

# **Testimony of Eric J. Epstein, Chairman Three Mile Island Alert Inc.\***

**May 1, 2008**

## **Re: NRC SEEKS PUBLIC INPUT ON ENVIRONMENTAL IMPACT STATEMENT FOR THREE MILE ISLAND 1 LICENSE RENEWAL APPLICATION**

“This application does not involve the adjoining Three Mile Island 2 reactor, where a severe accident occurred in 1979. That unit has been out of service since the event. It has been defueled and decontaminated to the extent that the plant is in a safe, stable condition suitable for long-term monitoring.”

(NRC Press Release)

The core melt accident occurred at TMI-2 in March-April 1979 was followed by a tax payer and ratepayer subsidized \$1 billion de-fueling process. Post De-fueling Monitored Storage was approved in 1993. There is no significant dismantlement underway. GPU Nuclear retains ownership of TMI-2, and contracts to AmerGen for maintenance and surveillance activities. Both units are currently expected to be decommissioned together in 2014. Most of spent fuel was removed except for debris, defuel and contaminated parts in the primary systems. The fuel is currently in storage at the Idaho National Engineering and Environmental Laboratory. The Department of Energy has taken title and possession of the fuel.

The costs to defile TMI-2 do not include nuclear decontamination and decommissioning or restoring the site to “Greenfield”.

---

\* *Mr. Epstein is the Chairman of Three Mile Island Alert , Inc., tmia.com, a safe-energy organization based in Harrisburg, Pennsylvania and founded in 1977. TMIA monitors Peach Bottom, Susquehanna, and Three Mile Island nuclear generating stations.*

## Legacy Issues at TMI-2

- 1) How much fuel is left in the reactor vessel? What is the K-effective? (1)
- 2) What is the status of cork seam leakage at TMI-2? (2) Is there an underground plume? If so, has the plume migrated towards the River?
- 3) How many fires have occurred at this “safe and stable plant” since 1990? (3)
- 4) How many non conforming conditions adverse to quality or safety have been identified at Unit-2. (ADAMS, MLO73531346)
- 5) Does the plant have any economic value? (4) Does the NRC consider TMI-2 to be a “Brownfield” site?
- 6) Is this a historic site? It has a PHMC designation.
- 7) A historic district requires or site requires "architectural compatibility.": Zoning ordinances usually preclude construction within certain areas of the historic district or site. Is this the reason TMI-1's is not decontaminated or decommissioned.
- 8) How many people work at TMI-2?
- 9) How would you characterize the relationship between FirstEnergy and Exelon?
- 10) How would you characterize the most recent FirstEnergy tour of Three Mile Island?
- 11) How much was in the decommissioning fund at the time of the accident? How much is the fund now? (5)
- 12) How much will be needed to actual decommission the plant, i.e., real 2008 dollars?

- 13) What is the targeted funding level for nuclear decommissioning?
- 14) Is there any reason TMI-2 can not be decommissioned or decontaminated while TMI-1 is operating? Please provide the safety and technical challenges that preclude immediate cleanup of TMI-2.
- 15) How many other licensees does holding a POL or materials license have been convicted of a felony? (6)
- 16) Please provide a study or empirical data that demonstrates it is safe to store high level radioactive waste on an island next to a river that empties into the Chesapeake Bay?
- 17) What assurances exist that TMI-2 will not become a HLRW site for spent fuel from other Exelon sites?

### **Three Mile Island Unit-1**

“Three Mile Island 1 was not affected by the accident and has had a safe operating record for many years.”(NRC Press Release)

- 18) How many people work at TMI-1? How many people worked at TMI-1 when AmerGen purchased the plant from GPU? How many people does the NRC project will be working at TMI-1 in 20 years?
- 19) Is it unusual for a licensee to go through four vice presidents for one nuclear reactor in eight years? What is the average industry term a Vice president serves at a reactor site?
- 20) Can you factor economics, staffing levels, or the tax base into a relicensing decision?
- 21) Can the NRC relicense a plant for less than 20 years? Has the NRC extended a license for more than 40 years, but less than 20 years? If so, please identify the plant and the extension conditions. (7)
- 22) Hasn't TMI's license already be extended by 6 years? (8)

23) TMI-1 continues to operate with the most damaged steam generating tubes in the country. From November 1981 to January 1982, GPU discovered it had damaged over 29,000 steam generator tubes at TMI-1.  
(9)

Is there an operating plant with more plugged steam generating (SG) tubes? If so please identify the plant and the number of plugged tubes.

