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CONTACT: Yvonne Hester
Office: (760) 946-7067
Mobile: (760) 221-2428

MWA Celebrates Newly Installed Hydroelectric, Clean-Energy System with Ribbon-Cutting Ceremony

With Hydroelectric System, Agency Energy Consumption Near Net Neutral

APPLE VALLEY, CA — A newly completed hydroelectric system has brought Mojave Water Agency (MWA) close to attaining a net-neutral status in its energy consumption — a byproduct that will save the Agency millions of dollars over the next 30 years and provide numerous environmental benefits.

The Agency celebrated its \$4.3 million, clean-energy system with a ribbon-cutting ceremony Thursday morning at its Operations Facility, where MWA officials highlighted the benefits the system will bring to both the Agency and the region.

After years of planning, this hydroelectric project is designed to take advantage of water being delivered from the California Aqueduct to the groundwater basin in the Victor Valley area by converting existing pressure into electrical energy.

This process is done through a hydroelectric turbine that was installed at the Agency's

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Deep Creek Pressure Reducing Facility. Unlike solar, the new hydroelectric system is not restricted to daytime production and allows for greater operational flexibility.

MWA Board President Carl Coleman lauded the project's success and pointed to it as a prime example of the Agency's role as a steward of the environment.

"While today's celebration focuses on Mojave Water Agency's primary mission, which is managing water for the benefit of our region, the project will bring numerous environmental benefits as well as save the Agency millions of dollars over the next 30 years," Coleman said. "We recognize that projects like these are an opportunity to preserve our beautiful, fragile desert environment while ensuring the sustainability of water in our region."

The central component of the project is an 820-kilowatt, hydroelectric turbine generator that can process up to 12,000 acre-feet of water (nearly 4 billion gallons) per year at a maximum flow rate of 20 cubic-feet per second. Using the existing pressure and available flow within the pipeline, the hydroelectric turbine controls the flow of water while producing electricity and offsetting MWA operating costs. The power is sent to California Edison's (SCE) power grid, which is then credited to the Agency's other SCE accounts.

Over the course of the last year, MWA consumed more than 6.7 million kilowatt-hours of electrical power. At full capacity, the hydroelectric turbine can produce 6.5 million kilowatt-hours of power.

This is the Agency's first hydroelectric turbine generator connected to the SCE system.

Housed inside a 32-foot-by-40-foot building, the hydroelectric turbine produces nearly as

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much electrical energy when measured in kilowatt-hours as a 9- to 15-acre solar panel farm over the course of a year.

Additionally, the project will offset 4,540 metric tons of carbon dioxide that would have normally been supplied by non-renewable electricity, which is equivalent to greenhouse gas emissions from 972 passenger vehicles.

Capitalizing on existing pressure and flow of water when recharging the aquifer, the hydroelectric project signals “a new era of efficiency” for MWA in its role in ensuring a sustainable water supply for the region. It also qualifies for California's Renewable Portfolio Standard as an eligible project to help the state reach its goal of 50-percent renewable energy by 2030.

The hydroelectric turbine is located next to MWA's Operations Facility off Deep Creek Road in Apple Valley, the hub for the Agency's largest groundwater recharge facility.

MWA replenishes the local groundwater supply with State Water Project (SWP) water, which is transported from the California Aqueduct through a series of pipelines to the Deep Creek recharge site where it is released into nearby groundwater recharge areas to percolate into the underground aquifer. The water is later recovered, pumped, and distributed by retail water purveyors to serve local communities.

Project partners included Kiewit Infrastructure, NLine Energy, Canyon Industries, and SCE.

“Not only does this day commemorate the tremendous effort and energy put forth by everyone involved,” MWA Superintendent of Operations Mike Simpson said, “but it marks the beginning of a new era of efficiency for Mojave Water Agency.”

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