

SACRAMENTO TURNS OUT RANCHO SECO

By Andrew Sabey

Rancho Seco Nuclear Power Station, located about 25 miles southeast of downtown Sacramento is, or was, operated by the Sacramento Municipal Utility District (SMUD). SMUD is a publicly owned utility, and as such, the voters of the district own the utility. The voters' will, as evidenced by their votes, guides the five member board of directors which is responsible for all policies of the district. Board members are elected to four year terms from five equally populous wards of Sacramento County. (Public Utilities Code §11823) SMUD conceived Rancho Seco in the mid-1960s when nuclear energy was billed as the panacea for energy production and touted as a source "too cheap to meter"(Public Citizen, "Runaway Costs," May 1989). The voters overwhelmingly approved the proposed plant envisioning a future of clean, safe, reliable, and above all, inexpensive energy through the turn of the century. On June 6, 1989, with fourteen years worth of experience, the voters spoke again and emphatically ordered the plant shut.

History

In the late 1960s SMUD hired Babcock and Wilcox to design the plant and Bechtel to construct it. Babcock & Wilcox is the firm which designed the plant at Three Mile Island (TMI). Babcock & Wilcox used the same pressurized water-cooled reactor design used as it used at TMI. The plants are essentially twins. Rancho Seco was tested through 1974 and received its operating license from the Nuclear Regulatory Commission (NRC) in April, 1975. On the day of Rancho Seco's dedication, the plant had its first breakdown and went off-line for several months. This inauspicious start was followed by further problems which kept the plant off-line for thirteen of the first eighteen months of operation. Rancho Seco's early problems effectively stifled any ideas that SMUD, Babcock & Wilcox and Bechtel had for a Rancho Seco II. Although unforeseeable at the time, Rancho Seco's early failings were only the portent of things to come.

In fourteen years of operation the plant has had over 100 emergency shutdowns. Each shutdown places great strain on the delicate componentry of the reactor and forces the release of large quantities of contaminated water. Over two billion gallons of contaminated water has been dumped into a tiny, nearby creek. The plant has been the site of several of the industry's most serious accidents, including the most critical incident of overcooling the core--which could have cracked like a hot glass doused in icy water. (Sacramento Bee, May 18, 1988). The NRC has fined Rancho Seco on numerous occasions for various violations, miscalculations and misinformation. Most condemning, however, is the plant's lifetime operating efficiency record of 38 percent. Rancho Seco is the fifth worst performer in the country despite being ranked among the most expensive plants to operate. ("Too Costly to Continue," Public Citizen, 1988, p.1.)

Many convincing arguments could have been made to close Rancho Seco on safety or technical issues alone. For instance, the plant was at a constant risk of meltdown because of the sensitive nature of the Babcock & Wilcox reactor, proven unreliable at TMI. Furthermore, the reactor core was feared to be "embrittled" by the many emergency shutdowns endured, and thus the core could crack and release large amount of radiation. The risk increased as the plant aged. The plant was operated by incompetent, poorly trained controlroom staff with an unacceptably high turnover of management staff. In only four years management turnover included three board presidents, four general managers, four senior nuclear executives and five plant managers. (Institute for Nuclear Power Operations, Letter to SMUD Board, April 4, 1989) The plant was not adequately maintained which prompted one NRC official to liken Rancho Seco to "a car driven 150 thousand miles without a tune-up or oil-change". Finally, the plant was storing radioactive waste on-site as opposed to shipping the waste to a proper storage facility as originally planned.

Any one of the above concerns would seem compelling, but technical and safety arguments would never, on their own merits, convince the voters of Sacramento to scrap the plant after so many millions of dollars were invested. Indeed, SMUD's position throughout the plant's history had been that, regardless of the cost of operating the plant, the cost of abandoning it would be greater. While this argument sustained the plant through many attacks on its safety and operation record, it was soundly defeated when the plant was attacked directly on economic issues.

