

United States Senate

WASHINGTON, DC 20510-0802

April 2, 1992

Dr. Ivan Selin
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Chairman:

I am stunned by the Nuclear Regulatory Commission's (NRC) decision not to impose penalties on the Salem nuclear plant as a result of the turbine generator destruction in November, 1991. This decision appears to be based on a very restricted view of the turbine explosion, and can only reinforce the public's perception that the NRC fails to demand the highest level of safety.

It is an understatement to call the turbine explosion a serious event. Seventy-five million dollars in damage was incurred by the utility as a result of the explosion. The force of the explosion was strong enough to blast shards of turbine blades through the thick turbine casing and throw them up to three hundred yards away. In addition, steam generator tubes were shredded and a fire developed.

While the specifics of the blast are serious, perhaps the most disconcerting aspect of the explosion was that it was preventable. But your agency's decision to impose no penalties on Public Service Electric and Gas (PSE&G) appears to ignore this fact as well as many others.

A review of actions and inactions, as documented by your own review team, that led to the accident shows many serious shortcomings in the operation of the Salem plant. First, the Augmented Inspection Team (AIT) sent to Salem after the accident found that "PSE&G missed valuable opportunities to prevent the Salem Unit 2 turbine generator failure...Insufficient priority and importance was assigned to the verification of operability and replacement of solenoid valve at Salem Unit 2."

In addition, the team found that the utility ignored earlier warnings of problems with the solenoid valves. An information notice sent by the NRC "identified several solenoid valve problems, including applications in turbine trip control systems...The NRC found no indication that the licensee had directed any attention or priority to addressing the implications of this information ... as of the date of this occurrence." (emphasis added)

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Perhaps the most shocking aspect of the sequence of events is that the utility had found a similar problem at another reactor at the same facility, the Salem 1 reactor. The utility initially took on the responsibility to prevent a problem at the Salem 2 reactor by promising the NRC to replace the valves in question during fuel outage scheduled for May, 1991.

However, the inspection team found that "work was deferred ... due to management decision that may have been caused by a deficiency in commitment tracking". No further explanation was provided as to why management decided to put off replacing the valves, what factors went into that decision, or why the NRC failed to detect that the valves were not replaced.

Finally, the inspection team documented that test results from October 20, 1991 showing that the valves were not working properly were ignored by supervisory personnel. This was not the decision of a single person, but rather several personnel, including "licensed operators, a shift supervisor, a senior shift supervisor, and a senior operations engineer."

So, in summary, according to the inspection team sent in the aftermath of the accident, PSE&G 1) ignored warnings from the NRC that the solenoid valves were troublesome in other plants, 2) ignored the lessons of their own experience with the valves, 3) failed to follow through on commitments to replace the valves, and 4) ignored test results which showed that the valves in question were not working properly.

With the findings of the inspection team's report, it is inconceivable that the NRC believes no penalty is justified. The reasons provided for the absence of a penalty are not convincing.

In deciding not to impose any penalties, your agency noted that "corrective actions have been taken or planned to prevent recurrence of such violations." (emphasis added) To be blunt, I see no basis for confidence in PSE&G's planned future actions in light of their failure to fulfill past commitments related to the valves.

In addition, the unstated amount of penalties was reduced to zero through a series of three "mitigations". The first reduced the unknown penalty by 25 percent because the utility told the NRC, on its own, that a turbine on the roof of the building had exploded, showering the facility with metal debris. To suggest that a utility can receive credit for reporting an event that would be impossible to hide is a ludicrous policy.

Another mitigation reduced the unstated penalty by one-half because of "past performance in the operations area specifically, reduction in personnel errors and overall control room performance..." I cannot fathom the reasoning behind this reduction since personnel errors and operating procedure failures clearly contributed to the explosion. And those errors were not the result of a single decision; they were a series of decisions spread out over several months.

I would also note that this seems to represent a recurrence of a problem cited by the NRC years ago. In a Systematic Assessment of Licensee Performance (SALP) report on Salem's performance in 1988, the report specifically noted "further improvement in attention to detail ... is needed to reduce the frequency of ... missed surveillance tests."

In addition, a 1989 SALP overview of the Salem's operations found that "reduced management and supervisory oversight of maintenance activities resulted in laxness in the implementation of the maintenance program...the long-standing nature of the [surveillance] problem and the inability to promptly correct the problem indicates a weakness in management attention to this issue."

Based on the AIT report on last November's explosion, it appears this aspect of the plant's operation continued to be problematic. Yet your agency elected to reduce the penalties based on these shortfalls to nothing.

A third reason the penalty was zero was because "although you [Salem] had prior notice of potential problems with the mechanical binding of solenoid valves because of a similar problem at Unit 1 in September, 1990, no adjustment to the civil penalty is warranted because the primary issue involved in this case is the performance of the operators, rather than the maintenance of the equipment."

Again, this reasoning is remarkable. In effect, the NRC has said that because Salem kept the plant from disaster and put out the fire -- crucial goals to be sure -- the utility did its job. But this completely ignores the point that the explosion and fire could have and should have been prevented by the utility in the first place. Under the agency's reasoning, it is acceptable to court disaster, as long as the disaster does not actually occur. With regard to nuclear energy in particular, this approach cannot improve weak public confidence in this already-troubled technology.

But beyond the faulty reasoning, as I see it, used to reduce the penalty based on operations performance, I am at a loss to understand why your agency decided to ignore maintenance problems completely. The NRC and PSE&G both knew of problems with the valves. A calculated risk was taken in deferring replacement of the valves until the next scheduled shutdown, and a further risk was incurred when that replacement was pushed back to an even later scheduled shutdown. And any penalty related to maintenance of the plant's equipment is simply swept off the table. I question whether PSE&G should be so easily exonerated for their maintenance procedures in place leading up to the accident.

As you know, I have advocated an independent safety board for the NRC for years. One reason I continue to advocate such a board is because of decisions like the absence of any penalty after the November accident. The inspection team process, already flawed in its structure, is turned into a complete sham when its findings are ignored and no changes are made in the plant or the utility. That is what I fear has happened at Salem.

In the aftermath of an accident at Salem in 1983, the NRC planned similar inactions, in effect throwing up their hands at any meaningful penalties. I managed to convince the Commissioners at that time that their approach did not pass public muster. After reconsidering their decision, the Commission instead got tough on the utility, imposing the largest fine at that time -- \$850,000.

One result was a wake-up call to Salem's management that procedures and attitudes had to change, and change they did. A few years later, top management had been overhauled, and Salem's operating record had improved dramatically.

Unfortunately, it appears that problems have returned. But the decision of the NRC to impose no penalty at all does nothing to force management to take another long, hard look at the operations of the plant. The message of the NRC is that a turbine explosion is no big deal, at least not one big enough to rise to the level of penalties.

The turbine explosion and fire were the result of a breakdown of procedures, operations, training, and commitments at the Salem plant. The NRC's decision to ignore the findings of its investigatory team is bad for residents around the Salem plant, and bodes poorly for meaningful follow-up to other accident investigations around the country.

One disaster has occurred. It was preventable. I am very concerned that other disasters, also preventable, might be allowed to occur. I urge you to reconsider the NRC's actions to date with regard to Salem.

Sincerely,

A handwritten signature in cursive script that reads "Joe Biden". The signature is written in dark ink and is positioned above the typed name.

Joseph R. Biden, Jr.
United States Senator