UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 23, 2001

MEMORANDUM TO: Charles L. Miller, Deputy Director
Licensing and Inspection Directorate
Spent Fuel Project Office, NMSS

FROM: Timothy Kobetz, Project Manager
Licensing Section
Spent Fuel Project Office, NMSS

SUBJECT: SUMMARY OF THE AUGUST 9, 2001, MEETING BETWEEN THE NUCLEAR REGULATORY COMMISSION STAFF AND THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (TAC NO. L21103)

On August 9, 2001, management and staff from the Spent Fuel Project Office (SFPO) met with representatives from the New Jersey Department of Environmental Protection (NJ DEP) to discuss questions NJ DEP had regarding an amendment to the Standardized NUHOMS System. An amendment to add the NUHOMS 61BT dry shielded canister (DSC) to the Standardized NUHOMS System is currently in rulemaking. The meeting was held at the request of NJ DEP because Oyster Creek Nuclear Power Plant, located in New Jersey, intends to store spent fuel in the Standardized NUHOMS System using the NUHOMS 61BT Canister. Attached is an attendance list. This meeting was noticed on July 31, 2001.

The purpose of the meeting was for SFPO staff to address questions submitted by NJ DEP on July 31, 2001, (ADAMS Accession No. ML012180144). The questions dealt with a broad range of issues spanning from the role of the U. S. Nuclear Regulatory Commission (NRC) in the licensing and inspection of independent spent fuel storage installations (ISFSI) and how they relate to Oyster Creek. The NJ DEP also presented a brief overview, outlined in Attachment 2, of its mission with regard to activities at Oyster Creek.

At the conclusion of the meeting the representatives from NJ DEP stated that SFPO staff had addressed all of the questions submitted on July 27 to their satisfaction. In addition, they stated that NJ DEP would submit a written response to NRC stating that all of the questions had been answered or ask for clarification with regard to SFPO staff positions stated during the meeting.

After the meeting NRC staff responded to questions from the public. Mr. Paul Gunter, Nuclear Information and Resource Service, expressed concerns that NRC is not implementing the same standards for security of ISFSIs as it is for reactors. Specifically, ISFSI security is not evaluated for terrorist threats by force-on-force exercises. Mr. Gunter stated that this was a concern for both dry and wet spent fuel storage facilities. Lastly, Mr. Gunter stated that his organization and the public it represents, request NRC to increase the level of effort expended to inspect the security of ISFSIs.

No regulatory decisions or commitments were made by NRC during the meeting.

Docket Nos. 72-1004, 72-19
50-219

Attachments: 1. Attendance List
2. NJ DEP Handout

DISTRIBUTION:

Dockets	NRC File Center	PUBLIC	NMSS R/F	SFPO R/F
SGagner, OPA	EEaston	NRC attendees		
HPastis, NRR	LDoerflein, RI	TColburn, NRR		

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OFC:	SFPO	E	SFPO	E	SFPO	E
NAME:	TKobetz		EZiegler		MDeligatti	
DATE:	08/23/01		08/23/01		08/23/01	

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Attachment 1

Attendance List

August 9, 2001, Meeting
between the Nuclear Regulatory Commission,
and the New Jersey Department of Environmental Protection

ATTENDANCE LIST

Name	Affiliation
Wayne Hodges	NRC/NMSS/SFPO
Tim Kobetz	NRC/NMSS/SFPO
Mark Delligatti	NRC/NMSS/SFPO
Jack Guttmann	NRC/NMSS/SFPO
Mike Tokar	NRC/NMSS/SFPO
Robert Shewmaker	NRC/NMSS/SFPO
Steven Baggett	NRC/NMSS/SFPO
Steve O'Connor	NRC/NMSS/SFPO
Sheena Whaley	NRC/NMSS/SFPO
Phil Brochman	NRC/NMSS/SFPO
Allen Howe	NRC/NMSS/INMS
Patricia Holahan	NRC/NMSS/INMS
Tony DiPalo	NRC/NMSS/INMS
Gordon Gundersen	NRC/NMSS/INMS
Tim Colburn	NRC/NRR/DLPM
Neil Jensen	NRC/OGC/RFC
Rich Pinney	NJ DEP
Dennis Zannoni	NJ DEP
William Bracey	Transnuclear
Wayne Romberg	Exelon
Paul Czaya	AmerGen Energy Co.
Maureen Conley	McGraw Hill
Steve Schulin	The IBEX Group
Paul Gunter	NIRS

Attachment 1

Attachment 2

New Jersey
Department of Environmental Protection
Handout

Handout

New Jersey

Department of Environmental Protection

Meeting with

Nuclear Regulatory Commission

August 9, 2001

Strategic Direction

This Chapter presents the Department's vision, mission and six strategic goals that furnish the environmental management foundation for a sustainable state.

