

Oyster Creek Generating Station
Route 9 South
PO Box 388
Forked River, NJ 08731

www.exeloncorp.com

November 19, 2009

RA-09-081

The Honorable John C. Parker
Mayor, Lacey Township
818 West Lacey Road
Forked River, NJ 08731

Subject: Oyster Creek Nuclear Generating Station
Independent Spent Fuel Storage Installation Annual Report

Reference: Building Permit; Appeal 93-40 (after remand)

The above referenced Building Permit requires the Oyster Creek Generating Station to submit routine monitoring reports to Lacey Township on an annual basis. Enclosed is the Temperature Monitoring and Radiation Survey data as required by Condition 10 of the Building Permit, and the number of spent fuel assemblies in dry storage as required by Condition 11 of the Building Permit. The status of Federal Government's plans to site a permanent spent fuel repository is also provided, as required by Condition 17 of the Building Permit. This fulfills the reporting requirements for the year 2009 (November 2008 through October 2009).

If any further information or assistance is needed, please contact Richard Milos at 609-971-4973.

Sincerely,



Michael J. Massaro
Vice President, Oyster Creek Nuclear Generating Station

Enclosure

cc: USNRC Document Control Desk; Docket 72-15
Administrator, USNRC Region I
USNRC Senior Project Manager, Oyster Creek
USNRC Senior Resident Inspector, Oyster Creek
File No. 09006

NM5501

Enclosure

Independent Spent Fuel Storage Installation (ISFSI) Building Permit Condition Ten:

"The applicant shall provide to the township on a yearly basis, written records revealing all temperature and radiation measurements. The applicant shall further advise of any and all repairs made to the concrete modules."

Oyster Creek Generating Station Reply to Condition Ten:

The temperatures of the loaded, concrete, Horizontal Storage Modules (HSMs) are monitored daily and are part of the station's surveillance records. The temperatures of the loaded HSMs can be up to 30 degrees higher than the unloaded HSMs depending on the heat load of the spent fuel loaded. During the summer months, the highest concrete HSM temperatures were less than 120 degrees. This is well within the design limits of the HSMs and represents an actual heat loading of about 7.5 KW.

The attached temperature graphs represent average monthly temperature data for the period from October 2008 through September 2009, for the HSMs we loaded in 2002 (# 1-4), the HSMs we loaded in 2003 (# 5-8), the HSMs we loaded in 2004 (# 9-11), and the HSMs we loaded in 2005 (# 12-16). HSMs #17-20 remain empty and are at ambient temperatures.

The highest radiation measurements on the vertical face of the HSMs were 0.8 mr/hr gamma and <0.1 mr/hr neutron. The highest gamma dose rate at the opening between the HSMs (bird screens) was 3.6 mrem/hr. These readings are well within the design limits of the HSMs. The roof of the HSMs is a posted radiation area and is not readily accessible. The highest radiation levels at the ISFSI security fence facing Route 9 was <0.2 mr/hr gamma and <0.1 mr/hr neutron. Radiation survey data sheets are included following the temperature graphs.

Two HSMs (#19-20), were installed in October 2008. We plan to load the remaining four spent fuel canisters into HSMs #17-20 during 2010. This will complete the existing Independent Spent Fuel Storage Installation reviewed under the Building Permit, Appeal 93-40 (after remand).

There were no repairs to the concrete modules since the last report.

Independent Spent Fuel Storage Installation Building Permit Condition Eleven:

"The applicant shall provide to the township on a yearly basis, the specific number of spent fuel rod assemblies which have been moved into the dry storage facility."

Oyster Creek Generating Station Reply to Condition Eleven:

There were no fuel assemblies loaded into the ISFSI prior to 2002. During 2002, 244 fuel assemblies were transferred to the ISFSI. During 2003, 244 additional fuel assemblies were transferred to the ISFSI. During 2004, 183 additional fuel assemblies were transferred to the ISFSI. During 2005, 305 additional assemblies were transferred to the ISFSI. No fuel assemblies have been loaded into the ISFSI since 2005. The Oyster Creek ISFSI currently contains 976 fuel assemblies.

