

Denton

POOR ORIGINAL!

To U.S. Nuclear Regulatory Commission:

Dear Chairman Joseph M. Hendrie

I would like for you to oppose any legislation which would impose moratoriums on construction, licensing and/or operation of nuclear power plants.

There is abundant proof of nuclear safety. I would like to see common sense prevail not hysteria. While the rest of the world is on a crash program to build a nuclear capability, fright peddlers and no-growth partisans in and out of government would deny us this cleanest, cheapest, most efficient and safest method of producing large amounts of electricity.

Lured to these anti-nuke protests by big name rock bands and the local radio station blaring bus rides to transport people to Diablo Canyon site for the 'big protest' it was more of a big social with comments such as these among the young - 'I went to look over the chicks'.

A simple letter or call to the local representatives would have been much, much conserving with the strong gas crunch upon us and emphasis upon crucial conservation measures but I strongly suspect a ~~is~~ biased <sup>group</sup> with personal axes to grind. I would like to see and hear the anti-nuke crowd thunder and scream at Russia and China who are loading up with nuclear power. Their nuclear disasters would affect our country and the whole world but the anti-nukes are not saying anything about this and they are so concerned about health hazards.

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I believe the answer lies in protection from sabotage, good safety measures and we have this already - Three Mile Island proved that.

I am a registered nurse and far from an expert on this matter and hope I don't sound like I am trying to tell you gentlemen what to do but I know the most rabid environmentalist would be the first one to be screaming for the most modern, efficient, technological equipment in the C.C.U. and the fastest most modern ambulance to get him there to take care of his heart attack. I would like to present him with a rickshaw and a windmill then.

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If we allow a vocal minority to keep us from our own technology, the end result can only be a cold and dark future for all of us.

cc Lt Governor Mike Curb  
Congressman Robert Lagomarsino  
Congressman Barry Goldwater Jr.  
Commissioner Victor Gulinski  
Commissioner Peter A. Bradford  
Commissioner John F. Ahearn

Thank you,  
Mrs. Helen Munoz Peck  
Mrs. Helen Munoz Peck R. N.  
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POOR ORIGINAL

# Energy Analyst Dr. Petr Beckmann

Interviewing The  
Distinguished  
Energy Scientist  
About Realities  
Of Nuclear Power

by John Rees



■ UNLESS the United States moves forward without delay in building nuclear-fueled electrical generating plants, says Professor Petr Beckmann of the University of Colorado, thousands of lives will be lost because of our reliance on far more dangerous fossil fuels such as coal, oil, and natural gas.

Born and educated in Prague, Dr. Beckmann worked for a research insti-

tute of the Czechoslovak Academy of Sciences until 1963, when he used the occasion of an invitation to lecture at the University of Colorado as his chance for freedom. He is a Fellow of the Institute of Electrical and Electronic Engineers and a member of a number of professional organizations. A prolific writer with more than 60 scientific papers and eight books to his

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measures. Another very important point is that it demonstrated the slowness with which a nuclear-plant accident happens, allowing plenty of time to select countermeasures.

**Q. What was the malfunction; that is, how did the accident occur?**

**A.** All the details have not yet been published, and the Nuclear Regulatory Commission and other agencies are still compiling their reports. But, from the available information, what happened at Three Mile Island was a chain of four gigantic failures, two mechanical and two human. A pump circulating coolant water to the core of the reactor failed. Immediately and automatically the Emergency Core Cooling System (E.C.C.S.) went into action as it was supposed to do. Also immediately the control rods dropped down to shut-off the reactor, just as they were designed to do. However the human errors now came into play. Valves in the E.C.C.S. system had been manually shut by a workman, and so water did not immediately go into the core. On at least two occasions human beings working in the plant turned off the E.C.C.S., allowing the core of the reactor to be left uncovered by coolant water.

Nonetheless, the built-in safeguards withstood this improbable chain of events, and there were still at least two more levels of safety before a meltdown was likely. Furthermore, even if a meltdown had occurred, most probably there would have been no casualties because the containment building would have held the radioactive gases. It proved how strong it was by

withstanding a hydrogen explosion, and it could easily have withstood steam explosions and radioactive gases.

That Emergency Core Cooling System, which has been a particular target of the anti-nuclear critics who claimed it could never work, performed well under the most severe conditions.

The incident at Three Mile Island has provided a severe field test which has shown that the E.C.C.S. will perform under the most adverse and unforeseen conditions; that the containment building can contain radioactive gases and even a hydrogen explosion; and, that the filters in the auxiliary building to which radioactive water was pumped are so effective that only infinitesimally small quantities of inert radioactive gases and iodine escaped into the atmosphere.

