POLICY ISSUE
(Negative Consent)

SECY-00-0173

August 11, 2000

FOR: The Commissioners

FROM: William D. Travers /RA/
Executive Director for Operations

SUBJECT: REMOVAL OF THE WATERTOWN MALL AREA FROM THE SITE DECOMMISSIONING MANAGEMENT PLAN

PURPOSE:

To inform the Commission that the staff plans to remove the Watertown Mall Area site, in Watertown, Massachusetts, from the Site Decommissioning Management Plan (SDMP).

BACKGROUND:

In SECY-90-121, the original SDMP, the staff identified approximately 50 sites that warranted additional oversight by the U.S. Nuclear Regulatory Commission (NRC), to ensure the timely and safe remediation of residual radioactive material in excess of NRC's criteria for release and license termination. One of these sites was the Watertown Arsenal/Mall Area site, in Watertown, Massachusetts.

The site is located approximately 11 kilometers (7 miles) west of Boston, Massachusetts, along the north branch of the Charles River. In July 1997, the western portion of the site, the U.S. Army Research Laboratory (ARL), was removed from the SDMP, having met the criteria for release for unrestricted use. The Watertown Mall Area remained under SUB-238 license, the source material license for the site, and on the SDMP.

The Manhattan Engineering District Project, and later the U.S. Army, conducted operations involving natural and depleted uranium from approximately 1946 through 1967 in the eastern portion of the former Watertown Arsenal. This portion of the site is referred to as the Watertown Mall Area. The Watertown Mall Area was transferred to the U.S. General Services Administration (GSA) and subsequently sold to the Watertown Redevelopment Authority (WRA) in 1968. The site history and radiological survey history are summarized in Attachment 1. Three facilities on the Watertown Mall Area -- Buildings 34, 41, and 421, were used for activities involving natural and depleted uranium. Buildings 34 and 41 were sold in a contaminated state. In 1969, surveys and remediation actions were conducted at the site by an Atomic Energy Commission (AEC)-licensed contractor. The final survey concluded that Buildings 34 and 41 met the AEC criteria for unrestricted use. Building 421 was presumed to be free from contamination, based on characterization surveys conducted by the Army at the time the site was transferred to the WRA. However, surveys of these three buildings conducted by Argonne National Laboratory (ANL EXIT), in the early 1980s, identified small spots of contamination on the concrete pads remaining from former Buildings 34 and 421 and a few soil and sediment samples that were in excess of natural background levels for uranium. In addition, a radiation exposure reading in a drain line associated with Building 41 was in excess of the SDMP Action Plan criteria (57 Federal Register 13389).

In 1990, the Watertown Mall Area was added to the SDMP, and later added to SUB-238, the license for the ARL site, because records available to the Army and NRC did not clearly demonstrate that necessary decontamination had occurred before the property was released for unrestricted use. In October 1993, the Army submitted the "Former Watertown Arsenal Preliminary Assessment (PA)," which included recommendations for resolving issues associated with the radiological status of the site. These recommendations included evaluating the potential doses from the residual radioactive material on the former building pads and in the drain/sewer lines. In a letter dated January 31, 1994, NRC stated that the recommendations of the PA were acceptable. Several additional surveys were conducted in the 1990s to address areas that required further characterization, including an assessment of the small spots of contaminated concrete and elevated soil/sediment concentrations that were identified in the ANL surveys.

At the time the ARL portion of the Watertown Arsenal was removed from the SDMP in 1997, the licensee had completed a majority of the radiological assessments for the Watertown Mall Area, indicating that it could be released for unrestricted use. These assessments concluded that residual radioactive material in soil and on the former building pads did not pose a significant risk to the public. However, there was the possibility that residual radioactive material in excess of the SDMP criteria was present in buried drain/sewer lines on the site, which had not yet been evaluated. In 1998, a Risk Evaluation for the Watertown Mall Area, developed by the Army to comply with the Commonwealth of Massachusetts Department of Environmental Protection (MADEP) requirements, also included an assessment of the risk from residual radiological material in the buried drain/sewer lines. This assessment concluded that, under current and future site conditions, no significant human

health nor ecological risks would be expected from the residual radioactive material.

