

PRM-51-10
(71FR64169)

71

New England Coalition
on Nuclear Pollution

VT NH ME MA RI CT NY
POST OFFICE BOX 545, BRATTLEBORO, VERMONT 05302

By Fax: 301-415-1101

10 Pages, including this one

DOCKETED
USNRC

May 22, 2007

Secretary

U.S. Nuclear Regulatory Commission

Washington, DC, 20555-0001

Attn: Rulemakings and Adjudications Staff

May 22, 2007 (11:15am)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Dear Rulemaking and Adjudications Staff,

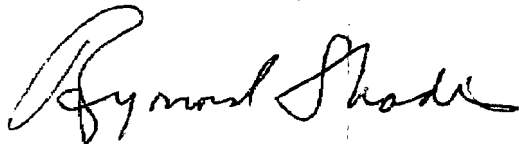
Attached are New England Coalition's Comments and Supplemental Comments on PRM 51-10- Massachusetts Attorney General regarding storage of spent nuclear fuel in a post 9/11 environment.

New England Coalition initially attempted to file its Comments on March 17, 2007 and its Supplemental Comments on April 2, 2007, but its e-mails to secy@nrc.gov were repeatedly bounced back with the message, "timed out."

At some point we presumed this message was in error and that our comments were in fact filed, but on reviewing the list of comments received in the Rule Forum Page, we now find that our comments are not listed. Please now accept these comments for consideration and review. Further, please investigate the cause of the rejection of our e-mail and advise us of what you find in your system and hopefully correct.

Thank you for your kind attention,

On Behalf of New England coalition,



Raymond Shadis
Post Office Box 98
Edgecomb, Maine 04556
207-882-7801
shadis@prexar.com

Attachments:

NEC Comments, NEC Supplemental Comments, E-mail Regarding Filings (Two)

Template=SECY-067

SECY-02

No Recipient, Fwd: PRM-51-10 MA AG /SPENT FUEL

From: Raymond Shadis <shadis@prexar.com>
Subject: Fwd: PRM-51-10 MA AG /SPENT FUEL

Bcc:

Attached: C:\Documents and Settings\Ray\My Documents\ENVY RELICENSING\SALLY SHAW
NEC Comment on MA AG petition to NRC.doc;

Date: Mon, 19 Mar 2007 15:51:57 -0400
To: SECY@NRC.GOV.
From: Raymond Shadis <shadis@prexar.com>
Subject: PRM-51-10 MA AG /SPENT FUEL
Cc: Mary_Lampert, NEC, Sally_Shaw, Sarah Kotkov

***Dear Rulemaking and Adjudications Staff,
Attached in MsWord and below in plain text are the Comments of
New England Coalition regarding PRM-51-10.
Thank You for your kind attention,
Raymond Shadis
for New England Coalition***

Secretary, U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ATTN: Rulemakings and Adjudications Staff.

Subject: Massachusetts Attorney General's Petition for Rulemaking to Amend 10 CFR. §§
51.53(c)(2) and 51.95(c) and Table B-1 of Appendix A to 10 C.F.R. Part 51

Docket No. PRM-51-10 -Comments

January 16, 2007

New England Coalition, a non-profit advocacy and education organization incorporated in the State of Vermont, supports the Massachusetts Attorney General's petition for rulemaking to rescind the NRC's finding that environmental impacts of spent reactor fuel pool storage are insignificant. New England Coalition agrees with the petitioner's request, and asks that the Commission:

(a) consider new and significant information showing that NRC's characterization of the potential environmental impacts of spent fuel storage in the 1996 Generic Environmental Impact Statement for Renewal of Nuclear Power Plant Licenses is non-protective of public health and safety and materially incorrect,

No Recipient, Fwd: PRM-51-10 MA AG /SPENT FUEL

(b) consider under NEPA and in all licensing actions the potential impacts of long term spent fuel storage, and suspend or amend the NRC Waste Confidence Rule accordingly. In light of revelations of leaking fuel pools at many reactors around the country, it is evident that the public health and safety have not been, and are not now responsibly protected.

