

Making the Case for Closing Oyster Creek

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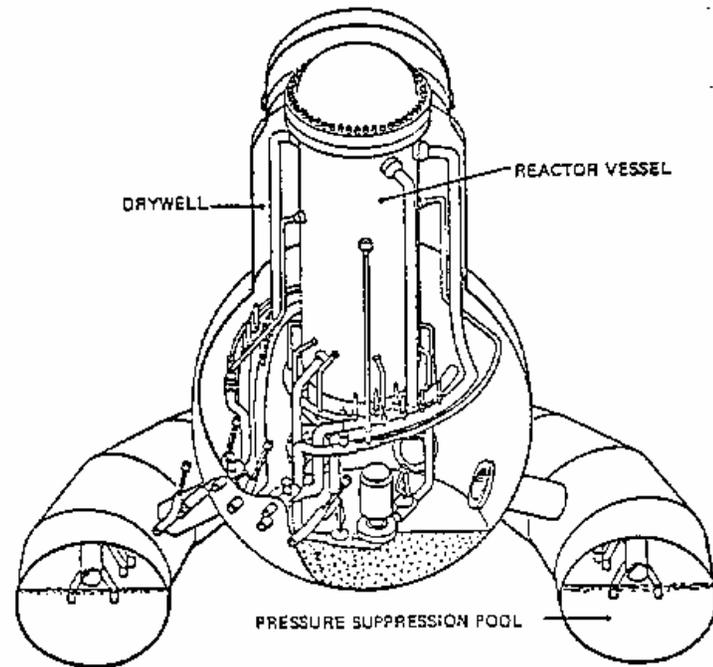
The Case Against Oyster Creek

- Bad design made worse
- Security vulnerability
- Degraded components and lack of effective oversight and inspections
- Unrealistic emergency plans



A Bad Design Made Worse

- The G.E. MARK I primary containment design is flawed
- MARK III model modifications raised concern for MARK I structural integrity
- NRC acknowledged likelihood of containment failure



MARK I Containment Failure During a Severe Accident

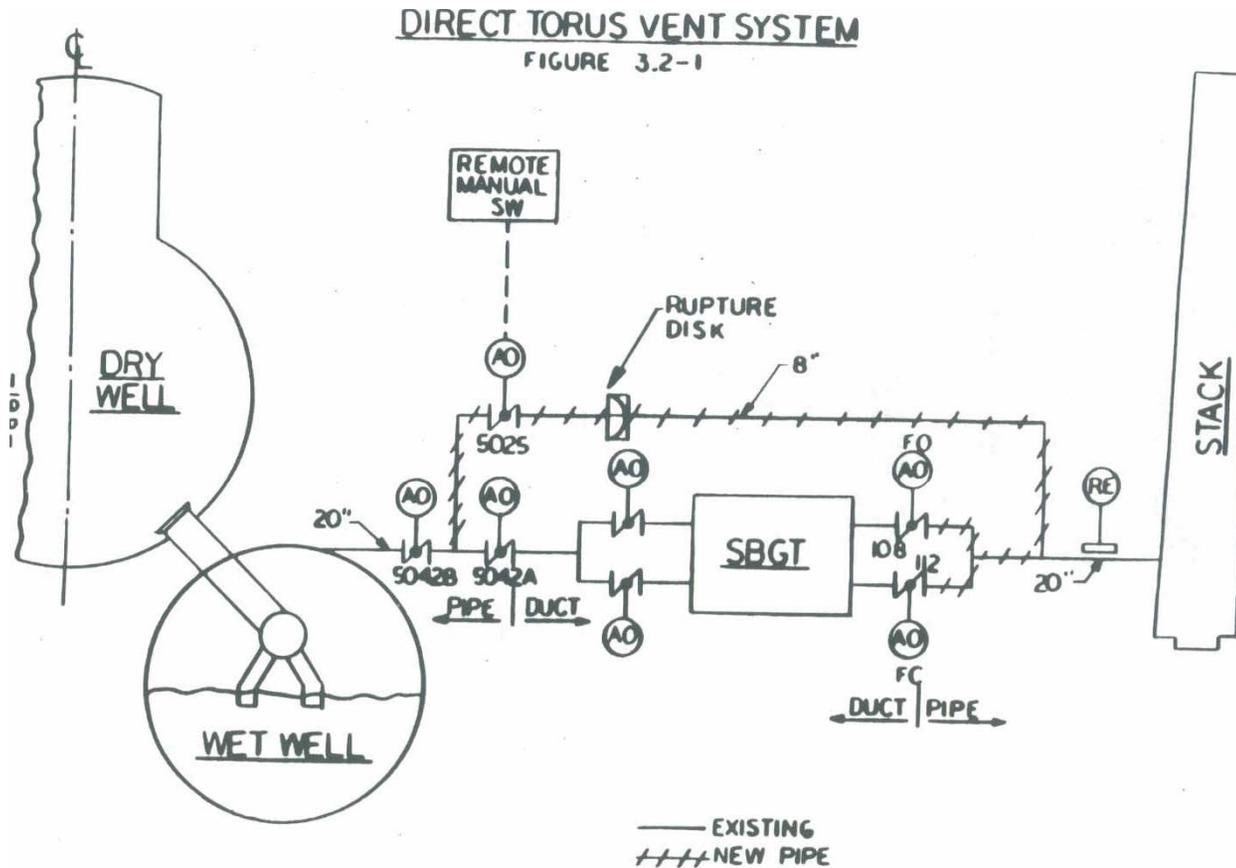
“I don’t have the same warm feeling about GE containment that I do about the larger dry containments.”

