

## **Village of Cloudcroft, NM PURE Water Project**

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### **ABSTRACT**

As a result of the ongoing drought and decline in fresh water supplies, the Village of Cloudcroft, NM will implement the first indirect potable reuse project in New Mexico. The Project will treat wastewater flows to better than drinking water quality for blending with local water sources and augmentation into the potable water supply.

A multi-barrier treatment approach will be used to re-purify reclaimed water from the wastewater treatment plant (WWTP), and used for aquifer recharge and blending with existing well and spring waters.

The Integrated Membrane System (IMS) used for this project begins with conversion of the WWTP to a membrane bioreactor (MBR) process. The MBR is designed for an average flow of 100,000 gallons per day (GPD). The MBR permeate will be disinfected with monochloramines and stored in a 75,000-gallon water storage tank.

The high-quality MBR permeate will flow by gravity downhill to the Water Facilities, and flow through a reverse osmosis (RO) desalination system. Permeate from the RO system will receive UV and hydrogen peroxide disinfection and discharge into a 2,000,000-gallon reservoir. From there the “new” water is blended with existing spring and ground waters. A portion of the RO permeate will be used for aquifer recharge.

Approximately 180,000 gallons per day of blended water will be filtered by ultrafiltration (UF) and granular activated carbon (GAC) prior to receiving final disinfection. The new water is then placed into the water distribution system. Because high-quality water from the RO process is used for blending, the overall water quality in the distribution system will be greatly improved.

The RO concentrate will be used for dust control, snow making, gravel washing and others.

Construction of the project is underway, and start-up of the facility is scheduled for September 2007.