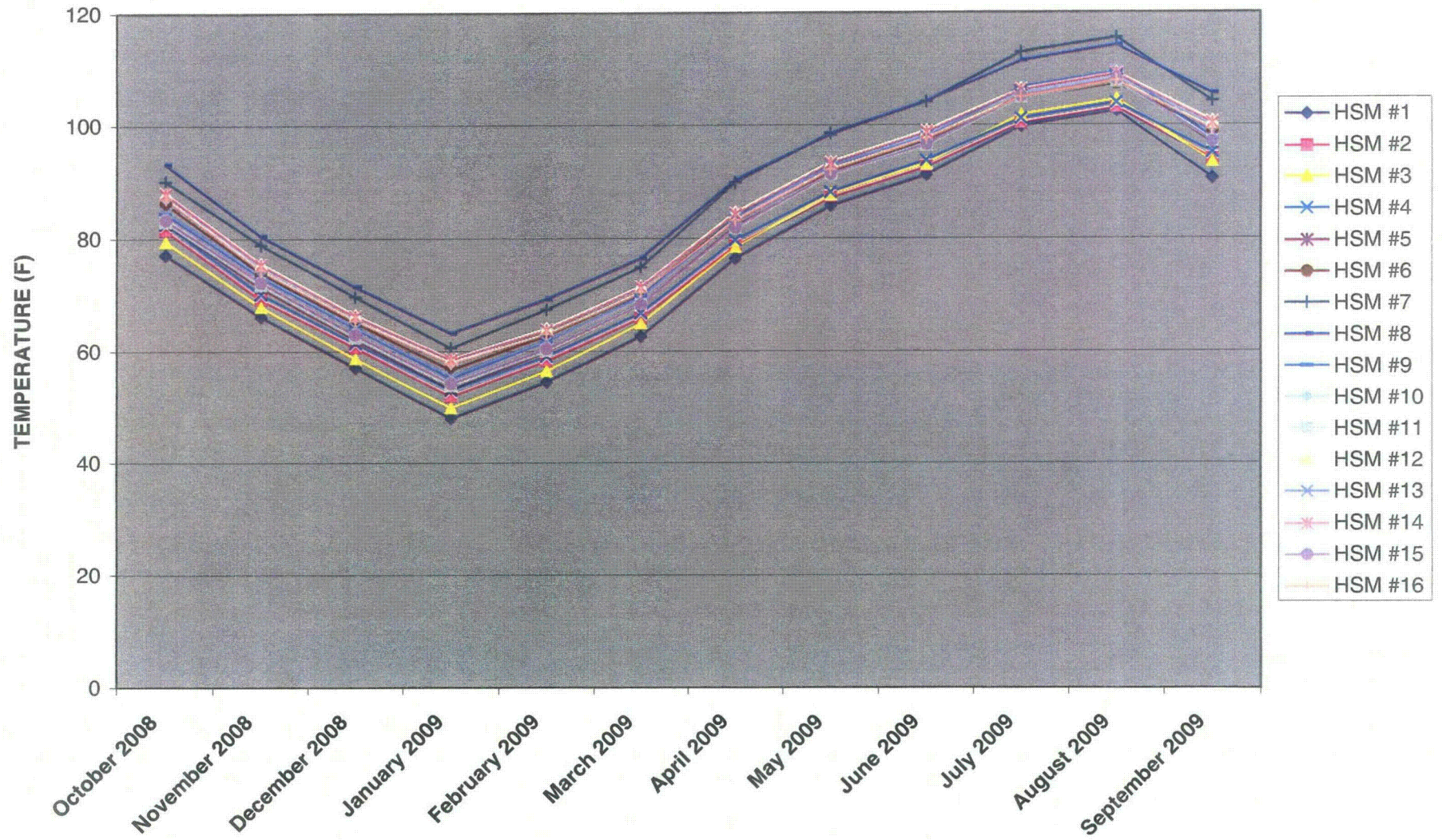
Independent Spent Fuel Storage Installation Building Permit Condition Seventeen:

"The applicant shall submit a report to the Township of Lacey no less than annually as to the status of the efforts of the Federal Government to site a permanent spent fuel repository."

Oyster Creek Generating Station Reply to Condition Seventeen:

The Yucca Mountain Repository project funding has been reduced to those costs necessary to answer licensing inquiries from the Nuclear Regulatory Commission. The current Administration is considering a new strategy toward spent nuclear fuel storage.