The Vote

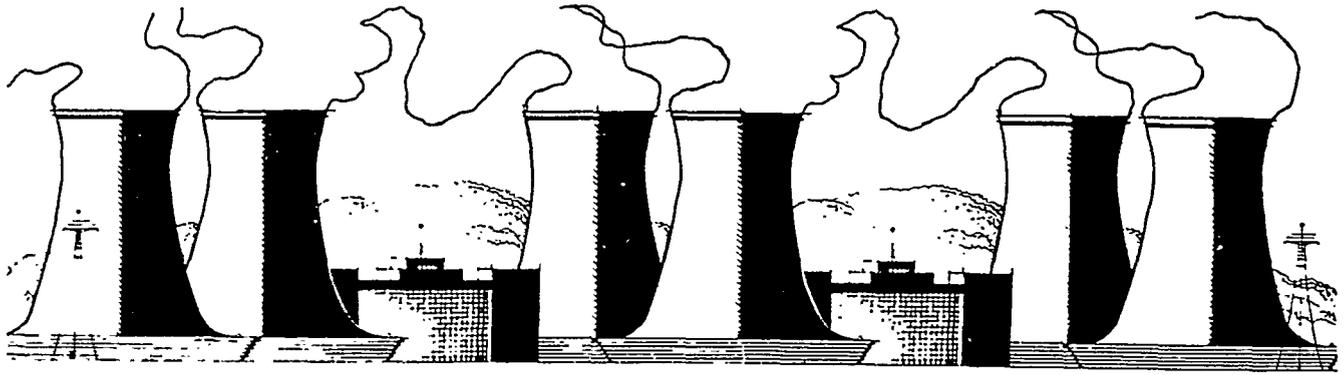
Sacramentans for Safe Energy (SAFE) is a non-partisan grass-roots community organization committed to the oversight and ultimate closure of Rancho Seco. SAFE was established in 1986 to promote a ballot initiative to shut down the troubled plant. SAFE, ever cognizant that safety issues alone would never move a majority of the voters to close Rancho Seco, opted to engage the proponents of the plant on their own turf -- economics. (Interview with Michael Remy, October 1989) Although economic arguments had prevented the initiation of any new nuclear power plants since the accident at TMI in 1979, it was assumed that once a plant was built, licensed and running, albeit sporadically, operating the plant was more cost effective than shutting it down. This theory was based on the idea that the plants were exceedingly expensive to build, but once built the cost of operation was cheap. ("Runaway Costs", Public Citizen, May, 1989, p.11) As more information about the economics of Rancho Seco was revealed, this argument slowly eroded. Indeed, the nation's second largest nuclear utility, Tennessee Valley Authority, concluded in 1985 that "one of the basic assumptions regarding the economics of nuclear power plants has been that while nuclear is more costly . . . to build initially, it has operating savings that will offset the additional investment. Over the past few years national industry trends have suggested that this is no longer the case." (Ibid, p.13)

Incidents occurring during 1985 illustrate how costly Rancho Seco was. Various problems shut down the plant for about two-thirds of the year causing the first budget deficit in SMUD history. The plant's lack of productivity forced SMUD to raise rates nearly 30 percent in 1985. (Historical Timeline, SMUD, June, 1986.) Then, the plant suffered a malfunction in the control circuitry on December 26, 1985, which caused an emergency shutdown and a severe overcooling of the

reactor core. ("Trouble With Rancho Seco," Sacramento Magazine, 1986.) Rancho Seco remained off-line until March 1988, a total of 27 months. During this time SMUD spent over \$400 million to retool the plant and bring it in line with NRC standards, including modifications that had been ordered after the TMI accident in 1979.

In the spring of 1986, SMUD's problems were compounded by a legal battle with Pacific Gas & Electric (PG&E) and by two bond rating decreases. PG&E was attempting to rescind an interconnection agreement with SMUD wherein PG&E would purchase excess energy produced by Rancho Seco and supply the necessary reserves for times when Rancho Seco was inoperative. PG&E argued that since Rancho Seco was not producing any power for the surrounding northern California region, PG&E should not have to honor its half of the interconnection agreement. (Historical Timeline, SMUD, June, 1986.) SMUD also suffered the first of two bond rating decreases. SMUD had issued millions of dollars worth of bonds to finance Rancho Seco and had enjoyed the high ratings normally associated with municipal bonds. However, fears over the financial impact of an ailing plant forced Standard and Poor's to lower the rating. SMUD's bond rating eventually sank to a level just above corporate "junk bonds". (Interview with Michael Krug, SAFE Volunteer)

