

March 13, 2003

Mr. G. A. Kuehn, Jr.
Vice President SNEC and
Program Director SNEC Facility
GPU Nuclear, Inc.
Route 441 South
P.O. Box 480
Middletown, PA 17057-0480

SUBJECT: SAXTON NUCLEAR EXPERIMENTAL CORPORATION – ENVIRONMENTAL
ASSESSMENT RE: LICENSE TERMINATION PLAN AMENDMENT
(TAC NO. MA8076)

Dear Mr. Kuehn:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for amendment dated February 2, 2000, as supplemented on June 23, August 11, September 18 and December 4, 2000, January 30, February 14, March 15 and 19, June 20, July 2 and September 4, 2001, and January 11 and 24, February 4, May 22 and 28, July 11, August 20, September 17, 23, 24, and 26, October 10, and December 16, 2002. The proposed amendment would approve the License Termination Plan (LTP) for the Saxton Nuclear Experimental Corporation Facility.

A Notice of Issuance of the Environmental Assessment and Finding of No Significant Impact is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

Alexander Adams, Jr., Senior Project Manager
Research and Test Reactors Section
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No. 50-146

Enclosures: Notice of Issuance of Environmental Assessment
Environmental Assessment and Finding of No Significant Impact

cc w/encl: See next page

Saxton Nuclear
Experimental Corporation

Docket No. 50-146

cc:

Mr. Michael P. Murphy
Bureau of Radiation Protection
Department of Environmental Protection
13th Floor, Rachel Carson State Office
Building
P.O. Box 8469
Harrisburg, PA 17105-8469

Mr. Jim Tydeman
1402 Wall Street
Saxton, PA 16678

Mr. James H. Elder, Chairman
Concerned Citizens for SNEC Safety
Wall Street Ext.
Saxton, PA 16678

Mr. Ernest Fuller
1427 Kearney Hill Road
Six Mile Run, PA 16679

Saxton Borough Council
ATTN: Judy Burket
707 9th Street
Saxton, PA 16678

Mr. David J. Thompson, Chair
Bedford County Commissioners
County Court House
203 South Juliana Street
Bedford, PA 15522

Mrs. Alexa Cook, Chairman
Huntingdon County Commissioners
County Court House
Huntingdon, PA 16652

Saxton Community Library
P.O. Box 34
Saxton, PA 16678

Carbon Township Supervisors
ATTN: Penny Brode, Secretary
R. D. #1, Box 222-C
Saxton, PA 16678

Hopewell Township - Huntingdon County
Supervisors
ATTN: Reba Fouse, Secretary
RR 1 Box 95
James Creek, PA 16657-9512

Mr. D. Bud McIntyre, Chairman
Broad Top Township Supervisors
Broad Top Municipal Building
Defiance, PA 16633

Mr. Don Weaver, Chairman
Liberty Township Supervisors
R. D. #1
Saxton, PA 16678

U.S. Army Corps of Engineers
Baltimore District
ATTN: S. Snarski/P. Juhle
P.O. Box 1715
Baltimore, MD 21203

The Honorable Robert C. Jubelirer
President Pro-Temp Senate of
Pennsylvania
30th District
State Capitol
Harrisburg, PA 17120

Mr. James J. Byrne
Three Mile Island Nuclear Generating
Station
P.O. Box 480
Middletown, PA 17057

Mr. Robert F. Saunders
First Energy Corp.
76 South Main Street
Akron, OH 44308

Ms. Mary E. O'Reilly
First Energy Legal Department
76 South Main Street
Akron, OH 44308

Mr. Manuel Delgado
2799 Battlefield Road
Fishers Hill, VA 22626

Mr. Eric Blocher
216 Logan Avenue
Wyomissing, PA 19610

Mr. David Sokolsky
1000 King Salmon Avenue
Eureka, CA 95503

Mr. Gene Baker
501 16th Street
Saxton, PA 16678

Mr. Dick Spargo
1004 Main Street
Saxton, PA 16678

Mr. Mark E. Warner
AmerGen Energy Co., LLC
P.O. Box 480
Middletown, PA 17057

Mr. G. A. Kuehn, Jr.
Vice President SNEC and
Program Director SNEC Facility
GPU Nuclear, Inc.
P.O. Box 480
Middletown, PA 17057-0480

James Fockler, Chairman
Saxton Citizens Task Force
1505 Liberty Street
Saxton, PA 16678

Dr. Rodger W. Granlund
Saxton Independent Inspector
Radiation Science and Engineering Center
The Pennsylvania State University
Breazeale Nuclear Reactor
University Park, PA 16802-2301

Mr. Gareth McGrath
Altoona Mirror
301 Cayuga Avenue
Altoona, PA 16603

Dr. William Vernetson
Director of Nuclear Facilities
Department of Nuclear Engineering
Sciences
University of Florida
202 Nuclear Sciences Center
Gainesville, FL 32611

Mrs. Bunny Barker
Box 143, RR 1
James Creek, PA 16657

Mr. Gary Leidich
Executive Vice President
First Energy Nuclear Operating Corp.
76 South Main Street
Akron, OH 44308

March 13, 2003

Mr. G. A. Kuehn, Jr.
Vice President SNEC and
Program Director SNEC Facility
GPU Nuclear, Inc.
Route 441 South
P.O. Box 480
Middletown, PA 17057-0480

