



[LADWP Headquarters Gets Charged Up](#)

JFB Becomes Test Site for Dual Battery Pilot Project

By Carol Tucker

The northeast corner of the LADWP JFB parking lot has hosted several demonstration projects over the years, including a 200 kW fuel cell and three micro-turbines totaling 120 kW. Recently, the site has been expanded to accommodate a battery energy storage system (BESS) pilot project that will help determine the viability of battery technology in transitioning to a clean energy future for Los Angeles.

The JFB BESS Pilot Project will “pave the way for multiple energy storage projects at the transmission and distribution levels as well as customer-owned energy storage projects,” said James Barner, Manager of Resource Planning and Development. “This project will help inform future decisions on achieving the goals of the Mayor’s Green New Deal and state mandates for reducing carbon emissions from our power generation portfolio.” Under the Green New Deal, LADWP is working to increase renewable energy to 55% by 2025, 80% by 2036, and 100% by 2045 and reducing greenhouse gas emissions from its power portfolio.

“It’s important that we gain a better understanding of all available energy storage technologies to meet our goals,” said Electrical Engineer Matt Hone, who heads the Power System’s energy storage and new technologies group. Once the test period is concluded, the JFB BESS will be used for a variety of energy applications, such as shaving energy use during peak periods, and remote energy monitoring and control.

The project has involved installing two types of battery energy storage technologies side by side, and connecting them to LADWP’s headquarters building. One is a 100 kW, 4-hour lithium-ion battery and the other is a 100 kW, 4-hour vanadium redox flow battery.

With installation nearly complete, the project will undergo a series of tests before being placed into service prior to the end of the year. Subsequently, LADWP will partner with the Electric Power Research Institute (EPRI) for a one-year pilot study. The study will evaluate and gain insights regarding the performance, operation and feasibility of these two types of battery technology as well as provide

training for LADWP staff. Other goals are to help LADWP transition to a more resilient electric power system, and ensure that the most up-to-date operational and safety standards are incorporated.

Lithium-ion batteries are the more popular type of battery technology, commonly used in cell phones and also widely used in electric and hybrid vehicles. LADWP has already gained experience with lithium-ion batteries at the Beacon Energy Storage System in the Mojave Desert. Flow batteries are not widely used by electric utilities but offer a lot of potential advantages for energy storage, such as improved safety, increased charging capacity and longer duration capability. Flow batteries use liquid electrolyte stored in external tanks rather than in each battery cell.

Arevik Petrosyan, Associate Electrical Engineer and Project Manager along with Hone, said the two-year initiative has been a team effort including staff from Power Engineering and Construction, Architecture and Drafting, Fire Protection, Supply Chain, and Information Technology Services to address various issues including those related to cyber security. LADWP construction forces did all site preparation work, such as foundation expansion, conduit and ground grid installation, transformer, switch gear and other interconnection equipment. The contractor, Doosan GridTech /KTY Engineering, has been tasked with procuring, installing, integrating, and testing and commissioning both battery systems.