24) Is there an operating plant with more plugged SG tubes as an overall percentages? If so please identify the plant and the percentage of plugged tubes.

25) Is there an operating plant with more sleeved steam generating tubes? If so please identify the plant and the number of sleeved tubes.

26) Is there an operating plant with more sleeved SG tubes as an overall percentage? If so please identify the plant and the percentage of sleeved tubes.

27) Exelon Nuclear has selected Washington Group International and Areva Inc. to replace two steam generators at Three Mile Island.

“The project will require workers to cut a hole through the 4-foot-thick concrete walls of the reactor containment building. The work will be done during the refueling and maintenance outage in the fall of 2009, said Ralph DeSantis, spokesman for AmerGen Energy, operator of TMI and a subsidiary of Exelon. Exelon has budgeted \$280 million for the work.”  
(The Patriot News, October 28, 2006)

Is it realistic to believe that the NRC would not factor a \$280 million investment in the license extension process?

28) “The major overhaul will put the nuclear power plant in better position to be re-licensed in 2014, the company said.”

How is this not a down payment on relicensing?

29) Shouldn't the NRC extend the life of TMI to coincide with its inability to offload its fuel core? (10)

30) The National Academy of Sciences issued a report that had been requested by Congress in March 2005. The report questioned the safety and security of highly crowded spent fuel pools currently storing the nation's nuclear inventory. The report concluded that the government does not fully understand the risks that a terrorist attack could pose to the pools and ought to expedite the removal of the fuel to dry cask storage casks that are more resilient to attack.

Since reracking has produced very dense spent fuel pools at TMI, shouldn't the utility also be applying for additional spent fuel storage capacity? When will TMI-1 lose off-load capacity?

31) Barnwell S.C. announced that it will close to generators on June 20, 2008.

The NRC staff concluded that there was no new and significant information and therefore there would be no impacts of low level waste storage and disposal associated with the renewal term. The GEIS stated that, "...The maximum additional on-site land that may be required for low-level waste storage during the term of a renewed license and associated impacts will be small."

TMI is located on Susquehanna River so any leaking contaminants from waste storage facilities will flow towards and eventually into the Bay. There are no monitoring wells lining the shoreline.

We deserve to know what the LLRW storage plans are before the application is decided; so that the re-licensing decision does not prejudice any LLRW storage decision.

Where will the LRW going to be stored? For how long? And will the location be above the flood plain?

32) The federal relicensing system used to ensure nuclear plants are safe to operate for an extended period beyond their original license of 40 years, has come under sharp criticism. The Nuclear Regulatory Commission's (NRC) Office of Inspector General (OIG), Audit of NRC's Renewal Program (OIG-07-A--15) found key safety evaluations lacked critical documentation.

Essentially , DLR [the Division of Licensing Renewal] lacks a complete report quality assurance process to ensure documentation of the staff's aging management program review methodology and substantive support for staff conclusions.

(OIG-07-A-15, September, 2007, p.11.)

Currently, Pennsylvania has three nuclear stations involved in the relicensing process: Beaver Valley Nuclear Generating Station (Shippingport), the Susquehanna Steam Electric Station (Berwick), and the Three Mile Island Nuclear Generating Station (Londonderry Township).

What guarantees exist that the NRC will not perform a "cut and paste" job at TMI?

Essentially , DLR [the Division of Licensing Renewal] lacks a complete report quality assurance process to ensure documentation of the staff's aging management program review methodology and substantive support for staff conclusions.

(OIG-07-A-15, September, 2007, p.11.)

33) Why not emulate the conditions in Sarbannes Oxley for corporate officers, and allow NRC staff to sign-off on the license extension subject to a bonus for good performance and a felony for material false statements?

34) How many NRC staff members are here this evening?

35) How many staff members will be here in 20 years?

36) The disposal of highly radioactive waste contained in nuclear reactors' used, or spent, fuel rods poses another serious problem. This waste must be isolated for at least tens of thousands of years, if not longer. It ultimately should be stored in a permanent, underground geologic repository, but the proposed site at Yucca Mountain in Nevada may never be licensed. The report recommends that the Department of Energy identify other potential sites. In the interim, the report concluded that the waste can be stored safely in dry casks for the next 50 years, but only if the casks are hardened against attack by surrounding them with earthen berms. Currently, casks are sited in the open on concrete slabs.

