

May 13, 2005

LICENSEE: PSEG NUCLEAR, LLC.

FACILITY: HOPE CREEK GENERATING STATION

SUBJECT: SUMMARY OF MARCH 15, 2005, CATEGORY 1 MEETING WITH PSEG NUCLEAR LLC, REGARDING FUTURE APPLICATION FOR EXTENDED POWER UPRATE OF HOPE CREEK GENERATING STATION

On March 15, 2005, the Nuclear Regulatory Commission (NRC) staff met with representatives of PSEG Nuclear, LLC (PSEG or the licensee), the licensee for the Hope Creek Nuclear Generating Station (Hope Creek), and General Electric (GE), the licensee's contractor. The purpose of the meeting was to discuss NRC staff expectations regarding content quality of applications for an extended power uprate (EPU). PSEG has announced its intention to seek NRC approval for an EPU for the Hope Creek facility. The March 15, 2005, discussion between the NRC staff and PSEG was intended to ensure that any future EPU application for Hope Creek provides a sufficient level of depth and breadth for the NRC staff to complete its review with only limited need for additional information from the licensee.

Topics discussed are listed in Enclosure 1. A copy of the licensee's presentation is provided in Enclosure 2. Following the licensee's presentation, open discussion was held regarding some of the agenda topics. Items discussed that are not covered by material in Enclosure 2 are summarized below, grouped by topic area:

#### Use of Review Standard, RS-001

The NRC staff noted that, per RS-001, applications should:

- follow the RS-001 template to the extent possible,
- identify all modifications or changes that require NRC approval in order to implement EPU, including those associated with operator actions and the plant licensing basis,
- provide a mark-up of the template regulatory evaluation section,
- list balance-of-plant areas that are not affected by the EPU and provide a sufficiently detailed explanation of why they are not affected,

#### Reactor Systems Topics

##### *Large Transient Testing*

The NRC staff indicated that PSEG should provide justification in their application if they chose not to perform large transient testing. The NRC staff stated all of the transients in Standard Review Plan 14.2.1 must be addressed if the topical report NEDC-33066P is not going to be used. The NRC staff asked if a quantitative risk versus benefit evaluation had been performed. The licensee responded that their risk versus benefit evaluation is qualitative.

## *Codes and Methods*

In response to a question from the licensee regarding the acceptability of the GE Interim Process, the NRC staff noted that the staff's evaluation of the interim process is still in its initial stages. Hence, an application that merely states that the applicant will follow that process will have more uncertainty associated with its review schedule and ultimate approval. The staff expressed a preference that applications provide specific responses to the questions that were posed to the Vermont Yankee Nuclear Power Station in requests for additional information rather than merely commit to follow the still-to-be-reviewed GE process.

## Mechanical and Materials Engineering Topics

### *Flow Induced Vibration (e.g., steam dryers and recirculation piping)*

Some of the issues raised by the NRC staff concerning flow induced vibration were:

- Potential failures and effects modes should be analyzed based on Quad Cities experience and Exelon's extent of condition review.
- If PSEG decided not to use risk-informed inservice inspection, then vibration is another degradation mechanism that should be addressed.

The NRC staff indicated that they are specifically interested in reviewing the forcing function used in the flow-induced vibration analysis.

### *Structural Evaluation of Reactor Coolant Pressure Boundary (RCPB)*

The NRC staff stated that the application should identify existing flaws with respect to RCPB, and provide an evaluation of how an EPU will affect the flaws, and provide a sufficient justification of the licensee's conclusion that the plant can be operated safely at EPU conditions.

## Probabilistic Risk Assessment (PRA) Topics

### *PRA Scope and Quality*

The NRC staff pointed out that RS-001 included Attachment 1 to Matrix 13, which covered the expected scope of the risk assessment. The staff suggested that PSEG examine the recent docketed Beaver Valley material on EPU. In addition, the staff stated that Attachment 1 includes risk from internal and external events, at power and shutdown, and PRA quality considerations.

## Environmental Topics

### *Environmental Assessment Scope and Quality*

The NRC staff stated that the application should address how an EPU will affect the electric shock potential with respect to transmission facility. In addition, the environmental impacts associated with the fuel cycle and transportation impacts and postulated accident doses should be evaluated. Additionally, the NRC staff indicated that a biological assessment should be provided if the last environmental report was written before the National Environmental Policy Act was implemented.

A list of meeting attendees is provided as Enclosure 3.

Please direct any inquiries to me at 301-415-1427 or [dxc1@nrc.gov](mailto:dxc1@nrc.gov).

*/RA/*

Daniel S. Collins, Sr. Project Manager, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-354

Enclosures: 1. Agenda  
2. PSEG Presentation Slides  
3. Attendees

cc w/encls: See next page

## AGENDA

MEETING BETWEEN THE NUCLEAR REGULATORY COMMISSION AND  
PSEG NUCLEAR, LLC, REGARDING PENDING APPLICATION FOR EXTENDED POWER  
UPRATE FOR HOPE CREEK GENERATING STATION

<u>Opening Remarks and Introductions</u>	1:00 - 1:05
<u>General Topics</u> Use of RS-001	1:05 - 1:25
<u>Reactor Systems Topics</u> MELLLA/MELLLA Plus Mixed Core Analyses Large Transient Testing	1:25 - 1:45
<u>Containment Topics</u> Containment Overpressure Considerations	1:45 - 2:05
<u>Break</u>	5 minutes
<u>Mechanical and Materials Engineering Topics</u> Flow Induced Vibration (e.g., steam dryers and recirculation piping) Structural Evaluation of Reactor Coolant Pressure Boundary	2:10 - 2:30
<u>Probabilistic Risk Assessment Topics</u> PRA Scope and Quality	2:30 - 2:50
<u>Environmental Topics</u> Environmental Assessment Scope and Quality	2:50 - 3:10
<u>Break</u>	10 minutes
<u>Open Discussion</u>	3:20 - 3:40
<u>Questions and Answers</u>	3:40 - 3:55
<u>Summary</u>	3:55 - 4:00

