

## Science in the News

### How Safe Is Safe? AEC Ready To Fight Challenge to Its Reactor Licensing Procedures

Two weeks ago a three-man federal court of appeals voted 2 to 1 to back the contention of three major AFL-CIO unions that a construction permit should not have been granted to build a nuclear power station at Lagoon Beach, 15 miles south of Detroit. The unions said that the AEC was wrong both on procedural grounds and on its finding that the reactor would not present an unreasonable hazard to the heavily populated areas near the station. This week the AEC was moving to appeal the decision to both the full nine-man Court of Appeals and to the Supreme Court.

The unions are not involved as representatives of men who will work in the plant, but of men who live and work and own property within a 20- or 30-mile radius of the plant site. What they are concerned about is the possibility of a major disaster that could contaminate a large area with radioactive debris. Such a disaster is conceivable just as, for example, it is conceivable that a gigantic meteorite will destroy New York tomorrow. The issue is how much assurance the AEC must be able to give interested parties, such as the unions in this case, that such a disaster will not take place.

#### New Evidence Has Developed

AEC officials appear to be confident that the Michigan project will be carried through no matter how the courts finally decide the case. They say that in the two years since the hearing on which the appeals are based new evidence has developed which should remove any lingering doubts about the safety of the project. The important issue, it seems, is whether the case will force a general tightening of the AEC's present licensing procedures.

At present the commission licenses reactors in two steps: it first issues a

construction permit based on a preliminary finding that the reactor will be safe to operate; then, perhaps 5 years later, when the plant has actually been built, it issues an operating license after an extensive series of tests showing how the plant will run. The unions contend that the preliminary findings in this case were not firm enough to offer real assurance that the plant will not be a hazard to surrounding areas. They say that the fact that an actual operating permit has not been granted, only a construction permit, is not reassuring: that once the AEC has given a corporation the go-ahead to spend, in this case, \$60 million it is going to find itself under strong pressure to grant the operating license whether the plant is as safe as it should be or not.

#### AEC's Dilemma

What the unions appear to be arguing is that there should be no license or permit of any sort until a project has been proved safe. The problem is, how do you define "safe"? "The possibility of [a major accident]," says the AEC brief, "cannot be categorically excluded. If the statute and the regulations are to be interpreted, as the [unions] imply, so that the Commission must be *certain* that an accident will never occur, then no developmental reactor would ever be built."

The strategy of the unions at the hearings was not to call any witnesses of its own to contradict the testimony that the reactor would be safe but merely to cross-examine the scientific witnesses testifying in favor of the reactor and get them to admit that they could not be absolutely sure that their calculations were correct, nor certain that unforeseen difficulties might not come up that would invalidate the calculations and the assumptions on which they were based.

The unions stressed the opinion of the AEC's Advisory Committee on Reactor Safeguards that "even though there are no facts or calculations avail-

able to the Committee that the proposed reactor is not safe for this site, the Committee believes that at this time there is insufficient evidence that the PRDC reactor can be operated at this site without public hazard." But, says the AEC, these same witnesses believed that the necessary further assurances could be expected to be developed during the process of designing and constructing the reactor.

#### Present Plants Inefficient

This, then, is the AEC's dilemma: At this time there is little point in building a power reactor unless it can be expected to be an improvement over the comparatively inefficient plants now built. This, says the AEC, makes it necessary to issue construction permits on less firm assurances of safety than will be required for the actual operating license. For how do you develop more efficient nuclear power plants if the only ones you are allowed to build are types which have already been built, since any significant new features may raise uncertainties about the hazards involved when the plant is put into operation?

The AEC is convinced that even the preliminary assurances of safety required before a construction permit is issued make an accident so unlikely that the present system of licensing presents, by any reasonable standard, no hazard to the public. The AEC and, it appears, the scientists who work on these projects, are convinced that this is true. Their problem now is to convince the courts.

### Senate Group Recommends Big Increase in HEW Funds

The Senate Appropriations Committee has recommended increases of nearly half a billion dollars over the Administration's Health, Education, and Welfare fiscal 1961 budget estimates. The bulk of the increase will go to medical research. The committee had appointed a Committee of Consultants on Medical Research last year, chaired by Boisfeuillet Jones, of Emory University in Georgia. Last month the consultants recommended \$664 million for the National Institutes of Health, an increase of \$264 million over the Administration figure.

The Senate Committee praised the group for a "dedicated, inspired, and imaginative performance," and accepted their recommendations in full. The com-

mittee said that "these increases should be regarded not as a maximum level, but as the floor from which further advances will be made in years to come."

Other increases put the Senate recommendations at \$472 million above the Administration budget estimates and \$420 million above last year's spending in this area.

How much of this will actually be appropriated probably will not be known for another week or so. The Senate, working late to reach adjournment before the conventions, approved the Appropriations Committee recommendations on 17 June. The only changes made were to add another \$1 million, at the request of Kuchel of California, for studies of air pollution from automobile exhausts and \$700,000, at the request of Humphrey of Minnesota, for studies of the Social Security program.

