NUCLEAR INFORMATION AND RESOURCES

1424 16th Street NW Suite 404, Washington, DC 20036
Tel. 202 328 0002 www.nirs.org email: pgunter@nirs.org

Comments by Paul Gunter
Peach Bottom EIS on License Extension, Delta, Pennsylvania, July 31, 2002

The Environmental Impact Statement Lacks an Adequate Evaluation of the Peach Bottom Primary Containment System

In 1972, the U.S. Atomic Energy Commission's (AEC) top safety advisory, Stephen Hanauer, in a confidential memo on the General Electric Mark I Containment (Pressure Suppression System) as used at Peach Bottom, concluded that the safety hazards inherent in the GE containment design were "preponderant," in excessive prevalence and recommended that the AEC not permit any more designs to be built.

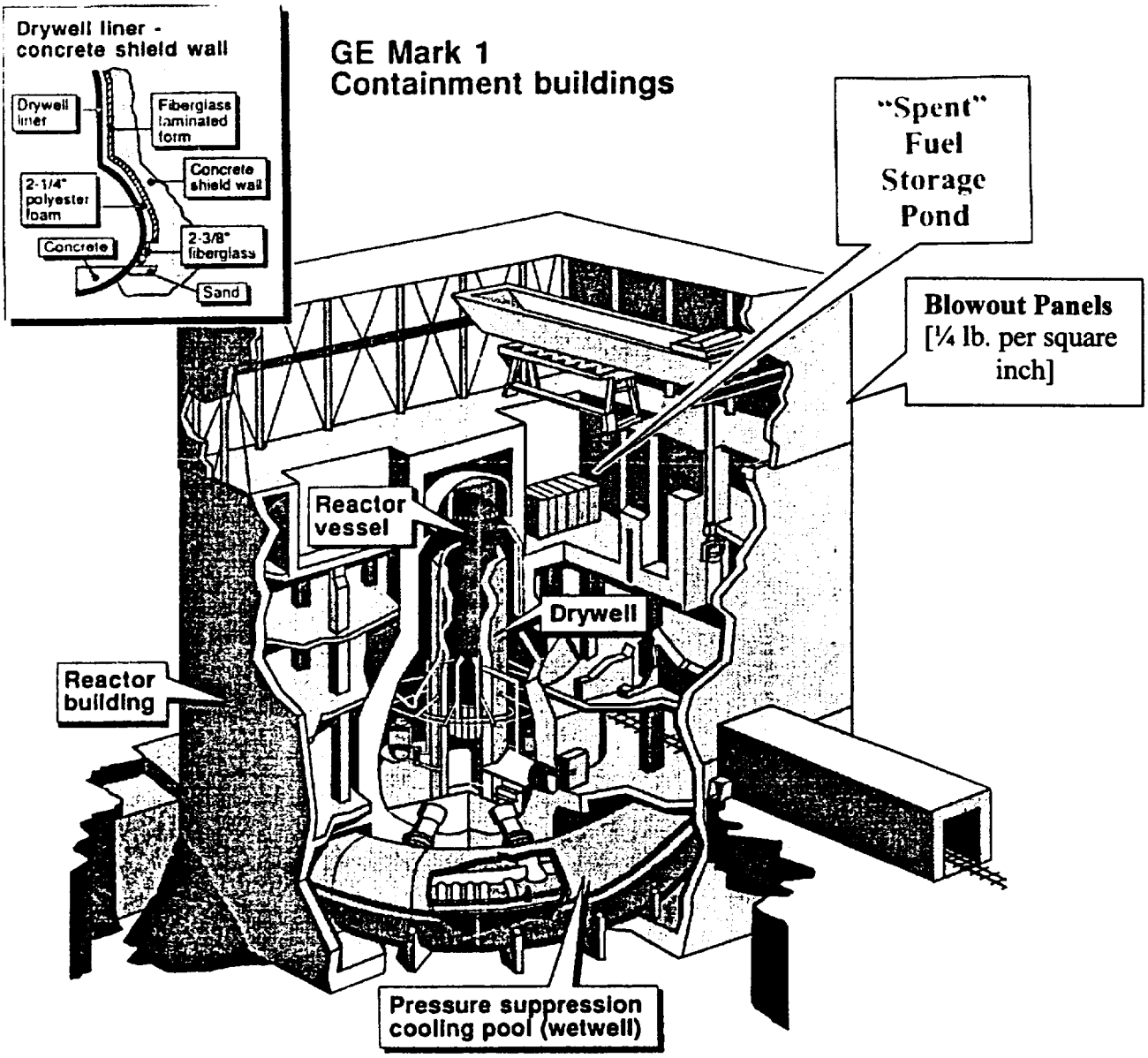
Joseph Hendrie, later to become Chairman of the AEC's successor agency, the Nuclear Regulatory Commission (NRC), wrote in an internal response that banning the Mark I pressure suppression containments "could well be the end of nuclear power" and "would generally create more turmoil than I can stand thinking about." The AEC then issued operating licenses for Peach Bottom Unit 2 in 1973 and Unit 3 in 1974.

By 1985, the Mark I Boiling Water Reactor (BWR) was again singled out by the NRC for special attention because of strong indications of a high probability that its containment would not survive several severe accident scenarios. NRC Director of Nuclear Reactor Regulation, Harold Denton, told an industry conference that the Mark I has a failure probability as high as 90% for some accident sequences such as an "over-pressure" accident. One NRC staffer described the containment's effectiveness in an "over-temperature" accident (core melt) as "like a hot knife through butter."

By 1989, the NRC and Boiling Water Reactor owners, including Philadelphia Electric Company, began work on the Mark I "Containment Improvement Program." With NRC approval Peach Bottom's operators installed a 8"diameter pipe or "hardened vent," that can be opened from the control room to vent the reactor's primary containment through the 300-foot tall stack, by-passing the station's radiation filtration system. Operators now have the option to deliberately vent Peach Bottom's containment to the environment through "controlled releases" of the tremendous internal pressure of a nuclear accident and its radioactive materials, such as the noble gases. Vent containment to save it.

A botched design, a proposed ban by its own safety officials, its primary containment system later verified to have irreversible design flaws, a principle safety boundary jury-rigged and Peach Bottom was given its first new lease on life albeit with a significant reduction in its often touted "defense-in-depth" hardware and philosophy.

Today, these badly designed and deteriorating reactors are being re-licensed for an additional twenty-year extension only at increased risk of adverse environmental impact to our safety and health, the economy, the water and land resources.



The GE Mark I Pressure Suppression Containment System is primarily comprised of a "Drywell" where in the event of an accident highly radioactive steam issuing from the reactor's Emergency Core Cooling System would be routed through large diameter pipes underwater into the pressure suppression cooling pond or the "Wet-well." First thought to be of sufficient volume to quench the steam from sustained accident mitigation, subsequent safety analysis found the wet-well too small and would more likely rupture with an ensuing core melt accident. The reactor building is even less robust as a "secondary containment." The upper section of the Mark I reactor building is not a high pressure-rated structure as evidenced by "blow-out" panels designed to pop-out at one-quarter pound per square inch (psi). Just behind these blow-out panels is the reactor refueling deck including the open surface of the 40-foot deep nuclear waste storage pond containing the reactor's high-level nuclear waste.