In a letter dated July 10, 2000, ARL requested removal of the Watertown Mall Area from the SDMP and provided a dose assessment for the radioactive material in the buried sewer line that had residual radioactive material in excess of the SDMP Action Plan criteria for fixed contamination. The ARL also provided a demonstration that these doses were as low as reasonably achievable (ALARA).

DISCUSSION:

The ARL and the U.S. Army Corps of Engineers, New England District Office (hereafter, the Corps), completed an extensive historical record review, including an archival record search and interviews with former employees, current property owners, community members, and State and Federal regulators. The staff reviewed these documents as well as surveys and assessments from 1992 through 1999.

In a letter dated May 25, 1999, the NRC staff concluded that the drain/sewer line sediment sample results, which were reported as less than the SDMP Action Plan criteria, were inconclusive, because of the high uncertainty reported for a few of the measurements, and data were not available for the location nearest to the potential source of contamination from the former Building 41 drain/sewer line. NRC also stated that a dose assessment would be required to justify leaving the buried sewer pipe in place. NRC provided "Preliminary Guidelines for Evaluating Dose Assessments in Support of Decommissioning," to ensure that the licensee's dose assessment would be developed in accordance with NRC staff guidance. To confirm the licensee's assessment, NRC developed a survey plan to collect sediment samples and make radiological measurements to determine if the facility could be released for unrestricted use.

On July 19, 1999, under the supervision of NRC Region I staff, the Oak Ridge Institute for Science and Education sampled portions of the sewer system associated with Building 41 and background sewer locations. The survey determined that uranium concentrations, exposure rate measurements, and total alpha and beta removable contamination met the NRC SDMP Action Plan criteria. Results were consistent with uranium concentrations found in the environment. However, two localized areas within one manhole indicated direct surface activity in excess of the maximum guideline for depleted uranium. As documented in an NRC Inspection Report dated October 4, 1999, a dose assessment was required to demonstrate that potential doses from future uses would be consistent with NRC's dose-based release criterion. An inspector from the Commonwealth of Massachusetts Department of Public Health (MADPH), Radiation Protection Program observed and participated in the inspection. A representative from the MADEP also observed portions of the inspection.

The requested dose evaluation and an ALARA demonstration were submitted to the NRC in July 2000. In developing this dose evaluation, the licensee assumed that the sewer line was excavated, ground up, and uniformly spread over an area of approximately 2,400 square meters. The licensee then used a residential family farm scenario, with a site-specific source term and the DandD Screen model (using the code's default parameters). Based on this evaluation, a maximum dose of approximately 0.084 milliSieverts per year [0.084 mSv/y)(8.4 millirem per year (8.4 mrem/y)] could be received by the average member of the critical group 4 years after the site is released. The residential family farm scenario is considered highly unlikely given the site's location in a metropolitan area of a major city, the existence of the Mall, associated buildings, and parking areas, and the classification of the local groundwater as a non-potential source of drinking water. An external dose estimate for a utility worker based on current radiological conditions was also developed. The dose to the utility worker is estimated to be 10 microSieverts (0.001 mrem) for a 2-minute pipe inspection. This dose scenario is also considered unlikely because the buried drain lines are no longer being used.

Based on the staff's review of the radiological surveys provided by the licensee and NRC confirmatory surveys, NRC staff has concluded that residual radioactive material levels at the majority of the site are at, or near, background levels and therefore, satisfy the SDMP Action Plan criteria. In addition, NRC staff reviewed the assumptions and default parameters, and through independent dose calculations confirmed that potential doses from residual radioactive material in the sewer line are well below the NRC dose-based release criterion of 0.25 mSv/y (25 mrem/y) as stipulated in 10 CFR 20.1402. The staff also estimated the potential doses to the public from the residual radioactive material on the Building 421 concrete pad and determined that they would be less than 0.01mSv/y (1 mrem/y). Further, the average soil and sediment sample results for residual radioactive material for the site were consistent with background levels, except for a few slightly elevated uranium and radium results. Therefore, staff is satisfied that the dose from residual radioactive material for the entire site is expected to be less than 0.25 mSv/yr (25 mrem/yr).