(c) issue a generic determination that the potential environmental impacts of high-density spent fuel pool storage are significant, and

(d) order that any NRC licensing decision that approves high-density spent fuel pool storage at a nuclear power reactor or other facility must require the creation of an environmental impact statement ("EIS") addressing (i) the potential environmental impacts of accidents or acts of terror affecting high density pool storage of spent fuel at that nuclear reactor and (ii) provide a reasonable array of alternatives for avoiding or mitigating those impacts, per the recent the 9th Circuit and Supreme Court Ruling in the San Luis Obispo Mothers for Peace case,

The Massachusetts Attorney General's Petition meets the standard for Rulemaking Petitions. NRC regulation 10 C.F.R. § 2.802(a) provides that "[a]ny interested person may petition the Commission to issue, amend or rescind any regulation." The regulations require that the petitioner describes specific issues involved, views or arguments with respect to those issues, relevant technical, scientific or other data involved which is reasonably available to the petitioner, and other pertinent information that the petitioner deems necessary to support the action sought. 10 C.F.R. § 2.802(c)(3). The Massachusetts AG's petition meets this standard.

The rule also requires that the petitioner "should note any specific cases of which petitioner is aware where the current rule is unduly burdensome, deficient, or needs to be strengthened." The AG has met this requirement as well. The AG requests the revocation of 10 C.F.R. §§ 51.53(c)(2) and 51.95(c) and Table B-1 of Appendix A to 10 C.F.R. Part 51 to ensure NEPA compliance in the Pilgrim and Vermont Yankee license renewal cases if the ASLB or the Commission interprets those regulations to bar the consideration of significant new information presented by the Attorney General's contentions regarding the environmental impacts of high-density pool storage of spent fuel. NEC supports this revocation.

Further, New England Coalition respectfully requests that the petitioned rulemaking be conducted to the maximum extent feasible in the full light of public scrutiny and with the maximum feasible involvement of public stakeholders.

New England Coalition intends to file Supplemental Comments and to request consideration of those comments within the parameters of the federal register notice or as time permits.

Thank you for your kind attention ,

Sally Shaw, for
New England Coalition

Raymond Shadis
Consultant to
New England Coalition

New England Coalition

on Nuclear Pollution

VT	NH	ME	MA	RI	CT	NY
----	----	----	----	----	----	----

POST OFFICE BOX 545, BRATTLEBORO, VERMONT 05302

March 19, 2006

Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
Attn: Rulemaking and Adjudications Staff

**RE: PRM-51-10 Attorney General of Massachusetts- Spent Fuel
NEW ENGLAND COALITION'S SUPPLEMENTAL COMMENTS**

Dear Rulemaking and Adjudications Staff,

New England Coalition, a non-profit advocacy and education organization incorporated in the State of Vermont, hereby provides supplemental Comments regarding the rulemaking petition of the Attorney General of Massachusetts in the above-captioned docket.

We further request that, although the following comments are submitted outside of the noticed (PRM-51-10) rulemaking timeframe, NRC publicly take into account and respond to the following comments:

I. INTRODUCTION AND COMMENTS - In *San Luis Obispo Mothers for Peace v Nuclear Regulatory Commission*, No. 07-74628, 2006 WL 1511889 (9th Cir. June 2, 2006), the Court held that the numeric probability of a terrorist attack need not be precisely quantifiable in order for its potential environmental impacts to be considered. Rather the Court held that the proper inquiry is whether the risk of an attack is significant. NRC's refusal to look at the potential consequences of a terrorist attack, the Court held, was "inconsistent with the government's efforts and expenditures to combat this type of terrorist attack at nuclear facilities" and in particular NRC's claim to have conducted a "top to bottom" security review against terrorist threats. Plainly, a significant risk of attack exists. If risk equals probability x consequences and (as NRC argues) probability is unquantifiable¹, it should be plain from the court's decision that the issues of consequences should be addressed and not discarded. The inability to assign probability (ranging from 1:1 or absolute to infinitesimally small) should make examination of the potential consequences more and not less urgent.

¹ In NUREG -1738 and in discussions with the Commission following publication of 1738, the NRC Staff in contrast to the Court's position, stated that it did not consider acts of terror because the probability of such acts was unquantifiable .

Further, accurate assessment of damage mechanisms to protect against and potential consequences in the event of failed protection become all the more important.