**Q. Where did the hydrogen gas come from?**

**A.** Among the events that happened automatically was that the reactor was turned off. However, you cannot prevent the nuclear fission products in the fuel rods from continuing to be hot. When part of the core became uncovered as the level of cooling water dropped, the temperature rose and the heat broke down some of the water into its components, hydrogen and oxygen. The reactor core was damaged presumably by the overheating, which may have caused melting or warping of the fuel rods that are surrounded by a light-weight metal cladding.

**Q. What about that so-called "leaking" of radioactivity outside the plant?**

credit, Dr. Beckmann has become increasingly concerned with energy questions and now writes and publishes the internationally respected newsletter *Access To Energy*.

**Q. Professor Beckmann, we have all heard arguments from the opponents of nuclear energy that nuclear power plants are ripe targets for sabotage and for terrorists who would seize nuclear waste or even plutonium and threaten to disperse it, say by throwing it out of an airplane. Does this make sense?**

**A.** Not really. It would be much easier, and cause vastly greater damage, for terrorists to throw hand-grenades, or set off high explosives, at a dam above a city than for them to break into a nuclear power plant. They would have to assemble a team of schizophrenics who on the one hand would be geniuses or experts in a large number of varied disciplines, and yet on the other hand be too stupid to realize that there are far easier methods of inflicting grievous injury on the population at large.

Plutonium is of course toxic, and if you breathe plutonium dust you can get lung cancer. But you will not get that cancer for 15 to 40 years, if at all. Only a very inept terrorist would use a weapon that takes years and years to kill. Better to use toxic substances like arsenic and other chemical and biological toxins that are difficult to trace. Radioactive material can be detected in ludicrously minute quantities, after all, and so defensive measures can be taken against it. For terrorists, a pocket

knife would be a more effective weapon than radioactive materials.

You can bet that any attack against a nuclear power plant is for the purpose of trying to discredit nuclear power and for that reason alone.

**Q. Could a nuclear reactor at a power plant explode so that one morning we might see a mushroom cloud looming over the debris of a devastated power plant?**

**A.** The uranium used in the power-plant reactors is not sufficiently enriched for an explosion to occur. The danger at the Three Mile Island reactor in Pennsylvania was from hydrogen gas that formed because of heat after the water level fell and exposed part of the reactor. And actually it now turns out that hydrogen did explode and the containment building withstood its force without problem.

**Q. Professor Beckmann, the mass media treatment of the accident at Three Mile Island has been quite sensational. What did we learn from what happened there?**

**A.** The accident at the Three Mile Island plant is unquestionably the most serious in the 22-year history of nuclear power. But the most significant aspect of that accident was not merely that it produced no deaths, no injured, no casualties, no illness, no hospitalization; but that the zero casualty figure was not due to "good luck." The accident produced a gigantic test of the principle of nuclear safety; namely the concept of the "defense in depth," in which there are many layers of complementary and supplementary safety

Dr. R.P. Hammond, who has had considerable experience in cleaning up after nuclear accidents in Canada, has said he couldn't think of a better place for meltdown material to be than far underground, shielded by overlying rock and earth, enclosed in a pocket of fused earth.

**Q. How do the exposures to radioactivity at the Three Mile Island plant compare to our normal exposure to background radiation?**

**A.** A radiological health expert from the Nuclear Regulatory Commission, Frank Congel, has stated that the cumulative dose of radioactivity for a person living in the closest house to the plant who had remained out of doors for five consecutive days continuously, 24-hours-a-day starting at the time of the accident, could have received as much as 85 millirems of radioactivity. By comparison, a complete body X-ray in a hospital gives you this much radiation.

As I pointed out in my book, *The Health Hazards Of NOT Going Nuclear*, the natural background radiation varies depending on where you live. In New York City, you naturally get 93 millirems a year; in Dallas only 53; in Carlisle, Pennsylvania, not many miles from Three Mile Island, you get 87.

And the average exposure for a Colorado resident is about 150 millirems; but in Boulder, where I live, we naturally quite safely get 250 millirems. This because of the natural radioactivity in the granite rocks, the altitude which gives us more cosmic rays, and similar factors. So the people living closest to the Pennsylvania plant got

about the same radiation as if they had been visiting with me for four and a half months here in beautiful Colorado.

