

## Nuclear Initiative: Californians Vote "No," but Legislature Acts

Nuclear industry spokesmen are now saying, with no little justification, that Californians have given nuclear energy a vote of confidence by rejecting proposition 15, the nuclear power plant initiative, by a 2 to 1 majority. The "No-on-15" campaign mounted by a well-financed coalition formed by the nuclear industry, the electric utilities, the California AFL-CIO, and other interests prevailed everywhere in the state except San Francisco. In southern California, the coalition captured more than 70 percent of the vote.

Nevertheless, one direct result of the initiative is that the nuclear industry, the utilities, and the federal regulatory authorities have all been served notice that the nuclear enterprise will not be allowed to expand in California unless the state is given proof that problems of fuel reprocessing and high-level radioactive waste disposal have been solved.

The week before the 8 June referendum, the California legislature passed three bills—and Governor Edmund G. Brown, Jr., promptly signed them into law—establishing important new conditions that will have to be met before any more nuclear power plants are built in the state. Some legislators embraced these bills simply as a tolerable and not too drastic alternative to proposition 15, which the No-on-15 forces had described as a "nuclear shutdown" measure.

Two of the measures are intended to prevent a potentially unmanageable accumulation of spent fuel at nuclear plants in California. Before the state Energy Commission certifies sites for new nuclear plants it must first determine that a federally approved and "demonstrated" technology exists for fuel rod reprocessing and that facilities will in fact be available for the reprocessing or storage of fuel rods. Site certification is also dependent upon a finding that the Nuclear Regulatory Commission (NRC) has approved a demonstrated technology for the permanent disposal of the high-level wastes that are left after fuel reprocessing.

The requirements imposed by these new California laws could not be met today, and, despite the repeated assurances offered by federal officials and nuclear industry leaders, there is some

question as to just when they will be met. The reprocessing venture closest to operational status today is the one that Allied General Nuclear Services has under way at Barnwell, South Carolina. Once in service, this plant will have enough capacity to reprocess the spent fuel produced by all the commercial power reactors now operating in the United States.

But work on two facilities that will ultimately be essential to the Barnwell operation has not even begun. One of these would convert plutonium nitrate solution to a solid for safe transport, while the other would solidify high-level radioactive wastes for permanent disposal. The latter facility cannot be built until the NRC approves a waste solidification technology. The plutonium conversion facility cannot be licensed and built until the NRC has made some basic regulatory decisions about the intensely controversial matter of safeguards. At the moment, no one can safely predict when the Barnwell plant will be fully licensed for reprocessing operations.

The third measure enacted by the legislature prohibits final site certification for any new nuclear plant (except for two proposed plants in southern California which were exempted) until a year after a study of placing the reactors underground, or containing them within earthen berms, has been completed by the energy commission and submitted for legislative review.

There was opposition to the three bills from the nuclear industry, organized labor, and from all but one of California's private utilities (Southern California Edison was the exception), although the industry and the utilities now appear to believe they can live with this legislation. But, in general, the bills—which finally cleared the state Senate on 1 June—enjoyed broad support. Leaders of the proposition 15 campaign endorsed the bills, even though they recognized that their passage might well undercut whatever chance of victory there was for the initiative.

Precisely because enactment of these measures might satisfy many Californians who favored some kind of independent reassessment of nuclear technology, even the No-on-15 committee

looked upon this legislation benignly. Furthermore, newspapers such as the *Los Angeles Times* and the *San Francisco Chronicle* which had denounced proposition 15 were warmly supportive of the three bills.

A major difference between the measures enacted by the legislature and proposition 15 is that the latter included stringent new requirements pertaining to reactor safety and insurance liability. Also, the proposition would have affected existing as well as prospective plants. Indeed, under the proposition, existing reactors would have had to be cut back to 60 percent of capacity if the present congressionally imposed \$560-million ceiling on insurance liability was not repealed or, in the case of specific plants, waived by the utilities involved. Also, operation of the plants would have had to be phased out entirely after 1981 unless the legislature certified—by a two-thirds majority vote in each chamber—that the reactor safety and waste disposal systems associated with them were effective and reliable.

Although sponsors of the proposition denied that a "shutdown" was intended, the No-on-15 campaign seems to have convinced most voters that this was what could be expected. David Pesonen, a San Francisco lawyer who was one of the prime movers and leaders of the initiative effort, suggests that the opposition made effective use of scare tactics, especially in southern California. He says that many voters were made to believe that, if proposition 15 were adopted, they had better prepare for energy shortages and rising unemployment and hard times, together with more air pollution from the burning of coal as an alternative fuel.

Pesonen and other leaders of the initiative effort also attribute the defeat of their campaign partly to the fact that for every dollar that they spent, the No-on-15 people may have spent at least four (all told, campaign spending for and against proposition 15 may have exceeded \$5 million). But the importance of campaign money as a factor can be disputed because, often as not, the side spending the most in an initiative battle—and initiatives on various issues, from taxes to pension rights, have long been a feature of California ballots—turns out to be the loser.

The best explanation for the defeat of proposition 15 may be that the initiative was simply too ambitious. The initiative campaign clearly had the potential to convince a great many voters, and perhaps a majority of them, that nuclear energy has given rise to some troubling

and unresolved questions, and that there is plenty of disagreement among the experts. But there was probably no chance that the campaign could convince 3 or 4 million voters (about 4 million voted "no" on proposition 15, and nearly 2 million voted "yes") that an immediate phaseout of existing plants might be in order. After all, for many years Californians, like people elsewhere in the United States, had been given to believe that atomic power was the promise of the future.