The licensee also submitted a limited ALARA analysis, evaluating the costs to excavate the buried pipe and associated debris, and concluded that leaving the pipe in place was ALARA. The NRC staff independently evaluated the potential doses to the public from residual radioactive material in the buried pipe and determined that the doses are ALARA.

Based on the staff's review of the radiological surveys, risk assessments, the dose assessment for leaving the buried drain lines from the former Building 41 in place, and the independent dose assessment of the contaminated spots on the Building 421 concrete pad, the staff has concluded that the Watertown Mall Area is acceptable for unrestricted release and should be removed from the SDMP. The licensee has not requested license termination and release of the site at this time. However, ARL, GSA, and the Corps are evaluating whether to request an amendment to SUB-238 to add another SDMP site, the GSA property, a 5-hectare (12-acre) site also in Watertown, rather than terminate the license with the removal of the Watertown Mall from the SDMP. The GSA property is currently not licensed by NRC, and the radiological assessment and remediation of the GSA property is managed by the Corps, under the Formerly Utilized Defense Sites program. The GSA property had been part of the Watertown Arsenal/Mall before 1968. Placing the GSA property under a license would improve the decommissioning process for the GSA property by requiring schedule constraints in accordance with NRC's Decommissioning Timeliness Rule.

Based on discussions with the licensee, staff expects to resolve the status of the site license by the end of the calendar year.

If the Commission does not object to the removal of the Watertown Mall Area from the SDMP, the attached letter (Attachment 2) will be sent to the licensee. Consistent with prior staff practice, prior to removing the site from the SDMP and transmitting the letter to the licensee, NRC RI will send letters to the Environmental Protection Agency (EPA) and the State regulatory agencies to inform them of the Commission's position on the proposed action. A Federal Register notice (Attachment 3) will announce the staff's action to remove the Watertown Mall from the SDMP list. When the licensee submits a request to amend its license to remove the Watertown Mall Area from the license, a Federal Register notice will be prepared providing an opportunity for a hearing.

NRC staff has coordinated this action with the MADEP, to which EPA, Region I deferred responsibility under the Massachusetts Contingency Plan program for remediation of hazardous material at Federal facilities. NRC staff has also coordinated the action with the MADPH. Both agencies were informed of NRC inspections and meetings throughout the project. At a meeting in May 2000 with ARL, GSA, and the Corps, which included MADEP and MADPH, NRC staff discussed removing the Watertown Mall area site from the NRC SDMP list. In addition, NRC RI staff contacted EPA Region I, MADEP and MADPH cognizant representatives directly and discussed the basis for the staff's recommendation to remove the site from the SDMP without a request for license termination. The representatives from each agency stated that they were in agreement with the proposed action. The Corps also agreed to announce this proposed action during the next Watertown Restoration Advisory Board meeting. Finally, this paper has been coordinated with the NRC's Office of State and Tribal Programs.

COORDINATION:

This paper has been coordinated with the Office of the General Counsel, which has no legal objections.

RECOMMENDATION:

Staff requests action within 10 days. Action will not be taken until the SRM is received. We consider this action to be within the delegated authority of the EDO.

William D. Travers
Executive Director
for Operations

Staff Contact: Marie Miller, DNMS, RI
(610)337-5205

Attachments:
1. Site History and Site Radiological History
2. Draft Letter to Licensee
3. Draft Federal Register Notice

ATTACHMENT 1

Site and Radiological Survey Histories

The Watertown Arsenal encompasses approximately 53 hectares (130 acres) along the north branch of the Charles River, approximately 11 kilometers (7 miles) west of Boston, Massachusetts. The Watertown Arsenal had been part of the Army Ordnance Department, from its inception in 1812, until the transfer of its functions to the Army Materials Command [now Army Research Laboratory (ARL)] in 1962. From 1946 to 1953, the Massachusetts Institute of Technology conducted a research program for the Manhattan Engineering District on African ore containing uranium.

