



CALIFORNIA ENERGY MARKETS

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REPRINT

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City of Glendale Looks to Repower Aging Grayson Power Plant

The City of Glendale is getting closer to finalizing a plan to modernize the aging 267 MW Grayson power plant in order to meet the city's energy and reliability requirements, but the project faces opposition from residents who argue the city should look to cleaner alternatives.

The Grayson plant, located in Glendale, began operating in 1941 and is the city's primary source of power.

Eight of the facility's nine generating units are targeted for modernization under Glendale's proposed \$500 million repowering project. They operate largely on steam or natural gas and range in age from 40 to 76 years old—past the average retirement age for the equipment, according to Glendale Water & Power officials.

Grayson's Unit 9, a 48 MW gas-fired, simple-cycle peaking plant that began operating in 2003, is not part of the renovation plan.

As it now stands, operation of the plant's older units is no longer cost-effective due to increasing frequency of unplanned and forced outages, GWP asserts.

Under the proposed project, the city would build four new gas-fired units with a combined generation capacity of 262 MW to replace Units 1-8. All told, the updated plant would have a generating capacity of 310 MW, representing a net increase of 43 MW.

As the net increase is below 50 MW, the City of Glendale is able to serve as the lead agency under the California Environmental Quality Act, rather than having to go through the California Energy Commission's power-plant siting process, and has the principal responsibility for approving the Grayson repowering project.

Among the benefits highlighted by the city at an Oct. 16 meeting of the GWP Board of Water and Power Commissioners are that the project would help to maintain reliable service, keep rates down, facilitate renewables integration, and minimize reliance on imports.

The repowering project is "one part of an integrated plan that includes the aggressive pursuit of renewable energy, not only because that's what we want to do, but because the law says that's what we'll do," said GWP General Manager Steve Zurn. "We also want to make sure that [the energy mix] is the least intrusive to our customers who have to pay that bill every month."



The Grayson power plant has been serving Glendale since 1941.
Photo: City of Glendale

The proposed repowering project is environmentally superior when compared to alternatives and would meet all the city's objectives with the fewest impacts, according to a [draft environmental impact report](#) prepared for the city by Stantec.

While potential worst-case emissions from the repowered project would increase compared to historic levels, Glendale Water & Power would purchase and

Grayson Power Plant Repowering Project

Units Proposed for Decommissioning	MW
Unit 1: Steam turbine-generator	18
Unit 2: Steam turbine-generator	18
Unit 3: Steam boiler turbine-generator	18
Unit 4: Steam boiler turbine-generator	42
Unit 5: Steam boiler turbine-generator	42
Unit 8A: Gas turbine-generator combined-cycle plant	26
Unit 8B/C: Gas turbine-generator combined-cycle plant	55
<i>Generation Capacity Removed</i>	219
Proposed Replacement Units	MW
Unit 10: One-on-one combined-cycle unit	71
Unit 11: One-on-one combined-cycle unit	71
Unit 12: Simple-cycle unit	60
Unit 13: Simple-cycle unit	60
<i>Generation Capacity Added</i>	262

Additional capacity is 43 MW. Source: Stantec

surrender offsets to mitigate increases in pollutants.

Overall, the city determined the project would result in less-than-significant impacts to air quality, greenhouse-gas emissions, geology and soils, hydrology, water quality, and tribal cultural resources.

With respect to impacts to aesthetics, hazardous materials, noise, and transportation, given mitigation measures, those could also be reduced to less-than-significant levels, according to the draft EIR.

"The project has no potentially significantly impacts that could not be mitigated," the report said.

The "no project" alternative—which would entail running the existing power plant to failure and not moving ahead with repowering—would result in the city needing additional transmission capacity or

facing power outages, according to the draft report, putting the city at "significant risk for decreased electrical system reliability."

If there were no repowering project, the city, which has a peak demand of 350 MW, would have a total of 287 MW of total energy capacity without Units 1-8 operating. This figure represents 200 MW of transmission import capacity, 39 MW from the Magnolia power plant in Burbank and 48 MW from Grayson Unit 9.

Given the loss of the single largest contingency, 100 MW of import capacity through the Pacific DC Intertie transmission line, Glendale Water & Power would not have enough capacity to serve peak load, according to the utility.

Glendale studied the possibility of replacing Grayson Units 1-8 with a battery energy storage facility. This storage alternative would be dependent on excess power available from Grayson Unit 9, the 310 MW Magnolia plant in Burbank (in which Glendale has a 17 percent entitlement share), and nighttime imports over the transmission system. Under the storage scenario, power would be discharged to serve electrical load when demand exceeds available generation and transmission resources.

The EIR found the storage alternative would have lesser environmental impacts, but there would be insufficient excess capacity to charge the batteries during high load periods, and it would not meet energy-supply or reliability requirements.

The city looked at the possibility of using a combination of photovoltaic solar or wind-power production with energy storage and transmission, in lieu of repowering Grayson. This option was also found to have reduced environmental impacts, but was not deemed an adequate replacement for the project due to limited ability to site utility-scale renewable resources within the city, as well as complications associated with building a new transmission line to import renewable power from a different area.

Dan Brotman, co-founder of the Glendale Environmental Coalition, asserts the project aims to provide significantly more power than is needed and urged the city to further study whether a combination of renewables, energy storage and demand management can address reliability—similar to what is now under consideration in the review process for the Puente power plant in Oxnard.

"Why are we not looking at this in Glendale?" Brotman said. A 45-day public comment period for the draft EIR ends Nov. 3. **-Leora Broydo Vestel**