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May 24, 2012

Docket No. 030-03754  
License No. 06-00217-06  
Mail Control No. 575762

Mr. John Nicholson  
U.S. Nuclear Regulatory Commission, Region I  
2100 Renaissance Blvd, Suite 100  
King of Prussia, PA 19406-2713

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REGION 1

Subject: **NRC Request for Additional Information – April 25, 2012**

References: (A) Letter, J. Nicholson (NRC) to J. Conant (ABB), dated April 25, 2012

Dear Mr. Nicholson:

ABB Inc. ("ABB") is providing additional information to facilitate NRC's review of Final Status Survey Plan Revision 1 for the CE Windsor Site at 2000 Day Hill Road in Windsor Connecticut. NRC requested additional information by letter dated April 25, 2012 (Reference A). This submittal provides the requested information.

If there are any questions or comments regarding this submittal, please contact Mr. Heath Downey, ABB's Radiation Safety Officer, at (207) 939-5560 or me at (860) 687-4904 or by e-mail at [john.conant@us.abb.com](mailto:john.conant@us.abb.com).

Sincerely,

ABB INC

John F. Conant  
Director, Nuclear Engineering and  
Compliance

Enclosure:

xc: Charles Petrillo (Town of Windsor)  
Edward Wilds (CTDEEP)

575762

NMSS/RGN1 MATERIALS-002

ABB Inc.

**Response to NRC Request for Additional Information  
Dated April 25, 2012**

**CE Windsor Site  
Windsor, Connecticut**

**NRC License Number 06-00217-06  
Docket Number 030-03754  
Control Number 575762**

**May 24, 2012**

**Summary of Changes to CE Windsor Site  
Final Status Survey Plan Revision 1**

Due to changes in decommissioning, the Final Status Survey Plan (FSSP) for the CE Windsor Site (Site) was revised. The purpose of Revision 1 was to reflect changes made in the revised Decommissioning Plan that affected Final Status Surveys (FSS). These changes included incorporation of the Formerly Utilized Sites Remedial Action Program (FUSRAP) areas at the Site (soils and buildings), addition of building derived concentration guideline levels (DCGLs) as well as addition of thorium and radium soil DCGLs. Since the original FSSP only addressed soil areas, FSSP Revision 1 was also modified to include FSS of buildings.

Following is a description of changes to the FSSP in Revision 1 by section:

*Section 1.0 Introduction* – Addition of FUSRAP areas and updated the scope of the FSSP to include FSS of the remaining portions of the site that have not yet been released by the NRC.

*Section 1.1 Methodology and Guidance Used to Develop the FSSP* - No significant changes

*Section 2.0 Site History* – Addition of the partial site release of 365 acres as well as additional radiological constituents of concern (thorium and radium).

*Section 2.1 Current Usage* - Updated the decommissioning status of Building Complexes 2, 5, and 17 and that FSS Reports have been completed and accepted by the NRC for these facilities. Includes previously designated FUSRAP areas as well.

*Section 3.0 Preliminary Data* - No significant changes

*Section 3.1 Residual Radioactivity Profile* – Addition of thorium (Th-232) and radium (Ra-226).

*Section 3.1.1 Uranium Series Radionuclide Profile* - Included total uranium building surfaces DCGL.

*Section 3.1.2 Reactor Byproduct Series Radionuclide Profile* - Included reactor byproduct building surfaces DCGL.

*Section 3.1.3 Thorium Series Radionuclide Profile* - New section providing properties of thorium series radionuclides and DCGL for Th-232 in soils.

*Section 3.1.4 Radium Series Radionuclide Profile* - New section providing properties of radium series radionuclides and DCGL for Ra-226 in soils.

*Section 3.2 Background Reference Area* - Updated background reference area to include four locations across the site (representative of various soil types encountered), presents a statistical summary table and a new figure of the four selected reference area locations.

*Section 3.3 Characterization Data* - No significant changes

*Section 4.0 Data Quality Objectives* - No significant changes

*Section 4.1 Step 1: State the Problem* - Updated to include structures.

*Section 4.2 Step 2: Identify the Decision* - Updated to include structures.

*Section 4.3 Step 3: Identify Inputs to the Decision* - Updated to include surface activity (structures).

*Section 4.4 Step 4: Define the Study Boundaries* - No significant changes

*Section 4.5 Step 5: Develop a Decision Rule* - Includes the option of Scenario A and Scenario B.

*Section 4.6 Step 6: Specify Limits on Decision Errors* - No significant changes

*Section 4.7 Step 7: Optimize the Design for Obtaining Data* - No significant changes

*Section 4.8 Integration of the DQO Process* - No significant changes

*Section 5.0 Final Status Survey Design* - Updated scope of FSS remaining for the CE Windsor Site

*Section 5.1 Survey Unit Design* - No significant changes

*Section 5.1.1 Impacted Areas* - Updated the impacted areas requiring FSS with the incorporation of the FUSRAP areas.

*Section 5.1.2 Survey Unit Identification and Classification* - Updated to include structures.