In 1958, the Atomic Energy Commission (AEC) issued a source material license to the U.S. Army for the depleted uranium activities at the Watertown Arsenal. Locations of use were not specified in the license. However, based on historical assessments, the following Watertown Mall Areas were determined to have been used for source material activity: Building 34, which housed a uranium machine shop; a portion of Building 41, which contained a foundry that was used for uranium work; and, Building 421, which was used for experimental uranium oxide production with thorium used as crucible material, and later was used for depleted uranium projectile prototype research. Waste storage and processing activities, including burning depleted uranium in drums, was conducted in the Northeast Parcel, a 5-hectare (12-acre) site located near the Watertown Arsenal.

In 1968, the eastern half of the Watertown Arsenal, encompassing 24 hectares (59 acres) and 21 buildings, including the three facilities using licensed source material, was declared excess government property, and transferred to U.S. General Services Administration (GSA EXIT) and subsequently sold to the Watertown Redevelopment Authority (WRA). The area was renamed the Watertown Mall Area. The remaining western half of the Watertown Arsenal was renamed the Materials Technology Laboratory (also known as the Arsenal), which retained U.S. Nuclear Regulatory Commission (NRC) license SUB-238. In addition, the Northeast Parcel was accessed to the GSA in a radiologically contaminated state. GSA retained ownership of the Northeast Parcel, and it continues to be an Site Decommissioning Management Plan (SDMP) site.

The Watertown Mall Area, a Formerly Utilized Defense Site, or FUDS property, currently includes apartments [1.2 hectares (2.8 acres)], the Harvard Community Health Program Watertown Branch [1.3 hectares (3.1 acres)], the Arsenal Marketplace [7.7 hectares (19.1 acres)], an Ann & Hope retail department store [4.5 hectares (11.2 acres)], condominiums [0.7 hectares (1.6 acres)], Massachusetts Development Corporation land [3 hectares (7.46 acres)], and Arsenal Park [5.5 hectares (13.7 acres)], two Massachusetts Department of Environmental Protection (MADEP) - listed chemical disposal sites, and former Buildings 34, 41, and 421. These three buildings were razed in the mid-1970s after their transfer to the WRA, with only the concrete floor slabs, access driveways, and underground utility service trenches remaining. During the 1980s, these areas were redeveloped. The concrete pad of Building 34 was broken up, buried in an excavation pit 7.6 meters (25 feet) deep, and re-graded as a parking lot for the Arsenal Marketplace. The concrete pad of Building 41 was covered with 0.6-3 meters (2-10 feet) of fill, and re-graded as a parking lot for the Ann & Hope Store. The concrete pad for Building 421 was used as a foundation for tennis courts in Arsenal Park. Figure 1 depicts these areas as well as the connecting sewer systems from these former buildings. Gamma scanning surveys and soil sampling for radiological contamination were performed in some of the areas not involved with licensed activities (e.g., mall buildings, recreational areas, and residential housing). No radioactive contamination was identified in the unaffected areas.

In 1967, the Army performed a radiological survey of the former uranium processing and machine shop areas in Buildings 34 and 41 to characterize the residual contamination in preparation for the transfer of the eastern portion of the Arsenal to the GSA. In 1967, it was reported that Building 421 was decontaminated under the supervision of the Army; however, records of the decontamination procedures and final radiation survey were not located during an extensive archival record review. During a records search in 1991-1993, decontamination procedures and final radiation survey records for Buildings 34 and 41 indicated radiologically contaminated equipment was removed and transferred or disposed of in accordance with regulatory requirements. One pre-decontamination survey noted radiation levels as high as 0.4 milliSievert per hour (mSv/h) [40 millirem per hour (40 mR/h)] in a pipe trench and 0.20 mSv/h (20 mR/h) in a drain line in Building 34. Several decontamination efforts were required, including jack-hammering cracks in concrete to remove discrete areas of fixed contamination. At the completion of these activities, all surface areas were below the residual radioactive release criteria used by the Army as specified by AEC in 1968. These criteria were more restrictive than the SDMP criteria for alpha radiation, and consistent with the SDMP Action Plan criteria and the ARL Decommissioning Plan criteria for beta and gamma radiation (which was approved by NRC in 1992 for the ARL/Mall Area site). The SDMP Action Plan criteria were used as the basis to evaluate the historical survey data.

