

Thern

Case History

Wastewater



City of Rio Rancho Water Utilities Maximizes Pump Performance Using Heavy-Duty Winches



Workers prepare a Thern 4771 electric winch for installation at the Rio Rancho Water Utility facility.

Serving one of the fastest growing cities in the United States, the City of Rio Rancho Water Utilities provides wastewater treatment services for the 75,000-plus citizens of Rio Rancho, New Mexico. The recent addition of two new processing facilities has the six-plant department processing a combined 4.5-million gallons of wastewater a day. With such high volumes of processing the plant equipment requires constant attention. To maintain performance, mainly for the pumps, plant operators needed to find an economical and efficient solution to raising and lowering pumps for maintenance and service. The answer to Rio Rancho's treatment facilities came from a compact yet strong winch system that delivered easy lifting and lowering for their applications.

Mark Baker, lead mechanic at the facility, is in

charge of ongoing maintenance for the equipment and tasked with keeping the plant's equipment running effectively. When service is performed on the pumps Mr. Baker turns to his heavy-duty helpers to make plant operations run smoothly. Using Thern 4771 series helical/worm gear power winches at each of the facilities (one facility utilizes three), Mr. Baker has found a cost effective and efficient system for maintaining the departments processing pumps.

Besides being removed for routine maintenance, pumps are running seven days a week. "It's no real secret that the key to efficient treatment comes from constant upkeep and strict adherence to a service schedule," says Mr. Baker. "Using smaller, yet more versatile and durable winches have proven to be the key to a more cost-effective approach to plant performance."





A 4771 installed at a pump station helps with routine maintenance on the pumping equipment.

Using Thern's 4771 power winches mounted at certain positions near the tanks, operators are able to lift the pumps for cleaning and repairs without using heavy-duty equipment or additional manpower. Winches are set up near the tanks, either overhead or on the tanks themselves for easy hoisting. Some of the tanks are equipped with a bridge that features a mounted winch that sits over the tanks making pump hoisting streamlined.

Thern's 4771 series winches get their lifting and hoisting power from their rugged motor and gears and cast aluminum frame and drum. The durable design delivers added strength while remaining lightweight for portability. This means that winches can be moved around the facility and used for other applications around the plant. The machine-cut helical/worm gears enclosed in an oil bath add to the winch's service life. The oil bath provides continuous lubrication for the gears minimizing wear.

Winches used at the facility offer lifting power of up to 2,000-lbs yet offer a slimmer drum width for tight-fleet installation. "We use the pumps for similar applications in every plant," says Mr. Baker. "However, each plant is set-up differently so having compact winch systems that are versatile enough to

work in normal locations and tight locations makes plant operations much more convenient."

Winches are used during the treatment process to lower the pumps into the tank. Once the sludge has settled at the bottom of the tank and the water stays on top, the winches gradually lower the pumps down and pump out all the water. The radial air piston motor helps the operator by offering added control and more power for seamless positioning. After the water is pumped the winch lowers the pump all the way down to the sludge, the valves are switched, and the sludge is removed.

The winches, with their sleek design and economical use of space, give the facilities a variety of mounting options. Besides using a bridge above the tank to mount the winch, other plants mount the winch either on the tank wall or use a jib arm. If maintenance is required the winches lift the pumps completely out of the tank and lower them on the plant floor for repairs and upkeep.

For Rio Rancho Water Utilities, the compact design and lightweight construction of Thern's 4771 series power winches has made them a reliable and economical choice for maintaining optimal pump performance.