HORIZONTAL STORAGE MODULE TEMPERATURE TRENDS



DCGS Radiological Survey No. YFS 08-07110 Date 10-17-08 Time 1145 Location INDEPENDENT SPENT FUEL STORAGE FACILITY

19	17	15	13	11	9	7	5	3	1
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20.02 20.02 10.02 1.4 2.0 1.8 2.0 2.0 2.0 1.2 0.8
20.02 20.02 0.8 1.6 1.4 1.4 1.6 1.6 0.7 0.9 0.6

17	15	13	11	9	7	5	3	1
18	16	14	12	10	8	6	4	2

ALL READINGS
TAKEN ON
SCREENS AT
CHEST LEVEL

8 = CONTACT
30 CM

20.02 20.02 10.02 1.4 2.0 1.8 2.0 2.0 2.0 1.2 0.8
20.02 20.02 0.8 1.6 1.4 1.4 1.6 1.6 0.7 0.9 0.6

20	18	16	14	12	10	8	6	4	2
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RWP 08-00113 Reason POST JOB SURVEY
Rx. Power - 97 %

SMEARABLE CONTAMINATION				INSTRUMENTATION DATA		
LOCATION	β γ <input type="checkbox"/> CCPM <input type="checkbox"/> DPM <input type="checkbox"/> MRAD/HR	α DPM	AREA	RADIATION SURVEY		
				INST	BCF	NT
1				S/N 073557	BCF	NT
2				CDD		7-22-09
3				INST		
4				S/N	BCF	
5				CDD		
6				CONTAMINATION SURVEY		
7				INST		
8				S/N		
9				CDD		
10				EFF 10%	BKG	CPM
11				INST		
12				S/N		
13				CDD		
14				CF	BKG	CPM
15				AIR SAMPLE DATA		
16				FC	NT	
17				L = Large Area Smear		
18				NC = Not Counted		
19				NA = Not Applicable		
20				NT = Not Taken		

Surveyor: (Print Name) B. BRAS Date 10-17-08
Signature [Signature] Date 10-18-08
Reviewer: (Print Name) ROBERT HEFFNER
Signature [Signature] Date 10-18-08
Hd = Head, Ch = Chest, Kh = Knee, W = Waist
All dose rates in mrem/hr unless otherwise noted

☐ No Beta Detected Unless Otherwise Noted
☒ No Beta Readings Taken

- EAL Threshold Values:**
- Natural phenomena affecting a loaded cask CONFINEMENT BOUNDARY as indicated by on contact radiation reading > 10 times normal. OR
 - Accident conditions affecting a loaded cask CONFINEMENT BOUNDARY as indicated by on contact radiation reading > 10 times normal. OR
 - Any condition in the opinion of the Emergency Director that indicates loss of loaded fuel storage cask CONFINEMENT BOUNDARY.
- HSM Dose Rate Tech Spec Limits:**
- ≤ 400 mrem/hr at 3 feet from the HSM surface
 - ≤ 100 mrem/hr HSM door on center line of DSC
 - ≤ 20 mrem/hr end shield wall exterior
- Routine Surveys:**
- γ and n_e dose rate surveys on contact and 1ft from the loaded HSMs. General area and fence line as necessary to verify postings. Gross wipe contamination survey.

