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FINAL REPLY:

Norm Cohen  
The UNPLUG Salem Campaign

TO:

Chairman Meserve

FOR SIGNATURE OF : \*\* PRI \*\* CRC NO: 01-0459

Chairman Meserve

DESC:

ROUTING:

Closure or Safety Changes to New Jersey Nuclear  
Plants

Travers  
Paperiello  
Kane  
Norry  
Craig  
Burns/Cyr  
Virgilio, NMSS  
Wessman, IRO  
Miller, RI

DATE: 09/19/01

ASSIGNED TO: CONTACT:  
NRR Collins

SPECIAL INSTRUCTIONS OR REMARKS:

OFFICE OF THE SECRETARY  
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**AUTHOR:** Norm Cohen (UNPLUG Salem)  
**AFFILIATION:**  
**ADDRESSEE:** CHRM Richard Meserve  
**SUBJECT:** Concerns request for closure or safety changes to New Jersey nuclear plants

**ACTION:** Signature of Chairman  
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**The UNPLUG SALEM Campaign**  
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Date: 9/17/01

To: Richard Meserve,  
Chair, Nuclear Regulatory Commission  
11155 Rockville Pike  
Rockville Md., 20852-2738

From: Norm Cohen, Coordinator, The UNPLUG Salem Campaign

Dear Chairman Meserve:

As the Coordinator of the now 106 organizations comprising the UNPLUG Salem Campaign, I am sending you this letter as an official request that you order either the closure, or immediate security upgrade, of all four New Jersey nuclear plants: Salem Units One and Two; Hope Creek; and Oyster Creek. We request this because of the plants' inability to be protected against terrorist attacks, including a suicide airplane attack similar to the attack on the World Trade Center.

In addition to this vulnerability, all four nuclear plants house their spent fuel in pools outside of containment, making these pools a perfect target for a suicide bomber.

For these plants to remain open, the NRC must require that these plants' defenses be upgraded to withstand a jet crash similar to the World Trade Center. In addition, all of the spent fuel pools must be brought into the containment building, or a new containment building, able to withstand a jet crash, should be built for them.

The NRC should also cancel any plans for dry cask storage at any of New Jersey's plants, until a jet-bomber-proofed containment is built for them.

Finally, the NRC should triple the number of security inspections (via OSRE) at these plants, and cancel the proposal to allow nuclear plants to conduct their own security inspection.

We feel that this is a better way of making our state's nuclear plants secure against attack, rather than adding manned anti-aircraft guns to the plants, as has been suggested by others.

Enclosed are our press release, with the relevant parts of Salem's design report included, and an article from the Atlantic City Press, which details the scope of this serious problem.

Copies of this letter and enclosures will be sent to: Senators Corzine and Torricelli, Congressman Andrews, Saxton, Pallone and Holt, Acting Governor DiFrancesco, the Salem County Freeholders, the Mayor of Lower Alloways Township, and the NJ DEP's Bureau of Nuclear Engineering.

Sincerely,



Norm Cohen  
Coordinator,

The UNPLUG Salem Campaign

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09/17/01: FOR IMMEDIATE RELEASE:

## **NJ NUKES ARE VULNERABLE TO AIRPLANE ATTACK UNPLUG SALEM URGES CLOSURE OR SAFETY CHANGES**

The UNPLUG Salem Campaign, a network of 106 organizations that watchdogs the Salem and Hope Creek Nuclear Plants, is today urging the Nuclear Regulatory Commission, NJ Senators and Congressmen, and Governor to shut down the four New Jersey nuclear plants (Salem 1 and 2, Hope Creek and Oyster Creek) until the plants can be made safe against a terrorist suicide attack similar to the World Trade Center.

In a letter faxed to NRC Chairman Richard Meserve, the UNPLUG Salem Campaign urged that the spent fuel pools, and any proposed dry cask storage, in all four plants be covered with a containment and that this containment and each plant be upgraded to resist a suicide commercial jet airliner crash. The UNPLUG Salem Campaign was withholding this information as to not upset the public, but now that the newspapers have extensively reported on this safety issue, UNPLUG Salem has decided to press its concerns to the NRC and public officials.

The NRC's own reports admit that the two Salem Nuclear Plants, as well as Hope Creek and Oyster Creek cannot withstand a hit by an airplane. NRC allowed Salem Units 1 and 2 to be built without safeguards for an airplane crash. In addition, the Oyster Creek plant recently failed a routine NRC security test, and in the test, was unable to defend its reactor core.