B. DESIGN BASIS THREAT (DBT) – NRC has consistently refused to discuss design basis threat on the premise that any discussion made public would aid those planning an attack. Yet this is among the most open of secrets. It is both badly kept and badly informed.

1. Capability of Ground Force Attackers - Historically, details of the DBT predating the adjustments that were put into place following 9/11 were known to large numbers of nuclear safety advocates as well as disgruntled and unstable nuclear power plant employees.² This description of that pre 9/11 DBT appeared on a NATO website for all the world, friend and foe, to see: NATO Parliamentary Assembly Report AV 118 STC/MT (02) 3...

Until recently, NRC regulations required operators to protect against no more than a single insider and/or three external attackers. The minimum number of guards required is a mere five, but, according to nuclear industry sources, US plants employ about 5,000 guards, with an average of 80 per plant.

Some 800 unscreened public attendees at a post 9/11 Regulatory Information Conference were surprised to hear Commissioner Edward McGaffigan declare that the NRC would not require defense against 21 terrorists, the number of terrorists involved in a coordinated effort on 9/11, or anything close to it.

In June 2005, TIME Magazine reported that the old DBT has been upgraded with respect to the number of attackers, but less than doubled from the pre-9/11 three or four attackers.³

Public statements by NRC Staff, reinforced by site observations, tell us that security personnel will not be protected from assault with 50 caliber rifles⁴, despite the fact that these are commonly available rifles that have the ability [per shot] to penetrate an inch of steel or 7 to 8 inches of concrete at a range of 1000 yards.

² At Maine Yankee, Michael McDermott, an employee with control room access, was discharged with compensation for metal illness. McDermott, a computer and explosives expert, later took the lives several employees in a Massachusetts firm as well as his own by gunshot. At, Carl Drega, a former Vermont Yankee employee, of survivalist bent, took his life in what news accounts styled a bunker equipped with explosives and military type weapons after a stand-off with New Hampshire state police.

³ Mark Thompson, TIME Magazine, "Are These Towers Safe?" June 12, 2005

⁴ .50 BMG (Browning Machine Gun) caliber rifles are available mail order, on gun trading websites, and in ordinary classified ads. The following ad, which ran post 9/11, features a supply of API (Armor-Piercing Incendiary) ammunition. Maadi Griffin 50 cal. Completely outfitted for serious use, heavy-duty case, custom tripod, ammo master loader w/dies, 75 rounds of linked API, choice of optics, \$3,000. Tel.-763 - XXXX Lincolnville [ME] -page 152 Vol.34 No.7 February 13th Thru Feb. 19th 2003 Uncle Henry's Weekly Swap or Sell It Guide, 525 Eastern Avenue, Augusta, Maine 04330 Serving ME.NH.VT.MA. NB, Canada

In fact, assessments of maximum credible radiological release from waste fuel storage units (ISFSI) are predicated on the idea that the licensee loses control of the facility (10 CFR 72.106, Controlled area of an ISFSI or MRS [Monitored Retrievable Storage Installation], which requires that any individual located on or beyond the nearest boundary of the controlled area not receive any more than a total effective dose equivalent of 5 rem as a consequence of loss of control of the facility)⁵.

It is a short step in logic to conclude that guards understand that they are intended to tripwire a full assault and are not expected to survive it.

Further, the DBT is wholly unrealistic and therefore non-protective in weighing the capabilities of modern explosives and portable missiles.⁶ Sufficient explosive, for example, may be hand-carried by just two individual into the substructure of Boiling Water Reactor Spent Fuel Pools to generate a shock wave, mimicking a substantial seismic wave, capable of causing the bottom of the spent fuel pool to drop out; dropping its contents in a lethal, unapproachable heap.⁷

While today's DBT has yet to appear in whole on an international open website like the NATO site or the TIME Magazine article quoted above, parts and perhaps the whole of the new DBT are nonetheless discernible and deducible and should be now redefined in concert with public input after consideration of post 9/11 realities.

In as much as DBT impacts NRC's risk assessment (probabilities and consequences) for acts of malevolence or accidents with stored waste fuel, the DBT must accurately reflect real world conditions and real world science, whether in the end NRC determines that the risks of waste fuel storage are bounded by the Generic Environmental Impact Statement for License Renewal of Nuclear Plants (NUREG-1437) or not.

