

April 15, 2004

ALL AGREEMENT AND NON-AGREEMENT STATES

NRC IMPLEMENTATION OF THE EPA-NRC MEMORANDUM OF UNDERSTANDING (STP-04-026)

On October 9, 2002, the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Environmental Protection Agency (EPA) entered into a Memorandum of Understanding (MOU) on "Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites." (<http://www.nrc.gov/reading-rm/doc-collections/news/2002/mou2fin.pdf>). Under the MOU, EPA agrees to continue its Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) deferral policy of not listing sites on the National Priorities List that are subject to NRC's licensing authority. The MOU also expands EPA's deferral to sites for which the NRC license is terminated and certain criteria are met. Specifically, the MOU provides that unless an NRC-licensed site exceeds any of three trigger criteria, EPA agrees to a policy of deferral to NRC decision-making on decommissioning without the need for consultation.

The three criteria provided in the MOU are:

- Radioactive groundwater contamination above EPA's Maximum Contaminant Levels;
- Radioactive soil concentrations exceeding the values provided in Table 1 of the MOU; and
- License termination under either the restricted release or alternate criteria provisions of 10 CFR Part 20, Subpart E.

For NRC sites that meet or exceed the above criteria, the MOU provides that the NRC will consult with the EPA. Before license termination, the NRC will continue to require sites to meet the criteria in 10 CFR 20, Subpart E, which are fully protective of public health and safety. NRC will not require licensees to remediate sites to the MOU trigger values.

For sites that trigger the criteria in the MOU, NRC will consult with EPA at two points in the decommissioning process: 1) prior to NRC's approval of the license termination plan (LTP) or decommissioning plan (DP), which NRC terms Level 1 consultation; and 2) following completion of the final status survey (FSS), which NRC terms Level 2 consultation. Although the NRC's plan for consulting with EPA calls for the initial Level 1 consultation to occur early in the decommissioning process, at the time the MOU was signed, NRC had several sites which were in the latter stages of the decommissioning process. Because these sites already had approved DP/LTPs, the next opportunity to consult with EPA would be a Level 2 consultation following the completion of the FSS. NRC determined that it was in the spirit of the MOU to notify the EPA of these sites that could possibly require a Level 2 consultation in the future. This third category of communication under the MOU is termed Notification.

To date, NRC has issued the enclosed notification letters to the EPA for Connecticut Yankee Atomic Power Company's Haddam Neck Plant in Haddam, Connecticut; the Kirtland Air Force Base site in Albuquerque, New Mexico; and the Saxton site in Saxton, Pennsylvania.

If you have any questions regarding this correspondence, please contact me at (301) 415-3340 or the individuals named below:

| | | |
|----------------------|---|---|
| POINT(S) OF CONTACT: | Patricia Eng, STP | Derek Widmayer, NMSS |
| TELEPHONE: | (301) 415-7206 | (301) 415-6677 |
| INTERNET: | <u>PLE@NRC.GOV</u> | <u>DAW@NRC.GOV</u> |

Sincerely,

/RA/

Paul H. Lohaus, Director
Office of State and Tribal Programs

Enclosures:
As stated

April 15, 2004

To date, NRC has issued the enclosed notification letters to the EPA for Connecticut Yankee Atomic Power Company's Haddam Neck Plant in Haddam, Connecticut; the Kirtland Air Force Base site in Albuquerque, New Mexico; and the Saxton site in Saxton, Pennsylvania.

If you have any questions regarding this correspondence, please contact me at (301) 415-3340 or the individuals named below:

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Sincerely,

/RA/

Paul H. Lohaus, Director
Office of State and Tribal Programs

Enclosures:
As stated

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OFFICIAL RECORD COPY

March 5, 2004

Mr. Michael Cook, Director
Office of Emergency and Remedial Response
U.S. Environmental Protection Agency
Washington, DC 20460

SUBJECT: NOTIFICATION OF THE DECOMMISSIONING OF THE CONNECTICUT
YANKEE ATOMIC POWER COMPANY'S HADDAM NECK SITE

Dear Mr. Cook:

This letter is intended to notify you of the decommissioning oversight actions that the U.S. Nuclear Regulatory Commission (NRC) has taken and intends to take for the Connecticut Yankee Atomic Power Company's Haddam Neck site (Haddam Neck).