It was clear from the outset of the initiative effort that virtually the entire political and business establishment in California was going to side with the nuclear industry and the utilities (*Science*, 4 June). And, a week or so before the vote, the No-on-15 campaign brought forth a list of 5200 scientists and engineers opposed to the initiative and its demanding requirements.

Along with all the other advantages it enjoyed, the No-on-15 campaign received the open support of officials at the Federal Energy Administration and the Energy Research and Development Administration (ERDA). An ERDA report stated that a nuclear shutdown in California would increase the cost of electricity by \$40 billion over the next 20 years because it would necessitate switching to higher priced fuels, mainly imported oil. This would mean a \$7500-increase in fuel costs for every family of four in the state.

Ralph Nader, who visited California several times to campaign for proposition 15, is not downcast about its defeat. He told *Science* that, despite everything—the massive opposition from the nuclear industry and organized labor, the hostility of newspaper editors and publishers, the "invidious activity" of ERDA, and the alternative measures enacted by the legislature (measures which he thinks have little substance)—the initiative received a third of the total vote. "It's amazing they did so well," he said.

Nader predicts that the defeat of the proposition will have "no effect" on campaigns to pass nuclear safeguards initiatives in other states. Circumstances and public attitudes vary from state to state, and "each state thinks it's different," he observed.

In two states, Oregon and Colorado, nuclear initiatives which are similar to proposition 15—except that existing plants are exempted—have already been qualified for a place on the November ballot. Initiative efforts are under way in more than a dozen other states too, although a number of these are now pointing toward elections in 1977 or 1978.

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## National Medal of Science Winners

On 4 June President Ford announced the winners of the National Medal of Science for 1975. The medal, established in 1959, is presented to individuals who "are deserving of special recognition by reason of their outstanding contributions to knowledge in the physical, biological, mathematical, or engineering sciences." The 15 winners for 1975 are:

John W. Backus, IBM San Jose Research Laboratory

Manson Benedict, Institute Professor Emeritus, Massachusetts Institute of Technology

Hans A. Bethe, Professor Emeritus, Cornell University

Shiing-shen Chern, University of California, Berkeley

George B. Dantzig, Stanford University

Hallowell Davis, Professor Emeritus, Washington University

Paul Gyorgy (Posthumous Award), Professor Emeritus, University of Pennsylvania School of Medicine

Sterling B. Hendricks, (formerly) U.S. Department of Agriculture

Joseph O. Hirschfelder, University of Wisconsin

William H. Pickering, California Institute of Technology

Lewis H. Sarett, Merck Sharp & Dohme Research Laboratories

Frederick E. Terman, President Emeritus, Stanford University

Orville A. Vogel, Professor Emeritus, Washington State University

E. Bright Wilson, Jr., Harvard University

Chien-Shiung Wu, Columbia University

Whatever Nader may believe, proposition 15's overwhelming defeat could make it harder for initiative campaigns in other states to pick up more endorsements and support from politicians and other public figures. According to Charles Winner, of the Los Angeles public relations firm of Winner-Wagner which directed the No-on-15 campaign, past polls have indicated that politicians have tended to believe that most Americans are uneasy about nuclear power and are opposed to it. "This [the defeat of proposition 15] has dispelled that," he says.

Nevertheless, spokesmen for the nuclear initiative campaigns in Oregon and Colorado still profess optimism. Christopher Thomas, Portland area coordinator for Oregonians for Nuclear Safeguards, notes that there are some other major differences between the Oregon and California situations besides the fact that the Oregon initiative "grandfathers out" existing facilities (there is only one nuclear plant in the state). For instance, whereas California is a stronghold of the nuclear industry, Oregon is not; thus, few jobs will be directly at stake there. Also, there will be no competing legislative measures; the Oregon legislature, which took no action on the nuclear safeguards bill that was introduced in 1975, does not meet again until 1977.

Then, too, Oregon is known as an unusually venturesome state, as was indicated again when it became the first (and so far the only) state to ban nonreturnable bottles. And, although Governor Bob Straub has come out against it,

the nuclear initiative has received many endorsements. There is one in particular that will be highlighted. In response to questions put to him during the Oregon primary, Jimmy Carter said that, if he were an Oregonian, he would vote for the initiative—whereas he could not, he said, support proposition 15, given its potential for a nuclear shutdown.

The spokesman for Coloradans for Safe Power, Jeffrey Sutherland, says: "Colorado has been called the playground of the AEC, and we think that people here may be more aware of nuclear issues than Californians are." In 1974, he notes, Coloradans approved, by a 2 to 1 majority, an initiative requiring that plans for any further peaceful nuclear explosions (such as the Rio Blanco gas stimulation shots in 1973) be subject to a referendum. Coloradans also are aware of the continuing plutonium contamination problem at ERDA's Rocky Flats facility and of the high incidence of lung cancer caused by past uranium mining practices. And, as in Oregon, there will be no alternative or competing nuclear safety measures enacted by the legislature.

After the November returns are in from the nuclear initiatives in Colorado, Oregon, and possibly other states, one will perhaps know better what significance to read into the voters rejection of proposition 15. For now, it is too early to tell whether it represents a political vindication of lasting significance for nuclear power or whether it is only an important but indecisive victory in what could be a very long war.

—LUTHER J. CARTER