UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2

In re: United States Department of Energy Knolls Atomic Power Laboratory Respondent In a proceeding under Section 113(a)(3) of the Clean Air Act	**COMPLIANCE ORDER ON CONSENT** CAA-02-2012-1002

PRELIMINARY STATEMENT

The United States Environmental Protection Agency (EPA) Region 2 Director of the Division of Compliance and Enforcement Assistance (the Director) issues this COMPLIANCE ORDER ON CONSENT (Consent Order or Order), pursuant to the Clean Air Act (the Act or CAA), 42 U.S.C. § 7401 *et seq.*, Section 113(a)(3), 42 U.S.C. § 7413(a)(3), to the United States Department of Energy (DOE or Respondent) for violations of the Act and its implementing regulations at the Knolls Atomic Power Laboratory (KAPL), which includes the Separations Process Research Unit (SPRU), in Niskayuna, New York. The authority to find violations and issue administrative compliance orders under the CAA in Region 2 has been delegated by the EPA Administrator to the Director, through the Region 2 Regional Administrator.

In this Order, the Director has determined that DOE is in violation of monitoring, operation and maintenance, recordkeeping and reporting requirements in 40 C.F.R. Part 61, Subpart A (Part 61 NESHAP General Provisions) and 40 C.F.R. Part 61, Subpart H (RAD NESHAP), regulations promulgated pursuant to Sections 112 and 114 of the CAA, at KAPL.

This Order directs DOE to come into compliance with the RAD NESHAP and to properly manage and operate the facility in a manner consistent with good air pollution control practice for minimizing emissions during any additional decontamination and decommissioning (D&D) undertakings at SPRU.

DOE neither admits nor denies the factual allegations set forth in the "Findings of Fact" section of this Order. DOE consents to the jurisdictional allegations in this Order, which are set forth in the first paragraph of this Preliminary Statement and in paragraphs 121 through 125 below. DOE agrees to be bound by and to fully comply with the provisions set forth below in the section of this Order entitled "CONSENT ORDER." DOE reserves all rights and defenses it may have with respect to the imposition of civil penalties for the violations identified in this Order.

CAA STATUTORY BACKGROUND

1. Section 101 of the Act declares purposes of Title I of the Act, including, the protection and enhancement of the quality of the nation's air so as to promote the public health and welfare and the productive capacity of its population.

2. Section 302(e) of the Act provides that "person" for the purposes of the Act, includes an individual, corporation, partnership, association, state, municipality,

political subdivision of a State, and any agency, department, or instrumentality of the United States and any officer, agent, or employee thereof.

3. Section 113(a)(3) of the Act authorizes EPA to, among other actions, issue compliance orders to any person whenever, on the basis of any information available to EPA, EPA finds that such person has violated or is in violation of any requirement or prohibition including a violation or prohibition in Title I of the Act, or any regulation promulgated pursuant to among other provisions Sections 112 and 114 of the Act.

4. Section 114(a) of the Act authorizes the EPA Administrator to require testing, monitoring, recordkeeping, and reporting of information, to enable him or her to carry out any provision of subchapter I of the Act and to assess compliance with, among other requirements, any standard promulgated under Sections 112 and 114 of the Act.

5. Section 112 of the Act authorizes the EPA Administrator to, among other actions, issue national emission standards for categories of sources that emit hazardous air pollutants (HAPs). Such standards are National Emission Standards for Hazardous Air Pollutants, or NESHAPs.

6. Section 112(q) of the Act provides that any standard promulgated pursuant to Section 112 and in effect prior to the 1990 CAA amendments remains in force and effect after those amendments.

7. Section 112(c)(1)(B) of the Act as it existed prior to the 1990 CAA amendments, and Section 112(i)(3)(A) of the Act as it exists today, require new and existing sources to comply with standards promulgated pursuant to Section 112.

8. In 1979, pursuant to Sections 112 and 122 of the Act, the EPA Administrator determined that radionuclides are HAPs subject to regulation under Section 112 of the Act. *See* 44 Fed. Reg. 76738 (Dec. 27, 1979).

REGULATORY BACKGROUND

Part 61 NESHAP General Provisions

9. NESHAPs promulgated under the Act as it existed prior to the 1990 CAA amendments are set forth in 40 C.F.R. Part 61. NESHAPs promulgated under the CAA as amended in 1990 are set forth in 40 C.F.R. Part 63.

10. Pursuant to Sections 112 and 114 of the Act, EPA promulgated 40 C.F.R. Part 61, Subpart A, §§ 61.01 - 61.19 (Part 61 NESHAP General Provisions).

11. The Part 61 NESHAP General Provisions set forth definitions and requirements, which apply to the owners and operators of any stationary source for which a standard is prescribed under 40 C.F.R. Part 61. *See* 40 C.F.R. § 61.01(c).

12. 40 C.F.R. § 61.02 defines:

a. "construction" as fabrication, erection, or installation of an affected facility.

b. "effective date" as the date of promulgation in the Federal Register of an applicable standard or other regulation under 40 C.F.R. Part 61 , Subpart A.

c. "existing source" as any stationary source which is not a new source.

d. "new source" as any stationary source, the construction or modification of which is commenced after the publication in the Federal Register of proposed NESHAPs which will be applicable to such source.

e. "owner or operator" as any person who owns, leases, operates, controls, or supervises a stationary source.

f. "standard" as a national emission standard including a design, equipment, work practice or operational standard for a HAP proposed or promulgated under the Part 61 NESHAP General Provisions.

g. "stationary source" as any building structure, facility, or installation which emits or may emit any air pollutant which has been designated as hazardous by the Administrator.

13. 40 C.F.R. § 61.07(a) provides that the owner or operator shall submit to the Administrator an application for approval of the construction of any new source or modification of any existing source. The application must be submitted before the construction or modification is planned to commence, or within 30 days after the effective date if the construction or modification had commenced before the effective date and initial startup has not occurred. This subparagraph also provides that a separate application shall be submitted for each stationary source.

14. 40 C.F.R. § 61.12(a) provides that compliance with numerical emission limits shall be determined in accordance with emission tests established in 40 C.F.R. § 61.13 or as otherwise specified in an individual subpart to Part 61.

15. 40 C.F.R. § 61.12(b) provides that compliance with design, equipment, work practice or operational standards shall be determined as specified in an individual subpart of Part 61.

16. 40 C.F.R. § 61.12(c) provides that the owner or operator of each stationary source shall maintain and operate the source, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions. It also provides that determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to,

monitoring results, review of operating and maintenance procedures, and inspection of the source.

17. Pursuant to 40 C.F.R. § 61.14(a), unless otherwise specified, § 61.14 applies to each monitoring system required under each subpart of Part 61 that requires monitoring.

