

March 31, 2006

Mr. Britt T. McKinney
Sr. Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Blvd., NUCSB3
Berwick, PA 18603-0467

SUBJECT: FEDERAL REGISTER NOTICE PUBLISHING AN ENVIRONMENTAL
ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT FOR AN
EXEMPTION FROM 10 CFR 72.212 AND 72.214 (TAC NO. L23943)

Dear. Mr. McKinney:

In accordance with the PPL Susquehanna, LLC (PPL) exemption request dated January 31, 2006, as supplemented on March 6, 2006, and pursuant to 10 CFR 51.35, the Nuclear Regulatory Commission (NRC), Office of Nuclear Material Safety and Safeguards, Spent Fuel Project Office, is forwarding an Environment Assessment and Finding of No Significant Impact for noticing in the Federal Register. The requested exemption would allow PPL to load Framatome ANP 9x9-2 fuel assemblies in the NUHOMS® HD 61BT canister under Certificate of Compliance No. 1004.

NRC will notify you in a timely manner of our decision on this exemption request. Enclosed is a copy of the Federal Register Notice.

Sincerely,

/RA/
Joseph M. Sebrosky, Senior Project Manager
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Docket Nos. 72-28 (50-387, 50-388)

Enclosure: Federal Register Notice

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OFC	SFPO		SFPO	E	SFPO	
NAME	JSebrosky		EZiegler		RNelson	
DATE	3/15/06		3/3/06		3/24/06	

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Susquehanna Steam Electric Station, Unit Nos. 1 and 2

cc:

Robert A. Saccone
Vice President - Nuclear Operations
PPL Susquehanna, LLC
769 Salem Blvd., NUCSB3
Berwick, PA 18603-0467

Steven M. Cook
Manager - Quality Assurance
PPL Susquehanna, LLC
769 Salem Blvd., NUCSB2
Berwick, PA 18603-0467

Aloysius J. Wrape, III
General Manager - Performance
Improvement and Oversight
PPL Susquehanna, LLC
Two North Ninth Street, GENPL4
Allentown, PA 18101-1179

Luis A. Ramos
Community Relations Manager,
Susquehanna
PPL Susquehanna, LLC
634 Salem Blvd., SSO
Berwick, PA 18603-0467

Terry L. Harpster
General Manager - Plant Support
PPL Susquehanna, LLC
769 Salem Blvd., NUCSA4
Berwick, PA 18603-0467

Bryan A. Snapp, Esq
Assoc. General Counsel
PPL Services Corporation
Two North Ninth Street, GENTW3
Allentown, PA 18101-1179

Richard D. Pagodin
General Manager - Nuclear Engineering
PPL Susquehanna, LLC
769 Salem Blvd., NUCSB3
Berwick, PA 18603-0467

Supervisor - Document Control Services
PPL Susquehanna, LLC
Two North Ninth Street, GENPL4
Allentown, PA 18101-1179

Rocco R. Sgarro
Manager - Nuclear Regulatory Affairs
PPL Susquehanna, LLC
Two North Ninth Street, GENPL4
Allentown, PA 18101-1179

Richard W. Osborne
Allegheny Electric Cooperative, Inc.
212 Locust Street
P.O. Box 1266
Harrisburg, PA 17108-1266

Walter E. Morrissey
Supervising Engineer
Nuclear Regulatory Affairs
PPL Susquehanna, LLC
769 Salem Blvd., NUCSA4
Berwick, PA 18603-0467

Director, Bureau of Radiation Protection
Pennsylvania Department of
Environmental Protection
Rachel Carson State Office Building
P.O. Box 8469
Harrisburg, PA 17105-8469

Michael H. Crowthers
Supervising Engineer
Nuclear Regulatory Affairs
PPL Susquehanna, LLC
Two North Ninth Street, GENPL4
Allentown, PA 18101-1179

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
P.O. Box 35, NUCSA4
Berwick, PA 18603-0035

Regional Administrator, Region 1
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Susquehanna Steam Electric Station, Unit Nos. 1 and 2

cc:

Board of Supervisors
Salem Township
P.O. Box 405
Berwick, PA 18603-0035

Dr. Judith Johnsrud
National Energy Committee
Sierra Club
443 Orlando Avenue
State College, PA 16803

U.S. NUCLEAR REGULATORY COMMISSION
PPL SUSQUEHANNA, LLC
INDEPENDENT SPENT FUEL STORAGE INSTALLATION
DOCKET NO. 72-28
ENVIRONMENTAL ASSESSMENT AND FINDING OF
NO SIGNIFICANT IMPACT

AGENCY: Nuclear Regulatory Commission.

