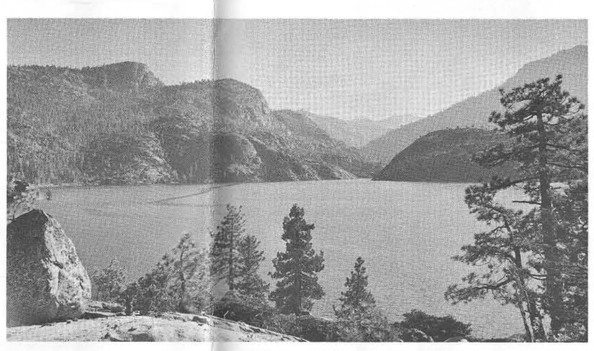
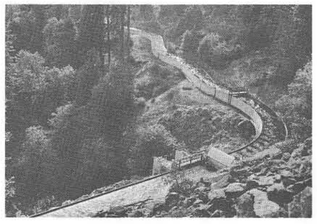
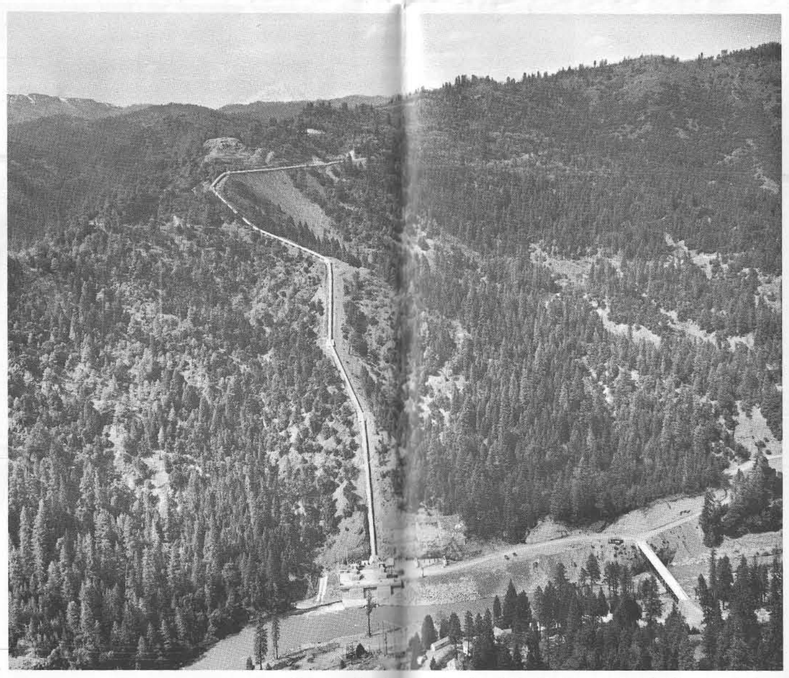
water power



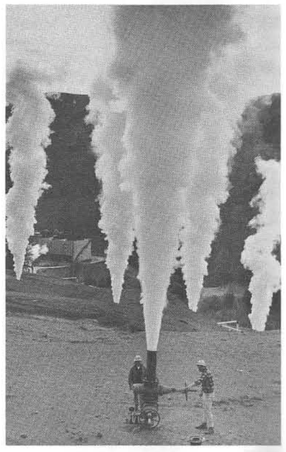
Lake Wishon, on the North Fork of the Kings River, is one of 134 PG&E mountain reservoirs that store water for hydroelectric power generation. These man-made lakes are vital to flood control, irrigation and community water supplies. In addition, they provide millions of Californians with opportunities for fishing, swimming, boating and water skiing.



When water is needed for hydro power it is released from reservoirs into canals and tunnels and then flows, sometimes for many miles, to points high above powerhouses. Above is a flume section of Tiger Creek Canal in the Sierra Nevada of Amador County. This 20-mile-long canal is part of the company's Mokelumne River hydroelectric development.



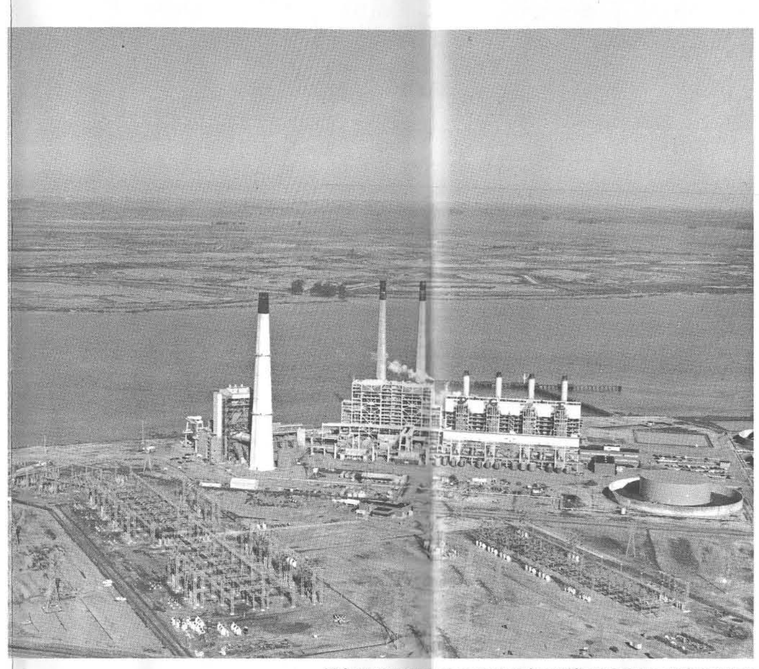
Water reporting for work takes a long fall inside big steel pipes like this penstock above James Black Powerhouse on the Pit River in Shasta County. The waterflow builds up terrific pressure (called head) in descent. Spurting from nozzles at the bottom of the penstock at speeds up to 200 miles per hour, the waterflow strikes the blades or buckets on waterwheels. These in turn spin the energy-making generators. No water is wasted or consumed in generating hydroelectric power.