When will TMI build dry cask storage casks at TMI to store spent fuel?

37) How many DOE employees are in attendance?

38) What's the industry average for "inattentive" or "sleeping" workers compared to the number of incidents at TMI over the last two years?

39) The Ninth Circuit Court said the NRC violated the National Environmental Policy Act when it didn't include a terrorist attack in an environmental impact report for an application to create dry cask storage at the Diablo Canyon Power Plant?

What impact will Diablo Canyon spent fuel case have on the TMI license extension? (11)

40) What is the impact of an aging workforce on relicensing? What is the average age of the TMI workforce and how does it compare to the industry average?

41) Tritium and other leaks – examples and NRC policy on self-monitoring - also exist at Three Mile Island. How has the NRC changed modified its relicensing process to evaluate tritium monitoring?

42) How does the NRC plan to deal with the following water related issues and structural challenges caused by:

Micro fouling versus macro foiling, micro biologically influenced corrosion, biofilm's disease causing bacteria such as Legionella and listeria, the difficulty in eliminating established biofilms, oxidizing versus non-oxidizing biocides, chlorine versus bleach, alkaline versus non-alkaline environments, possible decomposition into carcinogens, and the eastward migration of Asiatic clams, zebra mussels and the anticipated arrival quagga mussels?

39) "Whether the kills are legal or not, a former southern Lancaster County worker at the Peach Bottom nuclear plant said he was "sickened" by the large numbers of sport fish he saw sucked out of the Susquehanna. "When the water comes in, fish would swim in through tunnels and swim into wire baskets," said the man who lives in southern Lancaster County and asked that his name not be used. "There were hundreds and hundreds of fish killed each day. Stripers and bass and walleye and gizzard shad and all kinds of fish. It took a forklift to carry them out. "Every species in the river comes in there when they turn those big intakes on." (*Intelligencer Journal*, January 15, 2005)

TMI has a similar system for disposing of the fish and other organisms that make it through the intake maze. "If they get that far, they're not going back," said Pete Ressler, a spokesman for TMI owner Exelon Nuclear. "They are dumped into a container and disposed of."

Will this system function in the same manner for an additional 20 years?

"The NRC has approved license renewal for 48 generating stations and 38 other license renewal applications are pending or have been announced."  
(TMI Press Release)

40) How many companies applying for license extensions have been denied?

- 41) How many companies applying for license extensions are actually incorporated in the same state as the operating plant?
- 42) How many Company's applying for a license extension have been fined for stealing water?
- 43) Can TMI afford to shutdown or is the decommissioning fund underfunded? (12)
- 44) How much money does TMI have in its dedicated decommissioning fund? (13)
- 45) What is the targeted funding level for decommissioning TMI-1?
- 46) What is the funding level for decommissioning TMI-1 in real, 2008 dollars?
- 47) How much high level radioactive waste is currently stored at TMI?
- 48) How much additional HLRW will be stored if the plant if it is relicensed?
- 49) In January, the NRC's Inspector General issued a report highly critical of the NRC, noting the agency has known since 1994 that the Hemyc barrier fails fire tests in minutes – less than half the duration required by NRC regulations. Of the 16 plants the IG found to be in violation, six are owned by NC-based Progress Energy and Duke Energy. To compensate for the years of noncompliance – the NRC is allowing the plants to rely on “interim” measures that have been neither tested nor approved by the agency.

What interim fire protection measures have been deployed at TMI?

50) On September 12, 2007, Mr. Epstein filed a “Petition For Rulemaking Requiring Periodic Comprehensive NRC Review Of Emergency Planning Around U.S. Nuclear Power Plants During The License Renewal Process?” Also pursuant to NRC Regulations Section (D) of §2.802, this petition requests the Commission immediately suspend all licensing proceedings throughout the United States until validation of “reasonable assurance of adequate protection of the population” has been re-established by the NRC for all US Licensees. (14)

What impact does this filing on the present proceeding?

## ENDNOTES

### 1 **CORK FILLED CONSTRUCTION JOINT within AUXILIARY BUILDING SEAL INJECTION VALVE ROOM**

- **October 22, 1993** (pm) In a phone conversation with **Dave Beaulieu (NRC/TMI)**, Eric Epstein reported a safety allegation relating to the inability of the cork in an Auxiliary Building joint to contain the spread of radioactive contamination. Mr. Epstein also stated that the issue should have been included in the PDMS close out schedule. Mr. Beaulieu recorded Mr. Epstein's allegation and reported to NRC Region I.