OCGS Radiological Survey

No. YFS-09-3161

Date 5/10/09

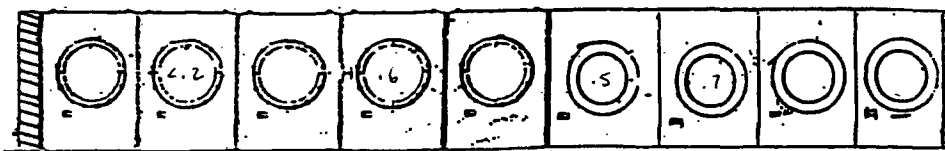
Time 1700

Location INDEPENDENT SPENT FUEL STORAGE FACILITY

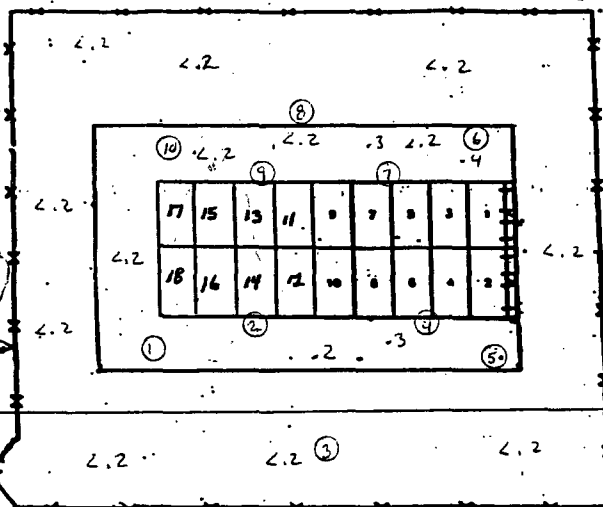
RWP 100

Reason 37911 Survey

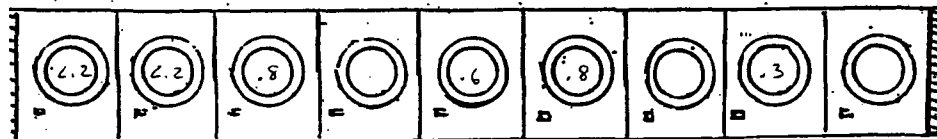
Rx. Power - 100 %



2.2/2.0 2.5/1.9 2.6/1.8 3.2/2.2 3.2/2.2 1.4/1.0 1.3/0.9



POSTED
RA
ZMA
ZWP REQ'D



2.5/1.6 3.2/2.6 3.2/2.2 1.0/0.8

* ALL CONTACT NEUTRON

DOSE RATES TAKEN ON VENTS

@ CHEST LEVELS. ALL DOSE

RATES < .1 N* THIS INCLUDES
30 CM DOSE RATES

EAL Threshold Values:

1. Natural phenomena affecting a loaded cask CONFINEMENT BOUNDARY as indicated by on contact radiation reading > 10 times normal. OR
2. Accident conditions affecting a loaded cask CONFINEMENT BOUNDARY as indicated by on contact radiation reading > 10 times normal. OR
3. Any condition in the opinion of the Emergency Director that indicates loss of loaded fuel storage cask CONFINEMENT BOUNDARY.

SMEARABLE CONTAMINATION

LOCATION	β γ \square CCPM \square DPM \square MRAD/HR	α DPM	AREA
1 Ground	< 1 K	N.T.	100 cm ²
2 Wall	< 1 K		
3 Ground	< 1 K		
4 Wall	< 1 K		
5 Ground	< 1 K		
6 Ground	< 1 K		
7 Wall	< 1 K		
8 Ground	< 1 K		
9 Wall	< 1 K		
10 Ground	< 1 K	N.T.	100 cm ²
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

INSTRUMENTATION DATA

RADIATION SURVEY

INST ASP-1
S/N 700118 BCF N/F
CDD 10/3/09
INST R02
S/N 073356 BCF 4.0
CDD 2/2/10

CONTAMINATION SURVEY

INST E-140
S/N 079713
CDD 8/26/09
EFF 10% BKG 120 CPM
INST
S/N
CDD
CF BKG CPM
AIR SAMPLE DATA
FC NT
L = Large Area Smear
NC = Not Counted
NA = Not Applicable
NT = Not Taken

Surveyor: (Print Name)

Signature C. M. M. / A. M. M. / K. L. M. Date 5/10/09

Reviewer: (Print Name)

Signature C. M. M. / A. M. M. / K. L. M. Date 5/10/09

Hd = Head, Ch = Chest, Kn = Knee, W = Waist

All dose rates in mrem/hr unless otherwise noted

☒ No Beta Detected Unless Otherwise Noted

= Gamma G.A.

B = Beta

N = Neutron

I = Contact / 30 cm

B / # = β / γ

☒ = Smear

DF - Direct Frisk

X-X or -- = Rad Bound

= Beta / γ Conta

= Beta / γ 30cm

No Beta Readings Taken

Routine Surveys:
 γ and n dose rate surveys on contact and 1ft from the loaded HSMs.
General area and fence line as necessary to verify postings. Gross wipe contamination survey.