From 1977 through 1981, the Argonne National Laboratory (ANL) performed radiological surveys of the remnants of the former Buildings 34, 41, and 421 under the Department of Energy's Formerly Utilized MED/AEC Sites Remedial Action Program. These reports were issued in 1980 and 1983. The U.S. Army Corps of Engineers' (hereafter, the Corps) Risk Assessments evaluated these survey results against the SDMP Action Plan criteria.

Building 421 pad contains three small areas of fixed radioactive contamination greater than 5,000 disintegrations per minute per 100 square centimeters (dpm/100 cm^2)(beta) in an area that is less than 5,200 cm^2 (out of a total concrete pad area of 22,630 meters $(m)^2$). These areas contained 220,000 dpm/100 cm^2 in two areas less than 100 cm^2 and 85,000 dpm/100 cm^2 in one area approximately 0.5 m^2. The fixed contamination was determined to be natural uranium. There was no fixed alpha contamination detected. All direct GM readings were at background levels , except for one direct reading at twice background. Soil core samples from eight perimeter locations were within the background values for natural uranium in this area and all ambient exposure-rate measurements were consistent with background. A water sample from the storm sewer was also consistent with background concentrations. ANL evaluated the contaminated spots and did not identify a significant risk, assuming that the contaminated spots were removed via jack-hammering. The Corps' Risk Assessment from 1996 concluded that although these spots exceeded the SDMP Action Plan criteria, the ANL evaluation was reasonable and the spots did not represent a significant risk to the public. As noted below, the Corps conducted gamma surveys of the tennis courts to attempt to locate the spots. However, all readings were consistent with background levels. Also, additional soil sampling was conducted in the Arsenal Park and tennis courts to determine if there was any washout of contamination. All soil samples were consistent with background levels.

Building 34 pad contained one small area of 6,000 dpm/100 cm^2 (beta) in an area not greater than 7,000 cm^2 (out of a total concrete pad area of 3,600 m^2). Under the elevated activity criteria, which weights the activity for the contiguous 1 m^2, this area also meets the SDMP Action Plan criteria. Soil core sample results indicated 5 out of 15 soil corings from the perimeter of the pad exceeded natural background for uranium. The maximum soil activity reported was 0.6 Becquerels per gram (Bq/g) [15.5 picoCuries per gram (15.5 pCi/g)] uranium; however, the average contamination for the perimeter of Building 34 was less than 0.3 Bq/g (8 pCi/g), at least a factor of 4 less than the SDMP Action Plan criteria of 1.3 Bq/g (35 pCi/g) for depleted uranium. The site-wide average soil concentration was consistent with background.

No contamination was found on the Building 41 pad. However two thirds of the pad was covered with soil. Soil results were generally within background levels for uranium, except for one sample that showed 0.32 Bq/g (8.7 pCi/g) of uranium. Sludge and water samples were taken from a floor drain/sump and a sewer closest to the concrete pad for Building 41. The sludge and suspended solids from the water samples were reported as 0.4 Bq/g; 0.4 Bq/g; 0.07 Bq/g; and 0.2 Bq/g (10.2 pCi/g; 12.0 pCi/g; 1.8 pCi/g; and 5.8 pCi/g) of uranium, respectively. All soil, sludge, and suspended solids results were less than the SDMP Action Plan criteria for natural uranium, depleted uranium, and thorium. All ambient exposure-rate measurements were consistent with background.

