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NEWS AND COMMENT

Nuclear Initiative: Impending Vote Stimulates Legislative Action

San Francisco. The "nuclear power plant initiative," which comes to a popular vote on 8 June after a long, hotly contested campaign, is challenging the powerful establishment that has been promoting the rapid development of nuclear energy in California. If adopted by the voters, the initiative would give a boost to similar initiative efforts now under way in more than a dozen other states. But the one sure effect of this forthcoming plebiscite is its strong encouragement of a serious effort by the California legislature to demand that utilities and federal regulators solve the problems currently besetting the nuclear enterprise and provide convincing assurances about nuclear safety.

The initiative, or proposition 15 as it is called, is characterized by its proponents as a measure to bring about nuclear "safeguards" and by its opponents as one cleverly and deceptively designed to achieve a nuclear "shutdown." In fact, the motivations behind the initiative seem quite mixed. Some of its backers are clearly "antinuclear" while many others simply believe that nuclear power can and should be made safer than it now is. Yet there is little doubt but what approval of the initiative would bring about at least a temporary slowdown or cessation of nuclear power generation and development over the next 5 years by imposing, in the case of all new and existing reactors, stringent demands as to insurance liability, safety, and radioactive waste disposal.

Californians have been bombarded with propaganda for and against proposition 15 ever since late 1974, when its sponsors began circulating petitions to get it on the ballot. Not surprisingly, after more than a year and a half of this loud and confusing debate, most citizens apparently are still trying to make up their minds how they will vote.

Leading the initiative campaign is the Committee for Nuclear Safeguards, headed by David Pesonen, a San Francisco attorney and former forester and Sierra Club representative. In collecting the half million signatures necessary to qualify the proposition for the ballot, Pesonen was aided by the People's Lobby, a southern California group which has made a specialty of pushing initiative campaigns, and by Project Survival, a new activist group based in Palo Alto. Known for its dedication and effectiveness, this latter group—a political spin-off from a philosophical and semi-religious organization known as Creative Initiative—probably kept the signature drive from foundering.

Proposition 15 also has the support of most California environmentalists, and groups such as the Sierra Club and Friends of the Earth are deeply committed to it. On California's college and university campuses, there is substantial faculty sentiment both for and against the initiative, but the majority of students are believed to support it.

By far the greater part of California's political and business establishment is opposing the proposition. Formally leading the opposition is the California Committee for Environmental and Economic Balance, which represents a coalition of labor unions, utilities, and various other business and development interests. Former Governor Edmund G. Brown, Sr., heads the committee. His son, the present governor of California, has avoided committing himself on the proposition; but several state agencies, including the state energy commission and

the Public Utilities Commission, are opposing it.

Altogether, the opposition to proposition 15 represents a remarkable aggregation of powerful interests, which includes the League of Cities, the chambers of commerce, the water districts and agencies, the Farm Bureau, and most of the state's important newspapers. In addition, some of California's best known and most prestigious scientists, such as Nobel laureates Glenn T. Seaborg and W. F. Libby and former White House science adviser Lee DuBridge, are outspokenly opposed to it.

Liberal financial support for the "No on 15" campaign—in the context of this initiative, a "no" vote means yes to nuclear power—is coming from utilities and other corporations both within California and out of state. A total of $1.6 million already had been amassed for the campaign, or more than three times the amount raised by the "Yes on 15" people, who in their own fund raising are relying heavily on benefit rock concerts.

The fact that there is a real contest over proposition 15, despite all the advantages enjoyed by the opposition, testifies to the depth of concern and mistrust the development of nuclear energy has aroused in California. An opinion survey made by pollster Mervin D. Field in early May showed that nearly two-thirds of the voters wanted to hear more about proposition 15 before deciding finally how they would vote. A clear plurality of those polled indicated they would oppose the initiative if they had to vote at that moment, but the "undecided's" in this May survey represented nearly a third of the total. If proposition 15 loses, and most people seem to believe it will, it may be only narrowly.

The terms of the nuclear initiative are highly complex for a measure that is to be submitted to a vote of the general electorate. The $560 million ceiling which Congress, in the Price-Anderson Act, has imposed on liability for damages caused by a nuclear accident would have to be removed, either by repeal of Price-Anderson or by waivers granted by individual utilities. Also, the California legislature would have to affirm that nuclear reactors of the type now used or proposed for California are safe and that the wastes which they generate can be disposed of without harmful environmental effects.

Failure to remove the liability ceiling within 1 year would mean that no new plants could be built and that reactor operations (except those covered by a waiver) would immediately have to be cut back to 60 percent of capacity. Such a reduction in operating capacity also would result if the legislature failed to determine by June 1979—and by a two-thirds majority in each chamber—that fulfillment of the initiative's reactor safety and waste disposal requirements can reasonably be expected by June 1981.