In response to Mr. Epstein's concerns, Mr. Beaulieu stated: "...hasn't been written in Inspection reports...Contamination there and moving slowly...and not [an] immediate safety concern...Radiation can deteriorate lining if it is high enough...Talked about making it a PDMS issue...It's a concern to me, to Lee [Thonus/NRC] to everybody...[GPU is at the stage of] data collection process."

- **October 24, 1993** (evening) Phoned **Rich Janati, DER/BRP**, and left a message on his home phone informing Mr. Janati of the safety allegation.

- **October 25, 1993** (8:30 am) Mr. Janati returned Mr. Epstein's call: "Aware of this issue...General Review Group brought it up twice [Mr. Miles]...They're aware of it...We do have a concern...Couple of options considering: 1) Remove whole thing...very costly. 2) Other option: find where the leaks are and stop the leaks. Come up with new materials [foam]...We're hoping they're doing it as soon as possible. Expressed our concern to NRC, but we don't have enforcement authority. Going to cost bucks...Removing is probably the last [option] because [of] the cost and material disposal issues.

- **October 25, 1993** (8:45 am) Ralph DeSantis, **GPU Nuclear** was informed of Mr. Epstein's concern. A letter was prepared and sent to GPU, their legal counsel, Mr. Epstein's counsel and the ASL&B. (See enclosure.)

- **October 25, 1993** (8:50 am) Mr. Epstein contacted Dr. Michael Masnik, **NRC/Bethesda** and informed of previous discussions. Mr. Masnik explained: "...part of the problem [GPU/NRC] weren't sure of the extent of the contamination...conflicting information...came to a head within the last couple of weeks. I have a better understanding. It is going to be a PDMS issue. No way they're going into PDMS with water [500 gallons] in crack. They owe us a letter."

- **October 25, 1993** (1:00 pm) Michelle Evans, Senior Resident Inspector **NRC/TMI**, phoned Mr. Epstein to request that he withdrawal the allegation for the time being and proceed informally. Mr. Epstein agreed.
  
- **October 26, 1993** (pm) Mr. Epstein recontacted Lee Thonus, **NRC/TMI-2**, and arranged to meet with him to discuss the cork seal problem.
  
- **October 27, 1993** (8-9:30 am) Lee Thonus **NRC/TMI-2** explained issues relating to cork seal problem: “Cork does not serve any structural purpose...Just keeps them [concrete slab flow] from separating...Prevent ground water from getting in...Radioactive water leaking in...[Cork] in tact on bottom...Captured [in punch list on Auxiliary Building] and we won’t break out separate item.” GPU now pursuing with a “higher level of interest.” The water was pumped out but leaked backed in “gradually.” The water contains Cesium-137 and “significantly” smaller amounts of Strontium. Tritium levels are “very, very small .009...more than a factor of two below AGW...10-20 curies in cork seal...” Approximately 600-1000 gallons in seal cork boundary. Leaks occurring from roof, horizontal and vertical joints. Expecting letter from GPU on November 15, 1993. Radioactivity can not degrade plastic [liner] over 40 years: “Radiation contamination calculation was 3% of depletion...”
  
- Conversation with Lee Thonus of NRC (Third week, **March, 1996**): “We closed out cork seam. On tracking system...On autopilot...[GPU] has an adequate program to look at it...It hasn’t evaporated...[Check cork seam] At least weekly...”
  
- **July 23, 1996** Telephone message from Ralph DeSantis, GPU Nuclear: There was extra water “about three months ago...primarily from winter snow and rain. At no time was there a problem with the processing [of] that amount of water. Levels well within system capacity for processing the water.” The water levels have returned to normal.

## SUMMARY OF REMAINING FUEL at TMI-2

**Video estimate of remaining fuel at TMI-2 (GPU)** GPU concluded there was **850 kilograms** of fuel remaining at TMI-2.

**Defueling Completion Report (GPU)** - GPU's video camera and visual inspection of the amount of fuel remaining in TMI-2: **608 kilograms; Criticality 94.** According to Dr. Mike Masnik supervisor of the NRC effort at TMI-2, the NRC was intimately involvement in this project.