**Q. And so the earth, sky, and buildings around us are constantly radiating us in small but measurable amounts?**

**A.** More than that, whenever you take a coast-to-coast airplane trip you receive five extra millirems of radiation from outer space during that trip. Your color television set gives you one extra millirem. Even human beings are measurably radioactive because the food we eat gives us about 25 millirems of radiation. Such radiation is hardly frightening.

I have to laugh because every time the anti-nuclear fanatics hold a meeting they receive more radiation from each other than they would living near a nuclear power plant. A power plant may emit only 10 millirems as measured on its property line; and, actually, if the Nuclear Regulatory Commission measures even five millirems they start making complaints to the utility. It was Dr. Edward Teller who said, "In sleeping with a woman, one gets just slightly less radioactivity than from a nuclear reactor; but to sleep with two women is very, very dangerous." Perhaps this bit of information will make the anti-nuclear fanatics more moral. Though I doubt even they will contend that our former Vice President died of radiation!

**Q. Some radioactive iodine also was released from the Three Mile plant, and that does get into the food and into the thyroid gland, doesn't it?**

**A.** Radioactive gas escaped from the reactor area into the containment building which surrounds the reactor. And the containment building, which is enormously strong and built to withstand even a jet plane crashing into it, held the radioactivity just as it should. That is what it was built to do.

But then it appears that another human error was made by pumping water from the containment building to the auxiliary building, which held the radioactivity better than was expected to do. It has elaborate filters which removed everything radioactive except for the noble gases such as xenon, argon, and krypton. These are not retained by the body.

**Q. Then you view the Three Mile Island incident as proving the safety of nuclear power?**

**A.** Yes indeed. What we have seen in this case is a sequence of events that took place over many hours, and by that I mean not only the malfunctions but also the human errors. And yet there was plenty of time to make tests, discuss and decide what the best options were and are, and to take countermeasures. By comparison, how much time and what sort of countermeasures are available when an oil tanker explodes?

Any energy facility, by its very nature, contains a lot of pent-up energy. If that energy is released suddenly, it can be destructive; and, as long as man is fallible, it can happen. In a ship or tank of liquefied natural gas, a dam, an oil tanker or refinery — the release of energy is sudden and

disastrous. There is only one exception and that is the case of a nuclear plant. There, even if the energy gets loose and does what it is not supposed to do, such as a meltdown, it melts down into the earth for many hours and ends up in a big glass marble of fused earth. Meanwhile you have many possible countermeasures, up to and including evacuating people from the area.

**Q. How dangerous is a "meltdown" of the sort first feared at Three Mile Island?**

**A.** Let's first look at the process. Should there be a loss-of-coolant accident in a light-water reactor — that is, a reactor that uses ordinary water, under pressure or not, to cool the core — the temperature of the fuel rods may rise to the point where they melt their light metal cladding. The heat comes from the accumulation of radioactive fission products in the fuel rods.

In the worst possible case, this material would form a red-hot goo on the floor of the thick steel pressure vessel that would slowly melt through the steel and through the floor of the containment building into the earth to a depth of some 25 feet or so where it would dissipate its heat. Very probably the cooled goo now encased in a glass marble of fused earth could be removed, even salvaged, without major complications. Unless it ran into an underground stream and managed to vent steam into a blowhole outside, all radioactive gases would still be contained inside the containment building of concrete and steel above the melt site.

A widely respected nuclear scientist,

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great saving in not having to buy foreign oil; it is beneficial to the balance of payments; and, it obviously means that the United States does not have to be dependent upon the whims of unstable dictators. Thirdly, nuclear power is much more economical than coal or oil; and this is so despite the large costs added on by the lawyers for the environmentalists, who fight tooth and nail in court against the nuclear plants, and the government regulations which cost millions and millions of additional dollars. With all this it is still cheaper than coal, let alone oil.

There is a further reason why we should go nuclear. If we use breeder reactors and reprocess the wastes in spent fuel instead of merely burning up our 100 years' supply of uranium, we get plutonium. And plutonium can serve as a fuel for several thousand years. Beyond that we could go on and breed thorium, but that is further in the future than anyone now alive can see. Certainly our coal, let alone gas and oil, can last no more than a few centuries. But nuclear power can last for thousands of years.