18. 40 C.F.R. § 61.14(b) provides that each owner or operator shall maintain and operate each monitoring system as specified in the applicable subpart and in a manner consistent with good air pollution control practice for minimizing emissions. Any unavoidable breakdown or malfunction of the monitoring system should be repaired or adjusted as soon as practicable after its occurrence. It also provides that the Administrator's determination of whether acceptable operating and maintenance procedures are being used will be based on information which may include, but not be limited to, review of operating and maintenance procedures, manufacturer recommendations and specifications, and inspection of the monitoring system.

The RAD NESHAP

19. On December 15, 1989, EPA, pursuant to Sections 112 and 114 of the 1977 Act, promulgated the "National Emissions Standards for Emissions of Radionuclides Other than Radon from Department of Energy Facilities," 40 C.F.R. Part 61, Subpart H, defined earlier in this Order as the RAD NESHAP. *See* 54 Fed. Reg. 51695 (Dec.15, 1989). EPA, on two occasions, amended the emission monitoring and testing procedures of section 61.93 of the RAD NESHAP. *See* 65 Fed. Reg. 62156 (Oct 17, 2000) and 67 Fed. Reg. 57166 (Sept. 9, 2002).

20. 40 C.F.R. § 61.90 provides that the provisions of the RAD NESHAP apply to operations at any facility owned or operated by DOE that emits any radionuclide other than radon-222 and radon-220 into the air, except that this subpart does not apply to disposal at facilities subject to 40 C.F.R. Part 191, Subpart B or 40 C.F.R. Part 192.

21. 40 C.F.R. § 61.91 provides that all terms not defined in that section have the meaning given them in the Act or the Part 61 NESHAP General Provisions.

22. 40 C.F.R. § 61.91(b) defines "facility" as all buildings, structures and operations on one contiguous site.

23. 40 C.F.R. § 61.92 provides that the emissions of radionuclides to the ambient air from DOE facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/yr.

24. 40 C.F.R. § 61.93(a) provides that to determine compliance with the standard, radionuclide emissions shall be determined and effective dose equivalent values to members of the public calculated using EPA approved sampling procedures, computer models CAP–88 or AIRDOS-PC, or other procedures for which EPA has granted prior approval. It also provides that DOE facilities for which the maximally exposed individual lives within 3 kilometers of all sources of emissions in the facility, may use EPA's COMPLY model and associated procedures for determining dose for purposes of compliance.

25. 40 C.F.R. § 61.93(b) provides that radionuclide emission rates from existing point sources (stacks or vents) shall be measured in accordance with the requirements of that paragraph, or with the requirements of 40 C.F.R. § 61.93(c), or with other procedures for which the EPA has granted prior approval.

26. 40 C.F.R. § 61.93(b)(4)(i) provides that radionuclide emission measurements in conformance with the requirements of paragraph (b) of section 61.93 shall be made at all release points which have a potential to discharge radionuclides into the air in quantities which could cause an effective dose equivalent in excess of 1% of the standard set forth at 40 C.F.R. § 61.92. All radionuclides which could contribute greater than 10% of the potential effective dose equivalent for a release point shall be measured. It also provides that, with prior EPA approval, DOE may determine these emissions through alternative procedures and states for other release points which have a potential to release radionuclides into the air, periodic confirmatory measurements shall be made to verify the low emissions.

27. 40 C.F.R. § 61.93(b)(4)(ii) provides that to determine whether a release point is subject to the emission measurement requirements of paragraph (b) of section 61.93, it is necessary to evaluate the potential for radionuclide emissions for that release point. It also provides that in evaluating the potential of a release point to discharge radionuclides into the air for the purposes of this section, the estimated radionuclide release rates shall be based on the discharge of the effluent stream that would result if all pollution control equipment did not exist, but the facilities operations were otherwise normal.

28. 40 C.F.R. § 61.93(c) provides that radionuclide emission rates from new point sources (stacks or vents) as defined in 40 C.F.R. Part 60 Subpart A shall be measured in accordance with the requirements contained in 40 C.F.R. § 61.93(c), or with other procedures for which the EPA has granted prior approval.

29. 40 C.F.R. § 61.93(d) provides that when it is impractical to measure the effluent flow rate at a source in accordance with the requirements of paragraph (b)(1) or (b)(2) of 40 C.F.R. § 61.93, the facility owner or operator may use alternative procedures provided that (i) it can be shown that (b)(1) or (2) are impractical for the effluent stream, (ii) the alternative procedure will not significantly underestimate the emissions, (iii) the alternative procedure is fully documented, and (iv) the owner or operator has received prior approval from EPA.

30. 40 C.F.R. § 61.93(e), (f) and (g) provide methods to measure radionuclide emission rates from diffuse sources.

31. 40 C.F.R. § 61.93(e) provides that radionuclide emission measurements in conformance with the requirements of 40 C.F.R. § 61.93(b) shall be made at all release points that have a potential to discharge radionuclides into the air in quantities that could cause an effective dose equivalent in excess of 1% of the standard. It also provides that all radionuclides which could contribute greater than 10% of the potential effective dose equivalent for a release point shall be measured. In addition it provides that with prior EPA approval, DOE may determine these emissions through alternative procedures. It further provides that for other release points which have a potential to release radionuclides into the air, periodic confirmatory measurements shall be made to verify the low emissions.

32. Pursuant to 40 C.F.R. § 61.93(f), to determine whether a release point is subject to the emission measurement requirements of 40 C.F.R. § 61.93(b) or (c), it is necessary to evaluate the potential for radionuclide emissions for that release point. It also provides that in evaluating the potential of a release point to discharge

radionuclides into the air for the purposes of this section, the estimated radionuclide release rates shall be based on the discharge of the effluent stream that would result if all pollution control equipment did not exist, but the facilities operations were otherwise normal.

33. 40 C.F.R. § 61.93(g) provides that environmental measurements of radionuclide air concentrations at critical receptor locations may be used as an alternative to air dispersion calculations in demonstrating compliance with the standard if the owner or operator meets the following criteria:

> (1) The air at the point of measurement shall be continuously sampled for collection of radionuclides.
>
> (2) Those radionuclides released from the facility that are the major contributors to the effective dose equivalent must be collected and measured as part of the environmental measurement program.
>
> (3) Radionuclide concentrations that would cause an effective dose equivalent of 10% of the standard shall be readily detectable and distinguishable from background.
>
> (4) Net measured radionuclide concentrations shall be compared to the concentration levels in Table 2 appendix E of the RAD NESHAP to determine compliance with the standard. In the case of multiple radionuclides being released from a facility, compliance shall be demonstrated if the value for all radionuclides is less than the concentration level in Table 2 of appendix E of the RAD NESHAP, and the sum of the fractions that result when each measured concentration value is divided by the value in Table 2 of appendix E of the RAD NESHAP for each radionuclide is less than 1.
>
> (5) A quality assurance program shall be conducted that meets the performance requirements described in Part 61, Appendix B, Method 114 of the RAD NESHAP.
>
> (6) Use of environmental measurements to demonstrate compliance with the standard is subject to prior approval of EPA. Applications for approval shall include a detailed description of the sampling and analytical methodology and show how the above criteria will be met.

