

November 2, 2001

LICENSEES: Saxton Nuclear Experimental Corporation (SNEC) and GPU Nuclear, Inc. (GPU)

FACILITY: Saxton Nuclear Experimental Facility (SNEF)

SUBJECT: SUMMARY OF MEETING BETWEEN SNEC, GPU AND THE NRC STAFF

On August 6, 2001, representatives of the NRC staff met at the Saxton site with representatives of the SNEC and GPU, the licensees for the SNEF. Attachment one is a list of meeting attendees.

The plant was operated between 1962 and 1972, and it was shut down in May 1972. In February 1975, the plant was placed in SAFSTOR until 1986, when phased dismantlement began with the removal of the support buildings, contaminated soil, and some materials in the containment. The licensees' decommissioning plan became the Post-Shutdown Decommissioning Activities Report. The resubmitted License Termination Plan (LTP) was accepted for detailed technical review in March 2000.

Technical review of the LTP has generated requests for additional information (RAI). This meeting was scheduled to provide clarification of decommissioning issues, including groundwater, that the licensee presented in their response to RAI3 (dated March 19, 2001). The discussions with the licensees' technical staff and consultants provided clarification and a better understanding of the site specific technical data and related information.

The meeting started with an introduction of those attending the meeting: NRC staff, licensee staff, public citizens, consultants, and contractors. According to TLG, contractor for GPU, the concrete removal from the containment vessel will be completed by the first quarter of 2002. The licensee plans to remove approximately 12 B-25 boxes of concrete per day during this removal operation. The licensee staff explained that dewatering and diversion of groundwater have been taking place during the current remediation. Sediments removed from the discharge canal contained minimal quantities of contamination. Seal chambers 1 and 2 have been remediated, but the final survey is yet to be done. Currently, seal chamber 3 is being sampled for PCB. In the former steam plant foot print area, all debris has been removed. The licensee has plans to characterize the intake tunnel, and anticipates no problems with this action. While clearing plants and bushes, the licensee accidentally mowed in the adjacent U.S. Army Corps of Engineers property a patch of Wild Oats, Virginia Millo, and Beek Plant which are classified as endangered plants. All outside remediation will be completed this fall (September/October 2001), and they plan to conduct the final survey during December 2001. The licensee anticipates LTP approval by the first quarter of 2002, NRC review of final status survey during the second quarter of 2002, termination of license by the third quarter of 2002, and site restoration by the first quarter of 2003.

The following describes the discussion and action items pertaining to specific questions in RAI3 and the licensee's responses dated March 19, 2001:

Question 1/RAI3: According to the licensee the previous conclusion which classified the area beneath the containment vessel (CV) as impacted may be premature, and it may be revised or reclassified. The licensee needs additional sampling to determine the actual classification of this area. The licensee and their contractor, TLG, discussed their plans for removing the concrete from the CV. Approximately 30 rock anchors will be installed into the bedrock adjacent and under the CV to prevent buoyant effects and uplifting. The core samples through the saddle have contained less than 1 pCi/g of Cs-137. The materials underneath the CV may be non-impacted.

The licensee clarified their discussion on the geometry of the proposed well installation, which will be used to monitor groundwater adjacent to the CV.

This issue remains unresolved.

Question 2/RAI3: March 19, 2001, response is acceptable.

Question 3/RAI3: GPU resumed their quarterly sampling of all existing groundwater monitoring wells in July 2001. GPU and NRC discussed how many additional quarterly sampling events will be needed to provide assurance that the sampling events are representative of long-term climatic conditions at this site. It was agreed that the number of additional sampling events will depend upon the occurrence of both wet and dry climatic periods that will produce a representative range of the seasonal climatic conditions.

GPU agreed to submit groundwater level data for all existing monitoring wells for each sampling event. For most sampling events, a tabular listing of the water levels will be adequate; however, potentiometric groundwater configuration maps of the water-bearing units should be submitted when these maps are needed to demonstrate a change in the groundwater flow direction from previously submitted maps.

NRC encouraged GPU to supplement their slug tests discussion on the new monitoring wells (in the latest RAI response) with additional information on how the tests were performed and analyzed to generate hydraulic conductivity (K) values for the water-bearing units and with additional information on how K values were developed from slug and packer tests performed on existing monitoring wells and test borings at this site. NRC recommended that a range of K values should be developed for the overburden and bedrock water-bearing units based upon an evaluation of the new slug tests and the existing aquifer tests. This evaluation is critical because the hydraulic conductivity is a significant parameter used in determining the time and distance of radionuclide transport in the groundwater.

NRC discussed with GPU's consultant, Haley & Aldrich, the need to provide descriptions of the new monitoring well logs. NRC had agreed earlier that core sampling and/or particle size testing would not be necessary for these new wells. NRC believes, if field logs of these wells are not available, that a brief discussion on significant lithologic variations in these wells from the typical conceptual logs for this site will be an appropriate substitute for these logs.

NRC discussed with GPU the importance of calculating the time-of-travel for plant-generated radionuclides dissolved in the groundwater for the overburden and bedrock water-bearing units.

These calculations should be based upon the range of K values and upon the hydraulic heads that are representative of seasonal climatic conditions at this site.

