

CALPINE

THE METCALF ENERGY CENTER, SAN JOSE, CALIFORNIA



OVERVIEW – SIZE, LOCATION, APPEARANCE

- ❖ The 600-mw Metcalf Energy Center will provide enough electricity for a community of approximately one-half million households in the San Jose area. It is expected to be online in June, 2005.
- ❖ The 20-acre site, which includes land for access and landscape buffer, is across the street from the 40-acre PG&E Metcalf Substation, the main hub for electricity in the South Bay. The site is closely-bounded by high voltage transmission lines, train tracks, a hillside, a highway, and a small farm. It is completely shielded from residential neighborhoods by a 350-foot high hill. The region includes approximately 450 acres of land that accommodates the confluence of many miles of existing transmission lines, an area already being used as the main electrical infrastructure for Silicon Valley and the South Bay. This major substation and nearby transmission towers equipped with high capacity lines have been located in this area for over 50 years.
- ❖ During the application process, Calpine reviewed 22 other potential sites and found that MEC was the best site to provide the needed grid reliability benefits and no other site was environmentally superior.
- ❖ The main structures of the power plant will be surrounded by an architectural treatment compatible with future campus industrial plans for Coyote Valley. Also, the development will add hundreds of new trees.
- ❖ This project will not require any new transmission towers, a real benefit since the construction of transmission corridors can be time consuming, unsightly, costly and may create negative impacts on sensitive environmental habitats.
- ❖ Calpine purchased 116 acres on the adjacent Tulare Hill and will maintain it as “The Metcalf Energy Center Ecological Preserve”, having donated it to The Santa Clara County Land Trust. An additional fifteen acres has also been set aside for habitat protection on nearby Coyote Ridge.
- ❖ The Metcalf Energy Center will provide approximately \$4 million in annual property tax revenue from a parcel that was not likely to be used for anything else due to its configuration and location.

NEED

- ❖ According to the California Independent System Operator, (CAISO), the electric load in the San Jose area is about 2,200 megawatts of power at peak demand times. Only about 300 megawatts is generated here in the San Jose vicinity; most of the electricity we use is generated elsewhere and sent to us via transmission lines. Our region's dependency on imported electricity inherently leads to less reliable and lower quality of electricity service. There is a limit to the amount of additional power that can be imported into the region during periods of peak electrical demand due to transmission facility limitations. Energy officials at the CAISO have stated that they believe Metcalf Energy Center will provide essential grid reliability benefits and voltage support to an area that has suffered chronic electricity resources deficiencies.

COMBINED-CYCLE TECHNOLOGY

- ❖ The Metcalf Energy Center will utilize a technology called, "combined-cycle" generation. This advanced technology has a much lower environmental impact, compared to older gas-fired plants, setting new standards for emissions control and reducing fuel consumption by up to 40%. This efficient use of natural resources protects our environment while producing reliable, low-cost electricity.
- ❖ Combined-cycle power generation uses natural gas to produce two forms of energy – electricity and steam. Natural gas-fired combustion turbines and steam turbines are used in tandem to generate power. The gas turbine spins a generator, creating electricity on one end while generating heat at the other end. The heat coming from the turbine is recovered and routed to a heat recovery steam generator where steam is created, and sent directly to a steam turbine where it spins another generator, producing additional electricity. The steam is then condensed back into water and re-circulated through the heat recovery steam generator, where the process begins again.