34. 40 C.F.R. § 61.94(a) provides that compliance with the 10 mrem/yr standard shall be determined by calculating the highest effective dose equivalent to any member of the public at any offsite point where there is a residence, school, business or office. It also provides that the owners or operators of each facility shall submit an annual report to both EPA headquarters and the appropriate regional office by June 30 which includes the results of the monitoring as recorded in DOE's Effluent Information System and the dose calculations required by 40 C.F.R. § 61.93(a) for the previous calendar year.

35. 40 C.F.R. § 61.94(b) provides that in addition to the requirements of 40 C.F.R. § 61.94(a), an annual report shall include the following information:

(1) The name and location of the facility.

(2) A list of the radioactive materials used at the facility.

(3) A description of the handling and processing that the radioactive materials undergo at the facility.

(4) A list of the stacks or vents or other points where radioactive materials are released to the atmosphere.

(5) A description of the effluent controls that are used on each stack, vent, or other release point and an estimate of the efficiency of each control device.

(6) Distances from the points of release to the nearest residence, school, business or office and the nearest farms producing vegetables, milk, and meat.

(7) The values used for all other user-supplied input parameters for the computer models (e.g., meteorological data) and the source of these data.

(8) A brief description of all construction and modifications which were completed in the calendar year for which the report is prepared, but for which the requirement to apply for approval to construct or modify was waived under 40 C.F.R. § 61.96 and associated documentation developed by DOE to support the waiver. EPA reserves the right to require that DOE send to EPA all the information that normally would be required in an

application to construct or modify, following receipt of the description and supporting documentation.

(9) Each report shall be signed and dated by a corporate officer or public official in charge of the facility and contain the following declaration immediately above the signature line: "I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. See, 18 U.S.C. § 1001."

36. Pursuant to 40 C.F.R. § 61.96(a), in addition to any activity that is defined as construction under the Part 61, NESHAP General Provisions, any fabrication, erection or installation of a new building or structure within a facility that emits radionuclides is also defined as new construction for purposes of the Part 61 NESHAP General Provisions.

37. Pursuant to 40 C.F.R. § 61.96(b), an application for approval under 40 C.F.R. § 61.07 or notification of startup under 40 C.F.R. § 61.07 does not need to be filed for any new construction of or modification within an existing facility if the effective dose equivalent, caused by all emissions from the new construction or modification, is less than 1% of the standard prescribed in 40 C.F.R. § 61.07. It also provides that for purposes of this paragraph the effective dose equivalent shall be calculated using the source term derived using Appendix D as input to the dispersion and other computer models described in 40 C.F.R. § 61.93. In addition it provides that DOE may, with prior approval from EPA, use another procedure for estimating the source term for use in this paragraph and provides that a facility is eligible for this exemption only if, based on its last annual report, the facility is in compliance with the RAD NESHAP.

PERTINENT DOE AGREEMENTS, GUIDANCE AND REPORTS

The KAPL/SPRU MOA

38. In September 1992, the DOE Office of Environmental Management (DOE-EM) and the DOE Office of Naval Reactor's Laboratory Field Office – Naval Nuclear Propulsion Program (DOE-NR) entered a "Memorandum of Agreement Concerning the Decontamination and Decommissioning of the Separations Process Research Unit" (the KAPL/SPRU MOA).

39. The KAPL/SPRU MOA established roles and responsibilities regarding the SPRU D&D.

40. The KAPL/SPRU MOA provides that DOE-EM is responsible for requesting funds for and managing the SPRU D&D.

41. The KAPL/SPRU MOA identifies specific areas to be included in the SPRU D&D, including:

- K-5 (retention basins)
- Building H-2, including the vent stack, and underground tanks outside the building
- Contaminated soil adjacent to or originating from H-2
- Building G-2

42. The KAPL/SPRU MOA provides that to the maximum extent possible, that portion of the KAPL site turned over to DOE-EM for the SPRU D&D will be treated as a separate site for the duration of the SPRU D&D and it provides that as such DOE-EM will be responsible for obtaining all necessary Federal, State, and local permits and licenses, as well as submission of regulatory reports.

EPA/DOE Memorandum of Understanding

43. In 1994 EPA and DOE entered into the "Memorandum of Understanding between the U.S. Environmental Protection Agency and the U.S. Department of Energy concerning the Clean Air Act Emission Standards for Radionuclides 40 CFR Part 61 Including Subparts H, I, Q, & T" (EPA/DOE MOU).

44. The EPA/DOE MOU states that one of its purposes is to "assure uniform and consistent interpretation of the NESHAP provision for radionuclides at DOE facilities and EPA regional offices."

45. The EPA/DOE MOU at Section 1b states that "A protocol for periodic confirmatory measurements for each DOE facility must be provided by DOE to the appropriate EPA regional office."

46. The EPA/DOE MOU at Section 5a states that "EPA and DOE agree that the dose standard of 40 CFR PART 61, Subpart H applies to emissions from diffuse sources such as evaporator ponds, breathing of buildings and contaminated soils."

47. Section 5a of the EPA/DOE MOU also states that "DOE will provide its methodology for assessing diffuse sources to the appropriate EPA regional office."

48. In a May 12, 2011 letter from Thomas Johnson Jr. (DOE-EM) to Paul A. Giardina (EPA 2) regarding Section 1b of the EPA/DOE MOU (May 2011 DOE Ltr. A), DOE submitted, to EPA Region 2, a "Periodic Confirmatory Measurement Plan for the Department of Energy (DOE) Separations Process Research Unit (SPRU)."

49. In a May 12, 2011 letter from Thomas Johnson Jr. (DOE-EM) to Paul A. Giardina (EPA 2) regarding Section 5 of the EPA/DOE MOU (May 2011 DOE Ltr. B),

DOE identified, to EPA Region 2, methods it will utilize to assess diffuse source emission at SPRU.