On October 9, 2002, the NRC and the U.S. Environmental Protection Agency (EPA) entered into a Memorandum of Understanding (MOU) on "Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites." Under the MOU, EPA agreed to continue its Comprehensive Environmental Response, Compensation, and Liability Act deferral policy of not listing sites on the National Priorities List that are subject to NRC's licensing authority. The MOU provides that, unless an NRC-licensed site exceeds any of three trigger criteria contained in the MOU, EPA agrees to a policy of deferral to NRC decision-making on decommissioning without the need for consultation.

For sites that trigger the criteria in the MOU, NRC will consult with EPA at two points in the decommissioning process: (1) prior to NRC's approval of the license termination plan (LTP) or decommissioning plan (DP), which NRC terms Level 1 consultation; and (2) following completion of the Final Status Survey (FSS), which NRC terms Level 2 consultation. Although the NRC's plan for consulting with EPA calls for the initial Level 1 consultation to occur early in the decommissioning process, at the time the MOU was signed NRC had several sites which were in the latter stages of the LTP/DP process. Since these sites were further along in the decommissioning process, the next opportunity to consult with EPA would be a Level 2 consultation following the completion of the FSS.

This letter is to notify you of the existence of one of these sites. This letter is not considered a Level 1 consultation because this site already has an approved license termination plan. However, the NRC believes it is in the spirit of the MOU to notify the EPA of sites which could possibly require a Level 2 consultation in the future, and were already well into the decommissioning process at the time the MOU was signed.

The Haddam Neck Site

The Haddam Neck site is located on the east bank of the Connecticut River, approximately 21 miles south-southeast of Hartford. The plant, a 1825-megawatt (thermal) reactor, began power operation on August 7, 1967. After 19 operation cycles and over 7750 effective full power days,

(ML040560250)

the plant was shut down on July 22, 1996. On December 5, 1996, the licensee certified permanent cessation of operations. The Post-Shutdown Decommissioning Activities Report (PSDAR) was submitted August 22, 1997, in which the licensee elected to pursue active decommissioning. In April 1999, decontamination and dismantlement activities began, consistent with the PSDAR. Subsequently, the licensee submitted a LTP on July 7, 2000. NRC completed its review of the LTP on November 25, 2002. Major components have been removed, including the steam generators, pressurizer, and reactor vessel.

Since the Haddam Neck site already has an approved LTP, the general time period for having a Level 1 consultation has passed. However, the approved LTP for this site contains derived concentration guideline levels (DCGLs) for 20 radionuclides, which are provided in the enclosed table. The DCGLs for 15 of these radionuclides exceed the MOU trigger values for soil [*i.e.*, tritium (H-3), niobium-94, cesium-137 (Cs-137), europium-152 (Eu-152), and Eu-154]; and/or groundwater [H-3, carbon-14, manganese-54, iron-55, cobalt-60, nickel-63, strontium-90, technetium-99, Cs-134, Cs-137, Eu-152, Eu-154, Eu-155, and plutonium-241)].

Before the NRC license is terminated the doses to the average member of the critical group at the Haddam Neck site will be in compliance with NRC's criteria in Part 20 Subpart E that provides all-pathways dose criteria of 0.25 millisieverts per year (25 millirem per year) plus as low as reasonably achievable (ALARA), to an average member of the critical group. The dose criteria in Part 20 Subpart E are fully protective of the public health and safety, and were the result of a comprehensive rulemaking, including an accompanying generic environmental impact statement. Furthermore, individuals at a decommissioned site are expected to receive doses substantially below the constraint level because of ALARA, conservative dose modeling assumptions, and the nature of the cleanup process itself, which often reduces residual contamination levels significantly below site DCGLs. Another reason the residual radioactivity at the site is expected to be much lower than the approved DCGL values is that the final cleanup values that will be used at this site to achieve 25 millirem per year must be based on an all pathways, sum of the fractions approach. The DCGLs in the LTP represent the maximum levels for each radionuclide without considering the existence of other radionuclides. Thus, in applying the sum of the fraction requirement, the actual cleanup values will be reduced to ensure that the potential dose from all residual radioactivity at the site in all media is less than 25 millirem per year.