ENVIRONMENT

- ❖ As a part of the extensive permitting process, more than a dozen agencies review power plant proposals that are submitted to the California Energy Commission (CEC). The applicant must demonstrate no significant adverse impact to public health or the environment. Regulatory agencies maintain a stringent set of standards and verification protocol to ensure that all conditions are met during construction and operation of the plant.
- ❖ Bay Area Air Quality Management District (BAAQMD) independently verified that the project poses no threat to public health and has determined that the project uses Best Available Control Technology (BACT), will meet or, in many cases, significantly improve upon applicable air quality standards.
 - Emissions from nitrogen oxides (NOx) will average 2 parts per million on an annual basis, less than the permitted level of 2.5 ppm.
 - Emissions from ammonia will be reduced to 5 parts per million, less than the required 10 ppm.
 - Emissions from the plant are minimal and dispersed high enough into the atmosphere as to render them undetectable at ground level.
- ❖ MEC will reduce the region's reliance on diesel power. In the recent past, Silicon Valley's peak energy demands were addressed by the addition of diesel generators at local corporations - generators that have few if any pollution controls.
- ❖ The Metcalf project will use and evaporate an average of three million gallons per day of recycled water, greatly assisting the City of San Jose in meeting strict freshwater discharge restrictions into San Francisco Bay, in compliance with the "Clean Water Act", and will improve the South Bay salt water habitat.

NOTABLE SUPPORTERS

- ❖ On April 18, 2001 California Governor Gray Davis urged the California Energy Commission to approve construction of the Metcalf Energy Center. “It’s time to stop talking about Metcalf and start building it.”
- ❖ On April 13, 2001 U.S. Senator Dianne Feinstein said she favored construction of MEC. “It’s important to build it.”
- ❖ On March 2, 2001, the California State Assembly passed a resolution of support MEC, 70 - 0.
- ❖ On February 27, 2001, the Santa Clara County Supervisors passed a resolution of support for MEC, 5 – 0.
- ❖ The California Independent System Operator strongly endorsed the Metcalf Energy Center as the solution for San Jose. PG&E called San Jose “the most vulnerable metropolitan area on the PG&E system.”
- ❖ The project was strongly supported by the organized labor groups: California State Construction and Building Trades, California Unions for Reliable Energy, Santa Clara and San Benito Counties Building Trades Council, Plumbers, Steamfitters and Refrigeration Fitters U.A. Local Union 393.
- ❖ The American Lung Association of Santa Clara and San Benito Counties supported the Metcalf Energy Center. They stated that MEC will create a net improvement to regional air quality due to the stringent air quality standards, decreased reliance on existing older plants and diesel generators and the permanent retirement of air emission reduction credits. On March 17, 2001, the State Lung Association adopted a position paper supporting this type of clean power generation.
- ❖ The Loma Prieta Chapter of the Sierra Club supported the Metcalf Energy Center based on the advanced technology that will be used, the number of environmental advantages it offers, and the region’s need for more power generation.
- ❖ The Center for Energy Efficiency and Renewable Technologies (CEERT), a coalition of the nation’s leading environmental and public interest groups and innovative technology companies endorsed MEC. Member companies include: Natural Resources Defense Council, Union of Concerned Scientists, Environmental Defense, and the Sierra Club.
- ❖ Industry groups such as the Silicon Valley Manufacturing Group, California Manufacturers and Technology Association (CMTA), California Large Energy Consumers Association (CLECA), as well as numerous individual Silicon Valley companies including, Oracle Corp, SDL, Siemens, Jennings Technology, AMD, and General Electric Company.
- ❖ The editorial boards of the Wall Street Journal, San Jose Mercury News, Silicon Valley Business Ink, the San Jose Silicon Valley Business Journal and the Sacramento Bee.
- ❖ Metcalf Energy Center supporters formed; “CLEANAIR – Community Leaders, Environmentalists and Neighbors Advocating Infrastructure Reliability”. It was co-chaired by 30 prominent Silicon Valley leaders, led by former SJ Vice Mayors Trixie Johnson and Jerry Estruth, and included a membership roster of over 26,500 San Jose voters.
- ❖ The San Jose Silicon Valley Chamber of Commerce and the consumer group, TURN, The Utility Reform Network.
- ❖ The San Jose/Silicon Valley Branch of the National Association for the Advancement of Colored People (NAACP) and the Santa Clara County Farm Bureau.
- ❖ Dozens of Coyote Valley residents and business people endorsed the project through letters sent to the City Council.