The RAD NESHAP Criteria Document

50. On June 28, 1999, DOE through a DOE contractor issued a document called the "Radionuclide NESHAPs Criteria for Evaluation of Potential Radionuclide Air Emissions Sources, New Construction of Radionuclide Air Emissions Sources, and Modification of Existing Radionuclide Air Emission Sources" (RAD NESHAP Criteria Document). DOE has represented to EPA that the RAD NESHAP Criteria Document was internal to KAPL and was not widely distributed. The RAD NESHAP Criteria Document provides guidance to DOE in the evaluation of potential airborne radionuclide sources at KAPL. This guidance refers to the requirements of 40 C.F.R. § 61.93(b)(4)(i) and (ii) of the RAD NESHAP.

51. The RAD NESHAP Criteria Document at page 3 indicates that facilities that contain only fixed contamination or potential loose surface contamination in inaccessible areas and are not currently used for operations involving radioactive materials are not considered potential radionuclide air emission points. However, it indicates that D&D of those areas that do not currently have an existing radiological ventilation exhaust system would be considered a potential radionuclide air emission point.

52. The RAD NESHAP Criteria Document at Table 1, page 9, lists radionuclide emission sources at KAPL. Included on that list is Building H-2. In addition, Table 1, in referencing Figure 1 of this document, indicates that Building H-2

has the potential to emit doses greater than 0.1 mrem/yr without the use of pollution control devices.

53. The RAD NESHAP Criteria Document at Table 2, page 10, indicates that the two K-5 retention basins are not currently [as of June 28, 1999] considered a source of airborne radionuclides but that this determination needs to be re-evaluated if any work is performed at that location.

54. The RAD NESHAP Criteria Document at Table 1, page 9, lists radionuclide emission sources at KAPL. Included on that list is G-2. In addition, Table 1, in referencing Figure 1 of that document indicates that G-2 has the potential to emit doses greater than 0.1 mrem/yr without the use of pollution control devices.

The Type B Report

55. On November 23, 2010, DOE-EM, in accordance with DOE Order 225.1A, Accident Investigations, issued a report entitled "Type B Accident Investigation Report, Radiological Contamination Event During Separations Process Research Unit Building H-2 Demolition, September 29, 2010" (Type B Report).

56. The Type B Report analyzed and identified contributing causes, the root cause, and judgment of needs regarding a September 29, 2010, uncontrolled airborne release of radionuclides at SPRU. DOE concluded in the Type B Report that the uncontrolled demolition of the evaporator vessels located within the Building H-2 footprint resulted in the release of radionuclides to areas beyond the H-2 D&D site perimeter.

57. In the Type B Report, DOE identified managerial, programmatic and work practice deficiencies as contributing causes to the uncontrolled airborne release of radionuclides.

58. In the Executive Summary of the Type B Report, DOE documented its conclusion that the open air demolition of the evaporator system components, which were process equipment located within the Building H-2 footprint, was the direct cause of the incident.

59. Also in the Executive Summary, DOE identified two root causes for the September 29 "accident": (i) the failures by DOE-EM's D&D contractor Washington Group International (WGI) to fully understand, characterize, and control the radiological hazard; and (ii) the failure by WGI to implement a work control process that ensured facility conditions supported proceeding with the work.

60. The Executive Summary also indicated that there were 20 contributing causes to the uncontrolled release. The contributing causes are listed below:

- There was no plan for application of fixative. The interior construction of the process equipment, which was the source of the uncontrolled release, was not known to the workers applying fixative.
- There was no verification of the coverage or effectiveness of the fixative.
- There was overconfidence in the effectiveness of the fixative to "lockdown" contamination.
- No specifics were provided as to how fixative was to be used when removing vessels, tanks, or other components having internal configurations.
- Decontamination was not used during removal of the evaporator system vessels.

- The work package did not integrate the hazard controls identified in job hazard analyses.
- The work package execution did not assure all process vessels in Building H-2 were identified and characterized.
- Radiological work permits were written in generic terms and not specific to the task being performed.
- Steps in work packages relating to identifying hazards were not completed.
- The responsible SMEs approved working level documents without fully ensuring the hazard controls were identified.
- Work plans for doing radioactive work were not adequate to implement appropriate radiological controls for the work being performed.
- The PPP-FWP-2130 addresses the use of water for dust control vs. contamination control.
- The use of the "Dust Boss" for contamination control was not included in the work package.
- No criteria was established and approved to color code vessels for special handling.
- The project did not recognize the importance of understanding historical process and system knowledge.
- The requirement to fully characterize SPRU for D&D was not completed.
- Lack of rigor in executing the characterization plan.
- The procedure allows work to be conducted outside of the POD review and discussion process
- Programmatic deficiencies were not identified and corrected.
- DOE SPRU Oversight did not assure that programmatic deficiencies were identified and corrected.

61. DOE, in the TYPE B report, also identified additional deficiencies, including:

- The use of a confinement structure could have prevented the spread of contamination beyond the immediate work area.
- The building was not adequately characterized to support an open air demolition.

FINDINGS OF FACT

EPA's Investigation

62. The Findings of Fact set forth in this Compliance Order are based on an investigation conducted by EPA Region 2, beginning in October 2010.

63. The EPA Investigation was prompted by an October 12, 2010, DOE notification to EPA of an uncontrolled release of radionuclides during the H-2 D&D.

64. The EPA Investigation was conducted primarily by the EPA Region 2 Radiation and Indoor Air Branch (RIAB) and involved reviewing DOE records, inspecting SPRU, interviewing DOE-EM, DOE-NR, and SPRU personnel, and consulting with, among other government entities, the New York State Department of Environmental Conservation and the New York State Department of Health.

65. As part of the EPA Investigation, EPA Region 2 staff met with DOE counsel, management, and SPRU technical staff at EPA's New York office on December 8, 2010. During that meeting, RIAB issued an initial comprehensive request for DOE records regarding the SPRU D&D, and the nature and extent of radionuclide emissions subject to the RAD NESHAP at SPRU. In addition, RIAB stated generally that DOE had failed to submit an accurate RAD NESHAP Annual Report, required under 40 C.F.R. § 61.94, for the calendar year of 2009. EPA later provided specific details (e.g. necessary modeling adjustments) regarding the inaccuracies in the

calendar year 2009 SPRU RAD NESHAP Annual Report (2009 SPRU RAD NESHAP Annual Report.)

66. At the December 8, 2010, meeting, DOE indicated that it would (i) revise the 2009 SPRU RAD NESHAP Annual Report; (ii) provide EPA with weekly updates on SPRU D&D activities; and (iii) consult with EPA on future SPRU D&D undertakings.