Vision

The vision expresses our long-term goal as an organization.

The Department of Environmental Protection is committed to promoting a sustainable high quality of life for the residents of New Jersey.

Mission

The mission defines our organization's purpose.

To assist the residents of New Jersey in preserving, restoring, sustaining, protecting and enhancing the environment to ensure the integration of high environmental quality, public health and economic vitality.

Strategic Goals

The Strategic Goals express the long-term goals we are striving to achieve.

Clean Air

The air throughout the state will be healthful to breathe, and air pollutants will not damage our forests, land and water bodies.

Clean and Plentiful Water

New Jersey rivers, lakes and coastal waters will be fishable, swimmable and support healthy ecosystems. Surface and ground water will be clean sources of water. Every person in New Jersey will have safe drinking water. Adequate quantities of surface and ground water will be available for all uses.

Safe and Healthy Communities

Every New Jersey community will be free from unacceptable human health and ecological risks due to direct exposure from hazardous substances and other potentially harmful agents. Natural resources will be managed to protect the public from floods, fires and storms.

Healthy Ecosystems

The health, diversity and integrity of New Jersey's ecosystems will be restored, protected, enhanced and sustained.

Abundant Open Space

Natural and scenic landscapes will be preserved and every person will have the opportunity to visit an abundance of well-maintained parks, forests, wildlife areas and historic sites. The public will learn about natural and cultural resources, and have access to a wide variety of recreational experiences.

Welcome to the New Jersey DEP's Radiation Protection Program's World Wide Web site! We are very excited to be able to provide you with a wide assortment of information about the program, our mission, projects and issues. In addition, our Web site enables you to download important documents such as the statutes and regulations we enforce.

The Radiation Protection Program has an important mission: protecting the citizens of New Jersey from uneccessary exposure to radiation. The Program staff takes tremendous pride in its many and diverse efforts to fulfill this mission. As assistant director of this nationally recognized and respected agency, I am extremely proud of our numerous accomplishments. We will continue to seek ways to improve our programs, procedures and technology for the benefit of New Jersey citizens.

We always welcome your questions and comments concerning our efforts to protect the citizens of New Jersey and the environment. We also are interested in receiving your comments about the information provided on our Web site. Please contact us via the address and telephone numbers listed under General Information.

Jill Lipoti, Ph.D., Assistant Director

Background

Prepared: 8/8/01

Key Events Related To Spent Fuel Storage at Oyster Creek

- March 10, 1993, after being advised that a NUHOMS system was being purchased for use at Oyster Creek, three New Jersey Department of Environmental Protection (NJDEP) personnel visit Calvert Cliffs to examine the concrete storage modules (NUHOMS) and other fuel transfer equipment to be used at that site for spent fuel storage.

- March 19, 1993, GPU presents plans to NJDEP for an ISFSI at Oyster Creek. Advises NJDEP that contract was awarded to Pacific Nuclear for a NUHOMS facility.

- March 25, 1993, NJDEP has telecon with Fritz Sturz, NRC Section Leader for ISFSI's, to discuss status of NUHOMS, and dry storage at Calvert Cliffs and Palisades.

- March 29, 1993, GPU issues press release announcing plans to build an ISFSI

- November 19, 1993, GPU meets with NRC in Rockville to present plans for an ISFSI.

- December 6, 1993, two NJDEP reps attend Lacey Township Board of Adjustment meeting where GPU outlined plans for a dry spent fuel storage facility.

- December 21, 1993, three NJDEP reps tour refueling floor at Oyster Creek to see the overhead crane, the spent fuel storage area, and the load pathway. The proposed ISFSI location also toured.

- January 3, 1994, Lacey Township Board of Adjustment considers zoning variance for ISFSI at Oyster Creek

- January 14, 1994, Lacey Township Board of Adjustment meets for the zoning variance.

