

ENVIRONMENTAL INFORMATION REPORT

DECOMMISSIONING PLAN

REVISION 2

**(PREVIOUSLY IDENTIFIED FUSRAP AREAS
INCLUDING DEBRIS PILES & SITE BROOK)**

**CE WINDSOR SITE
WINDSOR, CONNECTICUT**

**US NRC LICENSE NUMBER 06-00217-06
DOCKET NUMBER 030-03754**

FEBRUARY 2010



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Abbreviations and Acronyms

ABB	ABB Inc.
ADT	average daily traffic
CE	Combustion Engineering, Inc.
CFR	Code of Federal Regulations
CHC	Connecticut Historical Commission
CTDEP	Connecticut Department of Environmental Protection
CTSHPO	Connecticut State Historic Preservation Office
D&D	Decontamination and Deconstruction
DCGL	derived concentration guideline level
DOT	Department of Transportation
DP	Decommissioning Plan
EIR	Environmental Information Report
FSS	Final Status Survey
FUSRAP	Formerly Utilized Sites Remedial Action Program
HASP	Health and Safety Plan
LLRW	low-level radioactive waste
MACTEC	MACTEC, Inc.
NRC	U.S. Nuclear Regulatory Commission
OSHA	Occupational Safety and Health Administration
pCi/g	picoCuries per gram
RPP	Radiation Protection Program
Site	CE Windsor Site
TSCA	Toxic Substances Control Act

1.0 INTRODUCTION

ABB Inc. (ABB) is continuing decommissioning of the Combustion Engineering (CE) Windsor Site (Site) and has submitted a license amendment request to the U.S. Nuclear Regulatory Commission (NRC) for Materials License No. 06-00217-06 to revise the currently approved Decommissioning Plan (DP). Decommissioning activities that have been completed include decontamination, dismantlement, soil remediation and removal of underground utilities in the Commercial Decontamination and Deconstruction (D&D) areas (Building Complexes 2, 5, 6A and 17). Final Status Surveys (FSS) in these areas have been performed and reported to the NRC. The NRC accepted these FSS Reports in April 2007 (NRC, 2007). The ultimate goal of ABB is to achieve license termination for unrestricted use of the CE Windsor Site in accordance with 10 Code of Federal Regulations (CFR) 20 Subpart E.

From the mid-1950s to 2000, the CE Windsor Site was involved in research, development, engineering, production and servicing of nuclear fuels, systems, and services. Portions of the Site were designed and built for U.S. Navy nuclear fuel manufacturing while others were designed and built for research and development or commercial nuclear fuel manufacturing.

DP Revision 2 (ABB, 2010) addresses the remaining impacted areas at the CE Windsor Site, including Site brook and the adjacent Debris Piles. With Revision 2, all the radiologically impacted areas of the Site are now included in the DP.

This Environmental Information Report (EIR) provides information pertaining to the CE Windsor Site that will assist the NRC in evaluating the environmental impacts of the Site brook and Debris Piles decommissioning activities in accordance with the requirements of 10 CFR Part 51. The EIR follows guidance provided in NUREG-1748, *Environmental Review Guidance for Licensing Actions Associated with NMSS Programs* (NRC, 2003).

1.1 Purpose and Need for the Proposed Action

The proposed action is necessary to allow ABB to remove radioactive material from prior licensed operations in the Site brook and Debris Piles to levels that permit unrestricted use of the entire Site. ABB has begun planning for beneficial reuse of the Site and needs to complete decommissioning in order to fully achieve this objective. ABB has decided to permanently cease principal activities at the CE Windsor Site, which prompted the original DP providing for remediation and FSS of Building Complexes 2, 5, 6A and 17. DP Revision 2, which addresses remediation of the Site brook and Debris Piles, has been prepared in order to continue decommissioning in a timely manner in accordance with 10 CFR 30.36. Without approval of the proposed action ABB would be required to maintain an NRC license, which would significantly reduce options for future property use, and require ABB to provide perpetual care and security for the site in its current radiological condition to limit radiation exposure and unauthorized public access. Maintaining the areas under a license would impose unnecessary regulatory burden.

