASE STUDY Updated Generator System Helps Meet Current and Future Needs



APPLICATION:
Water Municipality

MODELS:
500 kW Diesel Generator



To help specify the proper unit, Yale Chase Power Systems used Generac's Power Design Pro™. The online tool helps to make specifying generators as easy as possible. Power Design Pro allows users to easily enter their project information, such as loads, fuel type and electrical configuration. Once the information is entered, the program uses algorithms to calculate the proper generator size and recommends a specific Generac product. After inputting the three 125 HP motor loads, along with the site accessory loads, Generac's 500 kW diesel generator was recommended.

To meet the sound requirements, Yale Chase Power Systems recommended Generac's Level 2 sound enclosure, which offers a sound level of 75 dBA while fully loaded. The emissions requirement was a bit more complicated, but Yale Chase Power Systems, along with Miratech Group LLC, an industry leader in emission solutions, was easily able to meet the new air quality requirements. The upgraded booster plant now meets the growing water demands and the emergency standby generator meets the air district emissions requirements as well as the local sound ordinances.

Generac and Yale Chase Power Systems are proud to have worked with McVicar Lift Station to provide a solution that provides uninterrupted service to the local community and to help support their current power needs and any future plan for growth.