**Safety Evaluation (NRC)** - The NRC staff approves GPU's fuel estimate based on their own visual analyses.

**Distenfeld Study (GPU)** - As part of the fuel storage agreement with the Department of Energy (DOE), GPU predicted there was **1,322 kilograms** of fuel remaining in TMI-2. GPU tried to determine how much fuel was left at, and around, the reactor vessel by subtracting the amount of fuel used when TMI-2 began operation from the amount of fuel remaining at TMI-2. The difference was supposed to be in DOE's possession. Clearly, **Distenfeld's** figures raised "concern" for GPU and the NRC and both entities recognized there was a "potential for more fuel." However, Dr. Masnik noted "Quite frankly we had some questions on Distenfeld's [criticality analyses study.] " \*

When Dr. Michio Kaku asked Lee Tonus (NRC site staff) for a copy of Distenfeld's study he was told it was available in the Public Document Room. Then Tonus admitted he didn't know where it was published.

**In fact the document is so obscure and the only record of its contents is a conference proceeding of the Institute for Nuclear Material Management.**

\* Phone conversations with NRC staff in early to mid April, 1993.

**Rasmussen Study (GPU)** - GPU commissioned Norman Rasmussen to critique Distenfeld's study; however, nowhere in Rasmussen's study is Distenfeld name's found. Rasmussen concluded there was **935 kilograms** of fuel remaining at the bottom of TMI-2. According to Dr. Masnik, Rasmussen's study is the "best estimate." This study concedes that **super-criticality** could result with the removal of the neutron "poison" (borated water.) This scenario is unlikely but possible during an explosion, fire or crash.

**Kaku's Study (TMI-Alert/TMI-Legal Fund):** After evaluating the above mentioned studies, Dr. Kaku noted: "It appears that every few months, since 1990, a new estimate is made of the core debris, often with little relationship to the previous estimate...estimates range from **608.8 kg to 1322 kg**...This is rather unsettling, because there is significantly more than enough uranium debris to give critical mass. The still **unanswered questions** are therefore: precisely how much uranium is left in the core, and how much uranium can collect in the bottom of the reactor to initiate re-criticality."

3 August 5, 1992 - GPU "declared an event of potential public interest when the Unit-2 west cooling tower caught fire." The fire lasted for ten minutes.

"On July 2, [2003] area firefighters and the Pennsylvania State Police responded to the electrical fire that damaged the turbine building's switchgear room at TMI Unit 2. "Although a five-member AmerGen fire brigade also responded to the blaze, Akron, Ohio-based FirstEnergy is responsible for the operation of TMI Unit 2..."

"The company will spend more than \$100,000 to replace the damaged 55-gallon drum-sized transformer, switchgear, wires and other equipment damaged in the smoky blaze, he said.

"For the next two months, while workers repair the equipment, TMI Unit 2 will use temporary lights, Wilkins said. "It's not unusual for a transformer to fail," Wilkins said. "It's not unheard of." (*York Daily Record*)

4 Unit 2 at TMI was pronounced worthless by First Energy in a lawsuit against Dauphin County." The deal means the plant will be exempt from property taxes after the assessment on the reactor and its contaminated site was readied from \$16.2 million to zero...First Energy Spokesman Scott Shields said the company considers Unit 2 useless and has absolutely no plans for building on the land." (Nuclear Engineering International, April 1, 2005)

TMI-2's turbine(s), which is for sale, has value and use if accelerated stress corrosion or relicensing force TMI-1 to seek a replacement.

TMI-1 and TMI-2 were built with Westinghouse turbines, and 1500 and 1800 rpm pressure turbine discs. The NRC staff, and Westinghouse's Turbine Division determined on November 20, 1979 that cracking attributed to stress corrosion phenomena had been found in these turbines.

Resale value needs to be determined, but a high-quality used turbine at TMI-2 could have enormous resale value. The Cooper Nuclear power plant in Nebraska is replacing both turbines. Cooper is a 778-MWe, BWR that came on line at roughly the same time as TMI-1 (July, 1974). The price for replacing both turbines to accommodate a 20-year relicensing extension is **\$35 million**.

5 In July 1990, GPU submitted its funding plan for placing \$229 million in escrow for radiological decommissioning.

February, 1997 - In their *1997 Annual Report*, GPU reported that the cost to decommission TMI-2 doubled in four years. The original \$200 million projection has been increased to \$399 million for radioactive decommissioning. An additional \$34 million will be needed for non-radiological decommissioning. The new funding "target" is \$433 million; or a 110% increase in just 48 months.

