

STATEMENT OF PAUL GUNTER, BEYOND NUCLEAR
IN SUPPORT OF
EMERGENCY ENFORCEMENT PETITION OF APRIL 13, 2011
BEFORE THE US NRC PETITION REVIEW BOARD
JUNE 8, 2011

The Nuclear Regulatory Commission faces a growing crisis of public confidence. Is the agency willing to gamble public health and safety for the production and financial agenda of the nuclear power industry it is federally mandated to regulate.

The agency has the opportunity to demonstrate its attention to lessons learned to protect the public safety or a demonstration of lesson unlearned to advance an industry production agenda.

According to a 2002 Office of Inspector General report, the “NRC appears to have informally established an unreasonably high burden of requiring absolute proof of a safety problem, versus lack of reasonable assurance of maintaining public health and safety, before it will act to shut down a power plant.”

Such is now the case, once again, before the NRC with the General Electric Mark I Boiling Water Reactor.

The Fukushima nuclear accident has re-confirmed many previous warnings from former federal safety regulators and experts like the Atomic Energy Commission’s Dr. Steven Hanauer in 1972, Dr. Harold Denton with NRC in 1986, and the nuclear engineers intimately involved with the Mark I like Dale Bridenbaugh, Gregory Hubbard and Richard Minor in 1976. All foresaw this accident coming and spoke out in the interest of safety----the General Electric Mark I Boiling Water Reactor is not a quality product, is highly prone to failure during an accident, and its further use should be discouraged.

Beyond Nuclear submitted an emergency enforcement petition to NRC on April 13, 2011 requesting the suspension of operations at all US General Electric Mark I Boiling Water Reactors (BWR) pending the following specific emergency enforcement actions:

- 1) The NRC is requested to convene a public meeting in each of the Emergency Planning Zones for each of GE Mark I BWR nuclear power plants to take and transcribe public comment and independent experts as part of the agency's March 2011 chartered review of the implications of the Fukushima Dai-Ichi nuclear power plant accident;
- 2) The NRC is requested to revoke its approval of the installation of the GE Mark I containment "hardened vent system" as provided in Generic Letter 89-16 (September 1989) under the provisions of 10

CFR 50.59 and instead require all GE Mark I operators to submit to the formal license amendment process accorded with full public hearing rights;

3) The NRC is requested to require all owner operators to retrofit the Mark I "spent fuel" pools with Class E1 emergency back-up power systems (including independent AC power generators and DC battery backup to 72 hours) to assure the reliable operation of cooling systems for hundreds of tons of thermally hot and highly radioactive used nuclear fuel stored underwater in elevated storage pools in the event of loss of offsite electrical power.

June 8, 2011 marks the 90th day of the ongoing, multiple severe nuclear accidents at Japan's Fukushima Dai-Ichi nuclear power plant complex as result of extended station blackout--- loss of grid power, emergency diesel generators and depletion of onsite battery backup --- and multiple loss of cooling accidents caused by the Great Eastern Japan Earthquake and Tsunami of March 11, 2011.

A loss-of-cooling accident from an extended station black out can be caused by other events or a combination of events, such as the simultaneous occurrence of catastrophic flooding along the Missouri River and damage by a super tornado, or perhaps something more sinister and deliberate like the vengeful and calculated actions of a determined enemy. Any accident that challenges a substandard and the dangerously flawed Mark I has the same potential consequences and worse.

More than twenty four (24) miles of the Japan's eastern coastline and twelve (12) miles inland---already devastated by the earthquake and the tsunami---will not be reconstructed or inhabitable for the foreseeable future because of significant radioactive contamination that continues to escape from the Fukushima Mark I reactors. Significant radioactive contamination is in evidence in area groundwater, the soil, vegetation, tens of miles away and still being discovered even farther away. Millions of gallons of radioactive water from the stricken reactors continue flow into the sea contaminating Japan's key food sources of fish and seaweed.

This is but a portion of the mounting evidence of the failed experiments with the Mark I and its deeply flawed containment system.

Beyond Nuclear supplements its April 13, 2011 petition to include the following Mark I reactors:
BROWNS FERRY 1, 2 & 3 (AL), BRUNSWICK 1 & 2 (NC), COOPER 1 (NE), DRESDEN 2 & 3 (IL)
DUANE ARNOLD 1 (IA), FERMI 2 (MI), FITZPATRICK (NY), HATCH 1 & 2 (GA), HOPE CREEK 1 (NJ), MONTICELLO 1 (MN), MILLSTONE 1 (CT), NINE MILE POINT 1 (NY), OYSTER CREEK 1 (NJ), PEACH BOTTOM 2 & 3 (PA) , PILGRIM 1 (MA), QUAD CITIES 1 & 2 (IL), VERMONT YANKEE 1 (VT)

Our first requested emergency enforcement action is that the NRC come into each of these Mark I communities into the emergency planning zones and explain its justification for the continued operation of the Mark I reactors and take testimony from the public and their experts for incorporation into the agency's chartered long term review of the implications of the Fukushima nuclear accident for US reactor operations.

The Mark I licensees were initially licensed under the contract and the public trust that the reactor operated in a containment system with “*essentially leak tightness*” as part of the agency and industry's defense in depth philosophy.

The **containment** was supposedly designed, constructed and licensed to withstand the associated pressures of a loss of cooling accident and ‘a disruptive core explosion’ and to contain radionuclides that might be released in a reactor accident. This assurance allowed nuclear power plants to be sited close to large population centers.