HSM Dose Rate Tech Spec Limits:
 \leq 400 mrem/hr at 3 feet from the HSM surface

\leq 100 mrem/hr HSM door on center line of DSC

\leq 20 mrem/hr end shield wall exterior

DCGS Radiological Survey

No. YFS-09-5595

Date 08 10 09

Time 1130

Location INDEPENDENT SPENT FUEL STORAGE FACILITY

RWP

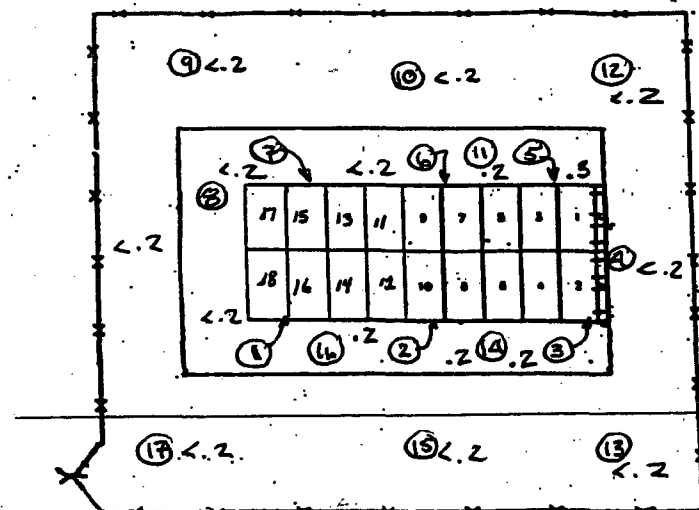
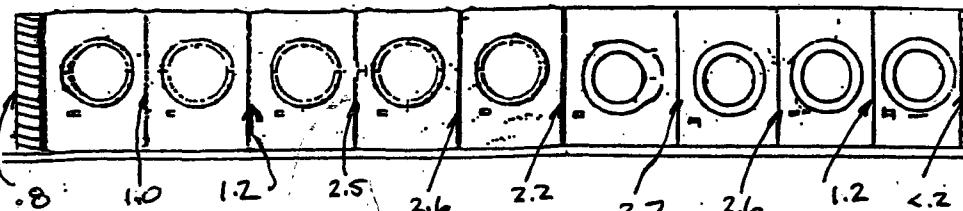
100

Reason

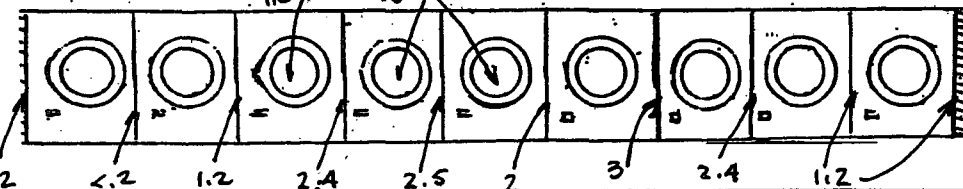
QUARTERLY ROUTINE

Rx. Power -

100%



POSTED: RA
RMA/RWR REQ'D
NO FRISK REQ'D



*ALL CONTACT NEUTRON DOSE RATES TAKEN
ON VENTS @ CHEST LEVEL = <.1 N
& <.1 N @ 30 CM *

EAL Threshold Values:

1. Natural phenomena affecting a loaded cask CONFINEMENT BOUNDARY as indicated by on contact radiation reading > 10 times normal. OR
2. Accident conditions affecting a loaded cask CONFINEMENT BOUNDARY as indicated by on contact radiation reading > 10 times normal. OR
3. Any condition in the opinion of the Emergency Director that indicates loss of loaded fuel storage cask CONFINEMENT BOUNDARY.

SMEARABLE CONTAMINATION

LOCATION	β γ <input type="checkbox"/> CCPM <input checked="" type="checkbox"/> DPM <input type="checkbox"/> MRAD/HR	α DPM	AREA	INSTRUMENTATION DATA RADIATION SURVEY
1 MODULE	<1K	NIT	100cm ²	INST 202 S/N 73353 BCF 4 CDD 07 07 10
2				INST ASP-1 S/N 700118 BCF - CDD 10 03 09
3				CONTAMINATION SURVEY
4				INST RM14 S/N 29710 CDD 06 30 10
5				EFF 10% BKG 60 CPM
6				INST
7 MODULE				S/N
8 CONCRETE				CDD
9 TARMAC				CF BKG CPM
10 TARMAC				AIR SAMPLE DATA
11 CONCRETE				L = Large Area Smear
12 TARMAC				NC = Not Counted
13 TARMAC				NA = Not Applicable
14 CONCRETE				NT = Not Taken
15 TARMAC				
16 CONCRETE				
17 TARMAC	<1K	NIT	100cm ²	
18				
19				
20				

Surveyor: (Print Name)

KEVIN M. CLARK

Signature

8/10/09

Reviewer: (Print Name)

8/10/09

Signature

8/10/09

Hd = Head, Ch = Chest, Kn = Knee, W = Waist

All dose rates in mrem/hr unless otherwise noted

☒ No Beta Detected Unless Otherwise Noted

HSM Dose Rate Tech Spec Limits:

- ≤ 400 mrem/hr at 3 feet from the HSM surface
- ≤ 100 mrem/hr HSM door on center line of DSC
- ≤ 20 mrem/hr end shield wall exterior

No Beta Readings Taken

Routine Surveys:
γ and n_{eff} dose rate surveys on contact and 1 ft from the loaded HSMs. General area and fence line as necessary to verify postings. Gross wipe contamination survey.