

3/27/84

SP 275

SEPARATE VIEW OF COMMISSIONER GILINSKY
REINSTATEMENT OF LOW-POWER OPERATING LICENSE
AT DIABLO CANYON

I am withholding my approval of the reinstatement of the Diablo Canyon low-power license because I am not satisfied with the readiness of the plant for operation. I am especially concerned by the absence of commercial experience on the operating crews and the failure to compensate adequately for this.

There are two other aspects of this case -- seismic design and construction quality assurance -- which, while not disabling from the point of view of low-power operation, do not cast the NRC's own review in a particularly favorable light.

Operating Staff Experience

I regard the operator experience question as the most important one in this case. Seismic issues have received a great deal of attention, as they should, but it is well to remember that seismic protection is designed against unlikely contingencies. We rely on the operators for ensuring safety 24 hours a day, every day.

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Diablo Canyon does not have a single operator who has had actual operating experience on a commercial nuclear power plant of comparable size. Four operators previously operated the Company's Humboldt Bay plant, a very small boiling water reactor -- one-twentieth the size of each Diablo Canyon unit -- which has been shut down for 8 years, hardly relevant experience. Much has been made of the fact of simulator training. This is valuable, but it does not compensate for the complete lack of relevant commercial experience. It is worth noting also that Diablo Canyon does not have a site-specific simulator.

This problem should have been resolved a long time ago. At this point, there seems to be no alternative to supplementing the shift crews with experienced advisors for the initial period of operation. The difficulty with the way this has been done is that there is no assurance that they have the site-specific training and knowledge needed for safe operation. I would approve plant operation at low power if the advisor on each shift previously held a senior operator license on a large commercial plant, and if he has passed the site specific portion of the senior operator license examination for Diablo Canyon. The Commission has instead chosen to allow the Company itself to decide whether the advisors are qualified and to require such advisors only above five percent power.

Seismic Design Standard

I continue to be concerned by the issue of seismic design standards. The root of the difficulty is that although PG&E and the NRC staff accepted a standard based on a Richter scale magnitude 7.5 earthquake for the purposes of the licensing hearing, after the Hosgri fault was discovered, they did not accept that standard in practice. Apparently in order to avoid having to make significant modifications to the design, PG&E and the NRC staff decided on a number of changes in the way the post-Hosgri standard was applied. These had the effect of shaving safety margins to the maximum extent. In at least one respect, which involved a substantial reduction in safety margin, they resorted to a highly dubious technique. This reduction, referred to as the tau effect, was accepted by two licensing Boards which thought that they, and the expert witnesses, understood the technical basis. As it turns out, there is hardly any technical basis for the reductions.

I asked the Commission to take review of this question long ago. There was plenty of time to do a review before the plant was ready for operation but at each point the concern that plant operations might be held up persuaded the Commission to ignore the problem. What I find particularly disturbing is that it was clear to me that the Commission declined to take review not because it understood the

seismic design and thought it to be acceptable, but because it looked like a can of worms, and the Commission feared the consequences of reopening the issue.

The ACRS recently told the Commission that "we do not believe that scientific or engineering analyses exist today that could be used to calculate the specific quantitative reductions in free-field seismic spectra [the tau effect] that he [Dr. Newmark] recommended for the Diablo Canyon Nuclear Power Plant." Had the Committee stated this view years ago when it originally reviewed the seismic design standard, I doubt that the Boards would have accepted the standard.

The most favorable statement that the ACRS could ultimately make about the seismic standard was that the Committee continued to feel that overall "the use of the staff approach leads to an acceptable level of safety in this instance." This does not address the tau reductions or whether the safety regulations have been satisfied. What I take the Committee to mean is that the earthquake chosen to determine the seismic standard is too large and that the plant's design is adequate for a smaller earthquake. No doubt the Committee also took into consideration the fact that Diablo Canyon is a relatively isolated site. The ACRS did remind the Commission that it had earlier recommended

that a thorough review of the entire seismic design be undertaken, to be completed about 1988.

At yesterday's meeting, the Commission learned that a paper which is to be delivered at the Scripps Institute in April raises new questions about the interpretation of the nature of the faults near Diablo Canyon. This new information reinforces the need for a thorough review of the entire seismic design, as proposed by the ACRS. The Commission has now agreed in principle to such a study. I wish this had been done earlier but I am prepared to accept this approach as a way of dealing with the seismic issue.

Construction Quality Assurance

The NRC has received hundreds of allegations concerning the Diablo Canyon plant. Because one of the allegations was sent to me directly, I felt that I should look into how they were resolved. I chose the audit of the Pullman Power Products, the prime piping contractor from 1971 to 1977, done by the Nuclear Services Corporation (now Quadrex). An important conclusion of that audit report was that the Pullman quality assurance system had been inadequate -- among other things, that "there is no confidence that welding done prior to early 1974 was performed in accordance with welding specification requirements." Most of the piping had been installed by 1974. The NRC staff initially

dismissed this concern on the basis of its discussions with PG&E and a review of the staff's own audit records for the period between 1971 and 1977.

The NRC staff subsequently decided to look into the allegation more closely, apparently because of the Regional Administrator's feeling that more needed to be done. In December 1983, the staff issued a supplementary Safety Evaluation Report stating that it had found "...no evidence to conclude that there was a programmatic breakdown in Pullman Power Products QA program..." and that "The details of the staff review are documents in Inspection Report 50/275/83-37."

When I asked to see the inspection report three months later, the inspector initially refused to supply it to me. As it turns out, only notes existed at the time that the staff wrote the SSER. So far as I can tell, the inspection report only began to be written at about the time I asked to see it. An explanation and correction of the reference to the inspection report was subsequently submitted by the staff to the Commission.

It now appears that the NRC staff called the leader of the NSC audit only in February and, when that person said that he could not remember much about the audit, did not pursue



10

this further. More could readily have been done, and should have been done earlier.

I would have more confidence in this review if the NRC had first contacted the people who worked on NSC's audit, had then completed the inspection report, subsequently written the SSER, and had only then informed the Board and the Commission of its conclusions.

22-23

3/84

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Meeting Title: Discussion / Possible Vote on Diablo Canyon
Criticality and Low Power Operation

Meeting Date: 3/27/84 Open ☒ Closed ☐

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