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## POWER SOLUTION

# Jail gets greener through own grid

Santa Rita Jail uses solar panels, turbines, battery-storage system to produce 80 percent of its energy

By Robert Jordan

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DUBLIN — One Bay Area jail is billing itself as the greenest in the country now that it has the capacity to unplug from the power grid and still meet its energy needs.

Santa Rita Jail — which has an annual power bill of \$3 million and requires as much electricity as a small town — unveiled to the public a first-of-its-kind electrical grid that allows the jail to combine its solar, wind and fuel cell capability and store and use that energy on its own grid, making it immune to blackouts. The nation's fifth-largest county jail, Santa Rita began using the system in January.

"The technology for energy sources has been here for years," said Alameda County Sheriff Greg Ahern. "But the technology to combine them and store the power has not."

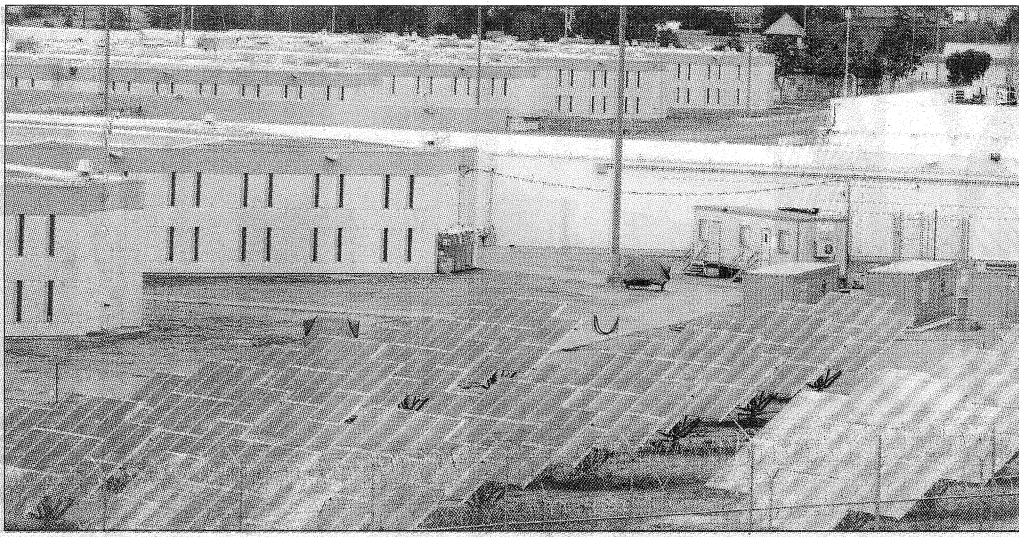
Chevron Energy Solutions, a division of oil giant Chevron, developed the grid and has worked with the jail for more than a decade, helping it to produce 80 percent of its own energy through solar panels, wind



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Solar panels help produce energy for the Santa Rita Jail Smart Grid, a self-sufficient power system that includes wind turbines and a hydrogen fuel cell. The grid also allows Santa Rita to buy and store power during nonpeak hours.

JIM STEVENS/STAFF

## Jail

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turbines, a fuel cell and a battery-storage system.

Based in San Ramon, Chevron Energy Solutions works with private and public entities on energy-efficient projects designed to cut their utility bills and consumption.

The \$11.7 million grid was funded through a variety of sources, including a \$6.9 million grant from the Department of Energy and a \$2 million grant from the California Energy Commission. PG&E also contributed \$2.5 million.

In addition to pulling itself off PG&E's grid, the microgrid allows Santa Rita to buy and store power during nonpeak hours. The grid and batteries alone are expected to save the jail and county at least \$100,000 in annual energy costs.

"During the summer when energy costs are high, the system will automatically disconnect from PG&E," said Matt Muniz, energy program manager for the general services agency of Alameda County. "It does it so fast that you don't see the lights blink. It is instantaneous, and that is what makes it unique."

The 2001 energy crisis left Santa Rita Jail — a million-square-foot facility with an inmate population close to 4,000 — running on diesel generators for nearly a month, spurring the drive for alternate energy sources.

That same year, it partnered with Chevron Energy Solutions to install what was then the largest photovoltaic system in the west, a 9,000 panel, 1.2 megawatt system. Santa Rita also added a 1 megawatt fuel cell in 2006, five wind turbines in 2010 and a hillside, 1,100-solar-panel system in 2011.

The jail's system is also set up to add more solar, wind or fuel cells without any disruption.

"The ideal way to become 100 percent independent is to bring down the energy demand, while increasing the renewable sources," said James Davis, president of Chevron Energy Solutions.

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