Under the United States Federal Energy Managers Program, the Veterans Administration (VA) Medical Center entered into an energy savings performance contract with Sempra Energy Services. The project required replacing two existing 1.2 MWe Solar® gas turbines that were installed in 1987. By replacing the generators with the low emissions Mercury™ 50, which utilizes an ultra-lean premix combustor design and produces less than 5 ppmv NOx, the hospital was able to generate $4.2 million dollars in emissions offset credits. The Mercury 50 gas turbine will handle nearly all of the medical center’s power needs, giving the hospital more secure onsite generation in the event of a utility failure.
The project required replacing two Saturn® 1.2 MWe turbine generators without emission control capability with Solar’s 4.6 MWe Mercury 50 recuperated gas turbine generator set. The Mercury 50 was an ideal fit for the hospital due to its recuperated exhaust heat design. The recuperator recovers exhaust heat by transferring it to the combustion air downstream of the compressor. The result is a significant electrical efficiency improvement. Over the lifespan of the Mercury 50, its lower emissions will save an estimated 40 tons of pollution annually. The combined heat and power system will provide 13,000 pounds per hour of 150 psig saturated steam used for heating, autoclaves, and absorption cooling of the campus. In 2010, the plant became the first VA facility in California to receive an Energy Star Award from the United States Department of Energy.