1.2 Proposed Action

The proposed action by the site licensee, ABB, is to decommission the CE Windsor Site such that the Site brook and Debris Piles will meet the radiological criteria for unrestricted use and

to terminate NRC License No. 06-00217-06 in its entirety in accordance with 10 CFR 20, Subpart E.

The CE Windsor Site is located in the Town of Windsor, Connecticut, eight miles north of Hartford, Connecticut. The Site consists of approximately 600 acres. Figure 1-1 shows the overall site layout and identifies existing and demolished building locations at the site.

The Site brook and Debris Piles are shown on Figure 1-2.

The proposed action includes the completion of the following activities:

- Removal of contaminated soils, sediments and solids;
- Transportation of waste to off-site disposal facility;
- Final status survey and sampling; and
- Site restoration.

Remediation and decommissioning activities for the Site brook and Debris Piles are planned to be completed within 3 years. The projected schedule for decommissioning, in Figure 1-3, identifies the principal decommissioning tasks included in the DP and an estimated time required to complete each task. The tasks are organized according to the planned work sequence. The dates are referenced to NRC approval of the DP Revision 1 and separate approvals of other submittals to the NRC (e.g., DP Revision 2).

1.3 Applicable Regulatory Requirements, Permits, and Required Consultations

Various regulatory requirements, permits, and consultations will be required to complete the remediation of the remaining impacted areas at the Site. A summary of the major regulatory requirements is provided in Tables 1-1, 1-2 and 1-3. Permits and consultations include the following:

Town of Windsor Permits

- A Special Use Permit is required by the Town of Windsor Planning Department if more than 250 cubic yards of material are removed from one parcel during any 12 month period and if more than 205 cubic yards are used during fill operation.
- A Wetlands Permit is required for remediation of Site brook and the adjacent Debris Piles because the remediation includes excavation of soil and sediment from a wetland and waterway.

U.S. Army Corps of Engineers Permits

- A U.S. Army Corps of Engineers Programmatic General Permit is required for remediation of Site brook.

State of Connecticut Department of Environmental Protection (CTDEP) Permits

- A Connecticut General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer) would be required.
- A Connecticut General Permit for Diversion of Remediation Groundwater may be required if greater than 50,000 gallons during a twenty-four hour period is diverted or withdrawn.

- A Connecticut General Permit for the Discharge of Groundwater Remediation Wastewater Directly to Surface Water may be required.
- A Connecticut General Permit for the Discharge of Groundwater Remediation Wastewater Directly to a sanitary sewer will be required.
- A CTDEP 401 Water Quality Certificate will be required will be required for remediation and restoration activities associated with Site brook.

Endangered Species Consultation

- The US Fish and Wildlife Service has identified the dwarf wedgemussel (*Alasmidonta heterodon*) in the Farmington River at several locations upstream from the Site (USFWS, 2007). The closest location is approximately 1.3 miles upstream from the Site. The US Fish and Wildlife Service suggested that a survey of the mussel and suitable habitat within the project area may be warranted.
- The CTDEP has indicated that the Eastern pond mussel (*Ligumia nastuta*), and Eastern box turtle (*Terrapene carolina*) which occur in the vicinity of the Site, and the Farmington River has been stocked with Atlantic salmon (*Salmo salar*) as part of the State and Federal Atlantic salmon restoration effort (CTDEP, 2007a; CTDEP, 2007b).

Historical and Cultural Consultation

- There are no areas of historical or cultural significance associated with the Site brook and Debris Piles.

2.0 ALTERNATIVES

Alternatives presented in this EIR were developed based on an Alternatives Evaluation Report (MACTEC, 2007), and the Remedial Investigation for Formerly Utilized Sites Remedial Action Program (FUSRAP) Areas (ENSR, 2004).