- March 7, 1994, Dr. Gerry Nicholls and Rich Pinney from the NJDEP testify at Lacey Township Board of Adjustment Hearing.

- March 21, 1994, the Lacey Township Board of Adjustment votes unanimously in favor of the variance requested by Jersey Central to site an ISFSI at Oyster Creek with certain contingencies.

- Late March 1994, Berkeley Township and William DeCamp file lawsuit objecting to the Board of Adjustment decision on numerous grounds.

- April 4, 1994, Lacey Township Board of Adjustment finalizes resolution approving variance for the Oyster Creek ISFSI with 13 contingencies.

- June 2, 1994, proposed NRC Rulemaking for addition of Pacific Nuclear's NUHOMS storage system.

- July 18, 1994, NJDEP attends meeting in Rockville MD where heavy load handling issues are discussed.

- July 21, 1994, NJDEP submits formal comments on the proposed Certificate of Compliance for NUHOMS.

- September 19, 1994, NJDEP accompanies State of Maryland personnel to observe initial stages of loading spent fuel canister.

- January 9 and 10, 1995, New Jersey State Superior Court hears case involving alleged violations of Public Meetings Act by the Lacey Township Board of Adjustment

- April 13, 1995, New Jersey State Superior Court remands variance request for ISFSI back to the Lacey Township Board of Adjustment for additional hearings.

- May 2 and 3, 1995, two NJDEP personnel attend NRC/GPU meeting about upgrades to overhead crane and spent fuel handling plans

- June 15, 1995, structural failure of a spent fuel assembly during fuel movement within the Oyster Creek spent fuel pool.

- June 5, 15, and 26, 1995, Lacey Township Board of Adjustment holds additional hearings to hear testimony from expert witness representing Berkeley Township and a concerned citizen. Rebuttal testimony heard from an expert witness provided by GPU.

- June 5, 1995, NJDEP officials meet with Lacey Township officials for general discussion of roles and responsibility of the DEP with respect to nuclear power plants.

- July 6 and 17, 1995, Lacey Board of Adjustment hearings continue.

- July 7, 1995, NRC issues Confirmatory Action Letter to Vectra.

- August 7 and 17, 1995, Lacey Board of Adjustment hearings continue.

- September 6, 1995, Lacey Board of Adjustment votes unanimously again to approve ISFSI at Oyster Creek. Additional conditions added to the original 13.

- December 19, 1995, four NJDEP personnel visit Oyster Creek, see model of crane modification (fixed link system), get update on canister fabrication, training and overall project.

- January 22, 1996, in route to Oyster Creek, tugboat sinks in Barnegat Inlet. Barge with 10 concrete storage modules runs aground.

- January 25, 1996, concrete storage modules arrive at Oyster Creek

- April 1996, GPU meets with NRC in Rockville to discuss License Amendments needed for spent fuel canister moves.

- July 1996, GPU elects to proceed with Fall 1996 Outage with no offloading of spent fuel, thus losing full core offload capability

- July 21, 1996, NRC completes an inspection (96-06) of design control and QA oversight of the ISFSI components. Unresolved issue generated with regards to use of quartz for fine aggregate in the roof.

- April 10, 1997, GPU announces intent to sell Oyster Creek with contingency of decommissioning or continuing to operate.

- July 1997, NJDEP puts three new radiation monitors near the ISFSI into service providing real time data to NJDEP offices in Ewing, NJ.

- September 14, 1999, GPU announces agreement in principal to sell Oyster Creek to AmerGen

- April 2, 2000, NJDEP meets with GPU to discuss planned upgrades to overhead crane, reracking of spent fuel pool, and dry spent fuel storage plans.

- August 2000, GPU and AmerGen finalize sale of Oyster Creek

- October 17, 2000, NJDEP meets with AmerGen. AmerGen advises that multipurpose canisters were being purchased that were compatible with the existing NUHOMS concrete modules on site.

- June 25, 2001, NJDEP meets with AmerGen. Update on spent fuel storage provided.

- July 12, 2001, NJDEP meets with AmerGen, Exelon and Transnuclear to discuss spent fuel storage status and to ask questions from the review of the SER and SAR.

- July 27, 2001, NJDEP sends letter to NRC containing questions regarding dry spent fuel storage and the SER for TN-61BT.