During this period SAFE began the process of putting an initiative before the voters to ask whether Rancho Seco should continue to operate or be closed forever. In the summer of 1987 having fulfilled the statutory requirements to place the initiative on the ballot, including obtaining 50,000 verified signatures of registered voters, SAFE presented its petition to the SMUD Board. SAFE had hoped to put the issue to a vote in the regularly scheduled general elections in November 1987. The Board refused to act. The Board claimed that it had "unfettered discretion" whether or not to call for an election on the initiative. SAFE contended that the Board was required, by overwhelming case law, by statute and by fundamental public policy, to put the measure before the voters within a prescribed time period. (Initial Memorandum of Points & Authorities, Petition for Writ of Mandate, Sacramento Superior Court, #352253, July 3, 1987.) After exhausting administrative remedies, SAFE sued and obtained a court order compelling SMUD to set the election date. The Board, however, had successfully delayed the vote past the fall deadline and finally set the election date for June 6, 1988.



SAFE's "Rancho Seco Voters' Rights Initiative" became known as Measure B. Only months before the vote was scheduled, on the last day possible, SMUD decided to place its own measure, known as Measure C, before the voters to compete directly with Measure B. SMUD hoped to deflate the popularity of Measure B by providing a less radical alternative than immediate closure of the plant. SAFE responded with further litigation in an attempt to label SMUD's measure "advisory only". The suit involved a dispute over the meaning of several sections of the California Elections Code which regulate the ability of legislative bodies to put issues before the voters in special elections. SAFE argued that SMUD had missed the opportunity to oppose Measure B with SMUD's own ordinance. SMUD, of course, disagreed. The Sacramento County Superior Court ruled that Measure C was as binding as Measure B because SMUD, as a governmental agency, could put a measure before the voters without completing the normal petitioning process, provided SMUD gave adequate notice to the county registrar. (Petition for Writ of Mandate, #358596, April 12, 1988.)

Measure B asked whether the voters wished to have Rancho Seco shut down and never again operated as a nuclear facility without the express approval of the voters. Measure C asked, "Shall SMUD operate Rancho Seco for the duration of the current refueling cycle, a period of about eighteen months under certain conditions. . . provided that the proposition of continued operation of Rancho Seco after eighteen months must be ratified by a majority of voters at a general or special election?" Measure C also pledged SMUD to use "due diligence" to sell Rancho Seco to qualified buyer and transfer the operating license to the buyer during the eighteen month period. Measure C was unclear whether SMUD had reserved the right to sell the plant in the event that the ratepayers voted to close it. Finally, Measure C contained some language that SMUD would

later regret. SMUD pledged that if after December 31, 1988, Rancho Seco's "performance level falls below 50% for four successive months" SMUD would close the plant. (Official Ballot language.)

During the spring of 1988, the campaigns of both proponents and opponents of Rancho Seco focused on the economic issues. Much information came to light about SMUD's rate increases (184% over 10 years), SMUD's ailing bond rating due to Rancho Seco expenditures and the high cost per kilowatt hour of energy produced by Rancho Seco versus the same energy purchased from other regional utilities. The voters began to question the validity of Rancho Seco proponents' patent arguments that Rancho Seco was an asset with over \$1 billion invested and therefore must be utilized. In addition, SMUD argued that Rancho Seco protected the region from the vagaries of the fossil fuel market and reduced Sacramento's dependence on foreign oil. This last argument would have been valid if the plant actually had run consistently, thereby preventing the need to supplement energy supplies with fossil fuel generation.

In the end, the options that Measure C provided, "a chance and then a choice", held just enough sway with the voters to give Measure C the edge. A slim majority, 51.7% voted yes for C, while only 49.6% voted for Measure B. In initiative elections such as this, each measure is voted on separately, the one garnering the most votes, wins. Measure C's narrow victory meant that SMUD would have up to 18 months to operate Rancho Seco and try to prove that the hundreds of millions of dollars in repairs were worthwhile. The voters would then decide whether to allow SMUD to continue, or permanently to shut the plant down.

Although SMUD had won the first round, it was a temporary victory only. The first election had focused attention squarely on economic issues. The proponents had weathered the storm, but the voters had expressed grave misgivings about the feasibility of Rancho Seco.

The pressure was on the proponents of the plant to prove its value.