67. Subsequent to the December 8, 2010 meeting, DOE initiated a RAD NESHAP training program at SPRU.

68. Also subsequent to the December 8, 2010 meeting, DOE provided EPA with two (2) revisions to the 2009 SPRU RAD NESHAP Annual Report. The first revision was entitled the "Radiological Engineering Calculation SPRU-REC-10-014 Revision 1, 40 CFR 61 Subpart H Annual Compliance Report" dated December 6, 7, 2010, (SPRU RAD NESHAP Revised Annual Report Rev 1). The second revision was entitled the "Radiological Engineering Calculation SPRU-REC-10-014 Revision 2, 40 CFR 61 Subpart H Annual Compliance Report" dated January 26, 2011, (SPRU RAD NESHAP Revised Annual Report Rev 2).

69. The DOE records that EPA staff reviewed as part of the EPA Investigation include, among others:

a. KAPL/SPRU MOA;

b. EPA/DOE MOU;

c. May 2011 DOE Ltr. A

d. May 2011 DOE Ltr. B;

e. RAD NESHAP Criteria Document;

f. Type B Report;

g. K-5 Demolition Complete Report for the SPRU Retention Basin (K-5 Complete Report);

h. November 30, 2006 letter from LATA-SHARP Remediation Services, LLC (LS) to Steve Feinberg (DOE);

i. December 19, 2006 letter from Steven Feinberg (DOE) to Kathryn Johnson (LS);

j. US DOE Radionuclide Air Emission Annual Report regarding the RAD NESHAP for the calendar year 2006 (2006 RAD NESHAP Annual Report);

k. US DOE Radionuclide Air Emission Annual Report regarding the RAD NESHAP for calendar year 2008 issued by DOE for KAPL (2008 KAPL RAD NESHAP Annual Report)

l. US DOE Radionuclide air Emission Annual Report regarding the RAD NESHAP for the calendar year 2009, issued by DOE for KAPL (2009 KAPL RAD NESHAP Annual Report);

m. US DOE Radionuclide air Emission Annual Report regarding the RAD NESHAP for the calendar year 2009, issued by DOE for SPRU (2009 SPRU RAD NESHAP Annual Report);

n. The First Revision to the 2009 RAD NESHAP Annual Report Rev 1;

o. The Second Revision to the 2009 RAD NESHAP Annual Report Rev 2;

p. The SPRU Disposition Project briefing document, dated February 23, 2011 (SPRU Disposition Report);

q. US DOE report entitled Separations Process Research Unit Waste Type Evaluation for Solidified Waste Tank Sludge March 2011 (Marcinowski Report); and

r. US DOE report entitled Assessment of Historical Knolls Atomic Power Laboratory Waste Storage Locations Niagara Falls Storage Site, FUSRAP Site, Lewiston, New York April 2011.

<u>DOE, KAPL and SPRU</u>

70. Respondent (DOE) is a department of the United States.

71. KAPL is a research and development facility, situated on a 170-acre parcel of real property at 2401 River Road, in the Town of Niskayuna, New York.

72. KAPL is owned by DOE, but its contractors participate in the operation of KAPL.

73. KAPL is comprised of buildings, structures, facilities, equipment, or installations, some of which have emitted and continue to emit into the air radionuclides, which are designated as HAPs by the Administrator.

74. SPRU is located on a 5 acre parcel of real property located within the real property boundaries of KAPL. SPRU is comprised of buildings, structures, facilities, equipment, or installations some of which have emitted and/or continue to emit radionuclides into the air.

75. SPRU is part of KAPL. However, in accordance with the KAPL/SPRU MOA, within DOE, SPRU was separated from KAPL only for purposes of the SPRU D&D.

76. From 1950 through 1953, the United States Atomic Energy Commission conducted pilot plant operations at SPRU to develop chemical processes to extract uranium and plutonium from 843 irradiated uranium slugs weighing between 1-1.5 metric tons from the Hanford Reactor. Radioactive liquid waste generated from SPRU's pilot plant operations was placed in seven underground tanks adjacent to building H-2 and contained, among other things, 539 grams of plutonium. In addition, although the tanks were partially cleaned in 1965 and 1978, sludge remained in the bottom of each tank even after the cleaning activities were completed. During the course of SPRU's operations and storage activities, land and structures including buildings, ductwork, tunnels and soils were contaminated with radionuclides. Any radioactive waste,

plutonium and radionuclide contamination remaining on-site are source terms for RAD NESHAP emission estimates.

77. Even though pilot plant activities ceased at SPRU in 1953, since the land and buildings were not decontaminated and decommissioned, air emissions and depositions of radionuclides continued to occur.

78. DOE-EM, in coordination with DOE-NR, under the KAPL/SPRU MOA, and through its contractors, undertook the SPRU D&D to remove radioactively contaminated media, structures, and process equipment from SPRU.

Decontamination and Demolition of K-5

79. According to the K-5 Complete Report, which EPA reviewed during the EPA Document Review, K-5 was an out-of-service retention basin located at SPRU.

80. According to the K-5 Complete Report, on November 16, 2006, a DOE-EM contractor, LATA-SHARP Remediation Services, LLC, previously defined as LS, began the demolition of K-5.

81. According to the K-5 Complete Report, in November 2006, when LS commenced the K-5 demolition, K-5 was contaminated with Cesium-137, Americium-241 and Plutonium-239.

82. According to the K-5 Complete Report, a roof structure was in place prior to the K-5 demolition.

83. According to the K-5 Complete Report, the K-5 demolition included the removal of the roof structure.

84. According to the K-5 Complete Report, the K-5 demolition was an open air undertaking.

85. As described in the K-5 Complete Report, DOE employed certain radiological control practices (e.g., use of fixatives, dust suppressant, and air sampling) during the K-5 demolition.

86. In the November 30, 2006 letter from LS to DOE, LS informed DOE that because KAPL does not include K-5 in its KAPL RAD NESHAP Annual Reports, K-5 does not have an "operating effluent stack," and because D&D "will not release radionuclides to the off-site atmosphere," the K-5 D&D does not fall under the RAD NESHAP.

87. LS further informed DOE that sampling has "demonstrated no evidence of release beyond the construction boundary."

88. In the December 19, 2006 letter from DOE to LS, DOE required LS to "conduct a determination of applicability" of the RAD NESHAP to the K-5 D&D.

89. According to the K-5 Complete Report, in a December 30, 2006 letter, from DOE to LS, DOE notified LS that it could proceed with backfilling of the K-5 retention basins.

90. According to the K-5 Complete Report, radionuclides were emitted into the air from K-5 during the K-5 D&D.

91. The EPA Investigation found no DOE evaluation of the potential for radionuclide emissions at K-5 needed to determine whether the emissions during D&D would be subject to the emission measurement requirements of 40 C.F.R. § 61.93(b) or (c).