**Q. Nuclear power plants have been opposed from their inception by critics who have equated them with nuclear bombs. What is the nuclear power safety record?**

**A.** First, let me correct you. These environmentalists have not always opposed nuclear power. Back in the early 1960s, thinking nuclear power impractical, they were very opposed to coal mining and recommended nuclear power as being more healthful because it is

more clean. Of course that was not the real motivation of many of these fanatics. They were just using nuclear power to harass coal. They always call for the development of that form of energy which they think is not available. Solar power is their idol now. What they really want is a no-growth society in which they are the ones with the power, upward mobility is stopped, and we do what we are told by their beloved regulators.

As for the atom-bomb comparison, let's get this over with once and for all. The fuel in a nuclear power plant can not explode. This is because of the laws of physics. In natural uranium ore, 99.3 percent of the uranium is uranium-238 which is *not* fissionable. A mere 0.7 percent of the ore is uranium-235 which is fissionable. To make a uranium bomb, you must purify or enrich the material so that more than 90 percent of it is uranium-235. Even then an explosive chain reaction cannot occur unless a certain amount is forced together against the energy of the chain reaction.

But the fuel in a power-plant reactor is merely 3.5 percent uranium-235. Thus it is impossible by the laws of physics for it to undergo an explosive nuclear chain reaction.

**Q. Your point is that nuclear power is safe?**

**A.** Nothing involving energy can be 100 percent safe. The question is whether using nuclear power to generate electricity is safer than any other method. If that is the question, the answer is yes.

**A.** Yes, and great care is taken so that no substantial amounts are released. Dr. Harold Denton, the head of the N.R.C. safety division, has announced that in the milk samples from 22 dairy farms in an 18-mile radius around the Three Mile Island plant, the level of radioactive iodine (iodine-131) was between 10 and 20 picocuries per liter. The N.R.C. does not move to block the consumption of milk as unhealthy until it contains 12,000 picocuries of radioactive iodine per liter.

According to the mass media, the governor said he would require the milk to be monitored until no iodine-131 was present. Well, a level of 2 to 5 picocuries is normal in milk. And when the fallout from the Red Chinese atom bomb came down in the rain over the Northeastern states, the milk registered iodine-131 levels of 150 to 300 picocuries per liter; yet there was no public outcry over that. Besides, milk is normally radioactive, having about 1,400 picocuries of radioactivity (not just iodine) per liter. Whiskey averages 1,200 picocuries per liter, and salad oil a whopping 4,900. A mere 20 picocuries is hardly a cause for concern.

**Q. At what level does radiation make you ill?**

**A.** The media have been screaming about the worker at the plant who went in to get a sample of the coolant water and received 3 rems — 3,000 millirems — of radiation. They did not tell the public that even under our stringent safety regulations a worker in a nuclear facility is permitted to receive up to 5 rems in any year with a maximum of 3

rems in any quarter. At 600 rems, you will probably die of radiation sickness.

**Q. What are the mechanics of a nuclear power plant and how does it differ from a coal-fired electric-power plant?**

**A.** Except in a hydroelectric plant, in large-scale power plants electricity is generated by steam which turns a turbine. The only difference is in what you use to produce the heat that makes the steam that drives the turbine.

In a nuclear-fueled electrical generating plant, the heat comes from a slow chain reaction in fuel rods that release heat that raises the temperature of the water in the reactor core. Then, that steam or pressurized hot water goes into a heat exchanger where it heats a second separate circuit to produce the steam that drives the turbines.

There is a third type of reactor not being used very much in this country though it is superior to both the boiling water and the pressurized water reactor, and that is the high-temperature gas reactor. It is more efficient because it can reach higher temperatures. It is also safer, because should the gas used as a coolant leak out, air would leak in to replace it and so a meltdown is virtually impossible.

**Q. Dr. Beckmann, why should this country want to build nuclear-powered electrical generating plants, rather than use coal or oil-powered plants?**

**A.** There are several reasons. First, it is safer by large factors. Secondly, nuclear energy for these plants can be produced domestically. This means a

dose of radiation at the property line of a nuclear plant was reduced from 170 millirems per year to 10 millirems. Statistically, doing this reduced the annual 300,000 cancer cases in this country by three. The cost was \$800 million for each of the three statistically saved lives. Parenthetically, you know neither the U.S. Capitol nor Grand Central Station could be licensed as a nuclear reactor because just the rock - marble, sandstone, and granite - of which those buildings are made emit more than 10 millirems of radioactivity.