New Jersey
Department of Environmental Protection
July 27, 2001 Letter
to the
U.S. Nuclear Regulatory Commission

State of New Jersey

DONALD T. DIFRANCESCO
Acting Governor

Department of Environmental Protection
Division of Environmental Safety, Health, and Analytical Programs
Bureau of Nuclear Engineering
P.O.Box - 415
Trenton, NJ 08625-0415

Robert C. Shinn, Jr.
Commissioner

July 27, 2001

Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-001
Attn: Rulemaking and Adjudication's Staff

Subject: "List of Approved Spent Fuel Storage Casks: Standardized NUHOMS-24P and 52B Revision" (June 29, 2001 Federal Register Notice)

The U.S Nuclear Regulatory Commission (NRC) is in the process of amending 10 CFR Part 72 to include a revision to the Standardized NUHOMS 24P and 52B, which stores high level radioactive waste, to include a new dry storage cask – the 61BT. This new design stores more high level radioactive waste than the 52B and the new design can be used to transport high level radioactive waste, something that the previous design could not. In light of the federal register notice and having the benefit of knowing that this cask design may be used at Oyster Creek, we undertook a review of the NRC's Safety Evaluation Report (SER) for the 61BT, a review of the Transnuclear's Safety Evlauation Report submitted to the NRC for the 61BT, and a review of the NUHOMS Final Safety Analysis Report.

As part of our review, we met with staff from AmerGen, Exelon, and Transnuclear to discuss the 61BT dry storage cask and NUHOMS system. They provided us with important feedback and information regarding our questions, comments, and concerns from a user and licensee point of view. However, another important part of our review includes discussions with the relevant personnel from the NRC.

We are working with the staff of the Spent Fuel Project office to set up a meeting of the correct individuals from the NRC staff, however, a meeting with the NRC prior to the federal register notice deadline of July 30, 2001 seems unlikely. We therefore are requesting an extension to the deadline in order to meet with the NRC to discuss our questions, comments, and concerns.

The storage of high level radioactive waste is an important issue in the State of New Jersey. We have received numerous comments from the public during our annual public hearings at each of the Counties affected by emergency planning around the nuclear power plants. Attached are the State of New Jersey's Bureau of Nuclear

Engineering's general and specific comments developed so far regarding the TN61BT cask. If we are able to meet with the relevant NRC staff, we have confidence that we will be able to have most, if not all, of our questions answered. The ensuing discussion may raise additional questions, but we believe it will be a beneficial discussion for the NRC. However, if an extension to the deadline is not granted, then please consider these questions submitted for the record, and answer them in your response to comment document.

We hope that you can accommodate our request as we prepare for the first-time storage of high level radioactive waste in a dry storage system in the State of New Jersey. Please contact Kent Tosch, Manager, Bureau of Nuclear Engineering at 609-984-7440, if you have any questions or need further clarification.

Sincerely,

Jill Lipoti

Dr. Jill Lipoti
Assistant Director
Radiation Protection Programs
NJ DEP

c: Distribution

Dr. G. Nicholls, Director, NJ DEP

K. Tosch, Manager, NJ DEP

W. Brach, Director, NRC, Spent Fuel Project Office

R. Bores, NRC, Region I State Liaison Officer

W. Romberg, Project Manager, Oyster Creek Dry Storage, AmerGEn

H. Pastis, NRC, Project Manager, Oyster Creek

New Jersey Department of Environmental Protection Items for Discussion with NRC Regarding TN 61 BT Canister

GENERAL

1. We would like to discuss the NRC's Role and Division of Responsibility now, and through loading of spent fuel. Includes division of responsibility amongst Headquarters, Region, NRR, NMSS, and Resident Inspectors.

2. We would like to discuss the NRC expected involvement during the dry storage process commencing at Oyster Creek. We understand that the NRC conducted an inspection of the QA program of Transnuclear West, the licensee of the TN61BT, located in San Jose, CA. We also understand that the NRC will not inspect the fabrication facility in Japan.

3. We would like to discuss the status of NRC review of the TN 61BT canisters for transportation.

4. When will the NRC make available the NRC Safety Evaluation Report for the transportation license review?

5. We would like to discuss why damaged fuel will not be permitted in the TN61BT.

6. We would like to discuss and establish NRC/NJ DEP interface for current and future issues and questions regarding the TN 61BT canisters, the NUHOMS modules and other issues that arise during this important project.

