

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 03003754/2008001
Docket No. 03003754
License No. 06-00217-06
Licensee: ABB Incorporated
Location: 2000 Day Hill Road, Windsor, Connecticut 06095
Inspection Dates: March 24 through March 27, 2008, and August 25, 2008

Date Follow-up
Information Received: Licensee letter dated August 7, 2008

Inspectors:	<i>/Original signed by: LKauffman/</i>	<i>9/19/08</i>
	_____ Laurie A. Kauffman Health Physicist	_____ date
	<i>/Original signed by: JSchmidt/</i>	<i>9/19/08</i>
	_____ James Schmidt Health Physicist	_____ date
	<i>/Original signed by: RLorson/</i>	<i>9/19/08</i>
Approved By:	_____ Raymond Lorson, Chief Decommissioning Branch Division of Nuclear Materials Safety	_____ date

EXECUTIVE SUMMARY

ABB Incorporated
NRC Inspection Report No. 03003754/2008001

Between March 24 and August 25, 2008, an inspection was conducted at the ABB, Inc. (ABB) CE Windsor (Windsor) site located in Windsor, Connecticut. Licensed activities at the 613 acre Windsor site are limited to decommissioning activities. At present, all impacted areas of the site which were not classified as Formally Utilized Sites Remedial Action Program (FUSRAP) areas, have been remediated and surveyed for unrestricted release. The focus of this inspection was primarily to determine the suitability for unrestricted release of 365 contiguous acres of the non-FUSRAP areas. This partial site release (PSR) was requested by the licensee on December 27, 2007. The inspection included a walk down of the PSR area, a biased gamma scan survey of the area to identify anomalies, observation of an NRC contracted confirmatory survey conducted by the Oak Ridge Institute for Science and Education (ORISE), and the review of the ORISE survey results.

No findings of significance were identified. The observations and surveys conducted by the inspectors as well as the confirmatory survey completed by ORISE supported a conclusion that the PSR area of the ABB Windsor site was properly remediated and surveyed by the licensee to support future unrestricted release.

REPORT DETAILS

I. Organization and Scope of the Program

a. Inspection Scope

The inspectors toured the facility, interviewed licensee and licensee contractor personnel, and compared the scope of ongoing activities to those authorized by the existing NRC license.

b. Observations and Findings

No findings of significance were identified.

Authorized licensed activities for the ABB Inc. (ABB) CE Windsor (Windsor) site located in Windsor, Connecticut, were limited to decommissioning and associated material possession activities for the 613 acre site that had been involved with commercial and military nuclear reactor fuel fabrication and component services from 1956 through 2001. Previous decommissioning activities completed under NRC License Nos. 06-00217-06 and SNM-1076 (special nuclear material possession only) included the remediation and conduct of the final status surveys (FSSs) for all impacted site areas, except where Formally Utilized Sites Remedial Action Program (FUSRAP) materials were identified to be present. Decommissioning activities in the FUSRAP areas were to be conducted by the U.S. Army Corps of Engineers (USACE), however, effective August 15, 2007, ABB assumed responsibility for the remaining decommissioning activities in the FUSRAP areas under the oversight of the NRC (ADAMS Accession No. ML072210979). ABB submitted a revised decommissioning plan (DP) on January 29, 2008, that addressed remediation of the FUSRAP areas (ADAMS Accession Nos. ML080380291, ML080380302, ML080380310, and ML080380317). At the time of the inspection, the revised DP addressing the FUSRAP area remediation was under review.

On December 27, 2007, ABB requested that a single contiguous area outside the FUSRAP areas be removed from the NRC licenses (ADAMS Accession No. ML080020357). This partial site release (PSR) request included 365 contiguous acres of the Windsor site of which approximately 62 acres represented impacted areas for which FSSs were completed and previously submitted to the NRC. As part of the licensee's historical site assessment, the balance of this mostly wooded, undeveloped area was assessed to be non-impacted as documented in the licensee's historical site assessment.

ABB maintained an onsite, full time decommissioning project manager to support ongoing remediation activities. Technical support and professional staffing for these activities were contracted primarily to MACTEC, Inc. (MACTEC) who provided the radiation safety officer (RSO) and a remediation manager who provided direct supervision for any ongoing decommissioning field activities. Discussions with the licensee identified that ongoing licensed activities have been reduced to the conduct of routine restricted area and quarterly groundwater surveys. Upon approval of the revised DP, which addresses remediation of the FUSRAP areas, the licensee reported that the onsite team will be augmented with qualified contractors to complete the activities

necessary for license termination. Following approval of the revised DP, these activities are expected to take approximately three years.

At the time of the inspection, no decommissioning activities were underway other than to support a three person Oak Ridge Institute for Science and Education (ORISE) survey team that was contracted by the NRC to perform confirmatory surveys for the PSR. Licensee support for this activity was limited to the assignment of two Radiation Safety and Control Services (RSCS) technicians as escorts for the ORISE personnel.

c. Conclusions

The licensed activities being conducted at the Windsor site were consistent with those authorized by NRC License Nos. 06-00217-06 and SNM-1067. No decommissioning activities were being conducted in the FUSRAP areas and the licensee was aware that these activities are not authorized until the revised DP has been approved for use. The licensee's radiation safety and decommissioning organization was adequately organized and staffed to support current authorized activities.