**Q. About a year ago some American nuclear engineers were given a tour of several Soviet nuclear reactors and power plants. Are you familiar with what they found?**

**A.** Yes, I read their report. The Soviet Union is trying feverishly to go nuclear, but is having the failures a centrally planned society always has. Significantly, the Soviets do not worry much about safety and it is only recently that they began to construct containment buildings around their reactors. The power-plant reactor they exported to Finland is called "Eastinghouse" by nuclear engineers in the West because all of its safety equipment such as the Emergency Core Cooling System, containment, and so forth was supplied by Western companies.

The U.S.S.R. is aware that nuclear energy is the energy of the future. But the Comrades have a forked-tongue. Soviet neutrons are called "progressive," but capitalist neutrons are "dangerous." Klaus Fuchs, the notorious atom spy who now heads the East

German atomic-energy program, has said the reason we need so many safety programs is because of the poor quality of the training and education of our people. They thus claim that in a Communist society safety is unnecessary.

**Q. And they also are behind some of the anti-nuclear hysteria here and in Europe, and have tried to link nuclear power to disarmament issues.**

**A.** Yes, on the one hand they mock the Western middle-class as being decadent and afraid of technology and spread the rumor that opposition to nuclear power in the West is artificially inspired by the oil companies who want to attain greater profits. But, on the other hand, they are themselves quite evidently fanning the anti-nuclear hysteria in the West.

**Q. Then do you see the question of nuclear power now as a political issue?**

**A.** It has been taken outside the area of technical expertise. If logic and science were the only factors, we could be much further advanced on the road to nuclear power.

Long before Ralph Nader's crusades to attack American business, and certainly before his Critical Mass rallies began to resemble the Nuremberg *Partietags* of the Third Reich, the so-called environmentalist movement developed heavily political overtones.

These environmentalists tended to be against economic growth, for population control, against helping South Vietnam, for making deals with the Communists, as well as for greater permissiveness in legal and ethical issues; they tended to be college educated and

Let's look at coal. Report 1554-D, released by the Energy Research and Development Administration early in 1977, has been kept very quiet and virtually suppressed by the federal government. It said that the coal burning power plants east of the Mississippi were annually responsible for 18,000 premature deaths from lung diseases and cancer.

This does not even begin to get into the additional areas of more than 200 fatal accidents each year in coal mines. The average was 246 deaths for the period 1965 to 1969, but there were only eight deaths of uranium miners in accidents in that period. Of course, we need to mine far less uranium than coal. The really significant measurement is in the number of deaths in relation to the amount of energy produced.

**Q. And what is that?**

**A.** For every billion megawatts of electricity consumed, we lose 189 lives in coal mining for coal-powered plants, but only two in uranium mining for nuclear plants. Per million megawatts of electric energy consumed, injuries cost 1,545 disability days for coal miners and 157 disability days for uranium miners. And look at the industrial diseases coal causes. Each year there are 4,000 deaths among coal miners attributed to Black Lung disease. And each year the federal government - which means the American taxpayer - is paying nearly a billion dollars in health benefits to disabled Black Lung victims.

What about the environmental impact? This country's annual consump-

tion of electricity is close to 2 billion megawatts. Compare the volume of coal that must be mined to produce that (a massive chunk 200 feet by 200 feet by 100 miles) with the volume of uranium ore needed to produce the same energy (200 feet by 200 feet by 100 feet). The point is that going nuclear could reduce disruption of the earth by a factor of 5,000. Also coal ash is highly toxic, and enormous areas must be given over to its storage. The emissions from burning coal - sulfur dioxide, nitrous oxide, known carcinogens like benzopyrene - are known to be harmful!

I don't want to just knock coal. But each year we delay in building a nuclear plant to replace 1,000 megawatts of coal-fired power, we condemn between 20 and 100 Americans to death.

**Q. You noted earlier that oil and natural-gas storage are also dangerous.**

**A.** Certainly, because so much has to be stored. An oil-fired generating plant of 1,000 megawatts capacity burns 40,000 barrels of oil a day. It is customary for them to keep on hand a six weeks' supply of 2 million barrels. Oil storage facilities sometimes explode and burn. In 1973, 1976, and again very recently oil storage tanks in the greater New York area *have* burned. And there are more and more cities with vulnerable L.N.G. tanks. In a temperature inversion situation, thousands could die by asphyxiation and exacerbated lung conditions and asthma from such a fire.

In 1973, the maximum permissible

affluent, heavily involved in the information industries, the media and the universities. But they should never be called liberals because they are diametrically opposed to the true liberalism of Adam Smith, Mill, or von Hayek. While paying lip service to civil liberties, they strongly favor government interference and coercive legislation. In fact, the urge to use coercion against all who do not agree with them, and the arrogant premise that people do not know what is good for them, are the two chief characteristics shared by this otherwise heterogeneous elite.