ACTION: Issuance of an Environmental Assessment and Finding of No Significant Impact.

FOR FURTHER INFORMATION CONTACT: Joseph M. Sebrosky, Senior Project Manager, Spent Fuel Project Office, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Telephone: (301) 415-1132; Fax number: (301) 415-8555; E-mail: jms3@nrc.gov.

SUPPLEMENTARY INFORMATION:

The U.S. Nuclear Regulatory Commission (NRC or Commission) is considering issuance of an exemption to PPL Susquehanna, LLC (PPL) pursuant to 10 CFR 72.7, from specific provisions of 10 CFR 72.212(a)(2), 72.212(b)(2)(i)(A), 72.212(b)(7), and 72.214. The licensee wants to use the Transnuclear, Inc. (TN) NUHOMS® Storage System, Certificate of Compliance No. 1004 (CoC or Certificate) Amendment No. 8 (61BT dry shielded canister), to store spent nuclear fuel under a general license in an Independent Spent Fuel Storage Installation (ISFSI) associated with the operation of the Susquehanna Steam Electric Station

(SSES), Units 1 and 2, located in Luzerne County, Pennsylvania. PPL is requesting an exemption from CoC No. 1004 to allow loading of Framatome ANP 9x9-2 fuel assemblies in the NUHOMS® 61BT dry shielded canister (DSC).

ENVIRONMENTAL ASSESSMENT (EA)

Identification of Proposed Action: The proposed action would exempt PPL from the requirements of 10 CFR 72.212(a)(2), 72.212(b)(2)(i)(A), 72.212(b)(7), and 72.214 and enable PPL to use the TN NUHOMS® 61BT DSC with modifications at SSES. These regulations specifically require storage in casks approved under the provisions of 10 CFR Part 72 and compliance with the conditions set forth in the CoC for each dry spent fuel storage cask used by an ISFSI general licensee. The TN NUHOMS® CoC provides requirements, conditions, and operating limits in Attachment A, Technical Specifications. The proposed action would exempt PPL from the requirements of 10 CFR 72.212(a)(2), 10 CFR 72.212(b)(7) and 10 CFR 72.214 from a condition in Amendment 8 to CoC No. 1004 so that Framatome ANP 9x9-2 fuel assemblies can be loaded in a NUHOMS® -61BT DSC. Specifically, the exemption would be from CoC No. 1004 Attachment A, Technical Specification, Table 1-1d, "BWR Fuel Assembly Design Characteristics for the NUHOMS® - 61BT DSC," which allows for the storage of General Electric (or equivalent) 9x9-2 fuel assemblies that contain 66 full and 8 partial fuel rods. The exemption would allow PPL to store Framatome ANP 9x9 - 2 fuel assemblies that contain 79 full fuel rods and no partial fuel rods in the NUHOMS® -61BT DSC.

PPL committed in its January 31, 2006, submittal to a maximum decay heat load per fuel assembly of 210 watts. This is less than the CoC No. 1004 Attachment A, Technical Specification, Table 1-1c maximum decay heat limit of 300 watts per assembly. In addition, in its March 6, 2006, supplement PPL provided the parameters found in Table 1 below associated

with the Framatome ANP 9x9-2 fuel assembly.

Table 1

Parameters for Framatome ANP 9x9-2 Fuel Assembly

<u>Manufacturer:</u>	Framatome ANP	<u>Array:</u>	9x9
<u>Version:</u>	FANP9	<u>Active Fuel Length</u>	150
		<u>(inches):</u>	
<u>Number of Fuel Rods</u>	79 full	<u>Pitch (inches):</u>	0.572
<u>per Assembly:</u>			
<u>Fuel Pellet Outside</u>	0.3565	<u>Clad Thickness</u>	0.030
<u>Diameter (inches):</u>		<u>(inches):</u>	
<u>Clad Outside</u>	0.424	<u>Water Rod Outside</u>	0.425
<u>Diameter (inches):</u>		<u>Diameter (inches):</u>	
<u>Water Rod Inside</u>	0.364		
<u>Diameter (inches):</u>			

The NRC has determined that the exemption, if granted, will contain the following 3 conditions:

- 1) PPL will be limited to loading a total of five 61BT DSCs under this exemption if granted,
- 2) PPL shall limit the decay heat level per fuel assembly to 210 watts to ensure cask loadings are bounded by the analyses supporting TN CoC No. 1004, Amendment No. 8., and 3) the exemption will pertain only to Framatome ANP 9x9 -2 fuel assemblies that meet the nominal un-irradiated design parameters contained in Table 1 above.