SUBJECT: SAXTON NUCLEAR EXPERIMENTAL CORPORATION – ENVIRONMENTAL
ASSESSMENT RE: LICENSE TERMINATION PLAN AMENDMENT
(TAC NO. MA8076)

Dear Mr. Kuehn:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for amendment dated February 2, 2000, as supplemented on June 23, August 11, September 18 and December 4, 2000, January 30, February 14, March 15 and 19, June 20, July 2 and September 4, 2001, and January 11 and 24, February 4, May 22 and 28, July 11, August 20, September 17, 23, 24, and 26, October 10, and December 16, 2002. The proposed amendment would approve the License Termination Plan (LTP) for the Saxton Nuclear Experimental Corporation Facility.

A Notice of Issuance of the Environmental Assessment and Finding of No Significant Impact is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

Alexander Adams, Jr., Senior Project Manager
Research and Test Reactors Section
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No. 50-146

Enclosures: Notice of Issuance of Environmental Assessment
Environmental Assessment and Finding of No Significant Impact
cc w/encl: See next page

DISTRIBUTION:

PUBLIC	RORP/R&TR r/f	TDragoun	MMendonca
AAdams	WBeckner	OGC	EHylton
FGillespie	DMatthews	SHolmes	CBassett
WEresian	Plsaac	PDoyle	PMadden
DHuges	LCamper, NMSS	CCraig, NMSS	
SNalluswami, NMSS	MWong, NMSS	GHill (2) (T5-C3)	

ADAMS ACCESSION NO.: ML030350564

TEMPLATE #: NRR-106

OFFICE	RORP:LA	RORP:PM	OGC	RORP:SC
NAME	EHylton:rdr	AAdams		PMadden
DATE	02/ 21 /03	02/ 26 /03	03/ 06 /03	03/ 12 /03

C = COVER

**E = COVER & ENCLOSURE
OFFICIAL RECORD COPY**

N = NO COPY

UNITED STATES NUCLEAR REGULATORY COMMISSIONSAXTON NUCLEAR EXPERIMENTAL CORPORATIONANDGPU NUCLEAR, INC.SAXTON NUCLEAR EXPERIMENTAL FACILITYDOCKET NO. 50-146NOTICE OF ISSUANCE OF ENVIRONMENTAL ASSESSMENTAND FINDING OF NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an amendment for Amended Facility License No. DPR-4, issued to the Saxton Nuclear Experimental Corporation (SNEC) and GPU Nuclear, Inc. (the licensees), for the Saxton Nuclear Experimental Facility. The proposed action would approve the SNEC Facility License Termination Plan (LTP).

Description of Proposed Action

The proposed action is NRC approval of the SNEC's LTP, which contains the radiation release criteria [i.e., derived concentration guideline levels (DCGLs)], and the description of the final status survey plan required by the NRC. NRC review and approval of the LTP will verify that the remainder of the decommissioning activities will be performed in accordance with NRC regulations.

The SNEC Facility is a deactivated pressurized-water nuclear reactor located on about 5,300 square meters (1.148 acres) less than a mile north of the Borough of Saxton in Liberty Township, Bedford County, Pennsylvania. The reactor was licensed to operate at 23.5 megawatt thermal (MWT).

The SNEC Facility was built from 1960 to 1962 and operated from 1962 to 1972. The Facility was placed in a SAFSTOR-equivalent status after its shutdown in 1972 when all the nuclear fuel was removed from the reactor and returned to the owner of the fuel, the Atomic Energy Commission. The control rod blades and superheated steam test loop were also shipped offsite. Following fuel removal, some equipment, tanks, and piping located outside of the reactor containment vessel (CV) were removed. From 1972 to 1974, the buildings and structures that supported reactor operations were partially decontaminated.

Radiological decontamination of reactor support structures and buildings was performed between 1987-1989 in preparation for demolition of these structures. This work included decontamination of the Control and Auxiliary Building, the Radioactive Waste Disposal Facility, the Yard Pipe Tunnel, and the Filled Drum Storage Bunker, and removal of the Refueling Water Storage Tank. After the NRC accepted the final release radiological survey for this work, these structures were demolished in 1992.

In April of 1998, the NRC approved the final stage of decommissioning. In 1998, the large component structures: pressurizer, steam generator, and reactor vessel were removed and shipped to the Chem-Nuclear low-level waste disposal facility in Barnwell, South Carolina. The only remaining structure of the original facility is the CV. The Saxton Steam Generating Station basement and adjoining Intake/Discharge Tunnels and associated underground discharge piping have also been involved in decommissioning activities. This decommissioning is in preparation for release of the site for unrestricted use.

The licensees are proposing to decontaminate the site to meet the unrestricted release criteria [0.25 Sieverts per year (Sv/yr) (25 milliroentgen-equivalent-man per year (25 mrem/yr)) and residual radioactivity as low as reasonably achievable] per 10 CFR 20.1402.

