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## United States Senate

WASHINGTON, DC 20510-0802

May 11, 1994

Mr. Ivan Selin  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Chairman Selin:

The Nuclear Regulatory Commission has evaluated the events that occurred at the Salem I nuclear facility on April 7 and I am very concerned that the Commission is moving too quickly to grant permission to restart the reactor. The system and human errors documented by the NRC cannot, in good conscience, be considered an aberration; indeed, they are all too familiar. The events of April 7 were simply the most recent in a long history of mechanical and management errors that are an ongoing threat to the people who live in Salem's shadow. In my review of the April 7 alert, I believe it is imperative that the restart of the facility should be conditioned upon the NRC's assurances that all outstanding mechanical and management problems have been resolved and that a fine in the maximum amount will be levied upon the licensee.

As the NRC and the Public Service Electric & Gas (PSE&G) describe it, the chain reaction of operator and system errors were triggered by cooling water intake valves becoming clogged by river grasses -- a problem that apparently has exceeded the technical ability of the intake system. Plant records show that clogging had occurred before. No action to prevent recurrence had been taken, although the operators adopted their own rudimentary approach to the problem -- manually hosing grasses off the screens.

As you are well aware, mechanical problems alone do not begin to address the deficiencies in Salem's operation. Explanations for various elements of the April 7 events -- such as clogging intake valves, mishandled power levels, and vulnerabilities in safety injection systems -- ignore the root causes of Salem's abysmal record.

As the record shows, these root causes can only be described as the product of operator complacency bordering on incompetence. The events of April 7, in

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the context of Salem's problem-prone past, inexorably leads to this conclusion. For example, Instead of simply tripping the turbine, the technicians attempted a manual response to the reduced cooling water intake. They did not have "confidence" in the automatic system. The power level was taken too low, causing a trip when it rose again. Safety injectors failed to work as "expected," responding at different times to the spurious signal created by the trip.

During the subsequent investigation of the shutdown, the NRC discovered a radioactive gas bubble at the reactor vessel head.

PSE&G has admitted that it does not routinely monitor for the collection of gases in the reactor vessel head. The operator had attributed the water displacement to "instrument error" but had made no effort to confirm whether that assumption was indeed correct.

The NRC also found two pressure-relief valves with "higher-than-expected" wear. The valves, which control cooling water pressure in the reactor, are part of the safety system to prevent core overheating. If the valves had failed during the April 7 alert -- and the wear on them made that possible -- the reactor core could have overheated. A regional NRC official called the condition of the valves "a very real threat in this community." PSE&G has said only that the unexpected wear on the valves is the subject of an ongoing investigation.

In the context of Salem's operating history, the most recent alert is truly and deeply disturbing. System failures caused, or exacerbated, by operator and management failures characterize Salem's operating record. Four NRC Augmented Inspection Teams (AITs) have been sent to Salem in as many years.

The Commission has fined PSE&G for Salem violations 10 times since operations began 17 years ago. Most notably, NRC fined Salem \$850,000 in 1983 after Salem I's automatic shutdown system failed. The NRC report on the incident found that "licensee management control and reactor trip system reliability" were implicated in the failure of the automatic shutdown system.

As recently as March 10 of this year, the NRC proposed to fine PSE&G \$50,000 for violations of its license requirements regarding equipment maintenance. The Region I Administrator found that:

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"These violations, in our view, are a direct result of continued demonstrated weaknesses in performance of first line supervisors and middle management at the Salem facility and are of concern to the NRC. Collectively, the violations demonstrated that weaknesses exist in the maintenance and control of work process activities, which could, under other circumstances, adversely affect the operability of safety related equipment at the facility."

While these specific violations were not part of the April 7 events at Salem, they demonstrate the pervasive management problems that characterize the facilities operations -- and, again, problems that have characterized operations at Salem for years.

More than 20 other NRC findings of violations at Salem throughout its history have not resulted in fines. Among those is the November, 1991 explosion of the Salem II steam turbine. The NRC concluded that the most prominent causes of the explosion "involved personnel error, insufficient preventive maintenance and inadequate surveillance." As you will recall, the NRC, over my objections, declined to impose fines because PSE&G reported the explosion and \$75 million fire to the NRC.

In light of Salem's history of inadequate management, I reccomend that, at a minimum, the NRC address the following concerns:

First, the extent of clogging problems and the adequacy of the current system to handle intake demand and river grass clogging in the future must be resolved. If the system is deemed to be incapable of handling the river grass problem, what are the technical solutions and when can they be implemented?

Second, the cause of the safety valve wear must be determined. An "on-going investigation" is not an adequate response to a problem of this magnitude. Salem's record makes the promise of future vigilance particularly hollow. The community surrounding the Salem plant, which includes my state of Delaware, is entitled to a guarantee that the cause of this problem has been determined and its recurrence has been prevented.

Third, before the plant is restarted, the public needs to know if the NRC can, and will, correct the pattern of management and system failures that are real dangers at Salem. Power should not be restored to the facility until the NRC can

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restore public confidence in its ability to ensure safe operations.

For more than a decade, I have sought expanded oversight, enforcement and sanctions to make the Salem facility operate according to the law. And while the NRC has repeatedly documented the operator and system failures at Salem, the Commission has never enforced meaningful reform at the plant.

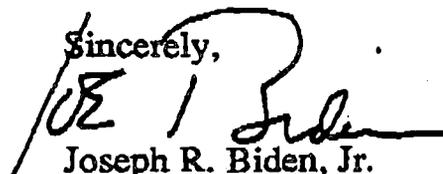
Salem's record shows that the chronic problem of human error at all levels of operation has not been solved by the training and re-training programs undertaken by the utility. The NRC must ensure management reform by any and all means possible.

Finally, I request that the NRC impose the maximum fine allowable on PSE&G. The facts of this incident, in the context of Salem's history, justify the Commission's most stringent response. After each incident at Salem, the NRC accepts the operator's assurances that significant reform of management and supervision has been undertaken. As the last event inevitably demonstrates, the same problems persist. In fact, the NRC promised, in a letter to me dated May 13, 1992, that it would "monitor the licensee's efforts closely and would not hesitate to take any further actions appropriate to effect necessary changes in operations or attitude."

I hope that you share my concerns about the Salem facility. As the NRC is charged with protecting the public trust in regulating the operation of nuclear facilities, I urge you to use all means at your disposal to provide the public with evidence of meaningful changes in Salem's operations and of the NRC's ability to ensure that the changes are not short-lived.

Before I close, I would like to take this opportunity to commend the NRC staff for their responsiveness to my office in this matter. The staff has been both cooperative and forthcoming when responding to our inquiries. My staff has spoken to NRC staff daily since the April 7 incident, culminating in a three hour meeting in my Wilmington office with several NRC officials. I look forward to your response.

Sincerely,



Joseph R. Biden, Jr.  
United States Senator