*Section 5.1.3 Survey Unit Design for Land Areas* - No significant changes

*Section 5.1.4 Survey Unit Design for Building Complex Land Areas* - No significant changes

*Section 5.1.5 Survey Unit Design for Pipeline Removal / Excavations* - Minor clarification regarding underground utilities.

*Section 5.1.5.1 Radioactive Waste Lines and the Industrial Waste Lines* - Updated the criticality controls criteria.

*Section 5.1.5.2 Sanitary Sewers and Storm Drains* - No significant changes

*Section 5.1.5.3 All Other Underground Utilities* - No significant changes

*Section 5.1.5.4 Other Excavations* - No significant changes

*Section 5.1.6 Survey Unit Design for Building Structures* - New section to address the approach used for building FSS design.

*Section 5.2 Sampling Design* - Includes approach for thorium and/or radium impacted areas using the WRS test.

*Section 5.2.1 Sample Size* - Updated to include thorium and radium in sample size determination.

*Section 5.2.2 Sample Locations* - No significant changes

*Section 5.2.2.1 Reference Coordinate System* - Updated the Site GIS reference coordinate system, includes methods for marking building sample locations and describes reference coordinate system established for building structures.

*Section 5.2.2.2 Relocating a Sample* - No significant changes

*Section 5.2.3 Connecticut RSRs – Sampling* - No significant changes

*Section 5.2.4 Investigation of Land Areas with Locally Elevated Concentrations* - Updated Table consistent with MARSSIM.

*Section 5.2.4.1 Land Area Scan Surveys* - New section to better organize text and updated Table to include Th-232 and Ra-226 values.

*Section 5.2.4.2 Determining Data Points for Small Areas of Elevated Activity – Land Areas* - No significant changes, was Section 5.2.4.1.

*Section 5.2.4.3 Land Survey Investigation Levels* - No significant changes, was Section 5.2.4.2

*Section 5.2.5 Investigation of Building Surfaces with Locally Elevated Concentrations* - New section to include scan survey coverage for building surfaces approach.

*Section 5.2.5.1 Determining Scan MDC to Detect Small Areas of Elevated Activity – Building Surfaces* - New section to address building scan survey design and the addition of an area factor table.

*Section 5.2.5.2 Building Surface Survey Investigation Levels* - New section to address investigation criteria for scanning and static surface measurements for buildings.

*Section 6.0 Survey Methods and Instrumentation* - No significant changes

*Section 6.1 Volumetric Sampling Methods* - No significant changes

*Section 6.1.1 Soil/Sediment Sampling Methods* - Updated table to include the areas in the revised DP. New section to better organize text.

*Section 6.1.2 Building Sampling Methods* - New section to address buildings.

*Section 6.2 Survey Methods* - Added direct measurements on building surfaces.

*Section 6.2.1 Land Survey Methods* - Includes the option for using a towed detector array system with GPS and data logging.

*Section 6.2.2 Building Surface Scan Methods* - New section to address scan survey for building surfaces.

*Section 6.2.3 Direct Measurement Methods* - New section to address static survey for building surfaces.

*Section 6.3 Instrumentation* - No significant changes

*Section 6.3.1 Field Instruments* - Similar changes as in Section 6.2.1 above.

*Section 6.3.1.1 Calibration* - No significant changes

*Section 6.3.1.2 Minimum Detectable Concentration* - Added thorium and radium source terms. Updated the MDC<sub>SCAN</sub> Values Table for thorium and radium. Added new tables for comparison of the respective MDC<sub>SCAN</sub> to the DCGLs for thorium and radium.

*Section 6.3.1.3 Reporting Results* - No significant changes

*Section 6.3.2 Laboratory Instruments* - No significant changes

*Section 6.3.2.1 Calibration* - No significant changes

*Section 6.3.2.2 Minimum Detectable Concentration* - No significant changes

*Section 6.3.2.3 Reporting Results* - Included 90% enriched uranium to the evaluation of total uranium calculation.

*Section 7.0 Quality Control and Data Assessment* - No significant changes

*Section 7.1 Quality Control* - No significant changes

*Section 7.1.1 Data Management - No significant changes*

*Section 7.1.2 Sample Custody - No significant changes*

*Section 7.1.3 Quality Control Measurements - No significant changes*

*Section 7.1.3.1 Field Activities/Instruments - Clarifies performing biased replicate static measurements in areas where elevated radioactivity has been found.*

*Section 7.1.3.2 Laboratory Instruments - No significant changes*

*Section 7.2 Measurement Uncertainty and Data Quality Indicators - No significant changes*

*Section 7.3 Data Quality Assessment - No significant changes*

*Section 7.3.1 Data validation/verification - No significant changes*

*Section 7.3.2 Statistical Evaluation - No significant changes*

*Section 7.3.2.1 Data Review - No significant changes*

*Section 7.3.2.2 Statistical Test - No significant changes*

*Section 7.3.3 Decision Rule - No significant changes*