Based on NRC's decommissioning experience, a Level 2 consultation might not be necessary, because the levels of residual radioactivity remaining after remediation could be lower than the MOU trigger levels. However, if the residual radioactive material concentration levels in soil at the time of license termination still exceed the MOU trigger values, NRC will enter into Level 2 consultation with the EPA in accordance with the MOU.

As part of the LTP review and approval process, the NRC staff prepared and published, for public comment, an environmental assessment (EA) to document how site remediation at Haddam Neck would ensure protection of the public health and safety and the environment.¹

¹ The EA is available in NRC's electronic reading room at <http://www.nrc.gov/reading-rm.html> (ML022670351). Also available in NRC's electronic reading room are EPA's June 24, 2002, comments on the EA (ML021900332) and NRC's September 27, 2002, response to EPA's comments (ML022530460).

The EA was published in the Federal Register on November 4, 2002, at 67 FR 67212, and concludes that approval of the LTP would not result in any significant impacts on the human environment and is protective of human health. In addition, the approval of the LTP was based on the NRC staff's Safety Evaluation Report (SER) issued on November 25, 2002.² The SER concluded that the activities described in the LTP were consistent with the Commission's regulations and that approval of the LTP would not be inimical to the common defense and security, or to the health and safety of the public.

Next Steps

Following site remediation activities at Haddam Neck, NRC staff will review information contained in the FSS Reports and compare the remaining levels of residual radioactivity to the MOU trigger levels. If the FSS measurements trigger the MOU, an additional consultation between the agencies will occur under the MOU to identify and resolve any remaining issues. In the meantime, if you have any questions regarding this letter or the remediation activities at Haddam Neck, please contact Mr. John Greeves, Director of the Division of Waste Management, at 301-415-7437.

Sincerely,

/RA/

Martin J. Virgilio, Director
Office of Nuclear Material Safety
and Safeguards

Enclosure: Proposed Remediation Values at the Connecticut Yankee Site

cc: Connecticut Yankee Haddam Neck Site Contact List

² The EA is available in NRC's electronic reading room (ML022670388).

**PROPOSED REMEDIATION VALUES
AT THE CONNECTICUT YANKEE SITE**

| Radionuclide | DCGL (soil)* | MOU (soil) | DCGL** (groundwater) | MOU (groundwater) |
|--------------|--------------|------------|-------------------------|----------------------|
| H-3 | 412 | 228 | 652,000 | 20,000 |
| C-14 | 5.66 | 46 | 9,010 | 2,000 |
| Mn-54 | 17.4 | 69 | 24,200 | 300 |
| Fe-55 | 27,400 | 269,000 | 65,400 | 2,000 |
| Co-60 | 3.81 | 4 | 1,140 | 100 |
| Ni-63 | 723 | 9,480 | 31,500 | 50 |
| Sr-90 | 1.55 | 23 | 251 | 8 |
| Nb-94 | 7.12 | 2 | 6,750 | --- |
| Tc-99 | 12.6 | 25 | 26,400 | 900 |
| Ag-108m | 7.14 | --- | 4,240 | --- |
| Cs-134 | 4.67 | 46 | 342 | 80 |
| Cs-137 | 7.91 | 6 | 431 | 200 |
| Eu-152 | 10.1 | 4 | 7,330 | 200 |
| Eu-154 | 9.29 | 5 | 5,050 | 60 |
| Eu-155 | 392 | --- | 32,500 | 600 |
| Pu-238 | 29.6 | 297 | 15.1 | 15*** |
| Pu-239 | 26.7 | 259 | 13.6 | 15*** |
| Pu-241 | 870 | 40,600 | 460 | 300 |
| Am-241 | 25.8 | 187 | 13 | 15*** |
| Cm-243 | 29 | 35 | 19 | 15*** |