2.1 Detailed Description of the Alternatives

Three remedial alternatives were considered and evaluated prior to deciding upon the proposed plan.

Alternative 1: No Action. This alternative was evaluated to establish a baseline for comparison to the proposed action and alternatives. A no-action alternative is the status-quo and the residual contamination remains. Impacts of a no-action alternative are maintaining an NRC license, which would significantly reduce options for future property use, and require perpetual care and security for the site in its current radiological condition to limit radiation exposure and unauthorized public access. Maintaining the areas under a license would impose unnecessary regulatory burden. The effects of the no-action alternative would be to restrict potential benefits from future uses of the site.

Alternative 2: Decommissioning and On-Site Disposal. This alternative requires design and construction of an on-site containment cell to mitigate human receptor exposure to contaminants resulting from the excavation of contaminated soil and underground pipes, and the demolition debris of contaminated buildings, structures, and equipment. The impacts of implementing the decommissioning and on-site disposal alternative are reduced options for future property use, requirement for institutional controls in the form of an Environmental Land Use Restriction, providing financial arrangements to allow an independent third party to assume and carry out responsibilities for any necessary control and maintenance of the site, and providing NRC reasonable assurance that, if the institutional controls were no longer in effect, the maximum yearly radiation dose from contamination remaining on site would not exceed 100 millirems per year, and be as low as is reasonably achievable. The effects of the decommissioning and on-site disposal alternative would not achieve the purpose of the proposed action to release the site for unrestricted use and would limit potential benefits from future uses.

Alternative 3: Decommissioning and Off-Site Disposal. This alternative requires excavation of contaminated soil and sediment and the removal of all contaminated materials to an off-site disposal facility. The impacts of implementing the decommissioning and off-site disposal alternative are the removal from site of radiological material that exceeds the derived concentration guideline levels (DCGLs) and the elimination of the need to maintain an NRC license. The outcome of the decommissioning and off-site disposal alternative would achieve the purpose of the proposed action to release the site for unrestricted use, termination of ABB's NRC license, and increase potential benefits from future use.

2.2 Proposed Action

The selected course of action is Alternative 3, Decommissioning and Off-Site Disposal. The activities required to implement this alternative include removal of contaminated soils and sediments, and the packaging, transportation, and disposal of radioactive and mixed waste at an appropriate disposal facility. These decommissioning activities are described in full in the

DP (ABB, 2010). Activities to be performed in the remaining impacted areas are nearly identical to those completed in the other areas of the Site. These activities include:

- Removal of radiologically impacted soil and sediment
- Waste disposal
- Backfill / site restoration
- Final Status Surveys

The decommissioning activities potentially will impact both the CE Windsor site and surrounding area. The primary impact to the surrounding area is increased truck traffic due to waste disposal activities. Impacts to the site include:

- Increase in traffic, changes in traffic patterns
- Potential migration of residual radioactivity during remediation activities
- Removal of buildings and subsurface utilities
- Increase in noise due to remediation activities

Measures will be taken during decommissioning activities in order to minimize the potential migration of residual radioactivity. Both procedural and engineering controls will be used for dust suppression and erosion and sediment control.

Monitoring, including radiological surveys of areas, tools, equipment and personnel, will be performed throughout the decommissioning activities. Environmental monitoring will also be performed and likewise will continue throughout decommissioning to demonstrate that mitigation controls have been effective.

Current Site Conditions

The site is located in the Town of Windsor, Connecticut, eight miles north of Hartford, Connecticut (Figure 2-1). The entire property consists of approximately 600 acres and is located at 2000 Day Hill Road in Windsor, Connecticut. An overview of the Site and nearby area as aerial photography is provided in Figure 2-2.

The Site is industrially zoned by the Town of Windsor, and is located in a Mixed Land Use area of Hartford County. Nearby land uses are primarily commercial, agricultural, industrial, and with some residential to the northeast. Much of the northern and western portions of the property are wooded.