**Q. Then the claims of extreme risk in nuclear power of the sort made by best-sellers like *We Almost Lost Detroit* are gross distortions?**

**A.** John Fuller's vile book is based, like most of the anti-nuclear propaganda, on providing only carefully selected information. It's like saying "Governor X has been sober for three days now," or that "Senator Y's wife has not been seen at any motels with young men this week." The one may be a teetotaler and the other completely faithful, but they have no defense against the slander.

The Fermi I reactor attacked in that book could not have hurt a fly in Detroit. The reactor had not been in operation long enough for sufficient fission products to accumulate to cause a full meltdown. Two rods in the reactor melted. The problem was fixed and the reactor went back into service. The reviewers who praised that book displayed their technological ignorance and unmitigated stupidity.

The other favorite so-called "nu-

clear accident" that radicals harp on was the 1975 fire at the Browns Ferry power plant in Alabama. It had nothing to do with radioactivity. The fire was started by an inept electrician who decided to use a candle to check for an air leak and managed to set the electrical insulation on fire. There was no danger to the reactor, or from the reactor, because of the many layers of safety measures engineered into the plant.

**Q. Once more, then, what is the lesson of Three Mile Island?**

**A.** This has been a gigantic field test, a test in battle under the most adverse conditions, of the very heart of the concept of nuclear safety — the multiple layer "defense in depth." And the second important point is the demonstration of the slowness with which nuclear reactor accidents develop. We have proven that there is plenty of time to work out whatever additional measures are needed to assure safety.

**Q. Thank you, Professor Petr Beckmann. And we hope you won't mind if we conclude by recommending that readers wishing to counteract current nuclear misinformation order a copy of your book *The Health Hazards Of NOT Going Nuclear*, available for \$5.95 from The Golem Press, Box 1342, Boulder, Colorado 80306. I understand it is also available in many American Opinion Bookstores. And, for updates on these issues, we heartily recommend subscription to your witty and fact-filled newsletter, *Access To Energy*, which may be ordered for \$12 from Box 2298, Boulder, Colorado 80306. ■ ■**

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San July 1, 1979 Ventura County Star Free Press

# Nuclear protest joined by Brown

SAN LUIS OBISPO (UPI) — An estimated 20,000 anti-nuclear activists, including California Gov. Edmund G. Brown Jr. and a number of musicians, gathered Saturday to protest the nearly completed \$1.4 billion Diablo Canyon nuclear plant.

The California Highway Patrol estimated that 20,000 people gathered at Camp San Luis and said traffic on the road leading to the rally ground was backed up for 10 miles.

At Avila Beach, 10 miles from the rally, Pacific Gas & Electric Co., which has been trying to build and operate the plant for more than 13 years, held a barbecue and picnic for nuclear supporters.

Brown, who arrived with singer Linda Ronstadt, his frequent companion, met for an hour with protest leaders before they allowed him to give a one minute speech.

The Abalone Alliance, which coordinated the protest with other groups, said Brown had virtually ignored their previous invitations and decided to come only Friday night, so he was not listed among their 33 scheduled speakers.

Before giving his speech Brown told reporters that the rally "shows the people of California are expressing a very clear feeling regarding nuclear power. It's one more step in the growing global force against nuclear power."

The governor told the crowd that he personally plans "to pursue every avenue of appeal if the NRC (Nuclear Regulatory Commission) denies the will of this community" by allowing the plant to begin operations in August.

Saving this planet, he said, is "still an abstract action for many. This reaches to the roots of our fossil fuel culture."

"I would like to see this rally not only stop the licensing of Diablo Canyon but signal the rest of the nation that we have to invest heavily in alternative energy sources," Brown said.

Several musicians, including Peter Yarrow (formerly of Peter, Paul and Mary), Jackson Browne, Jesse Colin Young, and Bonnie Raitt, performed.

Friday, the Environmental Defense Center of Santa Barbara filed a suit against PG&E to block the utility from operating the plant.

At a news conference Saturday morning PG&E vice president Ellis Langley Jr. said the plant was "almost ready to operate."

"It's ready, safe, economic and we need it," he said.

Asked what he thought of the thousands of persons protesting the plant, he said, "I'm more concerned about our 9 million customers who are not here."

Amen!



Gov. Edmund G. Brown, given a minute to speak, tells nuclear protesters he has decided to join them in their fight to block licensing of the Diablo Canyon nuclear plant