Rancho Seco ran well during the summer of 1988, so the SMUD Board decided to move the second vote up from eighteen months to just twelve months. The Board hoped to capitalize on the positive image the plant could project by producing power through the winter and into the spring of 1989. In a show of good faith, the Board voted to honor the will of the voters in the June 1989 election regardless of the results, a resolution they would later try to dismiss as non-binding. (Interview with Michael Remy.)

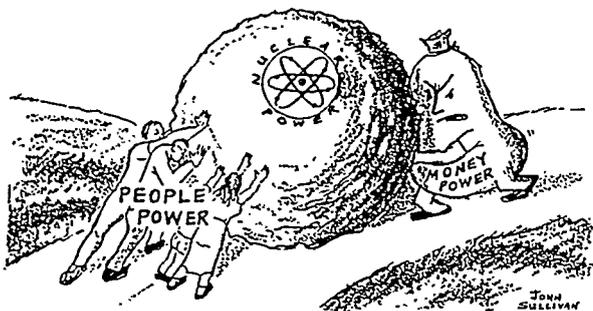
In the fall of 1988, the plant experienced more difficulties that required repairs and more down time. Because of the vigilance of SAFE and other groups, the press noted every incident and reported every shutdown. Sacramento voters were consistently reminded of the fallibility of Rancho Seco. Several reports, some commissioned by SMUD itself, recommended that closing the plant would save ratepayers money because Rancho Seco appeared incapable of running at a profitable level of efficiency. The most notable report was the Quality Energy for Sacramento Tomorrow (QUEST) report wherein a group of "community leaders" chaired by the Chief Executive Officer of SMUD and several other high ranking SMUD officials whose pro-nuclear views were well-established, concluded that the District was better off without Rancho Seco.

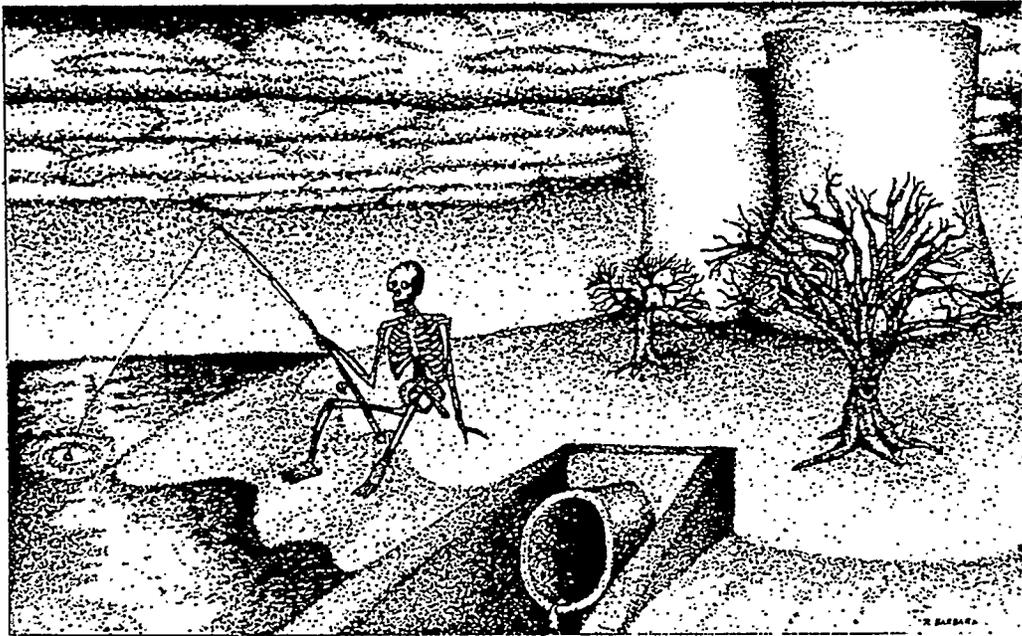
In the spring of 1989, SMUD began seeking buyers for the plant and initiated negotiations with Babcock & Wilcox and Bechtel, the companies that designed and built the plant. As per Measure C, SMUD was looking to sell the plant outright, including the federal operating license and all attendant liability. The two firms were unwilling to accept the risk of responsibility for the plant under the general terms of the proposed contract. The companies were only interested in a contract to operate the plant for SMUD, without taking over the federal nuclear operator's license. Critics of the

deal suggested that such negotiations were just a sham, intended to confuse the voters only months before the vote to decide whether the plant was to continue running or be closed forever. The contract talks fell through because of the parties' inability to agree on who would assume responsibility for Rancho Seco in the event of an accident. (Interview with Michael Krug, October 1989.)

