



Pennsylvania Department of Environmental Protection

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July 28, 2006

Bureau of Radiation Protection

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Mr. Jim Kottan
Senior Health Physicist
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

J-7

MS-16

Re: Control Number 138549; NRC Request for Additional Information Concerning Application for Amendment to License; License Number 37-17860-02

Dear Mr. Kottan:

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The Commonwealth of Pennsylvania Department of Environmental Protection (PADEP) received your letter dated July 12, 2005. The letter was a Request for Additional Information (RAI) regarding PADEP's submission of the document titled Decommissioning Plan for the Quehanna, Pennsylvania Site. This plan was submitted for NRC review with the goal of amending PADEP's current license. PADEP staff has been working with our decommissioning contractor to produce a response to each of the questions in the RAI. The responses are enclosed with this letter for your consideration. We hope these responses adequately address the RAI questions, and we would be happy to discuss any of these items with you. Please feel free to call Bryan Werner of my staff at (717) 787-2781 or myself at (717) 783-8979 if you have any questions.

Sincerely,

Robert C. Maiers, P.E.

Chief, Decommissioning and Surveillance Division

Enclosure: Responses to NRC Request for Additional Information for PADEP Decommissioning Plan, Revision 4

cc: M. Miller, NRC
D. Allard, BRP
B. Werner, BRP
L. Penney, Energy Solutions
K. Kasper, Energy Solutions

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NMSS/RCNI MATERIALS-002



**Responses to NRC Request for Additional Information for PADEP
Decommissioning Plan, Revision 4**

1. *Section 2.5 of the Decommissioning Plan (DP) addresses spills, uncontrolled releases, and on-site burials. The last sentence on page 2-7 states: "These evaluations have indicated that the suspect areas are not believed to pose a health threat." This would seem to indicate that radioactive material was buried on site. Revision 2 of the DP, dated February 2003, which was submitted with the license renewal on February 26, 2003 stated in Section 2.5 of the DP that: "There is also no documented evidence of on-site burial of radioactive material." This statement was not modified or changed in Revision 3 of the DP regarding the burial of radioactive material on-site. Please clarify the discrepancy between Revision 2 and 3 and Revision 4 of the DP regarding the burial of radioactive material on-site.*

PADEP Response: There has been no record of any burial within or near the area of the Quehanna Facility that is bounded by the fence line. In the most recent DP submittal, PADEP believed that it was important to identify the fact that there has been much discussion and some investigation work associated with suspected burial sites that were associated with the facility but are not located "on site." Physical investigations were performed both by NRC contactors and PADEP. PADEP has recently performed a round of ground water sampling for both hazardous and radioactive materials at five of these suspected burial sites. PADEP can provide documentation of the results of these investigations for review at the request of the NRC. PADEP does not believe that these areas are regulated under the current license, and thus are not part of the proposed decommissioning plan.

2. *Section 8.1 of the DP, Building Removal, states that the above grade structures will be surveyed in accordance with the MARSSIM methodology. Please provide information regarding whether a survey plan for the above grade structures will be submitted that will detail the size of the survey units, the determination of the number of fixed measurements, the fixed measurement locations, and the scan protocol that will be used to demonstrate that the above grade structure meets the requirements of Table 8-1 prior to demolition and disposal.*

PADEP Response: A Final Status Survey Plan will be developed for the project prior to initiating the Final Status Survey. This plan will detail the size of the survey units, the determination of the number of fixed measurements, the fixed measurement locations, and the scan protocol that will be used to demonstrate that the above grade structure meets the requirements of Table 8-1 prior to demolition and disposal. PADEP will provide a copy of this plan to the NRC.

3. *Section 8.1.1 of the DP, Roofing Material Analysis, contains Table 8-2 which details the number of roof samples that will be taken. Please provide the basis for the determination of the number of samples in each roof area. Was the MARSSIM methodology or some other statistical method used in determining the number of samples? Also what is meant by the term "systematic" in Table 8-2.*

PADEP Response: The number of roof samples is not based on any existing guidance. It is based on the judgment of the project specialists to ensure that radioactivity does not exist between the layers of composite roofing. This is necessary to ensure proper radiological controls during demolition and to ensure that the waste characteristics are fully understood. Additional samples will be taken if NRC believes more are necessary to characterize the roof layers. Additional sampling can be addressed in the Final Status Survey Plan at the request of NRC.