**MARCH 15, 2005, HOPE CREEK EPU PRE-APPLICATION MEETING**  
**ATTENDEES**

NRC

F. Akstulewicz	NRR/DSSA/SRXB
R. Caruso	ACRS
D. Collins	NRR/DLPM/PDI-2
L. Fields	NRR/DRIP/RLEP
C. Holden	NRR/DLPM/PDI
S. Laur	NRR/DSSA/SPSB
R. Lobel*	NRR/DSSA/SPSB
L. Marsh	NRR/DLPM
G. Miller	NRR/DLPM/PDI-2
T. Owusu	NRR/DLPM/PDI-2
P. Patnaik	NRR/DE/EMCB
W. Poertner*	NRR/DE/EMEB
D. Roberts*	NRR/DLPM/PDI-2
W. Ruland	NRR/DLPM/PDI-2
T. Scarbrough*	NRR/DE/EMEB
J. Stang*	NRR/DLPM/PDI-2
J. Tatum	NRR/DSSA/SPLB
S. Unikewicz*	NRR/DE/EMEB
C. Wu*	NRR/DEEMEB
S. Wu	NRR/DSSA/SRXB

\*part-time attendance

PSEG

T. DelGaizo	S. Mannon
P. Duke	D. McHugh
J. Ferrante	R. Moore, Sr.
W. He	D. Notigan
K. Hutko	F. Safin

GE

P. Tran  
E. Schrull

NJ (BNE)

D. Zannoni

PPL Susquehanna

J. Bartos  
J. Geosits  
M. Gorski  
J. Oddo

Hope Creek Generating Station

cc:

Mr. Michael P. Gallagher  
Vice President - Eng/Tech Support  
PSEG Nuclear  
P.O. Box 236  
Hancocks Bridge, NJ 08038

Mr. Michael Brothers  
Vice President - Nuclear Assessments  
PSEG Nuclear  
P.O. Box 236  
Hancocks Bridge, NJ 08038

Mr. George P. Barnes  
Site Vice President - Hope Creek  
PSEG Nuclear  
P.O. Box 236  
Hancocks Bridge, NJ 08038

Mr. George H. Gellrich  
Plant Support Manager  
PSEG Nuclear  
P.O. Box 236  
Hancocks Bridge, NJ 08038

Mr. Michael J. Massaro  
Plant Manager - Hope Creek  
PSEG Nuclear  
P.O. Box 236  
Hancocks Bridge, NJ 08038

Ms. Christina L. Perino  
Director - Regulatory Assurance  
PSEG Nuclear - N21  
P.O. Box 236  
Hancocks Bridge, NJ 08038

Jeffrie J. Keenan, Esquire  
PSEG Nuclear - N21  
P.O. Box 236  
Hancocks Bridge, NJ 08038

Ms. R. A. Kankus  
Joint Owner Affairs  
Exelon Generation Company, LLC  
Nuclear Group Headquarters KSA1-E  
200 Exelon Way  
Kennett Square, PA 19348

Lower Alloways Creek Township  
c/o Mary O. Henderson, Clerk  
Municipal Building, P.O. Box 157  
Hancocks Bridge, NJ 08038

Dr. Jill Lipoti, Asst. Director  
Radiation Protection Programs  
NJ Department of Environmental  
Protection and Energy  
CN 415  
Trenton, NJ 08625-0415

Brian Beam  
Board of Public Utilities  
2 Gateway Center, Tenth Floor  
Newark, NJ 07102

Regional Administrator, Region I  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406

Senior Resident Inspector  
Hope Creek Generating Station  
U.S. Nuclear Regulatory Commission  
Drawer 0509  
Hancocks Bridge, NJ 08038

A list of meeting attendees is provided as Enclosure 3.

Please direct any inquiries to me at 301-415-1427 or dxc1@nrc.gov.

**/RA/**

Daniel S. Collins, Sr. Project Manager, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-354

- Enclosures: 1. Agenda  
2. PSEG Presentation Slides  
3. Attendees

cc w/encls: See next page

**DISTRIBUTION**

PUBLIC	PD1-2 Reading	BSheron	LMarsh/JLyons	CHolden
DRoberts	GMiller	ETHrom	JTatum	PPatnaik
MStutzke	FAkstulewicz	RDennig	KGrimes	CRaynor
OPA	GMatakas, RI	JJolicoeur, EDO RI	DScrenci, RI ORA	TOWusu
TMensah	OGC	ACRS	DCollins	

Meeting Summary: ML050950439 Package: ML050960141 Slides: ML050960117

OFFICE	PDI-2/GE	PDI-2/PM	PDI-2/LA	SPLB/	SRXB/SC
NAME	TOWusu	DCollins	CRaynor	JTatum	FAkstulewicz
DATE	4/15/05	4/18/05	4/15/05	4/19/05	4/22/05
OFFICE	EMEB	EMCB	SPSB	RLEP	PDI-2/SC
NAME	TScarborough	PPatnaik	SLaur	LFields	DRoberts
DATE	4/20/05	4/20/05	4/20/05	4/27/05	5/12/05

OFFICIAL RECORD COPY