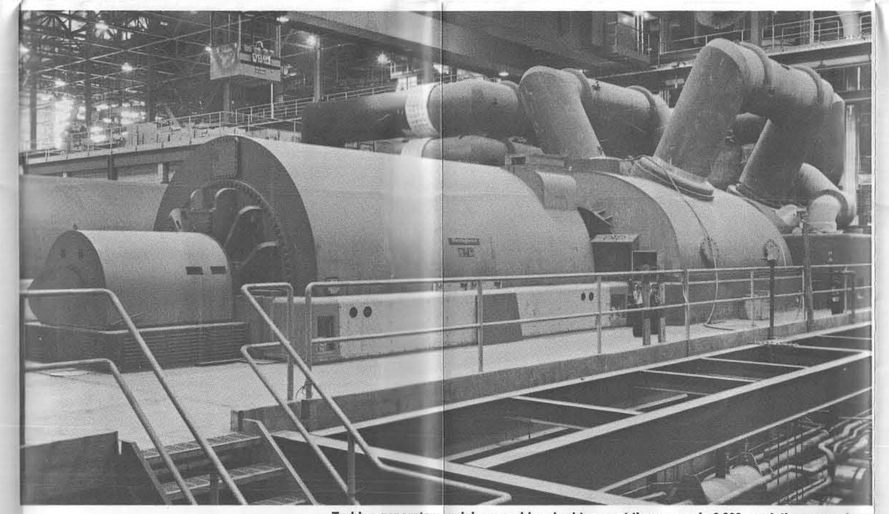
At The Geysers Power Plant in Sonoma County, steam from wells drilled deep in the earth supplies the energy for electric power generation. The steam from Mother Nature's own boilers is fed through pipes into generating units.

Uranium fuel is made in pellet form, sealed in long tubes and bundled. These technicians at a General Electric Company nuclear facility are assembling a loaded fuel bundle. Humboldt Bay's nuclear unit has 172 of these fuel assemblies.

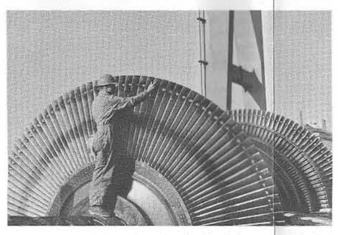
steam power



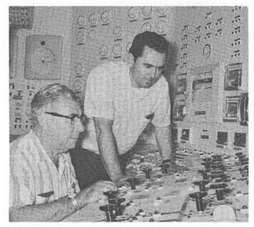
High pressure steam does much of the world's work. Steam made in boilers drives turbines in factories, ships and electric power plants. Most of the electric power PG&E can produce comes from steam-electric plants using low-sulphur oil for boiler fuel. Pictured above is Pittsburg Power Plant.



Turbine-generators weigh several hundred tons, yet they can spin 3,600 revolutions per minute with little vibration. In other words, even the biggest turbine-generators can revolve as fast and smooth as a sports car motor, although a thousand times bigger. One of the four turbine-generators at Morro Bay Power Plant is pictured above. The big pipes carry steam from the boiler into the turbine. Inside the big semi-circular steel housing at center is the generator that makes electricity.

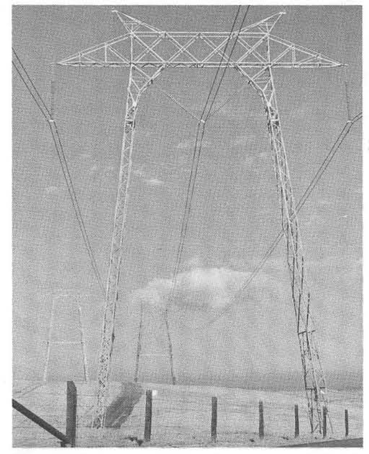


A row of turbine blades is inspected during a maintenance check.

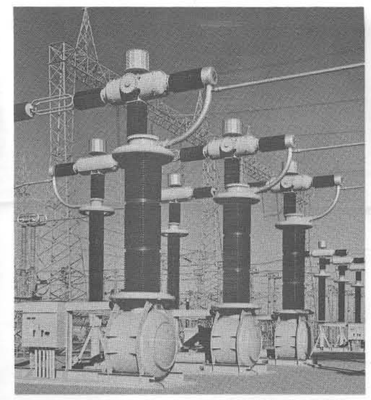


These power control room operators constantly check instruments that report furnace heat, oil pressure, power output and other vital information.

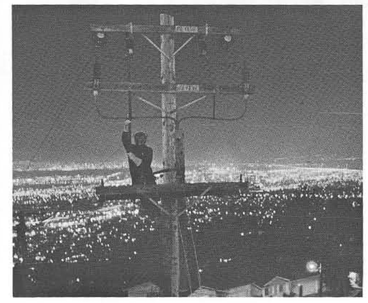
POWER NETWORK



This tall steel tower supports wires carrying 500,000 volts of power—highest voltage in the PG&E system. 95,000 miles of high-voltage transmission lines and lower-voltage distribution lines carry electricity to the people of Northern and Central California.



Substations have several vital purposes: 1) to "boost" voltage of long-journey electric power in transmission lines; 2) to lower voltage and feed this electricity to distribution lines that directly serve communities, factories and farms; 3) to protect the system with large devices called circuit breakers. The breakers shown in the photo above are specially designed to handle high voltages.



Most electric power is delivered into residential areas on 12,000-volt distribution lines like the one shown above in the hills of East Oakland, where a lineman is opening a switch. Poletop transformers lower voltages for in-home usage.