But the dramatic evidence of the four explosions at Fukushima, three full core meltdowns and the significant radioactive contamination released to the atmosphere, the land, into groundwater and millions of gallons of radioactive cooling water pouring into the sea clearly represent that with “reasonable assurance” these three Mark I containments have failed.

Application for the construction of a nuclear power plant in the United States must meet a set of General Design Criteria which includes Criterion 16 Containment Design which requires that *‘Reactor containment and associated systems shall be provided to establish an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment and to assure that the containment design conditions important to safety are not exceeded for as long as postulated accident conditions require.’*

The Petitioners are supplementing their April 13 petition asserting that the Mark I containment system is an unreliable and dangerous containment component. We are submitting the 1976 joint testimony of three GE engineers Dale Bridenbaugh, Richard Hubbard and Gregory Minor who publicly resigned from GE before Congress testifying that the Mark I is not a “quality product” and because the integrity of the primary containment----which in their view is an absolute requirement for continued operation----could no longer be assured.

The NRC eventually concurred. However, upon admission that the Mark I is not reliable as contracted to be “essentially leak tight,” rather than embark upon an actual “containment improvement program” to seek to strengthen the Mark I to its licensed condition as essentially leak tight, the industry and the agency

instead chose to pursue an experimental “fix” that now compromises the containment’s licensed condition by giving the operators the option to vent the consequences of a severe accident to the atmosphere in order to save the flawed product from permanent rupture. The experiment is now demonstrated to have failed.

In our view, this has now become a dangerous fraud upon the public health and safety.

The April 13, 2011 Beyond Nuclear petition first argued that the experimental hardened vent system failed at the Fukushima with significant safety implications for US Mark I reactors.

On May 17, 2011, The New York Times confirmed that *“Emergency vents that American officials have said would prevent devastating hydrogen explosions at nuclear plants in the United States were put to the test in Japan — and failed to work, according to experts and officials with the company that operates the crippled Fukushima Daiichi plant.”*¹

“The failure of the vents calls into question the safety of similar nuclear power plants in the United States and Japan. After the venting failed at the Fukushima plant, the hydrogen gas fueled explosions that spewed radioactive materials into the atmosphere, reaching levels about 10 percent of estimated emissions at Chernobyl, according to Japan’s nuclear regulatory agency.”

As of June 7, Japan doubled its estimation to 20% of Chernobyl’s releases.

The Petitioners now emphasize the irrationality of the apparent regulatory retreat from the agency’s own and all important defense-in-depth regulatory standard and the unacceptable compromise that has been imposed on public health and safety with the approval and installation of the experimental venting systems that were retrofitted to deliberately, albeit, “temporarily” defeat the weaker and substandard containment Mark I containment components through “controlled” release of an accident in order to save this principle and last barrier system from permanent rupture and uncontrolled releases.

The Times story further illuminates that the venting design is the result of conflicting schools of practice within the NRC; those who want containment closed, always, and those who need a recognized weaker containment to be vented under severe accident scenarios. “It is a very controversial system,” an expert is quoted to say.

It is alarming that there is no consensus within the NRC over this controversial compromise of the agency’s defense-in-depth philosophy and thus public’s health and safety. The lack of regulatory

¹ “In Japan Reactor Failings, Danger Signs for the US,” Matt Wald, New York Times, May 17, 2011

consensus and evidence from Fukushima further warrants the requested suspension of operations of the Mark I and the requested emergency enforcement actions.

The news article concludes that *“a redesign of the venting system itself might also be necessary.”*

Which brings us to our second emergency enforcement request.

The NRC should revoke the approval of the Mark I’s experimental hardened vent system as was provided under 10 CFR 50.59 and require all Mark I operators to submit any further containment modifications or experiments in license amendment applications and provide the public with full hearing rights for an independent review.

The provisions of 10 CFR 50.59 provide making changes to nuclear power plants without going through the NRC’s prior approval, review or the license amendment process and therefore such changes are not subject to any public hearing, BUT only if the change does not result in “more than a minimal increase” in a risk of the occurrence of an accident, malfunction of a safety component or create the possibility of an accident of a different type.

The NRC is now conducting its chartered review on the implications of the catastrophic Fukushima nuclear accident for US reactors----which more directly bears on the 23 reactors with the Mark I containment and the experimental venting system. Therefore, all prior 50.59 approvals should be revoked.

We have reviewed the NRC and industry correspondence in reply to Generic Letter 89-16 which provided NRC guidance on the Mark I hardened vent installation reveals a public record which is scant, inconsistent and incomplete. Much of the controversial vent documentation is classified as “proprietary” by industry and not publicly available. Some inspection findings on the installations are available, others are not. Other inspections found violations where the public record ends.

Oyster Creek (NJ), Millstone I (CT), Dresden 2 & 3 (IL), and Fitzpatrick (NY) in their October 1989 replies declined to voluntarily install the vents. Mark Is like Oyster Creek and Fitzpatrick said they already had an existing venting system. Oyster Creek eventually installed the upgraded vent, Fitzpatrick pre-existing vent was approved with “acceptable deviations.”

The Petitioners now request that NRC publicly disclose the status of each Mark I vent installations by thoroughly reconstituting the public record and the release of “proprietary” information.

In closing, we are submitting our full supplemental comments in writing to the PRB and we further request that Petition Review Board convene another public meeting per Management Directive 8.11 to receive additional supplemental material and to accommodate the additional community groups that have submitted their requests as co-petitioners and wish to address the review board.

Thank you.