After the ANL surveys, various surface and ambient exposure-rate surveys were conducted at several areas at the site. Soil samples were also collected. The results confirmed that no radiation levels above background were present. Sampling of

sediments and gamma surveys of the available site sewer system were completed in 1996. Except for a radium anomaly from one sample location, all measurements and samples were reported as not in excess of natural background. Based on an extensive record review, and the surveys conducted in the 1990s, in September 1996, the Corps submitted a report entitled " Radiological Risk Evaluation Summary Report for the Former Watertown Arsenal" which evaluated risk using the SDMP Action Plan criteria; the ARL Decommissioning Plan Criteria (essentially the same as the SDMP Action Plan criteria); the MADPH radiological criteria of 0.1 mSv/year (10 mrem/year); and, the requirements of the MADEP Massachusetts Contingency Plan (the Comprehensive Risk Evaluation that evaluated both hazardous and residual radioactive material was submitted to MADEP in 1998). The results of the radiological risk evaluation indicated that, under current and future site conditions, no significant human health or ecological risks would be expected from residual radiological material at the site.

A Public Health Assessment for the Watertown Arsenal, including the Mall Area, was completed by the U.S. Department of Health and Human Services Agency for Toxic Substances and Disease Registry (ATSDR) in February 1997. With respect to residual radioactive material, ATSDR evaluated exposures from contaminated subsurface soil and building remnants on the FUDS parcel and previous air releases of depleted uranium. ATSDR concluded that people are not currently being exposed, but that there was a potential for future possible exposure if workers unearthed radiologically contaminated piping that may have been left in place. The NRC staff concluded that the exposure scenario used by the licensee to estimate potential doses to future site inhabitants (i.e., a residential family farm scenario) is a more conservative scenario than one involving the excavation and disposal of the pipe and, as such, the doses estimated using the residential family farm scenario would be bounding.

In July 1998, the Corps, through its contractor, submitted the final "Phase II Comprehensive Site Assessment Report for the Former Watertown Arsenal FUDS property." Although it primarily evaluated the nature and extent of chemically hazardous material at the site, it provided additional historical information and field observation data regarding underground piping and sewer systems to determine if any additional actions would be required to address potential radiological contamination. As summarized, a 1957 survey showed two sewer connections from Building 34, while a 1963 sewer map indicated one line that discharged to the sewer main (sample data from this location found no radiation, above background, in sediment samples, or dose rate measurements above background levels). No manholes from the former system were observed because the building foundation was destroyed and the ground beneath the former building was excavated to a depth of 7.6 meters (25 feet). It was assumed that all former sewer lines connected to the building were also excavated. Sewer lines associated with former Building 41 converged at Manhole 9 and discharged southward through a 5-centimeter (12-inch) line to the sanitary sewer line connected to the main sewer line at Manhole 106. Although Manhole 106 was sampled in 1996, Manhole 9 could not be opened. Redevelopment plans indicated that the old sewer lines under the building were plugged just above Manhole 9. Since the former building foundation was left in place, it is assumed that the underlying plugged sewer pipes were not removed. Sewer lines associated with the former Building 421 were also assumed to be plugged and left in place. Field observations indicated Manhole 134 from the old sewer line was inactive, but connected to Manhole 17. Sample results from 1996 did not identify any radioactive material contamination.

NRC staff also noted that the Redevelopment Plans stated that the existing drain lines were flushed before being plugged. Based on the sewer sampling done in 1996, and the field observations and historical review in 1998, only Manhole 9 needed further evaluation. NRC staff also noted that in a letter dated December 31, 1994, MADEP agreed with the Corps groundwater classification (GW-3) for this site (i.e., a non-Potential Drinking Water Source Area). No municipal or private wells obtain groundwater from this site or area.

To resolve the concern regarding the radiological condition of the sewer line from the former Building 41, NRC conducted an independent survey in July 1999. NRC Confirmatory Inspection Report No. 040-2253/99-02, dated October 4, 1999, indicated that most survey and sample results were consistent with environmental levels of uranium; however, two direct surface measurements were in excess of the SDMP Action Plan criteria for depleted uranium. To determine if this sewer line needed to be remediated, a dose assessment was requested and received by NRC in July 2000. The results demonstrated that the potential doses from the residual radioactive contamination were well below the NRC dose-based release criterion of 0.25 mSv/y (25 mrem/y) as specified in 10 CFR 20.1402.