“Mark I containments, especially being smaller with lower design pressure—and in spite of the suppression pool—if you look at (at the) WASH (1400) reg safety study, you’ll find something like a 90% probability of that containment failing.”

Comments of Harold Denton, director of NRC
Office of Nuclear Reactor Regulation,

Inside NRC, June 9, 1986

You Be the Judge: Sieve or Shield?

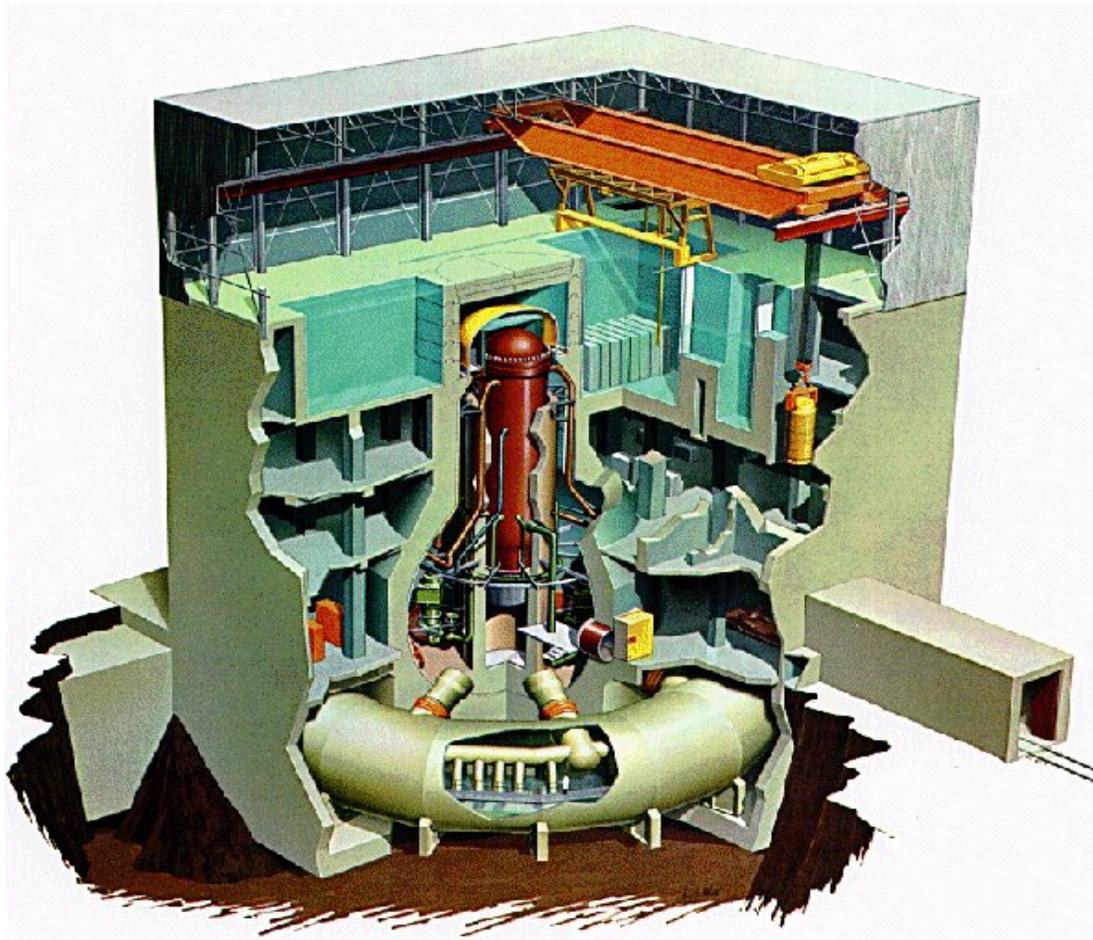


Solution?

Venting Containment To Save It

- Operators at Oyster Creek now have the option during a severe accident to remotely or manually open the radioactive containment to the atmosphere through an 8" pipe that bypasses radiation filtration systems and vent directly to the atmosphere through the 300' vent stack. After the internal pressure of the accident is released the valve can be closed. Radiation releases will occur.

Mark 1 Reactor Building: A Security Vulnerability



The New Threat of Terrorism

- Reactor containments are not designed or built to withstand aircraft or other explosive penetration
- President Bush identified that U.S. nuclear power stations are potential targets in his State of the Union address.
- Industry and NRC fail to adequately address the structural vulnerability



Industry Statement on Reactor Containments

- “No airplane, regardless of size, can fly through such a wall [containment]. This has been calculated in detail and tested in 1988 by flying an unmanned plane at 215 m/s (480 mph) into a test wall 3.6 m thick. The plane, including its fuel tanks, collapsed against the outside of the wall, penetrating a few centimeters.”