In April, however, the chair of the SMUD Board stated that he would rather sell Rancho Seco for one dollar than see it shut down, even if the ratepayers voted to close the plant in the June election. (Sacramento Bee, April 20, 1989, p.B1.) This statement forced SAFE to file a third lawsuit to ensure the integrity of the Measure K vote and to disallow the SMUD Board from, "effectively disenfranchising the voters of the District". (Petition for Writ of Mandate, #361621, May 17, 1989.) SAFE stood poised with the suit filed, but unserved, to enjoin SMUD from selling the plant in the event of a vote in favor of closure. The suit was based on a theory of estoppel. SAFE reasoned that both the ballot language of Measure C, and all supporting campaign arguments in favor of Measure C promising to give Sacramento voters the opportunity to vote on Rancho Seco's fate prevented, or estopped, the Board from doing anything but closing the plant if the voters so directed. "The Board. . . is bound by said measure and estopped from taking any action, before or after the June 6, 1989 election to thwart or otherwise undermine the initiative and referendum process and the fundamental constitutional rights of the ratepayers in their electoral franchise. . . ." (Ibid, p.9).

Ardent plant supporters pointed out scenarios where Rancho Seco would be cost effective, but the scenarios required assumptions about the reliability performance of Rancho Seco that had never been achieved. The proponents compared the cost of Rancho Seco power with that of natural gas, but used an escalation rate for the price of natural gas that was four times higher than predicted. Even using that outrageous figure, proponents were able to show only slight advantage with Rancho Seco. (Interview with Michael Krug.) With a lifetime average of 38% capacity performance and a well-established fact that as a plant ages its performance declines, the cost projections advanced by Rancho Seco proponents were difficult to support. ("Too Costly To Continue", Public Citizen, Jan. 1988) As the Sacramento Bee discussed in an editorial in May of 1989, "If SMUD keeps Rancho Seco open and it suffers another yearlong outage, rates soar, SMUD's bond rating falls through the floor . . . if that kind of outage occurs





several years from now, the prognosis is even worse." (May 21, 1989, p. B1.) Plant opponents also pointed out that the cost of decommissioning Rancho Seco, already estimated at between \$250 million and \$1 billion will only increase with time. Although, as the disparate estimates attest, no one truly understands exactly what decommissioning will entail.

With the issues squarely before them, the voters of Sacramento on June 6, 1989 became the first constituency in history to vote for the closure of an operating nuclear power plant. By a margin of 53% to 47% the voters answered "no" to the question posed by Measure K, "Shall the proposed SMUD ordinance providing that SMUD may continue to operate Rancho Seco be adopted?" The nuclear industry and proponents spent about \$1 million on their unsuccessful campaign to keep Rancho Seco running. SAFE, in conjunction with Campaign California, raised and spent about \$250,000 on its campaign. The plant was promptly taken off-line.

In bold defiance of the voters' will, and in direct conflict with their own "non-binding resolution", SMUD continued to seek buyers and was negotiating a possible deal with a small company named Quadrex. SMUD continued to point to the ballot language in both Measure C and K that prevented only SMUD from operating the plant, not anyone else. SAFE stood poised with the lawsuit. Fortunately, in September the SMUD board formally voted to reject the only remaining offer to purchase the plant, an offer tendered by Quadrex. Quadrex was a company with no previous nuclear power plant operating experience. SMUD rejected the Quadrex offer largely because of the uncertainty of Quadrex's ability to do what SMUD itself could not do, namely run

Rancho Seco safely and profitably. In September, SAFE members breathed a sigh of relief when four months of Rancho Seco closure triggered the second condition mandating permanent closure. SAFE never had to serve SMUD or pursue its final lawsuit.