Summary of the Environmental Assessment

The NRC staff reviewed the licensees' application which included a Decommissioning Environmental Report. To document its review, the NRC staff has prepared an environmental assessment (EA) which discusses the SNEC Facility background; site description; current environmental conditions including land use, geology, water resources (surface water and groundwater) and waste management; examines the no action alternative to the proposed action; and presents the environmental impact of the proposed action including radiological, non-radiological and cumulative environmental impacts. The radiological and non-radiological impacts of the proposed action are reproduced from the EA below.

Radiological Impacts

At the time of license termination, the only source of exposure to members of the public would be any residual radioactivity within remaining buildings or within the site soils.

The derived concentration guideline levels (DCGLs) are concentration limits on the residual radioactivity that can be left in buildings and in soils, and still be in compliance with the dose limit of 0.25 Sv/yr (25 mrem/yr) as specified in 10 CFR Part 20, Subpart E. The manner in which the DCGLs are derived for the SNEC is documented in the LTP.

NRC would evaluate the adequacy of the DCGLs in providing protection for members of the public as the site is released for unrestricted use based on the approved LTP. The LTP would be bounded by the dose limit of 0.25 Sv/yr (25 mrem/yr) as specified in 10 CFR Part 20, Subpart E.

In deriving the soil DCGLs, a resident-farmer would be considered as the average member of the critical population group. The hypothetical resident farmer is assumed to build a house, draw water from a well, grow plant food and fodder, raise livestock, and catch fish from

a pond all within or affected by residual radioactivity in the soil. The resident farmer scenario is considered to embody the greatest number of exposure pathways of any scenario envisioned.

The DCGLs for buildings assumes a light industrial worker as the average member of the critical group. The worker is assumed to be exposed to residual radioactivity remaining on the walls and floor of a remaining structure at the site as he goes about light industrial activities.

NRC would evaluate the appropriateness of the exposure scenarios postulated and the methodology used for deriving the DCGLs. NRC would only approve the LTP if the evaluation concluded that the potential radiation exposures caused by residual radionuclide concentrations have not been underestimated by the licensees and are protective of the general public.

The licensees would use a series of surveys and a final status survey to demonstrate compliance with 10 CFR Part 20, Subpart E, consistent with the Radiation Survey and Site Investigation process and the Data Quality Objectives (DQO) process. Planning for the final status survey involves an iterative process that requires appropriate site classification (on the basis of the potential residual radionuclide concentration levels relative to the DCGLs) and formal planning using the DQO process. The licensees have committed to an integrated design that would address the selection of appropriate survey and laboratory instrumentation and procedures, and that includes a statistically based measurement and sampling plan for collecting and evaluating the data needed for the final status survey. The staff has determined that the sampling strategy and survey data evaluation methodology presented in the LTP are adequate.

Based on the discussion above, there are no significant radiological environmental impacts associated with the proposed action.

Non-radiological Impacts

The scope of the EA is limited to the adequacy of the DCGLs and the adequacy of the final status survey described in the LTP. The proposed action does not involve any historic sites. Therefore, there are no significant non-radiological impacts on the environmental resources.

Finding of No Significant Impact

On the basis of the EA, NRC concludes that the approval of the LTP will not cause any significant impacts on the human environment and is protective of human health. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensees' letter dated February 2, 2000, as supplemented on June 23, August 11, September 18 and December 4, 2000, January 30, February 14, March 15 and 19, June 20, July 2 and September 4, 2001, and January 11 and 24, February 4, May 22 and 28, July 11, August 20, September 17, 23, 24, and 26, October 10, and December 16, 2002. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. The EA can be found in ADAMS under accession number ML030350564. 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.

Single copies of the EA may be obtained from Alexander Adams, Jr., Senior Project Manager, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, M.S. O-12-G-13, Washington, D.C. 20555.

Dated at Rockville, Maryland, this 13th day of March 2003.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Patrick M. Madden, Chief
Research and Test Reactors Section
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

SAXTON NUCLEAR EXPERIMENTAL CORPORATION

AND

GPU NUCLEAR, INC.

DOCKET NO. 50-146

SAXTON NUCLEAR EXPERIMENTAL FACILITY

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

1.0 Introduction

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an amendment for Amended Facility License No. DPR-4, issued to the Saxton Nuclear Experimental Corporation (SNEC) and GPU Nuclear, Inc. (the licensees), for the Saxton Nuclear Experimental Facility. The proposed action would approve the SNEC Facility License Termination Plan (LTP). The proposed action is in accordance with the licensees' application for amendment dated February 2, 2000, as supplemented on June 23, August 11, September 18 and December 4, 2000, January 30, February 14, March 15 and 19, June 20, July 2 and September 4, 2001, and January 11 and 24, February 4, May 22 and 28, July 11, August 20, September 17, 23, 24, and 26, October 10, and December 16, 2002. GPU Nuclear, Inc. is carrying out the SNEC Facility decommissioning on behalf of the site owner, SNEC. Consistent with the decommissioning rule that appeared in the *Federal Register* notice dated July 29, 1996 (Vol. 61, No. 146, pp. 39283-39284), NRC has prepared this environmental assessment (EA) to determine the adequacy of radiation release criteria and the final status survey presented in the LTP.