Then, unless the legislature affirms by that latter date—again by a two-thirds majority—that the safety systems and waste disposal methods have been successfully demonstrated, all nuclear power operations would have to be phased out entirely, with an immediate cutback to 60 percent of capacity to be followed by 10 percent reductions each year thereafter. The ambitious package of proposition 15 safeguards also calls for the creation of a special 15-member nuclear advisory group to assist the legislature and for the annual publication by the governor of emergency plans for the evacuation of the population near each reactor.

Even some people who say they will vote for this proposition regard it as unnecessarily cumbersome and complex. And the fact that the initiative could lead to a rapid operational phaseout for existing plants as well as to a ban on the construction of new plants is regarded by many as needlessly provocative. In this connection, it is to be noted that the nuclear safety initiatives which will be on the ballot in Oregon and Colorado in November apply only to prospective plants. (Jimmy Carter, while campaigning in Portland before the Oregon primary, announced his support of the Oregon initiative but at the same time expressed misgivings about proposition 15.)

The Preemption Issue

One specific objection which has been raised against the proposition is simply that the courts might find it a legal nullity inasmuch as the state would be intruding into a field of regulation that has been preempted—or so it is argued—by the federal government. Another objection is that its requirements are so demanding as to encourage the suspicion that they were never meant to be satisfied. In particular, it is argued that the Congress, having just approved a 10-year extension of the Price-Anderson Act last December, simply will not repeal this measure within the next 12 months, if it ever does. The NO-on-15 camp further contends that waivers of the liability ceiling by individual utilities would not be legally permissible.

Also, the requirement for two-thirds majority votes is held to be an invitation to antinuclear groups to try to block the necessary safety affirmations by using scare tactics to persuade at least the bare minimum of 14 senators—one-third plus one—to do their bidding. But, in fairness, one must note that a two-thirds majority is commonly required for many legislative actions. California business interests, including the electric utilities, are currently opposing a proposition on the June ballot that would abolish the requirement for a two-thirds majority in the case of corporate tax measures.

Perhaps the most telling of the arguments against proposition 15 holds that nuclear power should not be dealt with in isolation from other energy sources, for alternative sources can also present serious disadvantages. Certainly, the sulfur emissions associated with the burning of oil or coal would aggravate the Los Angeles basin's already critical problem of air pollution—and there is no assurance yet that the sulfur problem will ever be circumvented through the gasification of coal or other new technologies. Also, the question of whether solar energy and energy conservation will be pursued vigorously and successfully enough to eliminate the need for much of the nuclear generating capacity now projected is highly speculative.

However heavy-handed, complex, and cumbersome proposition 15 may be, Californians might reasonably look to it for a reassessment of nuclear technology and regulation in the absence of some better way of accomplishing this task. Although nuclear development in California is still in its beginning stages, a major commitment to it could be but a few steps down the road. At the moment, three reactor units are generating 1380 megawatts, or only 4 percent, of California's total supply of electric energy. But four large units are under construction, and, according to the utilities' present plans, a total of about 30 units will be online by 1995, with nuclear power then to represent the state's largest single source of electric energy.

If the nuclear critics have not yet convinced most Californians that nuclear power as now regulated is unsafe, they have at least demonstrated that the experts on the subject are in disagreement. A number of scientists with substantial competence in nuclear matters have campaigned for proposition 15. They include such people as John Gofman, professor emeritus of medical physics at the University of California at Berkeley, and John Holdren, a Berkeley physicist and energy specialist.

And Californians have heard, at close hand, disturbing testimonials from the three engineers who resigned in February from middle-level management positions at the General Electric Company's

nuclear division at San Jose. These engineers—all three are members of Creative Initiative—warned that there are in fact grave risks of catastrophic reactor core "meltdowns," with possibly tens of thousands of human casualties and billions of dollars in property losses resulting from widespread radioactive contamination.

The earthquake hazards that beset nuclear development in California are themselves enough to arouse sympathetic interest in proposition 15. Plans to build nuclear units at three different coastal locations—Bodega Bay, Mendocino, and Malibu—were all finally abandoned as the result of warnings by independent geologists that they posed unacceptable earthquake risks. But several projects have actually been built at locations now known or suspected to be hazardous.

Trouble at Diablo Canyon

For instance, licensing of the Pacific Gas and Electric Company's Diablo Canyon units 1 and 2, now in the final stages of construction near San Luis Obispo, must await new seismic hazard reviews arising from the discovery of a major fault a few miles offshore. The Nuclear Regulatory Commission (NRC) may have to require a substantial strengthening of the two units against earth shocks, whatever this may add to project costs, already expected to exceed $1 billion.