Everett Dirksen, the Republican leader, told the Senate, "I think I can assure you that the President will be compelled to veto this bill." Whether this will actually happen will depend on the size of the bill that emerges from conference with the House appropriations bill. The House bill calls for substantial increases over the Administration proposals but nevertheless is nearly \$300 million short of the Senate figure. In recent years Congress has consistently voted substantial increases in medical research funds, but never such sharp increases as the Senate, at least, seems anxious to grant this year.

### **Atomic Power in Antarctica: Everyone For It, But Nobody Wants To Pick Up the Check**

A preposterous situation has developed over a proposal to build three small atomic power stations at National Science Foundation research bases near the South Pole. The proposal has the support of everyone. Senator Jackson and others have pointed out that the plan meets all three major criteria for the federal power reactor program: it will add to U.S. prestige; it will provide useful information on reactor technology; and it will be economically feasible—in fact, it will actually save an estimated \$60 million over the 20-year life of the reactors, since the cost of conventional fuel is ridiculously high at the polar bases. AEC officials told the committee that, among other things, it takes 6000 gallons of aviation gasoline to fly in 3600 gallons of diesel oil. They said that the cost of conven-

tional fuel at one of the scientific stations ran as high as \$10 a gallon.

As a result, no one is against the proposal. But no one wants to pay for it out of his budget. The Bureau of the Budget says the Navy should provide the necessary \$20 million out of its general funds. The Navy says it is only providing supplies for the National Science Foundation research teams, that the Bureau of the Budget should allow it to have the money in addition to its regular appropriation. Here is an excerpt from the authorization hearings in April:

*Chairman Anderson:* Does the statement of the AEC this morning that it can speed this up help you any with your problem of getting the reactor program going?

*Captain Coxe:* Senator Anderson, our problem is only financial.

*Senator Jackson:* We are assuming you would have funds. We would not expect you to go ahead without the money.

*Captain Coxe:* We have no money.

*Senator Jackson:* That is the purpose of this meeting today.

*Captain Coxe:* We need \$16 million [extra].

*Representative Holifield:* When would you need it? . . . When would you have to make your request in order to get it in a budget?

*Captain Coxe:* If we put it in a Navy budget, sir—is that your question?

*Representative Holifield:* Yes.

*Captain Coxe:* The first budget we could put it in would be in the 1962 budget.

*Senator Jackson:* Let's dismiss this part of it right away. Captain, you know this has such a low priority, with all the other Navy items, that to talk about next year's budget is to talk about a fiction. Do you not agree?

*Captain Coxe:* I am inclined to agree.

Jackson said he did not blame the Navy. He said he realized that supplying fuel to the research stations was an assigned function completely outside the day-to-day activities of the Navy and that it understandably had a very low priority. The committee as a whole seemed to agree that the Navy's position was not unreasonable; that the AEC's position was not unreasonable; and that perhaps even the Budget Bureau's position was not unreasonable; but that the general situation was absurd. Last week it sent off a round of briskly worded letters to the AEC, the Bureau of the Budget, the Navy, and other agencies involved. It suggested

that it did not care who took responsibility but that someone had better make a decision quickly.

The letters produced the desired effect. This week the AEC began soliciting bids for the project.

### **Student Non-Communist Affidavit: Repeal Voted by the Senate, House Action Unlikely**

The Senate passed the Kennedy-Clark bill last week, but with only three weeks left before scheduled adjournment there appears to be no chance for action in the House. As reported here several weeks ago [*Science* **131**, 1425 (13 May 1960)], the outlook for the bill was extremely dismal in the House, but there had appeared to be some chance that a compromise measure might get through. That chance probably has been eliminated, as the bill reached the Senate floor nearly a month later than had been hoped.

The bill, as expected, passed without difficulty once its sponsors had accepted the Prouty amendment making it a crime for a subversive to accept a loan. The Senate neatly avoided the problem of making its members go on record on this touchy election-year issue by slipping the measure through on a voice vote, without a roll call. Senator Goldwater and other opponents of repeal were absent from the floor when this was done, but their absence, presumably, was intentional. Senator Dirksen, the Republican leader and a member of the committee minority that opposed the bill, was on the floor at the time, and there is no question that he would not have permitted the measure to slip through without a formal vote unless he had first cleared the maneuver with Goldwater and other opponents.

Bourke B. Hickenlooper made the most remarkable speech of the debate. He argued, by a process of reasoning which was difficult to follow, that to repeal the affidavit would be tantamount to inviting college professors to teach the violent overthrow of the government. Dodd of Connecticut probably echoed the feelings of the sizable number of senators who did not seem to feel strongly one way or the other but nevertheless were willing to go along with the repeal. In a speech largely devoted to defending the affidavit, Dodd said he nevertheless planned to vote for repeal. "There is something about this affidavit," he said, "which seems to me to violate good taste."—H.M.