[FIGURE 1]

ATTACHMENT 2

DRAFT

Colonel Kenneth O. Logan
Installation Commander
U.S. Army Research Laboratory (ARL)
ATTN: AMSRL-CS-IS-SH
2800 Powder Mill Road
Adelphi, MD 20783

SUBJECT: REMOVAL OF WATERTOWN MALL AREA SITE, WATERTOWN, MASSACHUSETTS, FROM THE SITE DECOMMISSIONING MANAGEMENT PLAN

Dear Colonel Logan:

This letter is in reference to your letter dated July 10, 2000, requesting that the U.S. Nuclear Regulatory Commission (NRC) remove the Watertown Mall Area Site from the NRC Site Decommissioning Management Plan (SDMP). As stated in your letter, your request is based on documented radiological surveys, risk evaluations, and dose assessments, that demonstrate that the NRC's and the Commonwealth of Massachusetts's criteria for unrestricted release of the facility have been achieved.

We have reviewed your reports, which address the history from 1946-1968 regarding the prior use of radioactive material and remediation of the facilities formerly located within the eastern portion of the former Watertown Arsenal, referred to now as the Watertown Mall Area site. We have also reviewed your surveys of these areas which were conducted since the Watertown Mall Area was added to the SDMP in 1990. Most recently, we have confirmed your dose assessments and evaluations through independent dose calculations.

Based on our review, we conclude that, except for isolated areas on the former building pads and in the sewer line at Building 41, the Watertown Mall Area site meets the SDMP Action Plan criteria (57 FR 13389). Additionally, the staff has concluded that residual radioactivity on the former building pads and in the sewer would not result in a significant radiological dose to the public in excess of the NRC dose-based release criteria for release for unrestricted use. On this basis, we have removed the Watertown Mall Area site from the SDMP.

Please note that this is only an administrative action at this time. Pending your request to either amend or terminate license SUB-238, this storage-only license will remain active. Based on discussions with your staff, we expect that the status of SUB-238 will be resolved by the end of calendar year 2000.

If you have any questions regarding this administrative action, please contact Marie Miller of my staff at (610) 337-5205. Thank you for you continued cooperation with us in this matter.

Sincerely,

Ronald R. Bellamy, Chief
Decommissioning and Laboratory Branch
Division of Nuclear Materials Safety,
U.S. Nuclear Regulatory Commission, Region I

Docket No.: 0402253
License No.: SUB-238

cc: Michael Borisky, Radiation Safety Officer, ARL
Dennis Waskiewicz, Project Manager, U.S. Army Corps of Engineers (COE)
Mary Ellen Iorio, Technical Project Manager, COE
Hans Honerlah, Health Physicist, COE
Robert Hallisey, Director, Radiation Control Program, MADPH
Anne Malewicz, Chief, Bureau of Waste Site-Clean-Up, MADEP
Mary Sanderson, Chief, Federal Facilities
Superfund Sites, U.S. EPA
James Cherniack, Radiation Program Manager, U.S. EPA
Samantha Overton, Metropolitan District Commission
Michael Stroebel, U.S. General Services Administration
Thomas O'Connell, MA Radiation Protection Program
Michael Driscoll, Town Manager
Watertown Free Public Library

ATTACHMENT 3

NUCLEAR REGULATORY COMMISSION

U.S. Army Research Laboratory, Watertown Mall Area Site
Notice Of Removal of the Watertown Mall Area Site
from the Nuclear Regulatory Commission Site
Decommissioning Management Plan
in Watertown, Massachusetts