*soil values reported in pCi/g

**groundwater values reported in pCi/l

***15 pCi/L is total for all alpha emitters

March 5, 2004

Mr. Michael Cook, Director
Office of Emergency and Remedial Response
U.S. Environmental Protection Agency
Washington, DC 20460

SUBJECT: NOTIFICATION OF THE DECOMMISSIONING OF THE KIRTLAND AIR FORCE
BASE SITE

Dear Mr. Cook:

This letter is intended to notify you of the decommissioning oversight actions that the U.S. Nuclear Regulatory Commission (NRC) has taken and intends to take for the Kirtland Air Force Base (Kirtland AFB) located in Albuquerque, New Mexico.

On October 9, 2002, the NRC and the U.S. Environmental Protection Agency (EPA) entered into a Memorandum of Understanding (MOU) on "Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites." Under the MOU, EPA agreed to continue its Comprehensive Environmental Response, Compensation, and Liability Act deferral policy of not listing sites on the National Priorities List that are subject to NRC's licensing authority. The MOU provides that, unless an NRC-licensed site exceeds any of three trigger criteria contained in the MOU, EPA agrees to a policy of deferral to NRC decision-making on decommissioning without the need for consultation.

For sites that trigger the criteria in the MOU, NRC will consult with EPA at two points in the decommissioning process: (1) prior to NRC's approval of the license termination plan (LTP) or decommissioning plan (DP), which NRC terms Level 1 consultation; and (2) following completion of the Final Status Survey (FSS), which NRC terms Level 2 consultation. Although the NRC's plan for consulting with EPA calls for the initial Level 1 consultation to occur early in the decommissioning process, at the time the MOU was signed NRC had several sites which were in the latter stages of the LTP/DP process. Since these sites were further along in the decommissioning process, the next opportunity to consult with EPA would be a Level 2 consultation following the completion of the FSS.

This letter is to notify you of the existence of one of these sites. This letter is not considered a Level 1 consultation because this site already has an approved decommissioning plan. However, the NRC believes it is in the spirit of the MOU to notify the EPA of sites which could possibly require a Level 2 consultation in the future, and were already well into the decommissioning process at the time the MOU was signed.

The Kirtland AFB Site

Portions of the Kirtland AFB site were used for radiation training purposes, beginning in 1961, to train Federal and State personnel on detection of dispersed contamination resulting from

(ML040560134)

simulated nuclear weapon accidents. To simulate radiological contamination that may result from nuclear accidents, thorium oxide sludge applied at these training facilities served as a low hazard analog to plutonium. A total inventory of 602 kilograms of thorium-232 was applied and tilled into the soil at the site. The site consists of approximately 43 acres, in which approximately 9.4 acres were affected with elevated thorium concentrations. The site is owned by the U.S. Government and regulated by NRC. The approved DP contains a derived concentration guideline level (DCGL) for thorium-232 (Th-232) in soil of 5.7 pCi/g that slightly exceeds the MOU level of 5 pCi/gram. Remediation work is expected to be completed in 2004. However, as the site is covered by the Air Force's Master Materials License, the license will not be terminated when the remediation project is completed.

When site remediation is completed the doses to the average member of the critical group at the Kirtland AFB site will be in compliance with NRC's criteria in Part 20 Subpart E that provides all-pathways dose criteria of 0.25 millisieverts per year (25 millirem per year) plus as low as reasonably achievable (ALARA), to an average member of the critical group. The dose criteria in Part 20 Subpart E are fully protective of the public health and safety and were the result of a comprehensive rulemaking, including an accompanying generic environmental impact statement. Furthermore, individuals at a decommissioned site are expected to receive doses substantially below the constraint level because of ALARA, conservative dose modeling assumptions, and the nature of the cleanup process itself, which often reduces residual contamination levels significantly below site DCGLs. Therefore, based on NRC's decommissioning experience, the staff does not expect that this site will require a Level 2 consultation, because the levels of residual radioactivity remaining after remediation are anticipated to be lower than the MOU trigger levels. However, if the residual radioactive material concentration levels in soil measured in the FSS still exceed the MOU trigger values, NRC will enter into Level 2 consultation with the EPA in accordance with the MOU.