1.1 Background

The SNEC Facility is a deactivated pressurized-water nuclear reactor located on about 5,300 square meters (1.148 acres) less than a mile north of the Borough of Saxton in Liberty Township, Bedford County, Pennsylvania. The Facility was built on the east side of, and adjacent to, the former Saxton Steam Generating Station (SSGS) belonging to the Pennsylvania Electric Company (PENELEC). The reactor was licensed to operate at 23.5 megawatt thermal (MWT). The SNEC site is about 161 km (100 miles) east of Pittsburgh and about 144 km (90 miles) west of Harrisburg, Pennsylvania. The nearest population center of 25,000 persons or more is the City of Altoona, Pennsylvania, which lies about 32 km (20 miles) northwest of the SNEC Facility site.

The SNEC Facility was built from 1960 to 1962 and operated from 1962 to 1972. The Facility was placed in a SAFSTOR-equivalent status after its shutdown in 1972 when all the nuclear fuel was removed from the reactor and returned to the owner of the fuel, the Atomic Energy Commission. The control rod blades and superheated steam test loop were also shipped offsite. Following fuel removal, some equipment, tanks, and piping located outside of the reactor containment vessel (CV) were removed. From 1972 to 1974, the buildings and structures that supported reactor operations were partially decontaminated (GPU, 2002a).

Radiological decontamination of reactor support structures and buildings was performed between 1987-1989 in preparation for demolition of these structures. This work included decontamination of the Control and Auxiliary Building, the Radioactive Waste Disposal Facility, the Yard Pipe Tunnel, and the Filled Drum Storage Bunker, and removal of the Refueling Water Storage Tank. After the NRC accepted the final release radiological survey for this work, these structures were demolished in 1992.

On February 16, 1996, the licensees submitted a decommissioning plan in accordance with the regulations in 10 CFR 50.82 in effect at that time. On July 29, 1996, the NRC amended its regulations on decommissioning and termination of operating licenses for nuclear power reactors. Based on the new regulations, a Post Shutdown Decommissioning Activities Report (PSDAR) was required to be submitted to the NRC and be made available to the public for comment. Further, decommissioning plans for power reactors that were either submitted for approval or approved before the effective date of this rule were considered as PSDAR submittals as per the provisions of 10 CFR 50.82.

In April of 1998, the NRC approved the final stage of decommissioning. In 1998, the large component structures: pressurizer, steam generator, and reactor vessel were removed and shipped to the Chem-Nuclear low-level waste disposal facility in Barnwell, South Carolina (SNEC, 1999).

The only remaining structures of the original facility are the CV, the SSGS basement and adjoining Intake/Discharge Tunnels and associated underground discharge piping. In addition, as part of the decommissioning process, a Decommissioning Support Facility was constructed adjacent to the CV. The PENELEC Line Shack, PENELEC Garage, PENELEC Warehouse, PENELEC Switchyard and Building have been used by SNEC for storage, staging and other such activities and, except for the small switchyard building, were included in the scope of the comprehensive final release survey. This decommissioning is in preparation for release of the site for unrestricted use (GPU, 2002a).

The LTP was submitted to NRC on February 2, 2000. The LTP was subsequently revised in response to NRC comments and resubmitted on September 26 (Rev. 1) and December 16, 2002 (Rev. 2). NRC regulations in 10 CFR 50.82 require that an LTP contain a site characterization, identification of remaining dismantlement activities, plans for site remediation, the licensee's plan for the final radiation survey, information on whether the site is being released for restricted or unrestricted use, an assurance that the licensee has adequate funds to complete decommissioning, and a supplement to the environmental report that describes any new information or significant environmental change from what the licensee provided in the PSDAR. The licensees are proposing to decontaminate the site to meet the unrestricted release criteria [0.25 Sieverts per year (Sv/yr) (25 milliroentgen-equivalent-man per year

(25 mrem/yr)) and residual radioactivity as low as reasonably achievable] per 10 CFR 20.1402.

1.2 Scope

NRC rule changes in 1996 (61 FR 39278) allow the licensee to perform major decommissioning activities after submitting a PSDAR. The 1996 rule prohibits decommissioning activities that could result in significant environmental impacts that have not been previously analyzed. The impacts of decommissioning activities for nuclear power reactors have been assessed previously by NRC in the Generic Environmental Impact Statement (GEIS) for Decommissioning (NRC, 1988a, 2002) and are not reevaluated in the EA. The PSDAR is required to include a discussion of the reasons for concluding that the planned decommissioning activities are bound by the GEIS and previous site-specific analyses.

At this time, the NRC is considering only approval of the licensees' LTP, not termination of the license. Approval of the LTP, as discussed in the Statements of Consideration that accompanied the Final Rule on Decommissioning Nuclear Power Reactors (61 FR 39284, July 29, 1996), requires the NRC to consider: 1) the licensee's plan for assuring sufficient funds will be available for final site release; 2) radiation release criteria for license termination; and 3) the adequacy of the final survey required to verify that these release criteria have been met. NRC has reviewed the decommissioning costs to ensure that adequate licensee funds will be available for site decommissioning, and this review is documented in the safety evaluation report. However, financial assurance is not analyzed in this EA since financial assurance methods would not result in any environmental impacts. The radiation release criteria and adequacy of the final status survey are addressed in this EA.

1.3 Purpose and Need for the Proposed Action

In accordance with 10 CFR 50.82, NRC will approve the LTP by license amendment if it has been determined that the remainder of the decommissioning activities will be performed in accordance with NRC regulations, are not detrimental to the health and safety of the public, and do not have a significant effect on the quality of the environment.