The U.S. Nuclear Regulatory Commission (NRC) has removed the Watertown Mall Area site in Watertown, Massachusetts, from the NRC Site Decommissioning Management Plan (SDMP). In 1990, NRC developed the SDMP program for approximately 50 sites that warranted additional NRC oversight to ensure the timely and safe decommissioning of sites with residual radioactive material in excess of NRC's criteria for release for unrestricted use and license termination. One of these sites was the Watertown Arsenal/Mall area site. In 1997, the Army Research Laboratory (ARL) portion of the Watertown Arsenal Mall site was removed from the SDMP, having met the SDMP Action Plan criteria (as specified in 57 FR 13389) for release for unrestricted use. At the time the Watertown Arsenal was removed from the SDMP, radiological assessments had been

completed for a majority of the Mall Area, which indicated that it could be released for unrestricted use. However, these assessments also indicated that there was the potential for residual radioactive material in excess of NRC SDMP criteria to be present in buried drain/sewer lines on the site that had not yet been evaluated. The Watertown Mall Area is currently authorized under the Source Material License SUB-238 as a storage-only license. In a letter dated July 10, 2000, ARL, the licensee, requested removal of the Mall Area from the SDMP and provided a dose assessment and demonstration that residual radioactive material in the buried drain/sewer lines satisfy NRC's and The Commonwealth of Massachusetts's criteria for release for unrestricted use.

This administrative action will remove the Watertown Mall site from the SDMP. There is no licensing action before NRC at this time. The SUB-238 license will not be terminated, as the ARL, the U.S. General Services Administration (GSA), and the U.S. Corps of Engineers (hereafter, the Corps) are evaluating whether to request an amendment to SUB-238 to add another SDMP site, the GSA property in Watertown, rather than terminating the license with the removal of the Watertown Mall. The GSA property is currently not licensed by NRC, but the radiological assessment and remediation of the GSA property is managed by the Corps under the Formerly Utilized Defense Sites program. The GSA property had been part of the Watertown Arsenal/Mall before 1968.

BACKGROUND

In 1967-1968, the eastern half of the Watertown Arsenal (referred to as the Watertown Mall area site), encompassing 24 hectares (59 acres) and 21 buildings, including three buildings involved in licensed material use (Buildings 34, 41, and 421), was declared excess government property, transferred to the GSA, and subsequently sold to the Watertown Redevelopment Authority. The area where two of the buildings involved in licensed material use were located are now parking lots for retail stores. The concrete pads for two of the buildings were broken up and left in place during redevelopment of the Watertown Mall Area. The concrete pad for the third building is a foundation for tennis courts. In 1990, the Watertown Mall was added to the SDMP, because records available to the U.S. Army and NRC did not clearly demonstrate that necessary decontamination occurred before the property was released for unrestricted use. During the past 10 years, ARL and the Corps have performed historical record reviews, surveys, and radiological assessments to address the concerns regarding residual radioactive material at the site. NRC staff has completed its review of these records and assessments, and has determined that no additional remediation is required. Radiation levels above ground are consistent with levels of natural background radiation, and residual radioactive material levels in the soil are generally consistent with natural background levels. A few areas have been identified that contain residual radioactive material in excess of background levels, but most are less than the SDMP Action Plan criteria.

One sewer line, an inactive line from the former Building 41, has residual fixed contamination in excess of the SDMP Action Plan criteria. The dose assessment developed by the ARL and validated by NRC indicated that potential radiological doses to the public would not be in excess of the NRC criteria for release for unrestricted use. Also, an evaluation of the historical records indicated that doses from the relatively small spots of contamination identified on the concrete pads from Buildings 34 and 421 that are below the parking lot and tennis courts, respectively, were well below the current NRC dose-based release criteria at 10 CFR Part 20, Subpart E.

Accordingly, the staff has concluded that the Watertown Mall Area site is acceptable for unrestricted use.

The ARL July 10, 2000, request is available for review in the NRC's Public Electronic Reading Room on the NRC Web site at: http://www.nrc.gov/reading-rm/adams.html (ARL Letter dated July 10, 2000, ML003733963). Persons wishing to review this document at the Region I Office should call Ms. Sheryl Villar at (610) 337-5239 several days in advance, to assure that the document will be readily available for review. For questions regarding this administrative action to remove the Watertown Mall Area site from the SDMP, please contact Dr. Ronald Bellamy, Chief, Decommissioning and Laboratory Branch, Region I, at (610) 337-5200.

Dated at King of Prussia, Pennsylvania this day of August 2000.

FOR THE NUCLEAR REGULATORY COMMISSION

George C. Pangburn, Director
Division of Nuclear Materials Safety
Region I