92. During the EPA Document Review, EPA observed that the 2006 KAPL RAD NESHAP Annual Report did not discuss the K-5 D&D or contain a description of the handling and processing of radioactive materials that were involved in the K-5 D&D.

93. During the EPA Document Review, EPA observed that the 2006 KAPL RAD NESHAP Annual Report did not identify K-5 as a release point.

Decontamination and Demolition of H-2

94. According to the 2009 KAPL RAD NESHAP Report, Building H-2 and associated equipment were contaminated with Cesium-137, Plutonium-239 and Strontium-90 radionuclides.

95. According to the 2009 KAPL RAD NESHAP Annual Report (at Footnote 6), Building H-2 and its stack and sump were transferred from DOE-NR to DOE-EM on April 13, 2009, as part of the SPRU D&D.

96. The transfer, discussed above in paragraph 97, was conducted in accordance with the terms of the KAPL/SPRU MOA, which transferred DOE RAD NESHAP reporting responsibility for the SPRU D&D to DOE-EM.

97. According to the Type B Report, on September 23, 2010, WGI initiated a D&D operation of Building H-2 and internal process equipment.

98. According to the Type B report the Building H-2 stack was demolished on September 25, 2010. When the stack was operating, airborne emissions of radionuclides from H-2 were directed through the stack and were controlled by HEPA filters and these emissions were continuously sampled.

99. According to the Type B Report, after disabling the building ventilation and removing the HEPA filters, WGI took down (demolished) the vent stack, along with other

portions of Building H-2, leaving behind and exposing contaminated process equipment to the open air.

100. According to the Type B Report, on September 29, 2010, while WGI removed and resized the process equipment, an uncontrolled release and spread of radioactive contamination occurred at the H-2 D&D site and spread to offsite areas.

101. According to the Type B Report, the magnitude and significance of the contamination released were not fully identified and understood by DOE-EM for several days. Subsequently, DOE conducted site surveys to identify and understand the magnitude and significance of the contamination release.

102. According to the Type B Report, as a consequence of DOE-EM's performance immediately following the September 29, 2010 event, DOE performed a critique of the H-2 D&D and documented its findings in the Type B report.

103. Building H-2 is designated in the RAD NESHAP Criteria Document as having the potential to emit doses greater than 0.1 mrem/yr without the use of pollution control equipment. DOE has represented to EPA that the RAD NESHAP Criteria Document was internal to KAPL and was not widely distributed.

104. DOE identified Building H-2, Building H-2 Stack and Building H-2 sump as release points in the 2009 KAPL RAD NESHAP Annual Report, until April 12, 2009.

105. DOE in the 2009 KAPL RAD NESHAP Annual Report did not consider Building H-2 or any associated structures or media as a release point after April 13, 2009.

106. DOE, in the 2009 KAPL RAD NESHAP Annual Report, did not consider workers at SPRU as offsite receptors.

107. DOE, in the 2009 SPRU RAD NESHAP Annual Report, did not consider workers at the remaining portions of KAPL as offsite receptors.

108. The EPA Investigation found no record of DOE using EPA-approved methods to evaluate emissions from diffuse sources at SPRU during the SPRU D&D.

109. According to the Type B report the radiological inventory at SPRU, at the time of the September 2010 incident was higher than the inventory used to evaluate the potential for radionuclide emissions at H-2 to determine whether, during the H-2 D&D, the H-2 releases would be subject to the emission measurement requirements of 40 C.F.R. § 61.93(b) or (c).

110. As a result, the EPA Investigation found that DOE incorrectly evaluated the potential for radionuclide emissions at H-2 to determine whether, during the H-2 D&D, the H-2 releases would be subject to the emission measurement requirements of 40 C.F.R. § 61.93(b) or (c).

111. According to the DOE SPRU Disposition Project briefing document, provided on February 23, 2011, DOE will perform D&D activities of the H2, G2 buildings, and the tanks and tank vaults under HEPA ventilated, monitored enclosures. Also according to the briefing document, DOE intends to conduct the remaining portion of the buildings and soil removal as open-air demolition.

112. According to the DOE SPRU Disposition Report, DOE, for purposes of the RAD NESHAP, will submit to EPA a confirmatory measurements plan and identify methods to measure emissions of diffuse sources

113. According to Page ES-1 of the Marcinowski Report, DOE plans to solidify the sludge waste currently in the underground storage tanks adjacent to building H-2

and to transport the solidified waste to the Nevada National Security Site (NNSS) "where it has been approved [by DOE] for disposal as low-level radioactive waste." Page 12 of the Marcinowski Report further explains that "DOE plans to transport the solidified waste to the Nevada National Security Site for disposal in the Area 5 radioactive waste management site as low-level waste," and that a "waste profile sheet" has been prepared for the solidified sludge waste, the sheet has been submitted to the NNSS and the sheet "has been approved by the Nevada National Security Site (DOE-NNSS-2010), which represents approval [by DOE] to ship the solidified sludge to that facility for disposal as low-level waste."

DOE's 2009 RAD NESHAP Annual Reports

114. DOE submitted to EPA two (2) RAD NESHAP Annual reports: (1) the 2009 KAPL RAD NESHAP Annual Report; and (2) the 2009 SPRU RAD NESHAP Annual Report.

115. DOE's submission of the two (2) reports was consistent with the KAPL/SPRU MOA, which split the KAPL facility into two different facilities, KAPL and SPRU. However, by issuing two RAD NESHAP Annual Reports, one for KAPL and another for SPRU, DOE could have subjected a member of the public to an effective dose equivalent of up to double the 10 mrem/yr emission standard (limitation) set forth at 40 C.F.R. § 61.92. Nevertheless, EPA found that when both reports' doses were combined, the doses did not exceed the RAD NESHAP standard.

116. DOE, in the 2009 KAPL RAD NESHAP Annual Report, did not include H-2 as a release point nor did it include SPRU workers as off-site receptors for the period April 13, 2009 through December 31, 2009.

117. In response to EPA feedback, on the 2009 KAPL RAD NESHAP Annual Report DOE developed Revisions 1 and 2 of the 2009 SPRU RAD NESHAP.

118. In the first revision to the 2009 SPRU RAD NESHAP report, DOE revised the original report to:

(i) include wind data from the closest wind monitor, as opposed to a wind monitor located roughly 15 miles away from KAPL;

(ii) calculate the maximum offsite dose in each of the sixteen wind direction sectors;

(iii) include radiation exposure through the food pathway;

(iv) include all of the primary radionuclides (Pu-239, Am-241, Cs-137 and Sr-90) as opposed to only Pu-239 and Cs-137;

(v) include accurate concentrations of radionuclides in the calculation of fugitive emissions; and

(vi) include the accurate location of the release point in the CAP-88.