1.4 Issues Studied in Detail

The defined scope of license termination activities at the SNEC site result in relatively few resource areas reasonably expected to be impacted. Consistent with NEPA regulations and guidance to focus on environmental issues of concern, the following resource areas, selected because of their potential to be affected by license termination, are discussed in detail in this environmental assessment. Land use, geology, water resources, waste management, and human health are discussed due to the potential for impacts from remaining structures and/or residual material left at the site.

1.5 Issues Eliminated from Detailed Study

For reasons cited above, impacts to air quality, socioeconomic factors, historical and cultural properties, ecological resources (including endangered and threatened species), transportation, noise, visual and scenic quality, and accident analyses are not reasonably expected to be

impacted by approval of license termination activities (adequacy of radiation release criteria and the final status survey) and subsequent release of the SNEC site for unrestricted use.

It is important to note that impacts from decommissioning activities are not studied in this document. Decommissioning impacts have been assessed previously by the NRC in program-level NEPA documents, specifically, the GEIS for Decommissioning and a project-specific EA (NRC, 1988a and 1988b). In March 1998, the NRC issued the *Environmental Assessment by the NRC Related to the Request to Authorize Facility Decommissioning – Saxton Nuclear Experimental Facility – Saxton Nuclear Experimental Corporation and GPU Nuclear, Inc.* This EA analyzed the potential environmental impacts associated with the proposed DECON decommissioning alternative. The DECON decommissioning alternative called for the immediate dismantlement of the SNEC Facility “in order to (1) remove all remaining components from the site and all structures down to 91 cm (3 ft) below ground level, (2) stabilize the radiological conditions at the site, and (3) establish a basis for requesting the site be released for unrestricted use.”

2.0 ALTERNATIVES, INCLUDING THE PROPOSED ACTION

2.1 Proposed Action

The proposed action is NRC approval of the SNEC’s LTP, which contains the radiation release criteria [i.e., derived concentration guideline levels (DCGLs)], and the description of the final status survey plan required by the NRC. NRC review and approval of the LTP will verify that the remainder of the decommissioning activities will be performed in accordance with NRC regulations.

2.2 Alternatives to the Proposed Action

2.2.1 No Action

NRC considered the no-action alternative relative to the licensees’ request for approval of the LTP. Under the no-action alternative, NRC would not approve the LTP and, therefore, would not be able to terminate the license. This alternative is in conflict with NRC’s regulations in 10 CFR 50.82, which states that an LTP will be approved if it has been determined that the remainder of the decommissioning activities will be performed in accordance with NRC regulations, are not detrimental to the health and safety of the public, and do not have a significant effect on the quality of the environment. Therefore, the no-action alternative is not considered to be reasonable and is not analyzed further in this EA.

3.0 SITE DESCRIPTION AND CURRENT SITE ENVIRONMENTAL CONDITIONS

The SNEC Site is located about 161 km (100 miles) east of Pittsburgh, Pennsylvania, and 145 km (90 miles) west of Harrisburg, Pennsylvania, in the Allegheny Mountains, approximately three quarters of a mile (1 km) north of the Borough of Saxton in Liberty Township, Bedford County, Pennsylvania. The site is on the north side of Pennsylvania Route 913, approximately 27 km (17 miles) south of U.S. Route 22 and about 24 km (15 miles) north of the Breezewood Interchange of the Pennsylvania Turnpike. Elevation at the site is approximately 247 m (811 ft) MSL (SNEC, 2000b).

The following sections provide detailed information on the specific environmental resources and subject areas relevant to the nature of the proposed action.

3.1 Land Use

Traditional land uses at and in proximity to the affected site are important in the consideration of the suitability of the exposure scenarios selected. Current uses of adjoining properties include undeveloped wooded and residential areas. The Raystown Branch of the Juniata River in the vicinity of the site is widely used for recreation by local residences primarily for boating and fishing. However, the majority of recreational activities including boating, fishing, camping, hunting and picnicking are centered downstream of the site on Raystown Lake (GPU, 2002b).

3.2 Geology

The site lies in the Appalachian highlands in the Ridge and Valley physiographic province. This province comprises alternate successions of narrow ridges and broad or narrow valleys trending generally northeast. This is a region of alternating hard and soft sedimentary rocks that have been severely folded by lateral compression into a series of anticlines and synclines. The SNEC Facility is located on the western limb of a major syncline that generally strikes to the northeast and dips to the east. The ridges surrounding the site and the bedrock beneath the alluvial Pleistocene and recent deposits at the site are Upper Devonian age (Ground/Water Technology, 1981).

3.3 Water Resources

3.3.1 Surface Water

The primary surface water body in the vicinity of the SNEC site is the Raystown Branch of the Juniata River, which flows to the northeast and borders the northern and western edges of the PENELEC property surrounding the site. The Raystown Branch of the Juniata River is a designated Class 1 Water (PAF&B, 1999). The Juniata is approximately 161 km (100 miles) long and is the second largest tributary of the Susquehanna River (PAF&B, 1999).