Area deaths in the case of a catastrophic accident at Salem were calculated by the Sandia National Laboratory in 1982 (CRAC-2 Report) to be 102,000 fatalities with many more to die of cancer in the years following such an accident. . With today's larger population in the Salem/Delaware area, the death toll would be much higher.

According to David Lochbaum, Nuclear Safety Engineer with the Union of Concerned Scientists, "NRC's own reports show that the Salem plants are NOT protected from an airplane hit unless the airplane weighs less than 1,571 pounds and flies less than 150 miles per hour."

Lochbaum's main safety concerns were with the vulnerability of the spent fuel pools. At Salem, the spent fuel pool is housed in a corrugated metal building outside the relative safety of the containment building. An attack on the spent fuel pool could lead to a Chernobyl-like radioactive cloud that would blanket the South Jersey and Delaware area.

"In today's world, we are now acutely aware that the threat of a suicide terrorist is horribly real", said Norm Cohen, UNPLUG Salem Campaign Coordinator. He continued, "citizens in South Jersey don't need a stationary nuclear bomb as a terrorist target. PSE&G (the owner-operator of Salem) and the NRC now must prove to the public that the two Salem Nuclear Plants can withstand a direct crash by a large airplane. If they can't, the two Salem Plants should be shut down."

Lochbaum's conclusions are based on Section 3.5 of the NRC's Safety Evaluation Report for the Salem Generating Station: "Safety related structures and equipment have been designed and constructed to withstand the effects of tornado generated missiles. Among these structures are the auxiliary building, the control room, the containment, and the fuel handling building. "The

critical missile assumed by the applicants in their design is a 40 foot, 12 inch diameter wooden utility pole weighing 50 pounds per cubic foot and moving with a velocity of 150 mph. The modified Petry formula was used to determine the minimum depth of reinforced concrete required. "The criteria used in the design of Category I structures, to account for the loading due to specified missile impacts postulated to occur at the facility site, provide a conservative design basis for determining the forces on the structure to assure that such impact forces will not penetrate structures, shields and barriers beyond acceptable limits as governed by the strength and resistance offered by such structures, shields, and barriers. We have concluded that conformance with these design loading criteria is an acceptable basis for satisfying AEC General Design Criteria Nos. 2 and 4." From Section 2.2 of the NRC's Safety Evaluation Report for the Salem Generating Station: "The nearest commercial airport is The Greater Wilmington Airport which is located 21 miles north-northwest of the site. We have reviewed the matter of airport proximity to nuclear power plants in the Shoreham Nuclear facility licensing case. On the basis of this study, we have concluded that the Salem site is sufficiently far from an airport of significant size that the probability of a crash is essentially that associated with general overflights and that the Salem facility need not be designed or operated with special provisions to protect the facility against the effects of an aircraft crash."

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## N-plants vulnerable to attack, experts say

September 16, 2001

By JACK KASKEY Staff Writer,  
ATLANTIC CITY PRESS

Attacking one of southern New Jersey's four nuclear-power plants would be among the most terrible - or futile - of terrorist attacks. With multiple levels of security and thick barriers of concrete and lead, the nation's 103 atomic plants long have been considered unlikely targets.

"It's not going to be the first on a list of someone to go after, because there are so many barriers of defense," said Mitch Singer, a spokesman for the Nuclear Energy Institute, an industry group. "We are confident that the plants have a reasonable ability to protect against any kind of incursion."

But with suicidal terrorists hijacking commercial airliners and using them as weapons of mass destruction, some industry observers question whether nuclear plants are such an unlikely target.

Industry documents show that the Salem Nuclear Generation Station was not designed to protect against an airplane strike. And many plants keep their spent fuel in relatively unprotected locations, the explosion of which would cause health problems similar to Chernobyl, according to a federal report.

"These plants are now vulnerable," said Paul Leventhal, President of the Nuclear Control Institute, a nonprofit watchdog group based in Washington, DC. "The consequences of a successful attack on a nuclear-power plant would make the attack on the World Trade Center seem very mild by comparison."

A nuclear catastrophe at the Salem plant could quickly kill about 102,000 people, a higher death toll than at any other commercial facility in the country, according to a 1982 study by the Sandia National Laboratory titled "Calculation of Reactor Accident Consequences." Another 41,500 people eventually could die of cancer, and 75,000 others within 55 miles could be injured, according to the report.

Salem Units 1 and 2 and the Hope Creek plant are located on the Delaware Bay, about 55 miles west of Atlantic City. The state's fourth nuclear plant, Oyster Creek, is on Barnegat Bay about 35 miles north of Atlantic City.