Science 09/20/2002

Fact

- Sandia National Laboratories spokesman, John German, was asked by the New York Times if this 1988 test proved that an airplane could not penetrate a reactor containment building:

“We have been trying like heck to shoot down this rumor.”

“Mr. German said: That test was designed to measure the impact force of a fighter jet. But the wall was not being tested. No structure was being tested.”

“Experts Say Nuclear Plants Can Survive Jetliner Crash,” New York Times, 09/20/2002

“Evaluation of Aircraft Crash Hazards Analysis For Nuclear Power Plants,” Argonne National Lab, 1982

- “Based on the review of past licensing experiences, it appears that fire and explosion hazards have been treated with much less care than the direct aircraft impact and the resulting structural response. Therefore, the claim that these fire/explosion effects do not represent a threat to nuclear power plant facilities has not been clearly demonstrated.”

“Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants,” US NRC, October 2000

- **Section 3.5.2**

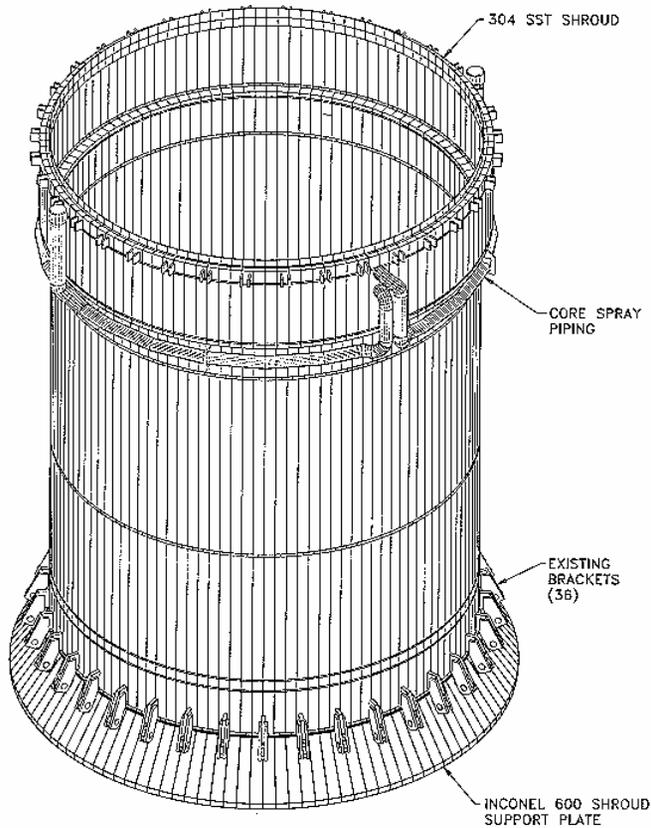
“Mark I and Mark II secondary containments generally do not appear to have any significant structures that might reduce the likelihood of aircraft penetration, although a crash into 1 of 4 sides of a BWR secondary containment may be less likely to penetrate because other structures are in the way of the aircraft.”