The SNEC site, as well as portions of the PENELEC area and surrounding uncontrolled lands, lie within the 100-year floodplain of the Juniata River. Approximate stream flows in the Juniata have been measured as follows: minimum flow - 32.5 cubic meters per seconds [1,147 cubic feet per second (cfs)], maximum flow - 370 cubic meters per seconds (13,095 cfs), and an average stream flow of approximately 201 cubic meters per seconds (7,121 cfs) (USGS, 2000). Normal elevation of the river at the site is approximately 242 m (794 ft). The SNEC site itself is located at about 247 m (811 ft) MSL.

This portion of the Juniata is connected to the Raystown Lake Regional Recreational Area, located approximately 55 km (34 miles) northeast of the SNEC site. The Raystown Dam, built in the 1960s by the U.S. Army Corps of Engineers (COE), forms the Raystown Recreational area. The COE operates the dam for flood-control, recreation, and water-quality purposes. PENELEC has deeded portions of their property along the Juniata and adjacent to the SNEC site to the COE for the purpose of flood control. These areas have been marked by a series of red stakes along the riverbank bordering the SNEC site.

3.3.2 Groundwater

Depth to groundwater has been measured at approximately 0.91 to 1.5 m (3 to 5 ft) below the surface at and in the immediate vicinity of the site. Groundwater observations in test borings indicate a groundwater gradient of 3.1 to 4.6 m (10 to 15 ft) over a distance of 183 to 244 m (600 to 800 ft) from the site to the river. The direction of groundwater flow within overburden is essentially west, towards the Raystown Branch of the Juniata River. Groundwater movement in the bedrock beneath the site is predominantly controlled by the fractures in the bedrock and within the spaces between the individual rock layers of the bedrock. There are two dominant fractures: 1) trending (or influencing flow) to the northeast and dipped (tilting) moderately to the northwest, and 2) trending northwest-southeast and dipped steeply toward the southeast.

The groundwater regime at the SNEC site consists of an overburden and bedrock water-bearing units. The overburden water-bearing unit is comprised of an upper layer of construction fill materials (i.e., silt, sand, and gravel or ash and cinders) and a lower stream-deposited boulder layer where the boulders are quartzite and the interstices are filled primarily with silt and clay. The thickness of the fill layer ranges from 0 m (0 ft) near the river to 0.4 to 1.2m (1.4 to 4 ft) elsewhere, and the thickness of the boulder layer ranges from approximately 2 to 4.6 m (7 to 15 ft). Two hydrogeologic cross-sections across the site (Figures 5 and 6, Haley & Aldrich, 2001) illustrate the variations in the thicknesses of these two layers.

The bedrock water-bearing unit, which lies beneath the boulder layer, is Upper Devonian marine deposits of grey, red, and olive-green siltstone and sandstone with variable amounts of clay. The predominant lithology of the bedrock at this site is a weathered and fractured siltstone. The coloration of the bedrock varies based upon oxidation and reduction conditions during deposition of the sediments. Groundwater movement in the bedrock is controlled by the fractures and bedding within the rock materials. There are two fracture patterns at the site. The apparent dominate trend is northwest to southeast with dips steeply to the southwest, and a second fracture trend (which approximates the strike of the bedding) is northeast to southwest with dips moderately to the northwest (Haley & Aldrich, 2001, and Ground/Water Technology, 1981). The bedrock elevation decreases from east to west across the site and from the CV to the Raystown Branch of the Juniata River.

Currently, tritium (H-3) concentrations in the groundwater are below the minimum detectable activity (MDA) for all wells sampled during an April 2002 sampling event. A tritium concentration of 760 pCi/L has previously been observed in an overburden monitoring well. Based upon analytical results for NRC-split samples, the uranium nuclides (U-234, U-235, and U-238) were the only radionuclides that exceeded the MDAs in the groundwater for the April 2002 sampling event. Analyses were performed on the following radionuclides: I-129, Co-60, Cs-137, Am-241, Pu-238, Pu-239, Pu-241, U-234, U-235, U-238, Sr-90, and H-3. The total uranium concentrations for several monitoring wells, both overburden and bedrock, exceeded background levels by 1 to 4 pCi/L. Although these concentrations are elevated from the background levels, they do not represent dose or safety issues relevant to humans or the environment (GPU, 2002a).

3.4 Waste Management

Decommissioning wastes associated with the SNEC site are characterized as low-level radioactive wastes. The packaging and amount of low-level radioactive waste in each shipment is restricted by NRC regulations (10 CFR Part 71), and U.S. Department of Transportation regulations (49 CFR Parts 170-189). As of September 2002, approximately 4,532 cubic meters (160,046 cubic feet) of waste has been shipped from the SNEC site.

Decommissioning activities may generate very small amounts of hazardous waste. A total of 27 drums of Polychlorinated Biphenyls (PCBs) have been generated during the excavation of the SSGS. Fourteen drums of PCBs waste were shipped for disposal in October 2001, and the remaining drums will be disposed of prior to license termination. In addition, mixed waste (mixture of radioactive materials and PCBs) from residual contamination in the SSGS sumps will eventually be sent to a licensed disposal facility prior to site license termination.

Asbestos removal activities started in 1996 and are now completed. The material was packaged and shipped for disposal to an approved disposal facility. However, should any asbestos bearing material be discovered, abatement and disposal would take place in accordance with all applicable State and Federal regulations (GPU, 2002b).