According to the NRC , as of September, 2004, \$421 million resides in the TMI-2 Decommissioning Fund (2003 dollars.)

A recent withdrawal for an undisclosed amount was made on February 14, 2005 to dispose of TMI-2 filters stored at the INEGL in Idaho.

6 February 29, 1984 - A plea bargain between the Department of Justice and Met Ed settled the Unit 2 leak rate falsification case. Met Ed plead guilty to one count, and no contest to six counts of an 11 count indictment.

The Company also agreed to pay a \$45,000 fine, and establish a \$1 million dollar interest-bearing account to be used by the Pennsylvania Emergency Management Agency. The Settlement stipulated that the fines, emergency preparedness fund, and legal cost of the prosecution, would not be paid by GPU/Met Ed rate share holders. (See May 22, 1979, for initial complaint.)

7 "The California Public Utilities Commission approved a massive \$680 million renovation that would extend the life of the San Onofre Nuclear Generating Station by at least 13 years.

"The commission on Thursday gave Southern California Edison the green light to replace four aging steam generators that power the two nuclear reactors at the seaside plant about 60 miles south of Los Angeles. (AP Wire: Regulators approve plan to extend life of SoCal nuclear plan, Fri, Dec. 16, 2005 )

8 Three Mile Island began commercial operations in September 1974.

9 Status of damaged SG tubes at TMI. The limit on out-of-service tubes is 2,000 per generator out of **15,531** per generator.

A: 14,019 in service at the end of 2003.

B: 14,979 in service at the end of 2003.

The new standard will increase the plugging limit to **3,106**.\*

NRC reported plugging at Steam Generator A: **1,300**

NRC reported plugging at Steam Generator B: **395**

Sleeved in A: **248 (Examined)**

Sleeved in B: **253 (Examined)**

Update provided by Rich Barkely: #610-337-5065 of the Nuclear Regulatory Commission.

The old SGT limit is 2,000 per generator out of **15,531** per generator.

\* The new standard will increase the plugging limit to **3,106**.

NRC reported plugging at Steam Generator:

A: **1,300**                      A: **1,512** (2003)

NRC reported plugging at Steam Generator

B: **39**                              B: **552** (2003)

Sleeved in A: **248**

Sleeved in B: **253**

10 Exelon is in the process expanding of a spent-fuel storage capacity. The project will last from 2002-2009 and re-rack "wet storage". AmerGen is increasing capacity through three phases:

*Source: AmerGen and Exelon Meeting with EFMR on January 23, 2003, at the Three Mile Island Training Center, S 1-2: Peach Bottom-2 & -3 and Three Mile Island-1, Meeting & Action Items.*

- Phase 1 - Complete;
- Phase 2 - Completed in mid-2003. An additional 216 re-racked cells added were installed, or enough for three refueling cycles, were installed.
- Phase 3 - To be completed by mid-2009, and would add another 432 re-racked cells extending storage capacity through 2018. (4)Because of the additional capacity, and Three Mile Island-1 core size, (177) the Company will not lose full core off-load capability until 2018. In other words, lack of waste storage space will not force TMI to close prior to its license expiration.

"The configuration of spent fuel pools is essentially the same for all nuclear power plants. The pools are rectangular in vertical and horizontal cross section. The spent fuel assemblies are stored in racks at the bottom of the pool. Insertion or removal of the fuel assemblies is accomplished vertically from above the storage racks. The 13.5 to 14.5 foot long fuel rods must remain submerged during fuel removal or insertion into the racks; thus, for this reason alone, the spent fuel pool must be at least 27 feet deep. However, an additional eight to ten feet of water is required for shielding an irradiated fuel assembly just removed from the reactor. The spent fuel pool depth must therefore be approximately 40 feet. The direct radiation at the the pool surface from the fuel stored at the bottom is very low because of the water depth of about 25 feet above the top of the irradiated fuel assemblies is equivalent to about 10 to 11 feet of concrete shielding value." (David Lochbaum, Union of Concerned Scientists, "Nuclear Waste Disposal Crisis", Spent Fuel Pools, p. 52., 1996.)