The Site is bordered by Day Hill Road and agricultural and commercial land to the south; commercial development to the west; the Windsor/Bloomfield Sanitary Landfill and Recycling Center (Landfill) to the north; and forested land as well as commercial developments and some residential to the east. The northwest corner of the property is bordered by the Rainbow Reservoir portion of the Farmington River. Within the property is a 10.6-acre enclave formerly owned by the United States Government and is referred to as the former S1C site. This area has been remediated and released for unrestricted use.

Former Building Complexes 2, 5, 6A and 17 were decontaminated and dismantled from 2002 through 2005. The Final Status Survey (FSS) Reports for these areas were accepted by the NRC in 2007 as demonstration that the criteria for unrestricted use have been met in the areas of these building complexes.

The Site brook is located in the northern portion of the Site and flows northwest from Goodwin Pond for approximately one half mile to the Farmington River. The area is approximately 4 acres in size. The Site brook has received industrial and diluted radiological waste waters and storm water runoff from the beginning of Site activities in 1955 through 1992.

The Debris Piles are located north of the former WWTP and directly adjacent to Site brook on the south bank. The area is approximately 0.5 acre in size. The Debris Piles include brush; concrete rubble; partially buried drums; and other miscellaneous materials. Since the Debris Piles are adjacent to Site brook, they are located within the wetlands boundary.

The primary radionuclide associated with the Site brook and Debris Piles is enriched uranium, although some Co-60 exists in limited areas due to work with actual reactor components contaminated with byproduct material. Residual radioactivity in these areas that is in excess of release criteria will be removed, packaged, transported and disposed in accordance with applicable regulations as described in the DP.

2.3 Cumulative Effects

Research, development, engineering, production, and servicing of nuclear systems and fuel resulted in radiological and chemical contamination at the Site. Previous decommissioning and remediation activities have resulted in reducing radiological and chemical contamination. The proposed actions will further reduce radiological and chemical contamination to levels below regulatory standards. The cumulative effects of historical operations combined with past, present and future decommissioning and remediation activities will reduce radiological and chemical contamination, and will ultimately result in release of the property for unrestricted use.

2.4 Comparison of the Predicted Environmental Impacts

Only one action is being considered, therefore a comparison of predicted environmental impacts does not apply.

3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

The DP addresses the entire Site and the site-specific DCGLs (ABB, 2003b) reviewed and approved by the NRC as part of the DP. Detailed information regarding land use, geology, hydrogeology, surface water, transportation, ecological resources, meteorology, socioeconomic, public and occupational health and waste management was provided to the NRC as part of these documents and responses to Requests for Additional Information (ABB, 2004). Section 3 of the EIR provides updates to pertinent areas such as rare, threatened, and endangered species, historic and cultural resources, public and occupational health and waste management.

Environmental topics previously addressed in NRC approved documents, and not covered again in this Revision include:

- Land Use
- Transportation
- Geology and Soils
- Water Resources
- Ecological Resources
- Terrestrial Habitats
- Aquatic Habitats
- Meteorology, Climatology and Air Quality
- Noise
- Visual/Scenic Resources
- Socioeconomic

3.1 Rare, Threatened, and Endangered Species

Based on information received from the State of Connecticut Department of Environmental Protection, the Eastern box turtle (*Terrapene carolina*) and the Eastern pond mussel (*Ligumia nasuta*) occur in the vicinity of project area (CTDEP, 2007a; CTDEP, 2007b).

Also, based on information obtained from the CTDEP, the Farmington River has been stocked with Atlantic salmon (*Salmo salar*) as part of the State and Federal Atlantic salmon restoration effort.

The US Fish and Wildlife Service has identified the dwarf wedgemussel (*Alasmidonta heterodon*) in the Farmington River at several locations upstream from the Site (USFWS, 2007). The closest location is approximately 1.3 miles upstream from the Site.

3.2 Historic and Cultural Resources

There are no known archeological sites or significant historical or cultural resources associated with the Site brook and Debris Piles.