4.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

The following sections discuss possible impacts on the environment resulting from approval of the LTP.

4.1 Radiological Impacts

At the time of license termination, the only source of exposure to members of the public would be any residual radioactivity within remaining buildings or within the site soils.

The derived concentration guideline levels (DCGLs) are concentration limits on the residual radioactivity that can be left in buildings and in soils, and still be in compliance with the dose limit of 0.25 Sv/yr (25 mrem/yr) as specified in 10 CFR Part 20, Subpart E. The manner in which the DCGLs are derived for the SNEC is documented in the LTP.

NRC would evaluate the adequacy of the DCGLs in providing protection for members of the public as the site is released for unrestricted use based on the approved LTP. The LTP would be bounded by the dose limit of 0.25 Sv/yr (25 mrem/yr) as specified in 10 CFR Part 20, Subpart E.

In deriving the soil DCGLs, a resident-farmer would be considered as the average member of the critical population group. The hypothetical resident farmer is assumed to build a house, draw water from a well, grow plant food and fodder, raise livestock, and catch fish from a pond all within or affected by residual radioactivity in the soil. The resident farmer scenario is considered to embody the greatest number of exposure pathways of any scenario envisioned.

The DCGLs for buildings assumes a light industrial worker as the average member of the critical group. The worker is assumed to be exposed to residual radioactivity remaining on the walls and floor of a remaining structure at the site as he goes about light industrial activities.

NRC would evaluate the appropriateness of the exposure scenarios postulated and the methodology used for deriving the DCGLs. NRC would only approve the LTP if the evaluation concluded that the potential radiation exposures caused by residual radionuclide concentrations have not been underestimated by the licensees and are protective of the general public.

The licensees would use a series of surveys and a final status survey to demonstrate compliance with 10 CFR Part 20, Subpart E, consistent with the Radiation Survey and Site Investigation process and the Data Quality Objectives (DQO) process. Planning for the final status survey involves an iterative process that requires appropriate site classification (on the basis of the potential residual radionuclide concentration levels relative to the DCGLs) and formal planning using the DQO process. The licensees have committed to an integrated design that would address the selection of appropriate survey and laboratory instrumentation and procedures, and that includes a statistically based measurement and sampling plan for collecting and evaluating the data needed for the final status survey. The staff has determined that the sampling strategy and survey data evaluation methodology presented in the LTP are adequate.

Based on the discussion above, there are no significant radiological environmental impacts associated with the proposed action.

4.2 Nonradiological Impacts

The scope of the EA is limited to the adequacy of the DCGLs and the adequacy of the final status survey described in the LTP. The proposed action does not involve any historic sites. Therefore, there are no significant non-radiological impacts on the environmental resources described in Section 3.0.

4.3 Cumulative Impacts

The NRC has evaluated whether cumulative environmental impacts could result from an incremental impact of the proposed action when added to other past, present, or reasonably foreseeable future actions in the area. The proposed NRC approval of the LTP, when combined with known effects on resource areas at the site, are not anticipated to result in any cumulative impacts at the site.

5.0 FINDING OF NO SIGNIFICANT IMPACT

On the basis of the EA, NRC concludes that the approval of the LTP will not cause any significant impacts on the human environment and is protective of human health. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

Environmental impacts caused by site activity after NRC has terminated the SNEC Facility license would be evaluated, if necessary, by either the State of Pennsylvania or other agencies responsible for overseeing or regulating the specific future activity.

For further details with respect to the proposed action, see the licensees' letter dated February 2, 2000, as supplemented on June 23, August 11, September 18 and December 4, 2000, January 30, February 14, March 15 and 19, June 20, July 2 and September 4, 2001, and January 11 and 24, February 4, May 22 and 28, July 11, August 20, September 17, 23, 24, and 26, October 10, and December 16, 2002. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. 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 pdrc@nrc.gov.

6.0 AGENCIES AND PERSONS CONSULTED

The licensees contacted representatives from the U.S. Department of the Interior; U.S. Fish and Wildlife Service Pennsylvania Field Office; Pennsylvania Department of Conservation and Natural Resources (DCNR); Pennsylvania Fish and Boat Commission; and Pennsylvania Game Commission. The U.S. Fish and Wildlife Service responded with no concerns (USFWS, 2000).

For 2000, 2001, and 2002, the licensees completed a Pennsylvania Natural Diversity Inventory Search Form. The screening results identify if there are any potential conflicts that must be resolved by contacting the Pennsylvania Game Commission, Fish and Boat Commission, and DCNR to verify that there would be no impact to species of concern. The Inventory revealed hits on species of special concern to the DCNR. However, based on the information submitted by the licensees to DCNR concerning the site, DCNR determined that there would be no anticipated impact on the species of special concern identified during the screening (GPU, 2001; PA DCNR, 2001). The licensees have committed to repeating the screening request annually until the SNEC Facility project has been completed (GPU, 2001b).

In addition, the NRC staff prepared this EA with input from the State of Pennsylvania Bureau of Historic Preservation (the SHPO), by letters dated August and November 2000. In a letter dated August 11, 2000, the SHPO informed the licensees that no evaluation of historic structures would be necessary for this project area. However, the same letter indicates that a Phase I archaeological survey of the project area is required to locate potentially significant archaeological resources. In November 2000, the SHPO responded with a decision stating that no cultural resources surveys would be necessary for this project because the proposed action would impact only previously disturbed areas.