1 1 WASHINGTON, Jan. 19, 2007 (UPI) -- The U.S. Supreme Court decision Tuesday not to hear an appeal by a California nuclear company means federal regulators will have to decide how to factor in terrorist attacks when evaluating environmental impacts of nuclear waste storage.

In denying Pacific Gas & Electric's appeal of a June 2 ruling by the Ninth Circuit Court of Appeals in San Francisco, the high court may have forced the U.S. Nuclear Regulatory Commission to address the threat of terrorist attacks on nuclear facilities like it hasn't in the past.

The appellate court said the NRC violated the National Environmental Policy Act when it didn't include a terrorist attack in an environmental impact report for an application to create dry cask storage at the Diablo Canyon Power Plant near San Luis Obispo, Calif.

## 12 **Study: Yankee can't afford shutdown**

**Rutland Herald** Nov 15, 2007 By Susan Smallheer Herald Staff

“VERNON If Vermont Yankee nuclear plant shut down today, or even in 2012 when its federal license expires, there would not be enough money in its decommissioning fund to pay for it to be dismantled and disposed of safely.”

“The plant would have to be essentially mothballed for 12 to 15 years for its stock market-invested trust fund to build so there was enough money to dismantle it, Entergy Nuclear engineer David McElwee told the Vermont State Nuclear Advisory Panel Tuesday evening.”

13 Exelon manages the money in an externally, segregated sinking fund. According to AmerGen, the last official accounting for the fund demonstrated the Company was making progress towards their savings goal:

The amount of decommissioning funds accumulated through December 31 , 2002 was **\$ 285.2 million**. However, [u]nder the plant purchase agreement, there is no remaining amount to be collected from the previous owner [.] A two percent annual real rate of return is being assumed on the decommissioning trust funds. Financial assurance for decommissioning continues to be provided by the prepayment method, coupled with an external trust fund. (Jeffrey A. Benjamin, Vice President, Licensing and Regulatory Affairs, AmerGen Energy Company, LLC, March 31, 2003)

As part of the purchase agreement between GPUN and AmerGen, GPUN agreed to prefund the TMI-1 decommissioning trust account for at least **\$303 million**. This amount exceeds the minimum amount required by the generic formulas in [10 CFR 50.75\(c\)](#), and thus allows AmerGen to buy TMI-1 without providing additional assurance for any unfunded portion of the decommissioning cost estimate. However, in an effort to forestall any adverse Federal income tax consequences from the sale of TMI-1 and the buildup of additional decommissioning funding required under the terms of the sale, GPUN and AmerGen proposed that GPU Energy (the three owner subsidiaries of GPU, Inc., the parent company of GPUN) hold the decommissioning trust until such time as the U.S. Internal Revenue Service (IRS) issued a favorable ruling on the tax consequences related to the transfer of TMI-1 decommissioning funds. (Dr. William Travers, EDO, NRC, "Lessons Learned from the Transfer of the Operating Licenses of the Three Mile Island-1 and Pilgrim Nuclear Power Stations, July 1, 1999).

Several months later, Exelon spokesman Craig Nesbitt stated, "All of our sites are **fully funded** for decommissioning. They are on track to be fully funded now, and they will be fully funded when the time comes to decommission" (*Lancaster New Era*, December 3, 2003).

14

September 12, 2007

Ms. Annette Vietti-Cook  
Secretary  
US Nuclear Regulatory Commission  
Washington, DC 20555

Re: Petition For Rulemaking Requiring Periodic Comprehensive NRC Review Of  
Emergency Planning Around U.S. Nuclear Power Plants During The License  
Renewal Process

Dear Ms. Vietti-Cook,

Pursuant to the NRC's §2.802 rulemaking process, I'm writing to submit a  
petition for rulemaking.

This petition seeks new NRC rulemaking requiring periodic comprehensive  
NRC review of emergency planning around U.S. nuclear power plants during the  
license renewal process for the purpose of making a new finding of reasonable  
assurance of adequate protection of the population.

Also pursuant to NRC Regulations Section (D) of §2.802, this petition  
requests the Commission immediately suspend all licensing proceedings  
throughout the United States until validation of "reasonable assurance of  
adequate protection of the population" has been re-established by the NRC for all  
US Licensees. Thank you for your assistance with this issue.

Sincerely,

Eric Epstein  
Three Mile Island Alert  
4100 Hillsdale Rd.  
Harrisburg, PA 17112  
(717) 541-1101