2. Airborne Attack – NRC Post 9/1 pronouncements, and referenced albeit "secret," studies, are at odds with pre-9/11 studies and analyses regarding nuclear power plant and high level nuclear waste storage vulnerabilities to aircraft impact.

⁵ "... (10 CFR 72.106, Controlled area of an ISFSI or MRS [Monitored Retrievable Storage Installation], which requires that any individual located on or beyond the nearest boundary of the controlled area not receive any more than a total effective dose equivalent of 5 rem as a consequence of loss of control of the facility)..." see, Letter, USNRC, Samuel Collins, Director, to Raymond Shadis, February 1, 2002.

⁶ Dry cask analyses are non-conservative and can in no way be reconciled with the physical capabilities (realities) of modern explosives and shoulder or vehicle launched missiles. According to Department of the Army Field Manual FM-5-25 (1967), 150 pounds of untamped PETN, easily carried by an assault team in two backpacks, is capable of blowing a six-foot deep crater in heavily reinforced concrete. The Milan shoulder-launched missile, 150,000 distributed world-wide and found by US troops in Taliban caves, is capable of punching a grapefruit-sized hole through a meter thickness of steel at a range of close to a mile. Yet, NRC cask analyses cling to old transport models involving a tiny exit hole and dispersal of a very small amount, a tablespoon or so, of radioactive material of which only about 5% is reduced to respirable sized particles. This is totally unrealistic.

⁷ NUREG 1738 – Attachment 3, Robert P. Kennedy, "Response to Questions Concerning Spent Fuel Pool Seismic-Induced Failure Modes and Locations and the Expected Level of Collateral Damage." September 2000

US NRC Staff Study on Spent fuel Accident Risk of Decommissioning Nuclear Power Plants, NUREG 1738, makes it plain for example, that Mark I containment structures do not present "any substantial obstacle" to aircraft penetration. NUREG 1738 expresses its dependence on earlier NUREGS wherein the maximum weight consideration for civil aviation is approximately 44, 000 pounds; a number exceeded by an order of magnitude under current commercial aviation standards.

Further, according to NRC's 1982 study NUREG/CR 2859, Evaluation of Aircraft Crash Hazards for Nuclear Power Plants, make it clear that structures, systems, and components, including those associated with the storage of spent nuclear fuel have not been properly analyzed for vulnerability to aircraft impact, "...If only one percent of the fuel, say 500 lb. [pounds] for the FB-111 fighter plane, is involved ...the blast will be equivalent to the detonation of approximately 1000 lb of TNT⁸ [high explosive] .

It should finally be noted that, according to NUREG 1738 , Mark I and Mark II Boiling Water Secondary Containments "do not appear to have any significant structures that would reduce the likelihood of [aircraft] penetration."⁹

B. CONSEQUENCES - While NRC may not be obligated to consider the worst-case consequences of a spent fuel fire or explosion, under the 9th Circuit decision it is obliged to consider the likely range of environmental effects that could be caused by a malevolent act.

NRC has, instead limited itself to considering, minimal consequences based on wishful thinking about post-event fuel configurations that permit cooling spray to prevent rapid zirconium cladding oxidation, plating or capture of fission products in buildings that may post-explosion or aircraft impact may no longer exist or water that may long ago have drained away through openings so large as to preclude make up. In fact, is it not reasonable to investigate whether radio-caesium would adhere to flakes of zirconium oxide ash for just the opposite effect: transport offsite on the thermal updrafts of a fuel fire and then the wind, much as cesum-137 adhered to tiny flakes of bismuth generated during the 1957 Windscale (reactor) fire?

NRC explosive dispersal dose consequences depend on the generation of a very limited amount of respirable fuel particles something less than ten %, perhaps as little as 5% of the affected fuel. However, Department of Defense non-critical weapons experiments with heavy metallic elements, with no light, friable fission product or ceramic content, yielded respirable particles in excess of 80%. How does NRC reconcile this?