Advocates nationwide hailed the Measure K vote as a mortal wound for an industry that had yet to recover from the accident at Three Mile Island. As one antinuclear activist noted, "From this moment on, citizens know that they can take on operators of costly nuclear plants and win." (Campaign California Quarterly Report, vol.1, no.4, 1989 p.4.) The nuclear industry's reaction was mixed. Some analysts had hoped that SMUD would voluntarily close the plant to avoid a highly publicized loss by public vote. The analysts feared such a precedent could inspire more activity against some of the other poor performers in the nation. (Ibid.)

Unfortunately, the closure of Rancho Seco was possible only because the voters are the owners. In privately owned utilities the road to closure would be much longer. Anti-Rancho Seco forces also point out that while the closure had national and even global significance, the voters of Sacramento made an economic decision on this specific plant. Campaign California's polls revealed that a majority of Sacramentans supported the concept of nuclear energy. ("About Rancho Seco", pamphlet.)

Still, as SAFE historian Martha Blackman noted, patience and persistence paid off. Once the issues made it into the press, the plant itself became its own worst enemy, and SAFE's best advocate for closure. Blackman also pointed out that even though information about

Rancho Seco's performance was eminently available to the citizenry, in part because it is a publicly owned utility, much of the information that proved most damaging to Rancho Seco would be available for any commercial nuclear power plant. Good sources of public information include NRC files, corporate reports, stockholder information and bond rating guides. Blackman concedes that when she became involved with the movement to close Rancho Seco, in the wake of the TMI accident of 1979, no one really thought they could close it. Even five years ago she would not have believed it possible. Today it is a reality.

Epilogue

Many issues have yet to be decided at Rancho Seco, not the least of which is decommissioning. Nei-

ther the cost nor the procedures are clear yet. Rancho Seco will be the first commercial plant to require decommissioning. SMUD employees estimate that the plant will require a skeletal staff for about 20 years to allow the fuel to "cool off" before it can be removed from the core. Thereafter many questions will need to be answered regarding alternative uses for the plant. No one is certain whether it will ever be functional as a gas or coal-fired plant or whether such a use would even be desirable given Sacramento's poor air quality.

Andrew Sabey is a first year law student at U.C. Davis. Andrew would like to give special thanks to Michael Remy, Michael Krug, Martha Blackman and Ron Scott.

ASBESTOS HAZARD ASSESSMENT

A View From the Trenches

By Jennifer Decker

Most commercial applications of asbestos are already banned or are being phased out in response to governmental regulations, public fears, and industry concerns about current and future asbestos litigation. As asbestos disappears from the market place, complex, costly, and emotional asbestos lawsuits will appear with increasing frequency in our courts. According to a recent article in the San Francisco Chronicle, one-third of all new cases in San Francisco civil courts are asbestos related. Of the nearly 2,000 asbestos cases pending in San Francisco, 299 were filed in 1988 while 241 were filed in the first seven months of 1989; an increase of approximately 40%.

The latency period preceding the appearance of asbestos related diseases, such as asbestosis or mesothelioma, is generally twenty to thirty years after exposure. As a result, asbestos cases are typically brought by middle-aged or elderly plaintiffs who are nearing the end of their lives. Thus, as the Chronicle points out, the courts give these cases priority over other civil cases that have often waited three to five years to go to trial. Moreover, the U.S. Environmental Protection Agency (EPA) estimates that asbestos exposure causes 3,300 to

12,000 deaths per year. Clearly, the potential number of asbestos cases threatens our already overburdened judicial system

Society is responding to industry's mistakes from a generation ago and protecting future generations by imposing high jury awards for compensatory and punitive damages. However, asbestos cases are exorbitantly expensive to litigate. In U.S. v. Reserve Mining Company, 380 F. Supp. 11 (D. Minn. 19--), an asbestos trial lasted 139 days, principally due to the many unresolved technical issues involved. The trial included testimony by more than 100 witnesses, over 1,621 exhibits, and 18,000 pages of transcripts. The quantity of information needed to litigate each case and the magnitude of the current and potential asbestos cases, gives credence to Judge Marie-Victoire's statement that asbestos problems will plague our courts "way into the 21st century."

Industrial use of asbestos fell to a low of approximately 100,000 tons in 1988, down from nearly 900,000 tons in the early 1970's, primarily as a response to health concerns. Government measures were enacted to reduce exposure to asbestos containing materials (ACM's), thereby limiting asbestos-related diseases.