

ATTACHMENT 3

Fact Sheet Template

Demand Based Renewable Hydrogen Power-to-Power Project

The Issue

Hydrogen energy storage systems present an opportunity to increase the flexibility and resiliency of sustainable energy supply systems while potentially reducing overall energy costs and increasing the utilization of renewable energy. Green electrolytic hydrogen storage systems involve a broad range of energy services such as demand charge reduction, critical backup power, and storing excess solar and wind for later conversion back to grid electricity.

Project Innovation + Advantages

The project will design, build and construct a containerized fuel cell system that includes electrolysis, and high pressure storage of hydrogen which will consist of a grid connected integrated microgrid utilizing the wind turbine and the CA grid to demonstrate the ability for electrolyzer's and fuel cells ability to load follow, provide baseload renewables, and store large amounts of energy for up to 24hours.

Anticipated Benefits for California

General benefits: The proposed project will include:

Increased grid reliability will be achieved through:

- Hydrogen storage enabling the distributed wind to serve as a base load resource to PWD, substantially mitigating reliability issues with wind generation while stabilizing the grid.
- Indirectly lowering costs to ratepayers through reduced infrastructure (T&D) investments, while also increasing the amount of renewable generation on the system.
- Providing hydrogen storage at key public facilities to serve as a source of back up generation in case of an emergency
- Providing peak load reduction through demand response at a medium business
- Providing peak load reduction through rate design that aligns time-of-use structures with dynamic hourly load profile

Lower costs will be achieved through:

- Mitigating demand charges through building controls systems and hydrogen storage
- Reducing and streamlining interconnection costs paired with an existing resource.
- Deploying innovative hydrogen storage business models that support the customer, the grid, and the transportation market.

Increased safety will be achieved through:

- Planning microgrids with islanding/anti-islanding capabilities to maintain critical community services during emergencies while preventing back feeding energy onto the grid

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- Providing hydrogen storage at key public facilities to serve as a source of back up generation for emergency shelters in case of an emergency



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