GPU was encouraged to examine the seasonal changes in the groundwater levels to determine whether the groundwater flow paths may alternate between the primary and secondary fracture orientations. It appears that the primary fracture orientation, north 45° west, is the predominant flow path direction of groundwater discharge from the plant site to the Raystown Branch of the Juniata River. However, water levels and groundwater flow paths that are representative of the range of climatic conditions at this site should be evaluated to determine whether the secondary fracture orientation, north 45° east, may become the flow path direction of groundwater discharge from the plant site to the Raystown Branch of the Juniata River.

Currently, there are 20 groundwater monitoring wells, which are sampled on a quarterly basis. It was recommended that water levels in these wells should be measured before groundwater samples are collected for radiological characterization. This information is required for dose modeling purposes. It was also recommended that the groundwater sampling should follow proper sampling protocol, including sample preservation, and chain-of-custody procedures between the sampling point and the analytical laboratory.

This issue remains unresolved.

Question 4/RAI3: March 19, 2001, response is acceptable.

Question 5/RAI3: March 19, 2001, response is acceptable.

Question 6/RAI3: The licensee staff stated that Argonne National Laboratory (ANL) is determining the distribution coefficients ( $K_d$ ). ANL plans to provide the distribution coefficients by September 18, 2001 (Note: Per telephone conversation with the licensee on September 24, 2001, ANL has not provided the information and is expected to provide by mid October 2001). This and other characterization information are required for the derivation of the derived concentration guidelines (DCGLs) using RESRAD computer code, Version 6.1. Classification of the discharge tunnel and other areas will be based on the final radiological survey. For example, the discharge tunnel ceiling may be classified as class 1, 2 or 3, floors as class 1, and walls as class 2 or 3. Phase 2 characterization of SSGS Discharge Tunnel and surrounding environs is underway. As part of the radiological characterization under Phase 2, river sediment samples are planned to be collected at three locations (4, 6 and 7 miles) in the upstream direction for background concentrations and at 10 locations (over a length of 4 miles) in the downstream direction and analyzed for site-generated radiological contamination in the sediments. The licensee is working to complete dose modeling by mid October 2001, at which time a publicly-noticed meeting may be conducted at the site to review these results and status of other remediation and decommissioning at this site. (Note: Subsequent telephone conversations with the licensee indicated that the mid October date would not be met).

This issue remains unresolved.

Question 7/RAI3: Licensee is planning as indicated:

1) disposal of the packaged one million pounds of asbestos containing debris to an approved facility - during the week of August 13, 2001. (Note: Per telephone conversation with the licensee on September 24, 2001, the debris was disposed of on August 20, 2001.)

2) disposal of 14 drums each containing PCBs to an approved disposal facility - before the week of August 27, 2001. (Note: Per telephone conversation with the licensee on September 24, 2001, the material will be disposed of by the end of October 2001.)

This issue remains unresolved.

3) removal of the contaminated debris in the four SSGS sumps - early spring of 2001. (Note: Per telephone conversation with the licensee on September 24, 2001, this was completed as planned.)

**/RA/**

Alexander Adams, Jr., Senior Project Manager  
Operational Experience and  
Non-Power Reactors Branch  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Docket No. 50-146

Attachment: As stated

cc w/attachment: Please see next page

Saxton Nuclear  
Experimental Corporation

Docket No. 50-146

cc:

Mr. Sandy Levin  
Chief Nuclear Officer  
GPU Inc.  
300 Madison Avenue  
P.O. Box 1911  
Morristown, NJ 07962-1911

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: Peggy Whited, Secretary  
9th and Spring Streets  
Saxton, PA 16678

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

Mr. Larry Sather, Chairman  
Huntingdon County Commissioners  
County Court House  
Huntingdon, PA 16652

Saxton Community Library  
Front Street  
Saxton, PA 16678

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

Hopewell Township Supervisors  
ATTN: Sally Giornesto, 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

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

Mr. Michael Roche  
President, SNEC  
300 Madison Avenue  
P.O. Box 1911  
Morristown, NJ 07962-1911

Mr. Edwin Fuhrer  
AmerGen Energy Co., LLC  
P.O. Box 480  
Middletown, PA 17057

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

Mr. Eric Blocher  
216 Logan Avenue  
Wyomissing, PA 19610

David Lewis, Esquire  
Shaw, Pittman, Potts, and Trowbridge  
2300 N Street, NW  
Washington, D.C. 20037

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

Mr. Charles Barker  
Box 143, RR 1  
James Creek, PA 16657



**ATTACHMENT 1  
MEETING ATTENDEES**

NAME	ORGANIZATION
Alexander Adams	NRC/NRR
G. A. Kuehn	GPU Program Director
Pat Donnachie	GPU Consultant
Charles Butts	H & A
Jon Peckenpaugh	NRC/NMSS/DWM
Sam Nalluswami	NRC/NMSS/DWM
James A. Fockler	Saxton Citizen Task Force
Ernest Fuller	Self & Concerned Citizens for SNEC Safety
Lou Shamenek	GPU D&D
Rod Case	GRCS, SNEC
Joseph Nardella	GTS Technologies, Inc.
Michael P. Murphy	PABRP/DEP
Rodger Granlund	Penn State
William Stower	Radiological Engineering, SNEC
William H. Stairs	TLG Project Manager
Raymond S. Lambert	GTS Technologies, Inc.
Daniel F. Schungel	GTS Technologies, Inc.
Barry Brosey	GPU Nuclear



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