⁸ This [1000lbs] conservatively appears to be the equivalent untamped (surface) breaching charge for more than 12 feet[thickness] of heavily reinforced concrete, per Dept. of the Army Field Manual FM 5-25 Explosives and Demolitions, May 1967, P.98, Figure 106, "Breaching Charge Calculations", wherein an untamped surface charge of 507 lbs of TNT will breach an 8 foot thick column of heavily reinforced concrete.

⁹ NUREG-1738 – Appendix 2d, A2D-4, Section 5. "UNCERTAINTIES"

With respect to a fuel fire, NRC does not appear to take into consideration its own pre-9/11 studies which show resulting cancer fatalities of up to 25, 000 persons out to a distance of 500 miles. This presumes 95% evacuation of the emergency planning zone. fatalities being the result of longer-lived fission products than those which would be the principle dose contributors in a reactor accidents and the involvement of up to five full stored cores.¹⁰

II. CONCLUSION - New England Coalition, again, respectfully and urgently requests that NRC cease trivializing the potential threat to nuclear power stations and the potential consequences of malevolent acts against store nuclear waste fuel, and further that NRC take up the issues raised the above captioned petition for rulemaking and that the agency do so in as thorough, unbiased, professional, collegial and open manner as possible.

¹⁰ NUREG-1738 – Table A4-7 Mean Consequences for Base Case.

Dear secretary's office, rulemaking and adjudications staff,
the following returned message, containing New England Coalition's supplemental comments on the subject rulemaking, was sent transmitted to you on April 2nd. The transmission apparently "timed out" due to some setting at NRC's end. This failure has occurred with the last several New England Coalition filings. Please advise.

Raymond Shadis for New England Coalition

X-Original-To: shadis@prexar.com
Delivered-To: shadis@prexar.com
Date: Sat, 7 Apr 2007 12:14:15 -0400 (EDT)
From: MAILER-DAEMON@prexar.com (Mail Delivery System)
Subject: Undelivered Mail Returned to Sender
To: shadis@prexar.com

This is the Postfix program at host chimaera.prexar.com.

I'm sorry to have to inform you that your message could not be delivered to one or more recipients. It's attached below.

For further assistance, please send mail to <postmaster>

If you do so, please include this problem report. You can delete your own text from the attached returned message.

The Postfix program

<SECY@nrc.gov> (expanded from <SECY@nrc.gov.>): connect to mail1.nrc.gov[148.184.176.41]: Connection timed out

Reporting-MTA: dns; chimaera.prexar.com
X-Postfix-Queue-ID: F1CF51E486
X-Postfix-Sender: rfc822; shadis@prexar.com
Arrival-Date: Mon, 2 Apr 2007 12:07:01 -0400 (EDT)

Final-Recipient: rfc822; SECY@nrc.gov
Original-Recipient: rfc822; SECY@nrc.gov.
Action: failed
Status: 4.0.0
Diagnostic-Code: X-Postfix; connect to mail1.nrc.gov[148.184.176.41]: Connection timed out

Received: from Desktop.prexar.com (ip6599135162.link2usa.com
[65.99.135.162])
by chimacra.prexar.com (Postfix) with ESMTP id F1CF51E486
for <SECY@nrc.gov.>; Mon, 2 Apr 2007 12:07:01 -0400 (EDT)
Message-Id: <6.2.3.4.2.20070402120651.04246150@pop3.prexar.com>
X-Mailer: QUALCOMM Windows Eudora Version 6.2.3.4
Date: Mon, 02 Apr 2007 12:06:58 -0400
To: SECY@nrc.gov.
From: Raymond Shadis <shadis@prexar.com>
Subject: RULEMAKING- SPENT FUEL
Mime-Version: 1.0
Content-Type: multipart/mixed;
boundary="===== _18772093= _"

DEAR RULEMAKING AND ADJUDICATIONS STAFF

ATTACHED ARE THE SUPPLEMENTAL COMMENTS OF NEW
ENGLAND COALITION IN DOCKET PRM-51-10.
THANK YOU FOR YOUR KIND ATTENTION .

Raymond Shadis
New England Coalition

Raymond Shadis
Consultant to
New England Coalition
Post Office Box 98
Edgecomb, Maine 04556
207-882-7801
shadis@prexar.com

Raymond Shadis
Consultant to
New England Coalition
Post Office Box 98
Edgecomb, Maine 04556
207-882-7801
shadis@prexar.com