The term "systematic" is meant to refer to the regular pattern of sampling where the entire roof is best represented. This is in contrast to random sampling or the bias sampling where the samples could be concentrated in a single location of the roof.

4. *Section 8.3 of the DP, Concrete Characterization, contains Table 8-3 which details the number of concrete samples that will be taken. Please provide the basis for the determination of the number of samples from each concrete item. Was the MARSSIM methodology or some other statistical method used in determining the number of samples?*

PADEP Response: As noted in the bottom of page 8-3 of the DP, "this sampling density [one sample per 8 cubic meters] is deemed to be sufficient because of the large difference between the DCGL and actual conditions but is not based on any standard or guidance." To the knowledge of the Quehanna project specialists, no guidance on the sampling rate for volumetric radioactivity in concrete exists. Additional samples will be taken if NRC can provide guidance in this regard. Additional samples can be addressed in the Final Status Survey Plan at the request of NRC.

5. *Section 8.5 of the DP, Final Status Survey, states that the remaining soil will under go a final status survey in accordance with MARSSIM. Please provide information regarding whether a final status survey plan for the remaining soil will be provided.*

PADEP Response: As noted in the answer to number 2 above, a Final Status Survey Plan will be developed. This plan will include soil sampling and analysis.

6. *Section 11.0 of the DP, Environmental Monitoring and Control, states that releases of airborne or liquid radioactive materials into the environment will be controlled to levels that are ALARA, and airborne concentrations will be limited to 10 CFR 20, Appendix B, Table 2 values. Please provide a description of the air sampling program that will be used to demonstrate compliance with NRC regulations for both workers and effluent releases.*

PADEP Response: Air monitoring will be conducted in accordance with EnergySolutions Field Services procedure 82A8037, "Airborne Radioactivity Program." Specifically, on-site workers will wear battery-powered, personal air samplers during demolition and debris loading activities. A single air sampler may be used for more than a single worker during evolutions in which personnel are physically co-located in a single work area. Air sample sampling and counting techniques will yield minimum detectable concentrations of 0.1 DAC (Table 1, Sr-90).

If site activities generate air activity of 1-DAC (Table 2, Sr-90) or greater on personal air samplers, transfer truck drivers and affected disposal site workers will also be monitored using personal air samplers or higher-volume (nominally 30 liters per minute) air sampling equipment.

Wind directions at the Quehanna Site are predominantly from the WNW and SSE. As such, for environmental monitoring, 2 air sampling stations will be established at or near the fence line at locations that correspond to these wind directions. Air sampling equipment and air sample counting equipment will have a minimum detectable concentration of 1-DAC (Table 2, Sr-90) for all off-site or on-site environmental sampling.

- 7. Please provide an assessment of the impact of the disposal of the debris from the demolition of the above grade structure. In particular, the impact related to transportation of the demolition debris to the landfill for final disposal. Additionally, since you plan to dispose of the demolition debris in a non-Atomic Energy licensed landfill, and this disposal will require an approval under 10 CFR 20.2002, please provide the name and location of the landfill. If you cannot provide the name and location of the landfill at this time, a condition will be created in the amended license approving revision 4 of the DP to provide the name and location of the landfill that received the demolition debris within 30 days after disposal of the debris.*

PADEP Response: The disposal of the above ground will not have a significant impact on the traffic patterns along any local shipping routes chosen. A general description of the surrounding area and the populations of many local towns are provided in Section 3.0, Facility Description. At this stage it is not possible to determine the precise number of trucks that would be leaving the facility on a daily basis. However, it is not anticipated that the number will account for a very small percentage of the total heavy truck traffic in the surrounding areas. This part of the Commonwealth is a large producer of coal. There is a near constant stream of coal trucks traveling to and from the local coal burning power plant approximately 25 miles south of the site near Shawville, Pa. Exact numbers of trucks that use the local roads are not known, but based on years of observation, it is believed that the numbers are in the hundreds of truckloads per day. It is unlikely that the removal of material will exceed a single digit number of trucks in a single day.

PADEP has not yet identified a receiving landfill and will accept a license condition that requires the identification of the landfill used within 30 days after disposal of the debris. It is the anticipation of PADEP that the landfill(s) that will receive the construction debris will be identified in the early stages of site remobilization. PADEP will notify the NRC after a disposal agreement has been reached.