3.3 Public and Occupational Health

Appropriate health and safety measures are in place to minimize worker and general public exposure to radiological and chemical waste as described in Sections 10 and 11 of the DP. During the completed decommissioning activities for the Commercial D&D areas, there were over 170,000 person-hours without an Occupational Safety and Health Administration (OSHA) recordable injury.

Since operations at the Site have ceased, sources of radioactive materials are limited to residual materials in the remaining areas. Most of the residual radioactivity is from nuclear fuel operations, research and development activities and therefore is primarily uranium. At the residual levels measured, uranium does not present a significant external exposure hazard due to the low abundance and energy of gamma emissions. Furthermore, the uranium was primarily a metal oxide chemical form (UO_2 , U_3O_8), which is very stable and not mobile in the environment as evidenced by the lack of any migration of the residual radioactivity. Residual radioactivity levels in soil for the remaining areas ranges from background concentrations up to 110, 236 picoCuries per gram (pCi/g) total uranium. Average concentrations range from 30 to 900 pCi/g total uranium.

The only remaining soil area with significant amounts of residual Co-60 remaining is the Site brook. Soil and sediment data were compiled for this area with Co-60 results ranging from less than minimum detectable concentrations to 12.7 pCi/g. Total uranium results in Site brook range from background to a maximum of 9,708 pCi/g.

3.4 Waste Management

The waste streams anticipated to be generated as a result of the proposed action will include, but not limited to low-level radioactive waste (LLRW) and sanitary waste. With the exception of dewatering sediment excavated from Site brook, on-site waste treatment activities are not anticipated.

Wastes generated during decommissioning activities will be sent to licensed, commercial processors or disposal sites.

4.0 ENVIRONMENTAL IMPACTS

4.1 Land Use Impacts

The proposed action will result in minimal changes to local land use and pose no impact to outlying areas of the site or surrounding properties. Successful completion of the proposed action and regulatory release of the site will enable redevelopment and economic growth for the local community.

4.2 Transportation Impacts

It is anticipated that the proposed action will increase road traffic by an average of approximately an additional two trucks arriving and departing the site each work day. Based on the low daily volume of waste disposal truck traffic anticipated, the scheduled loading and transport times, and the existing average daily traffic (ADT) of approximately 10,900 vehicles per day along Day Hill Road, the proposed action will have minimal impact on existing capacity of Day Hill Road and other portions of transport routes.

Impacts from traffic to the environment are expected to be minimal. Trucks will travel over paved roadways and waste material will be containerized and/or covered; therefore, the low volume of truck traffic will have negligible effects on fugitive dust. It is also expected that this truck traffic will have minimal impacts on scenic quality and noise.

Radioactive waste will be transported for disposal by truck and rail to Clive, Utah. Interstate highway I-91 is 3 miles from the Site and there are several railroad interchanges within 15 miles of the Site that could be used. The disposal facility in Clive is approximately 2,360 miles west of the Site. It is anticipated that most radioactive waste shipments would meet Department of Transportation (DOT) requirements for classification as a limited quantity of radioactive materials. This classification requires low concentrations of radioactive materials and low external radiation levels from packages. Therefore radiation exposures associated with transportation of radioactive waste will be minimal and well within DOT and NRC limits for workers associated with transportation as well as members of the public.

4.3 Geology and Soils Impacts

The proposed action will remove radiological and chemical contaminants from soils and sediments to concentrations that meet cleanup goals. This action will reduce overall risks to human health and the environment and allow redevelopment of the Site.

Removed soils and sediments will be temporarily stockpiled prior to shipment to an off-site facility for disposal.

Erosion controls will be implemented during excavation activities and will be removed upon completion of the remediation and restoration activities.

4.4 Water Resources Impacts

Temporary impacts to surface water resources may occur during the proposed action due to storm water runoff and waste water generation from excavation activities. Storm water runoff and waste water generation will be minimized, and contained as necessary.