119. In addition, the 2009 SPRU NESHAP Report did not contain KAPL release points and KAPL workers in the dose calculations.

120. On June 29, 2011, following up on EPA recommendations prior to the issuance of this Consent Order, DOE submitted a revised 2010 NESHAP Report which DOE indicated pertains to both KAPL and SPRU. EPA is reviewing the report to determine compliance with the RAD NESHAP.

CONCLUSIONS OF LAW

Based on the statutory and regulatory provisions and Findings of Fact set forth above, EPA finds that:

EPA Jurisdiction and Part 61 Applicability

121. DOE is a "person" within the meaning of Section 302 of the Act.

122. At all times relevant to this Consent Order, and since at least 1992, the date of the KAPL/SPRU MOA, DOE has been an owner and operator of KAPL, including, but not limited to, SPRU.

123. At all times relevant to this Consent Order, and since at least 1992, KAPL and SPRU both contained "stationary sources," within the meaning of 40 C.F.R. § 61.02.

124. At all times relevant to this Consent Order, KAPL, has been one "facility," within the meaning of 40 C.F.R. § 61.91(b) comprised of, among things, KAPL and SPRU buildings, structures and operations on one contiguous site (the 170 acre KAPL property).

125. At all times relevant to this Consent Order, and since at least 1992, the KAPL facility has been subject to the Part 61 NESHAP General Provisions and the RAD NESHAP.

Conclusions Regarding the Decontamination and Demolition of K-5

126. At all times relevant to this Consent Order, the K-5 retention basins were a release point, within the meaning of 40 C.F.R. § 61.93(f).

127. DOE's failure to evaluate the potential for radionuclide emissions at K-5 in order to determine whether, during the K-5 D&D, the K-5 release point could be subject to the emission measurement requirements of 40 C.F.R. § 61.93(b) or (c), is a violation of 40 C.F.R. § 61.93(f).

128. DOE's failure to incorporate the K-5 D&D activities into the CY-2006 DOE RAD NESHAP Annual Report is a violation of 40 C.F.R. § 61.94(b)(3)

129. DOE's failure to identify K-5 as a release point in the 2006 RAD NESHAP Annual Report is a violation of 40 C.F.R. § 61.94(b)(4).

Conclusions with Respect to the H-2 and G-2 D&D

130. Through the D&D actions described in paragraph 101 of the Order, DOE had converted Building H-2 from a point source into a diffuse source for purposes of the RAD NESHAP, including monitoring and testing in accordance with 40 C.F.R.§ 61.94(e) and (f).

131. DOE's failure to correctly evaluate the potential for radionuclide emissions in order to determine whether, during the H-2 D&D, the H-2 release point would be subject to the emission measurement requirements of 40 C.F.R. § 61.93(b) or (c), is a violation of 40 C.F.R. § 61.93(f).

132. The extent of DOE's failures identified in the Type B Report constitute a failure to maintain and operate the source, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions, in violation of 40 C.F.R. § 61.12(c).

133. The proposed construction of enclosures with a stack and filters at H-2 and G-2 will be a "construction" within the meaning of 40 C.F.R. § 61.02 and will convert each site into a "new" "point source," which for purposes of the RAD NESHAP, must be evaluated and monitored in accordance with 40 C.F.R. § 61.93(c). Also, diffuse sources must be evaluated and monitored in accordance with 40 C.F.R. § 61.93(e) and (f).

Conclusions with Respect to the 2009 RAD NESHAP Annual Reports

134. Deficiencies in the 2009 RAD NESHAP Reports (identified above in Paragraphs 65 and 114 through 118) resulted in DOE's failure to calculate the highest

effective dose equivalent to any member of the public where there is a residence, school, business or office, in violation of 40 C.F.R. § 61.94(a).

135. DOE's submission of two DOE RAD NESHAP Annual Reports is a violation of 40 C.F.R. § 61.94(a), which requires one such report for KAPL.

136. Each of the deficiencies in the 2009 RAD NESHAP Reports, which are identified above, is a failure of DOE to provide information in such reports in violation of 40 C.F.R. § 61.94(b).

137. Since DOE is not in compliance with the RAD NESHAP, the exemption in 40 C.F.R. § 61.96(b) from submission of applications for construction in accordance with 40 C.F.R. § 61.07 is currently not available to DOE.

Conclusions as to DOE's Statutory Violations

138. Each of DOE's violations of 40 C.F.R. Part 61 is a violation of Section 112 and/or Section 114 of the CAA.

139. Each of DOE's statutory and regulatory violations is subject to the enforcement provisions of Section 113(a)(3) of the CAA.

CONSENT ORDER

Consistent with the Findings of Fact and Conclusions of Law above, pursuant to Section 113(a)(3) of the Act, IT IS DETERMINED AND ORDERED that:

I.

The provisions of this Consent Order shall apply to Respondent and to Respondent's officers, agents, servants, employees, successors and to all persons, firms and corporations acting pursuant to, through or for any Respondent. Respondent shall comply with each provision of this Order as expeditiously as practicable, but in no

event later than the dates specified below. Each provision of this Order shall be independently enforceable under Section 113 of the Act.

II.

No later than the effective date of this Consent Order, which is specified below in the section entitled "Effective Date and Opportunity for Conference," Respondent shall comply with all applicable provisions of the Part 61 NESHAP General Provisions and the RAD NESHAP.

III.

No later than the effective date of this Consent Order, for purposes of the RAD NESHAP, Respondent shall consider and treat KAPL, including SPRU, as a single "facility" for purposes of the RAD NESHAP.

IV.

No later than the effective date of this Consent Order, DOE shall maintain and operate SPRU, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions.

V.

In order to ensure that DOE undertakes the SPRU D&D in a manner to minimize emissions, DOE shall submit to EPA for comment plans to undertake any open air D&D at SPRU.

VI.

No later than 45 days after the effective date of this Consent Order, Respondent shall revise and submit, to EPA, RAD NESHAP Annual Reports for KAPL, which include SPRU, for the calendar years 2006 and 2009, in full compliance with the RAD NESHAP.

In accordance with 40 C.F.R. § 61.94(b)(9), each of these reports shall be signed and dated by the corporate officer or public official in charge of KAPL and be in compliance with the certification requirements of that section.

VII.

No later than 90 days after the effective date of this Consent Order, Respondent shall submit a schedule for preparing documentation of each currently planned construction and modification request. The schedule shall identify for preparation all the information that is required in an application under 40 C.F.R. § 61.96, as well as a schedule for submittal of applications for construction or modification to EPA.

VIII.