The proposed action is in accordance with the licensee's request for exemption dated January 31, 2006, as supplemented March 6, 2006.

Need for the Proposed Action: The proposed action is needed because SSES will lose full core offload capability in December 2006 following the receipt and staging of new fuel for the scheduled 2007 Unit 2 refueling outage. PPL has determined that it is necessary to start the dry fuel storage (DFS) campaign in May 2006 to ensure full core offload capability. PPL had originally scheduled a DFS campaign to begin in October of 2006. However, because of recent SSES Unit 1 fuel channel performance problems, 54 fuel channels were replaced and stored in the spent fuel pool. As a result of this fuel channel problem, a possible Unit 2 mid-cycle maintenance outage may be necessary to inspect and replace, if necessary, any affected fuel channels. This mid-cycle outage is tentatively scheduled for the Fall of 2006 and access to the spent fuel pool is needed to store fuel channels that are replaced. This activity would conflict with loading dry fuel storage casks. There is also a conflict with performing the DFS campaign in the Summer of 2006. Specifically, PPL has contracted to perform a spent fuel pool cleanout beginning in June 2006 so adequate pool space is restored to support the Unit 2 2007 refueling outage. The DFS campaign and the spent fuel pool cleanout campaign cannot occur simultaneously. Rescheduling the spent fuel cleanout campaign for later in the year is difficult. In summary, space available in the spent fuel pool has become limited much sooner than anticipated, and PPL is requesting the exemption to support a DFS campaign in May 2006. A DFS campaign in May 2006 will also allow PPL flexibility for fuel storage options related to managing decay heat loads within the spent fuel pool.

The proposed action is necessary because the NRC has not yet received an amendment to CoC No. 1004 to allow loading of a Framatome ANP 9x9-2 in a NUHOMS® 61BT DSC. The staff would have to review such an amendment request and only after making the appropriate findings would the staff initiate 10 CFR 72.214 rulemaking to implement the change. This process typically takes at least 10 months from the receipt of the amendment request for simple license amendments. Complex license amendments can take over 30

months. Therefore, an amendment to allow loading of Framatome ANP 9x9-2 fuel assemblies in the NUHOMS® -61BT DSC can not be completed in time to support PPL's stated needs.

Environmental Impacts of the Proposed Action: The NRC has completed its evaluation of the proposed action and concludes that there will be no significant environmental impact if the exemption is granted. The staff has determined that the proposed action would not endanger life or property. The potential environmental impact of using the NUHOMS® system was initially presented in the Environmental Assessment (EA) for the Final Rule to add the TN Standardized NUHOMS® Horizontal Modular Storage System for Irradiated Nuclear Fuel to the list of approved spent fuel storage casks in 10 CFR 72.214 (59 FR 65898, dated December 22, 1994). The potential environmental impact of using the NUHOMS® -61BT DSC was initially presented in the Environmental Assessment (EA) for the Final Rule to add the 61BT DSC to the Standardized NUHOMS® system, Amendment No. 3 (66 FR 34523, dated June 29, 2001).

The staff performed a safety evaluation of the proposed exemption. The staff has determined that the Framatome ANP 9x9-2 assemblies, which PPL plans to load into the 61BT DSC are bounded by the design basis fuel assemblies for the 61BT DSC previously evaluated by the staff. The staff's thermal safety evaluation review notes that PPL committed to only loading Framatome ANP 9x9-2 fuel assemblies with a maximum decay heat load per assembly of 210 watts. This is less than the CoC No. 1004 Attachment A, Technical Specification, Table 1-1c maximum decay heat limit of 300 watts per assembly and is therefore bounding. In the criticality area, the staff evaluated the criticality code and the selected cross sectional data that were used by PPL and determined that they were sufficiently documented and validated, and that they are appropriate for the Framatome 9x9-2 fuel assembly. The staff also performed

independent confirmatory criticality calculations for normal conditions of storage and transfer based on the parameters for the Framatome ANP 9x9-2 fuel assembly identified in Table 1 above. **Based on its review of the representations and information supplied by the applicant, and the confirmatory analyses performed by staff, the staff concludes that the nuclear criticality safety design has been adequately described and evaluated by the applicant, and finds reasonable assurance that the Framatome ANP 9x9-2 fuel meets the criticality safety requirements of 10 CFR Part 72 .**