As part of the DP review and approval process, the NRC staff prepared an environmental assessment (EA) to document how the remediation at Kirtland AFB would ensure protection of the public health and safety and the environment.³ The EA was published in the Federal Register on January 15, 2003, at 68 FR 2078. The EA concludes that approval of the DP would not result in any significant impacts on the human environment and is protective of human health. In addition, the approval of the DP was based on the NRC staff's Safety Evaluation Report (SER) issued on January 6, 2003.⁴ The SER concludes that the activities described in the DP are consistent with the Commission's regulations and that approval of the DP would not be inimical to the common defense and security, or to the health and safety of the public.

³ The EA is available in NRC's electronic reading room at <http://www.nrc.gov/reading-rm.html> (ML030080492).

⁴ The SER is available in NRC's electronic reading room (ML030080421).

Michael Cook

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After site remediation activities at Kirtland AFB, NRC staff will review information contained in the FSS Report and compare actual levels of residual radioactivity to the MOU trigger levels. If the FSS measurements trigger the MOU, a consultation between the agencies will occur under the MOU to identify and resolve any remaining issues. In the meantime, if you have any questions regarding this letter or the remediation activities at Kirtland AFB please contact Mr. John Greeves, Director of the Division of Waste Management, at 301-415-7437.

Sincerely,

/RA/

Martin J. Virgilio, Director
Office of Nuclear Material Safety
and Safeguards

cc: Kirtland AFB Contact List

March 5, 2004

Mr. Michael Cook, Director
Office of Emergency and Remedial Response
U.S. Environmental Protection Agency
Washington, DC 20460

SUBJECT: NOTIFICATION OF THE DECOMMISSIONING OF THE SAXTON NUCLEAR
EXPERIMENTAL CORPORATION SITE

Dear Mr. Cook:

This letter is intended to notify you of the decommissioning oversight actions that the U.S. Nuclear Regulatory Commission (NRC) has taken and intends to take for the Saxton Nuclear Experimental Corporation (Saxton) site in Liberty Township, Bedford County, Pennsylvania.

On October 9, 2002, the NRC and the U.S. Environmental Protection Agency (EPA) entered into a Memorandum of Understanding (MOU) on "Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites." Under the MOU, EPA agreed to continue its Comprehensive Environmental Response, Compensation, and Liability Act deferral policy of not listing sites on the National Priorities List that are subject to NRC's licensing authority. The MOU provides that, unless an NRC-licensed site exceeds any of three trigger criteria contained in the MOU, EPA agrees to a policy of deferral to NRC decision-making on decommissioning without the need for consultation.

For sites that trigger the criteria in the MOU, NRC will consult with EPA at two points in the decommissioning process: (1) prior to NRC's approval of the license termination plan (LTP) or decommissioning plan (DP), which NRC terms Level 1 consultation; and (2) following completion of the Final Status Survey (FSS), which NRC terms Level 2 consultation. Although the NRC's plan for consulting with EPA calls for the initial Level 1 consultation to occur early in the decommissioning process, at the time the MOU was signed NRC had several sites which were in the latter stages of the LTP/DP process. Since these sites were further along in the decommissioning process, the next opportunity to consult with EPA would be a Level 2 consultation following the completion of the FSS.

This letter is to notify you of the existence of one of these sites. This letter is not considered a Level 1 consultation because this site already has an approved license termination plan. However, the NRC believes it is in the spirit of the MOU to notify the EPA of sites which could possibly require a Level 2 consultation in the future, and were already well into the decommissioning process at the time the MOU was signed.