In accordance with its stated policy, on January 30, 2003, the staff consulted with the Pennsylvania State official, Mr. Michael P. Murphy of the Pennsylvania Department of Environmental Protection, Bureau of Radiation Protection, regarding the environmental impact of the proposed action. The State had no comments.

7.0 List of Preparers

Adams, A., Project Manager, Office of Nuclear Reactor Regulation, Decommissioning Issues.
Nalluswami, S., Project Manager, Division of Waste Management, Decommissioning Issues.
Peckenpaugh, J., Hydrologist, Division of Waste Management, Groundwater Issues.
Schneider, S., Health Physicist, Division of Waste Management, Radiological Issues.
Thaggard, M., Health Physicist, Division of Waste Management, Dose Assessment.
Wong, M., Environmental Project Manager, Division of Waste Management, Environmental Issues.
Sandia National Laboratories/New Mexico, Environmental Issues.

8.0 References

Ground/Water Technology, Inc., 1981.

GPU, 1996., Site Characterization Report, GPU Nuclear, 1996.

GPU, 2000a. Saxton Nuclear Experimental Corporation Facility License Termination Plan, Rev. 0, February, 2000, GPU Nuclear, Inc.

GPU, 2000b. Decommissioning Environmental Report, Revision 1, GPU Nuclear, Inc.

GPU, 2001a. Saxton Nuclear Experimental Corporation Facility License Termination Plan, Response to NRC Request for Additional Information, Letter dated March 19, 2001.

GPU, 2001b. Saxton Nuclear Experimental Corporation Facility License Termination Plan, Response to NRC Request for Additional Information, Letter dated June 20, 2001.

GPU, 2002a. Saxton Nuclear Experimental Corporation Facility License Termination Plan, Rev. 1, September, 2002, GPU Nuclear, Inc.

GPU, 2002b. Decommissioning Environmental Report, Revision 2, September, 2002, GPU Nuclear, Inc.

NRC, 1997, Final Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities, NUREG-1496, Office of Nuclear Regulatory Research, Washington, D.C.

NRC, 1988a. Final Generic Environmental Impact Statement on the Decommissioning of Nuclear Facilities, NUREG-0586, Office of Nuclear Regulatory Research, Washington D.C.

NRC, 1988b. Environmental Assessment by the U.S. Nuclear Regulatory Commission Related to the Request to Authorize Facility Decommissioning, Saxton Nuclear Experimental Corporation Facility, U.S. Nuclear Regulatory Commission Office of Nuclear Reactor Regulation Division of Reactor Program Management.

NRC, 2002. Generic Environmental Impact Statement on the Decommissioning of Nuclear Facilities; Supplement Dealing with Decommissioning of Nuclear Power Reactors, NUREG-

0586 Supplement 1, Office of Nuclear Reactor Regulation, Washington D.C.

10 CFR 20.1402. Part 20-Standards for Protection Against Radiation, Subpart E-Radiological Criteria for License Termination, Sec. 20.1402 Radiological criteria for unrestricted use, Code of Federal Regulations, Title 10, Volume 1, Parts 1 to 50, [Revised as of January 1, 2000, U.S. Government Printing Office via GPO Access].

PA DCNR, 2000. Pennsylvania Department of Conservation and Natural Resources, Wild Resources Conservation Fund, Endangered and Threatened Species of Pennsylvania On-line Site @ <http://www.dcnr.state.pa.us/wrcf/wrcfmain.htm>.

PA DCNR, 2001. Pennsylvania Natural Diversity Inventory "Potential Conflict" Response Form.

PAF&B, 1999. Pennsylvania Fish and Boat Commission, List of Endangered, Threatened, and Candidate Fishes of Pennsylvania Showing Prior Status and Status on Final Rulemaking Website http://www.state.pa.us/PA_Exec/Fish_Boat/pfbchom2.html; www.state.pa.us.pa.exce/fish-boat/mpagl.htm for the class of river.

SNEC, 1999. Radiological Environmental Monitoring Report for 1999, Saxton Nuclear Experimental Corporation.

SNEC, 2000a. Historical Site Assessment Report, March 2000, Saxton Nuclear Experimental Corporation (SNEC), GPU Nuclear Decontamination & Decommissioning Engineering.

SNEC, 2000b. SNEC Facility Final Radiation Survey Plan, Rev. 0.

USFWS, 2000. Attachment to Correspondence Between S. Lewis, Decommissioning Branch, U.S. Nuclear Regulatory Commission, Washington, D.C. and D. Densmore, U.S. Fish and Wildlife Service Pennsylvania Regional Field Office, State College, Pennsylvania.

USGS, 2000. Search of 7/20/2000 in U.S. Geological Survey, Water Data Database. Monitoring Data from 1943 through 1995 Climatic years, April 1 through March 31 season.

Haley & Aldrich, March 14, 2001, "Report of Field Investigation Saxton Nuclear Experimental Station, Saxton, Pennsylvania". Letter Report to GPU Nuclear.

Dated: March 13, 2003