The problems associated with the Diablo Canyon reactors, together with the alarms sounded by an antinuclear group called Mothers for Peace, have aroused a remarkable amount interest in nuclear safety. After the San Luis Obispo County board of supervisors refused to sponsor a forum on this subject last fall, 95 local physicians themselves sponsored such an event and 5000 persons attended.

Because many serious and often unexpected earthquake problems can be associated with coastal sites, it is now being increasingly recognized that most if not all nuclear plants planned and built in the future will have to be located in the Central Valley and the California Desert, where earthquake hazards can be more easily assessed and avoided. But this is not a trouble-free alternative. Such inland siting will impose heavy demands on scarce freshwater resources because of condenser cooling requirements.

In sum, there does appear to be something of an emerging consensus among Californians, or at least among their representatives in Sacramento, that the state should make an independent reassessment of nuclear technology. The principal question now seems to be whether this reassessment shall be carried out under laws enacted by the legislature or under the inflexible prescriptions of a popular initiative.

The legislative alternative is being resolutely pressed by Assemblyman Charles Warren (D–L.A.), chairman of the Assembly Committee on Resources, Land Use, and Energy. Warren seems to exemplify California's new breed of legislator. A Berkeley law school graduate and formerly a practicing attorney in Los Angeles, Warren now devotes himself full time to the legislature and the work of his committee, which is staffed as well or better than many committees in Congress.

Last fall, the Warren committee conducted 15 days of hearings on proposition 15, and in the process received more than 4000 pages of testimony from scores of witnesses. Included on the witness list were most of the prominent figures on the several sides of the nuclear controversy. Recently, the committee issued a thoughtful 163-page report on its inquiry, and, while no position is adopted on proposition 15 as such, one is left to understand that California should now pause and take a hard look at nuclear technology before deepening its commitment to it.

In an interview with *Science*, Assemblyman Warren said that, when the fall hearings began, most members of his committee were flatly opposed to proposition 15. But, he added, as the hearings progressed all but one of the committee members—and that one never bothered to attend the hearing sessions—came to feel that, one way or another, the state should indeed undertake a reassessment of nuclear power. "The more you know about this [the problems of nuclear power], the more suspicious you become," Warren observes.

With the need for a reassessment in mind, Warren introduced four bills early this year. They would have the legislature, together with the state Energy Resources Conservation and Development Commission (a relatively new entity created under some earlier legislation sponsored by Warren), make further nuclear development subject to certain important conditions. The most provocative of the bills—one requiring the removal or waiver of the ceiling on nuclear liability—was ultimately rejected in committee.

But the other three measures were approved by the Assembly, and, after some modification by the Senate, they are expected to be passed by both chambers and signed into law by Governor Brown before the June initiative. Two of these measures are designed to provide a break in the development of nuclear power plants until the energy commission and the legislature are satisfied that acceptable fuel reprocessing and waste disposal methods and facilities will be available. This would have to be done both in a broad generic sense and on a case by case basis for individual reactors. The thrust of these bills is to make sure that the nuclear fuel cycle is not "clogged" at critical points before new reactors are built.

The third bill calls for a study of the feasibility of putting new reactors either underground or placing them within a scooped out hole and then backfilling around them with dirt to form a "berm containment." This study might be followed by enactment of a law making some form of "undergrounding" mandatory.

"Vietnam Syndrome"

Warren believes that in California there is now a widely prevalent attitude about nuclear power which can be likened to the "Vietnam syndrome," by which he means that people no longer accept at face value the reassurances given by utility executives and federal regulators that all is well. To some extent, this mistrust may be a carry over from the days, not long past, when the Atomic Energy Commission was trying to promote nuclear energy and regulate it at the same time.

The AEC's successor agencies, the NRC and the Energy Research and Development Administration, have divided these conflicting duties between them. Nevertheless, there is skepticism—and this was reflected in the Warren hearings—about the objectivity of reactor safety study sponsored by NRC and made public in final form several months ago. This report indicated that the chances of a major reactor accident, involving extensive casualties and heavy property damages, are almost vanishingly small.

Warren has shrewdly given his colleagues and the press to understand that, if his bills should somehow fail to get through the legislature (the nuclear industry and most of the utilities would gladly see them ambushed), he will announce his support for proposition 15. He has, in effect, offered these measures as a sensible and moderate alternative. Many Californians who have regarded the initiative dubiously will no doubt be waiting for the outcome in Sacramento before finally deciding whether to do as so many establishment figures are exhorting them by voting No on 15.—LUTHER J. CARTER