The Saxton Site

The Saxton site consists of a deactivated pressurized-water nuclear reactor located on about 1.15 acres, near the borough of Saxton in Liberty Township, Bedford County, Pennsylvania. The Saxton facility was built from 1960 to 1962 and operated from 1962 to 1972. After its

(ML040560098)

shutdown in 1972, all the nuclear fuel was removed from the reactor and returned to the fuel's owner, the Atomic Energy Commission. The site is currently being decommissioned under an approved LTP. The approved LTP contains derived concentration guideline levels (DCGLs) for 11 radionuclides to be used during the remediation of the site (see enclosure). The DCGLs for two radionuclides slightly exceed the MOU values; Cs-137 (6.6 pCi/g vs. 6.0 pCi/g) and Eu-152 (10.1 pCi/g vs. 4 pCi/g). License termination is anticipated in 2004.

Before the NRC license is terminated the doses to the average member of the critical group at the Saxton site will be in compliance with NRC's criteria in Part 20 Subpart E that provides all-pathways dose criteria of 0.25 millisieverts per year (25 millirem per year) plus as low as reasonably achievable (ALARA), to an average member of the critical group. The dose criteria in Part 20 Subpart E are fully protective of the public health and safety, and were the result of a comprehensive rulemaking, including an accompanying generic environmental impact statement. Furthermore, individuals at a decommissioned site are expected to receive doses substantially below the constraint level because of ALARA, conservative dose modeling assumptions, and the nature of the cleanup process itself, which often reduces residual contamination levels significantly below site DCGLs. Therefore, based on NRC's decommissioning experience, the staff does not expect that this site will require a Level 2 consultation, because the levels of residual radioactivity remaining after remediation are anticipated to be lower than the MOU trigger levels. However, if the residual radioactive material concentration levels in soil at the time of license termination still exceed the MOU trigger values, NRC will enter into Level 2 consultation with the EPA in accordance with the MOU.

As part of the LTP review and approval process, the NRC staff prepared an environmental assessment (EA) to document how the remediation at Saxton would ensure protection of the public health and safety and the environment.⁵ The EA was summarized in the Federal Register on March 20, 2003, at 68 FR 13733. The EA concludes that approval of the LTP would not result in any significant impacts on the human environment and is protective of human health. In addition, the approval of the LTP was based on the NRC staff's Safety Evaluation Report (SER) issued on March 28, 2003.⁶ The SER concluded that the activities described in the LTP were consistent with the Commission's regulations and that approval of the LTP would not be inimical to the common defense and security, or to the health and safety of the public.

⁵ The EA is available in NRC's electronic reading room at <http://www.nrc.gov/reading-rm.html> (ML030350564).

⁶ The SER is available in NRC's electronic reading room (ML030580260).

Michael Cook

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Next Steps

Following site remediation activities at Saxton, NRC staff will review information contained in the FSS Reports and compare the remaining levels of residual radioactivity to the MOU trigger levels. If the FSS measurements trigger the MOU, a consultation between the agencies will occur under the MOU to identify and resolve any remaining issues. In the meantime, if you have any questions regarding this letter or the remediation activities at Saxton please contact Mr. John Greeves, Director of the Division of Waste Management, at 301-415-7437.

Sincerely,

/RA/

Martin J. Virgilio, Director
Office of Nuclear Material Safety
and Safeguards

Enclosure: Proposed Remediation Values at the Saxton Site

cc: Saxton Site Contact List

**PROPOSED REMEDIATION VALUES
AT THE SAXTON SITE**

| Radionuclide | DCGL (soil)* | MOU (soil) |
|--------------|--------------|------------|
| H-3 | 130 | 228 |
| C-14 | 2 | 46 |
| Co-60 | 3.5 | 4 |
| Ni-63 | 750 | 9,480 |
| Sr-90 | 1.2 | 23 |
| Cs-137 | 6.6 | 6 |
| Eu-152 | 10.1 | 4 |
| Pu-238 | 1.8 | 297 |
| Pu-239 | 1.6 | 259 |
| Pu-241 | 86 | 40,600 |
| Am-241 | 9.9 | 187 |

*soil values reported in pCi/g