### Stronger than a plane?

Nuclear plants are rock solid, designed to withstand the force of a telephone pole hurled by a hurricane or tornado. The reactors are made of thick steel and housed in containment buildings made of 4- to 5-foot-thick concrete reinforced with steel.

While plants are not explicitly designed to withstand the crash of a large commercial airliner, the containments are so robust that it is unlikely a jumbo jet could penetrate, said Neil Sheehan, a spokesman for the Nuclear Regulatory Commission, or NRC.

At Salem, however, the possibility of an air crash was deemed so remote that nothing special was done to protect against one, according to the NRC's Safety Evaluation Report. "We have concluded that the Salem site is sufficiently far from an airport of significant size that the probability of a crash is essentially that associated with overflights and that the Salem facility need not be designed or operated with special provisions to protect the facility against the effects of an aircraft crash," the report reads.

Salem spokesman Skip Sindoni stressed that the NRC has given excellent ratings to plant security, and that the plants' physical structure provides multiple levels of protection against radiation leakage. "They can't be guaranteed against any form of attack that can be imagined," he added.

John Poston, a professor of nuclear engineering at Texas A&M University, said nuclear plants are so sturdy and security so tight that a terrorist attack is highly improbable. "There is a popular conception that it's an easy target, but it's not," Poston said.

Releasing even a small amount of radiation, however, might panic a public that is emotionally sensitive to even low levels of exposure, he said. "The main reason that one would target anything nuclear would be the terror," he said. Poston chairs a committee commissioned by the Department of Energy to study how the government should respond if terrorists spread radioactive material into the atmosphere.

A draft of the report, published a year ago, warns that the criminal investigation and emergency response following an explosion of nuclear material would be greatly complicated by radiation in the area. Radioactive gases, liquids and particles from exploded fuel could affect people 50 to 75 miles away, according to the report. "Health hazards expected from dispersal of very radioactive nuclear fuel would be similar to that which occurred at Chernobyl," according to the report.

The 1986 nuclear accident in the former Soviet Union exposed 5 million people to radiation, although it has been directly linked to only 31 deaths, according to the World Health Organization.

## Vulnerable fuel

While a terrorist attack on a nuclear plant is unlikely to cause a fuel meltdown, the consequences could be deadly nonetheless, said Dave Lochbaum, a nuclear engineer with the Union of Concerned Scientists, a watchdog group in Washington, DC. The most vulnerable targets are the growing supplies of used fuel stored at each plant, he said. Fuel that passes through the reactor core no longer is useful for power production, but the plutonium and other materials remain highly radioactive for tens of thousands of years. Spent fuel is accumulating in pools of circulating water and dry casks at every plant in the country while construction of an underground repository at Yucca Mountain, Nev., is debated.

Salem keeps its spent fuel in a corrugated metal building outside the relatively safe confines of the containment building, Lochbaum said.

At Oyster Creek, the spent-fuel pool is located in a concrete building one floor above the reactor, but outside the containment structure, said Paul Gunter of the Nuclear Information and Resource Service, an anti-nuclear group. "Basically, these reactors are sitting ducks," Gunter said. "The American people should not be the last to know about the vulnerability of these types of reactors to this kind of attack."

At Oyster Creek, it took a lot less than a jumbo jet to breach security. During NRC safety drills in May, a team of three people was able to force their way into a secure area. The NRC lowered the plant's security rating and promised to conduct more drills. Plant spokesman Ralph DeSantis wouldn't discuss specific security issues, but he said Oyster Creek officials take their responsibility to protect the health and safety of the public very seriously.

It's surprisingly common for nuclear plants to fail the NRC's drills. In the past decade, nearly half the nation's plants have been unable to stop the government's fake terrorists, said Leventhal, of the Nuclear Control Institute. "Now it achieves urgency, because there may be suicidal terrorists out there," he said.

Leventhal, who was a senior staffer on nuclear issues for the U.S. Senate, including serving as director of the Senate special investigation of the Three Mile Island Nuclear accident, said the plants should be protected with anti-aircraft guns. "Without panicking people, there should be strong public support for putting military support around these plants," Leventhal said. "Every nuclear power plant is a potential radiological weapon. The potential consequences are unthinkable."

At least for now, there appears to be military protection against an aerial attack. Combat planes on Friday were flying over the New York-Washington corridor to protect flights, and Air National Guard fighter jets were on 15-minute alert at 26 bases across the country.

President Bush has given the Pentagon authority to call as many as 50,000 reservists to active duty, in part for domestic defense. Meanwhile, nuclear plants in the area have been in a heightened state of security since Tuesday.