7. We would like to discuss the requirement for the first of a kind calculation and monitoring and reporting requirements and NRC response to anomalies, if any occur.

8. Concerning the C of C, the expiration date is listed as 1/23/2015, when is the amendment effective date? Does it start when it is fabricated, stored or when it has fuel in it? And similar questions about the timing of different components during the high level radioactive waste dry storage process.

9. Assuming that the high level radioactive waste remains at Oyster Creek for more than the licensed life of the canister, what is the process for license extension of the canister?

10. We would like to discuss retreivability and the process for knowing when something is wrong.

Specific Discussion of NRC's Evaluation of TN61BT:

1. Principal Design Features

   a. We would like to discuss the leak tightness of the 61BT canister. Especially, how it is assured for 20 years and, possibly beyond?
   b. We would like to discuss the similarities and differences between the 52B canister and the 61BT canister. Especially from a design and analysis perspective.
   c. We would like to discuss the June 29, 2001 federal register notice statement that the 61BT does not reduce the safety margin and the changes do not pose an increased risk to the public health and safety.
   d. In light of the results of the inspection of the CASTOR canisters, are there lessons learned that could improve the TN 61BT?
   e. Has the NRC looked into any coatings that may be used on the canister or storage building that may be used during the process of storing high level radioactive waste at Oyster Creek?

2. Structural Capabilities

   a. We would like to understand the structural elements "important to safety." It outlined all of the elements in the cask and basket.
   b. Page 3-8 of the NRC SER outlines analysis margins of 1%, 12%, and 30%. We would like to discuss the uncertainty in the structural evaluation under normal conditions.
   c. On page 3-10 of the NRC SER, the accident analysis results outline margins of 5%, 5% and 20%. We would like to discuss the uncertainty in the structural analysis under accident conditions.

d. How would the analysis change if the spent fuel went critical?

3. Thermal

a. We would like to understand why the limit of 18.3 kW per canister was selected for the design thermal limit.
b. Is there any reason for selecting 40 hours for a blocked vent?
c. On page 4-2 of the NRC SER, it outlines three allowable fuel temperature limits. We would like to discuss this further.

4. Shielding

a. On page 5-2 of the NRC SER, it states that axial peaking factors are taken from the TN-68 FSAR. What is the status of this? Have these been reviewed and accepted and, if not, how can they be used here?
b. On page 5-5 of the NRC SER, it states that the staff (NRC) has reasonable assurance that compliance with 10 CFR 72.104(a) can be achieved by the general licensees. We are trying to understand the basis for this conclusion.
c. Further in the same paragraph, the NRC states that the general licensee must perform a site-specific evaluation, as required by 10 CFR 72.212(b), to demonstrate compliance. What does the NRC do with this analysis and how is compliance confirmed by the NRC?
d. On page 5-6 of the NRC SER, it states that any general licensee using an engineered feature for radiological protection such as a berm are considered important to safety and must be evaluated to determine the applicable Quality Assurance Category. We want to understand who evaluates this and when and we want to better understand the use of a berm in this analysis.
e. Page 5-2 of the NRC SER explains the use of scaling factors. We would like to discuss this further.
f. On the same page, the NRC SER states that cobalt impurities can vary. We would like to discuss how the assumed values are reasonable and acceptable.
g. We would like to discuss the variability and uncertainty in the shielding analysis used by the

NRC to confirm the shielding evaluations for normal, accident and off-site dose calculations.

5. Criticality

a. We would like to discuss the section on benchmark comparisons on page 6-5 of the NRC SER. We are trying to better understand the level of conservatism and uncertainty of the analysis.

6. Radiation Protection

a. The 61BT represents a significant increase in source term, simply from the fact that more fuel is being stored in the same amount of space as compared to the 52B. How did the NRC verify the offsite dose calculations? Were independent calculations conducted?

7. Accident Analysis

a. We would like to discuss the potential accident conditions which this canister was evaluated to better understand possible scenarios.

8. Quality Assurance

a. We would like to understand how the review of a QA program in San Jose, CA assures that the canister which is being built in Japan is fabricated correctly.

Other questions, comments, and concerns may arise during our discussion with the NRC. This list was compiled in short order at the request by the NRC.