The loading of Framatome ANP 9x9-2 fuel assemblies in the NUHOMS® 61BT DSC does not increase the probability or consequences of accidents, no changes are being made in the types of any effluents that may be released offsite, and there is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

The exemption only affects the requirements associated with the fuel assemblies that can be loaded in the casks and does not affect non-radiological plant effluents or any other aspects of the environment. Therefore, there are no significant non-radiological impacts associated with the proposed action.

Accordingly, the Commission concludes that there are no significant environmental impacts associated with the proposed action.

Alternative to the Proposed Action: Because there is no significant environmental impact associated with the proposed action, alternatives with equal or greater environmental impact were not evaluated. As an alternative to the proposed action, the staff considered denial of the

proposed action. Denial of the exemption would result in no change in the current environmental impact.

Agencies and Persons Consulted: This exemption request was discussed with Mr. Brad Fuller of the Pennsylvania Department of Environmental Protection Bureau of Radiation Protection on March 6, 2006. He stated that the State had no comments on the technical aspects of the exemption. The NRC staff has determined that a consultation under Section 7 of the Endangered Species Act is not required because the proposed action will not affect listed species or critical habitat. The NRC staff has also determined that the proposed action is not a type of activity having the potential to cause effects on historic properties. Therefore, no further consultation is required under Section 106 of the National Historic Preservation Act.

Conclusion: The staff has reviewed the exemption request submitted by PPL. Allowing loading of Framatome 9x9-2 fuel assemblies in the NUHOMS® 61BT DSC would have no significant impact on the environment.

FINDING OF NO SIGNIFICANT IMPACT

The environmental impacts of the proposed action have been reviewed in accordance with the requirements set forth in 10 CFR Part 51. Based upon the foregoing Environmental Assessment, the Commission finds that the proposed action of granting the exemption from specific provisions of 10 CFR 72.212(a)(2), 72.212(b)(2)(i)(A), 72.212(b)(7), and 10 CFR 72.214, to allow PPL to load of Framatome ANP 9x9-2 fuel assemblies in the NUHOMS® 61BT DSC, subject to conditions, will not significantly impact the quality of the human environment. Accordingly, the Commission has determined that an environmental impact statement for the proposed exemption is not warranted.

In accordance with 10 CFR 2.390 of NRC's "Rules of Practice," final NRC records and documents regarding this proposed action are publically available in the records component of NRC's Agencywide Documents Access and Management System (ADAMS). The request for exemption dated January 31, 2006, and March 6, 2006, was docketed under 10 CFR Part 72, Docket No. 72-28. These documents may be inspected at NRC's Public Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. These documents may also be viewed electronically on the public computers located at the NRC's Public Document Room (PDR), O1F21, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852. The PDR reproduction contractor will copy documents for a fee. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS, should contact the NRC PDR Reference staff by telephone at 1-800-397-4209 or (301) 415-4737, or by e-mail to pdr@nrc.gov

Dated at Rockville, Maryland, this 31st day of March, 2006.

FOR THE NUCLEAR REGULATORY COMMISSION.
/RA/

Joseph M. Sebrosky, Senior Project Manager
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

10 CFR 72.214, to allow PPL to load of Framatome ANP 9x9-2 fuel assemblies in the NUHOMS® 61BT DSC, subject to conditions, will not significantly impact the quality of the human environment. Accordingly, the Commission has determined that an environmental impact statement for the proposed exemption is not warranted.

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Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

*See previous concurrence

OFC	SFPO		SFPO	E	OGC	E	SFPO		SFPO	
NAME	JSebrosky		EZiegler		STreby (NLO)		RNelson		WRuland	
DATE	3/29/06		3/3/06		3/22/2006		3/24/2006		03/29/06	

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