II. Management Oversight of the Program

a. Inspection Scope

The inspectors toured the facility, interviewed licensee and licensee contractor personnel, and reviewed elements of the decommissioning and FSS plans used by the licensee to remediate the Windsor site in preparation of license termination.

b. Observations and Findings

No findings of significance were identified.

The inspectors found that the ABB management and associated licensee contractors were knowledgeable regarding the historical status and current conditions at the Windsor site. Documents associated with completed and proposed FUSRAP decommissioning activities were well understood by the project manager and RSO. The RSO had a strong working knowledge of the decommissioning and Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) process particularly as these programs relate to the upcoming FUSRAP areas that will involve differing uranium enrichments. Although ABB has been using contracted personnel to directly manage the Windsor site decommissioning activities, the inspectors found that the ABB project manager was effectively involved in overseeing licensed activities at the Windsor site.

c. Conclusions

Licensee oversight of authorized activities was found to be adequate.

III. Radiation Surveys

a. Inspection Scope

The inspectors walked down the areas of the site considered for partial site release while conducting scan surveys using gamma sensitive instruments and observed ORISE personnel conducting an NRC contracted confirmatory survey for the PSR area. Additionally, the inspectors reviewed the ORISE confirmatory survey report to determine if there were areas within the requested PSR area that were unsuitable for unrestricted release.

b. Observations and Findings

No findings of significance were identified.

During the inspector walk down of the PSR area, no material was found that visually could be identified as radioactive material. A yellow and magenta rope, without any signage, was found within a sewer manhole (designated as #0 by the licensee) located within the PSR area. The presence of this rope, which could have been associated with a past radiological posting, was discussed with the licensee who indicated that the rope was most likely associated with old signage used to notify personnel regarding past controls used for breeching the installed sewer system piping. The inspector requested that a sewer water sample be collected at this location and the licensee reported by an August 7, 2008, letter that the results indicated there was no detectable uranium in the sewer water sample (ADAMS Accession No. ML082330198).

The inspectors observed the conduct of the confirmatory survey of the PSR area by ORISE personnel that occurred between March 24 and March 28, 2008. These observations included soil sample collections, walking scan surveys, surface water and sediment sample collections, and surface fixed measurements. The inspectors confirmed that the instrumentation used was calibrated and properly response checked, and that the survey was conducted in accordance with the approved confirmatory survey plan (ADAMS Accession No. ML081060179). Interactions with ORISE personnel indicated that they were knowledgeable regarding confirmatory survey plan for the Windsor PSR area, operation of the survey instrumentation being used, and confirmatory survey techniques.

During the conduct of the ORISE survey, it was identified that the steps to Building 4 had elevated alpha levels relative to other concrete surfaces measured during confirmatory survey. The licensee was requested to evaluate the cause for the elevated readings at this location of about 260 disintegrations per minute per 100 square centimeters. The licensee reported that the elevated levels were a result of naturally occurring radioactive material in a letter dated August 7, 2008 (ADAMS Accession No. ML082330198).

During the site walk down and ORISE observations, the inspectors conducted independent gamma scan surveys of select areas of the site looking for anomalies associated with the presence of licensed material. These surveys were conducted using

a Ludlum 2221 paired with a Ludlum 44-10 2"x2" NaI detector (NRC Serial Number 054829/PR132946, calibration date 8/6/2007). At the normal background levels that existed at the site, the Ludlum instrument was capable of detecting a minimum detectable concentration of roughly 100 picocuries per gram (pCi/gm) of 3% enriched uranium and about 4 pCi/gm of Co-60 (Reference NUREG-1507, Table 6.4). Since the survey results did not indicate any significant levels above background during the surveys, all gamma scan measurements taken within the PSR area supported a conclusion that the area had been remediated to below the derived concentration guideline levels (DCGLs) of 557 and 5 pCi/gm for enriched uranium and Co-60, respectively, approved for the site.

The ORISE confirmatory survey report was submitted to the NRC on June 9, 2008 (ADAMS Accession No. 082420398). The inspector reviewed the report and did not find any inconsistencies between the report contents and what was observed during the inspection. The results of the ORISE confirmatory survey indicated that the PSR area had been effectively remediated to below the approved DCGLs. This finding was consistent with that previously reported by the licensee final status survey reports (FSSs) and the surveys conducted by the inspectors during this inspection.

c. Conclusions

Independent surveys conducted by the inspectors and a formal confirmatory survey conducted by ORISE personnel indicated that the PSR area of the ABB Windsor, Connecticut, site was properly remediated and surveyed to support future unrestricted release.

IV. Exit Meeting

On August 25, 2008, an inspection exit meeting was conducted at the Windsor site. During this meeting, ABB was notified that the surveys conducted during the inspection confirmed the suitability of the PSR area for eventual unrestricted release.

PARTIAL LIST OF PERSONS CONTACTED

Wade Adams, ORISE Confirmatory Survey Lead (ORISE)
John Conant, ABB Project Manager
Joe Darmin, Windsor Assistant RSO (MACTEC)
Heath Downey, Windsor RSO (MACTEC)
Larry Fitzsimmons, Windsor Remediation Manager (MACTEC)
Dean Herrera, Radiological Controls Technician (ORISE)
Donnel Jackson, ABB Compliance Engineer
Joe Medellin, Radiological Controls Technician (RSCS)
Edwin Montalvo, Radiological Controls Technician (ORISE)