Aging and Degrading Components

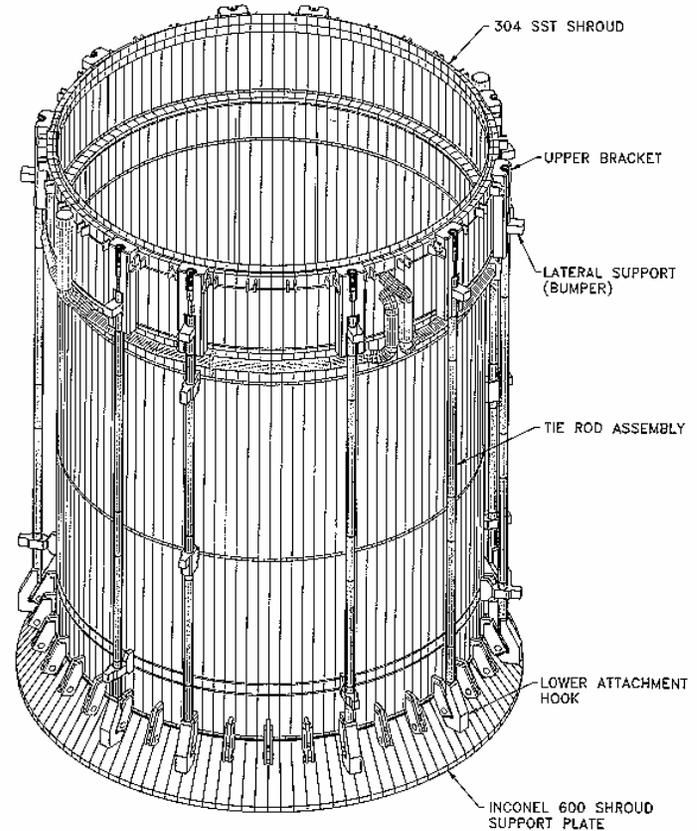
- Oyster Creek is one of the oldest nuclear power stations in the United States and is experiencing stress corrosion cracking and radiation-induced embrittlement of known susceptible materials.
- Corrosion of the drywell liner (primary containment) already noted at Oyster Creek
- Cracking and corrosion growth rates are unpredictable and unreliable.
- Thorough inspections are limited by inadequate access to a number of affected components.

Cracking and Repair of Major Safety Components

OYSTER CREEK SHROUD



OYSTER CREEK SHROUD REPAIR



Adequacy of NRC Regulatory Oversight and Inspection is Increasingly Suspect

- The Office of the Inspector General reports that the Nuclear Regulatory Commission's regulatory oversight has repeatedly failed to maintain adequate safety oversight and inspection of aging reactors.
- Indian Point, Buchanan, NY
- Davis-Besse, Oak Harbor, OH

The Deterioration of Safety Components Needs Closer Independent Scrutiny

- NIRS is stepping up its watchdog role on Oyster Creek with more intrusive investigations into the thoroughness of AmerGen's inspection program and the NRC oversight and enforcement process.

UNWORKABLE EMERGENCY PLANS



EMERGENCY PLANS

- To plan for only a 10-mile evacuation is to under-plan for a nuclear accident.
- To divide the 10-mile zone into a bewildering array of 20 emergency response areas completely ignores the reality of human behavior.
- To locate all the public shelters and reception centers just beyond the 10-mile zone invites chaos and under-utilization.
- To depend on buses to evacuate the car-less ignores the reality of emergency responder role conflict and abandonment (duty versus family).

EMERGENCY PLANS (Cont.)

- Emergency responder role conflict and role abandonment has not been adequately evaluated. It can not be detected by drills. (hospital emergency rooms, bus drivers, National Guard, nuclear power plant personnel, etc.)
- To expect to manage a spontaneous evacuation response, particularly with a barrier beach, is not realistic. Everyone will leave at the same time resulting in crippling traffic jams.

EMERGENCY PLANS (Cont.)

- There is no statutory authority to mandate non-civil defense employees (school teachers) to shepherd school children through a dangerous radiological crisis.
- Emergency response role abandonment at area schools is a distinct possibility and has not been adequately evaluated.