No later than 90 days after the effective date of this Consent Order, Respondent shall submit to EPA a report explaining how compliance with 40 C.F.R. § 61.92 will be determined for the KAPL facility, including SPRU, D&D activities.

IX.

No later than 90 days after the effective date of this Consent Order, Respondent shall submit to EPA for comment and approval, in accordance with 40 C.F.R. § 61.93, plans for a comprehensive environmental monitoring program for airborne radionuclides for SPRU D&D activities.

X.

No later than 90 days after the effective date of this Consent Order, Respondent shall identify and submit to EPA methods that DOE will use to determine diffuse source emissions at the KAPL facility, including SPRU. To the extent DOE seeks to determine

emissions through "alternative procedures" as that term is used in 40 C.F.R. § 61.93, DOE will submit the procedures to EPA for EPA's approval.

XI.

No later than 90 days after the effective date of this Order, Respondent shall submit to EPA for comment a plan for confirmatory monitoring for non-point and point sources at the KAPL facility, including SPRU. To the extent 40 C.F.R. § 61.93 requires EPA approval of confirmatory monitoring plans for non-point or point sources, DOE will obtain such approval before implementing its plans for those sources.

XII.

No later than 364 days after the effective date of this Order, Respondent shall complete the construction of enclosure tents and ventilation systems at the G2 and H2 buildings at SPRU, in accordance with any EPA approved construction plans.

XIII.

Respondent shall not demolish G2 or H2 until the requirements of Paragraph XII above are fulfilled.

XIV.

No later than 364 days after the effective date of this Order, Respondent shall submit to EPA: (i) an updated Diffuse Source Calculation, which shall include a description and quantification of the residual radioactivity remaining on the DOE-EM SPRU site; (ii) the RAD NESHAP environmental monitoring and sampling data relating to the DOE-EM SPRU demolition and soil remediation work conducted since September 29, 2010; and (iii) the DOE-EM SPRU Final Status Survey Reports, if such Final Status Survey Reports exist. DOE shall submit a certification verifying that DOE has complied

with paragraphs V through XIII. The certification shall be signed by a DOE official and limited to the following language:

I certify that, to the best of my knowledge and belief, the information contained in this written certification and in any documents accompanying this certification is true, accurate and complete. In making this statement, I have not made an independent review of all statements contained therein and have relied in good-faith on information, statements, and representations furnished to me by employees or contractors of the United States Department of Energy. Based on my inquiry of the person or persons (or the supervisors of such persons) directly responsible for gathering the information contained in this written certification and in any documents accompanying this certification, this document is, to the best of my knowledge and belief, true accurate and complete. I am aware that there are significant potential penalties for submitting materially false information, including the possibility of fines and imprisonment for knowing violations.

XV.

All deliverables, including documents, reports, and results required by this Order, shall be submitted to:

Ariel Iglesias
Deputy Director
Division of Environmental Planning and Protection
U.S. Environmental Protection Agency - Region 2
290 Broadway – 25th Floor
New York, New York 10007-1866

ENFORCEMENT

Section 113(a)(3) of the Act provides that EPA may take any of the following actions, among others, in response to a respondent's violation(s) of the Act:

- bring a civil judicial action pursuant to Section 113(b) of the Act for injunctive relief and/or civil penalties up to $25,000 per day for each violation, and adjust the maximum penalty provided by the Act up to $27,500 per day for each violation that occurs from January 30, 1997 through March 14, 2004; $32,500 per day for each violation that occurs from March 15, 2004 through January 12, 2009; and $37,500 per day for each violation that occurs after January 12, 2009, in accordance with the Debt Collection Improvement Act, 31 U.S.C. 3701 *et seq.* (DCIA), and 40 C.F.R. Part 19, promulgated pursuant to the DCIA; or

- issue an administrative penalty order pursuant to Section 113(d) of the Act, for civil penalties, and adjust these penalties in accordance with the DCIA and Part 19, as stated above.

Failure to comply with this Order may result in an administrative action for appropriate relief as provided in Section 113 of the Act. EPA retains full authority to enforce the requirements of the Act for all periods of noncompliance, including those covered in this Order, and nothing in this Order shall be construed to limit that authority.

PENALTY ASSESSMENT CRITERIA

Section 113(e)(1) of the Act states that if a penalty is assessed pursuant to Sections 113 or 304(a) of the Act, the Administrator or the court, as appropriate, shall, in determining the amount of the penalty to be assessed, take into consideration the size of the business, the economic impact of the penalty on the business, the violator's full compliance history and good faith efforts to comply, the duration of the violation as established by any credible evidence (including evidence other than the applicable test method), payment by the violator of penalties previously assessed for the same violation, the economic benefit of noncompliance, the seriousness of the violation, and other factors as justice may require.

Section 113(e)(2) of the Act allows the Administrator or the court, as appropriate, to assess a penalty for each day of violation. In accordance with Section 113(e)(2) of the Act, EPA will consider a violation to continue from the date the violation began until the date Respondent establishes that it has achieved continuous compliance. If Respondent proves that there was an intermittent day of compliance or that the violation was not continuous in nature, then EPA will reduce the penalty accordingly.

EFFECTIVE DATE AND OPPORTUNITY FOR CONFERENCE

Pursuant to Section 113(a)(4) of the Act, Respondent may request a conference with EPA concerning the violation(s) alleged in this Order. Respondent expressly waives its right to a conference and consents to be bound by the provisions in the "Order" section of this Order, above. Following execution by Respondent, this Order shall become effective upon its execution by EPA.

All inquiries concerning this Order should be made in writing to:

Evans J. Stamataky
Assistant Regional Counsel
Office of Regional Counsel – Air Branch
U.S. Environmental Protection Agency – Region 2
290 Broadway – 16th Floor
New York, NY 10007-1866
(212) 637-3201

Notwithstanding the effective date of this Order, Respondent must comply with all applicable requirements of the Act, with all applicable regulations promulgated under the Act, and with all permits, consent decrees or other orders issued in accordance with the Act.

Signatures

Issued: _____, 2012 _____

Dore LaPosta, Director
Division of Enforcement and Compliance Assistance
U.S. Environmental Protection Agency – Region 2

Consented to by Respondent U.S. Department of Energy, under the terms set forth in the last paragraph of the "Preliminary Statement" section above, and under the terms set forth in the "Effective Date and Opportunity for a Conference" section above, by:

_____ _____, 2012
Frank Marcinowski
Deputy Assistant Secretary for Waste Management
U.S. Department of Energy Office of Environmental Management

_____ _____, 2012
Michael K. Lempke
Manager, Naval Reactors Field Office
U.S. Department of Energy, Schenectady, NY