No impact to groundwater has been observed, nor is any expected during or at the completion of the proposed actions.

4.5 Ecological Resources Impacts

No significant ecological impacts are expected as a result of the proposed action. Temporary displacement of wildlife may occur in isolated wooded areas; however, there are adequate ecological resources available on site to support this, if it should occur.

Upon completion of the proposed action, displaced wildlife is expected to return to remediated areas. Existing fencing will be removed from remediated areas allowing wildlife unrestricted access. Native vegetation is also expected to re-establish in disturbed areas.

Remediation of Site brook includes removal of soil and sediment from the brook, as well as from wetland and adjacent upland areas. Once contaminated materials have been removed and confirmatory sampling results have been obtained, the areas will be restored with substrate closely matching that which was removed. Restoration will include a wetland seed mixture to be sown to promote re-vegetation of disturbed areas and woody debris will be used to stabilize the wetland soil. Remediation and restoration of Site brook and the adjacent wetland areas will be conducted in accordance with the CTDEP 401 Water Quality Certification, U.S. Army Corps of Engineers Programmatic General Permit, and Town of Windsor Inland Wetlands and Watercourses Permit.

4.6 Air Quality Impacts

The proposed action will have minimal impacts on air quality. Mitigation controls for dust suppression are described in Section 5.0 and are also outlined in Section 12 of the DP.

4.7 Noise

The use of heavy machinery may temporarily increase noise levels at the site.

4.8 Historic and Cultural Resources Impacts

There are no known archeological sites or significant historical or cultural resources located near the Site brook and Debris Piles.

4.9 Visual/Scenic Resources Impacts

No significant visual impacts are expected for removal of contaminated materials or when contaminated materials are being shipped off-site for disposal.

4.10 Socioeconomic Impacts

Unrestricted release of the site could lead to future redevelopment of the property which would contribute to the local economy. The proposed actions could also create temporary jobs for local equipment operators and laborers.

4.11 Environmental justice

Low-income or minority populations are not expected to be impacted by the proposed action.

4.12 Public and Occupational Health Impacts

The proposed action does increase the potential risks associated with exposure to chemical and radiological contamination. During decommissioning activities, workers could be

exposed to industrial hazards, toxic and hazardous substances along with heat or cold stress. These hazards will be managed utilizing similar controls and monitoring as during the previous decommissioning activities, which resulted in no OSHA recordable injuries with over 170,000 person-hours.

The existing radiation safety program (utilized during the previous decommissioning activities) will continue to be implemented to ensure compliance with NRC regulations. Since uranium is the primary radiological hazard and it is present in a chemically stable form, radiological exposures during decommissioning activities are anticipated to be very low as was experienced during previous activities. Similar contamination controls will be employed to minimize radiological hazards during decommissioning activities.

A construction worker scenario was evaluated as part of derivation of Site-specific DCGLs. The results of this modeling established concentrations of 6,079 pCi/g total uranium or 31.3 pCi/g Co-60 to be equal to 25 mrem per year. Since average concentrations of uranium and Co-60 in the remaining areas for decommissioning are well below these values, radiological dose to workers is expected to be minimal. In the case of the industrial waste lines, Building 6 tanks and piping with higher concentrations of residual radioactivity, additional controls will be implemented to prevent inadvertent exposure. During previous decommissioning activities, the sediments in the industrial waste lines were essentially fixed materials that could be removed by physical removal actions (scrapping), but were not readily susceptible to airborne dispersion. Furthermore, measured direct exposure rates in the remaining areas are very low and comparable to background levels. Similar conditions were encountered during the previous decommissioning activities and there was no significant or measurable occupational radiological dose. Therefore, the potential for occupational radiological exposure and dose are minimal for the remaining areas.

A recreational user / visitor scenario was also evaluated as part of derivation of Site-specific DCGLs. The results of this modeling established concentrations of 25,284 pCi/g total uranium or 129.6 pCi/g Co-60 to be equal to 25 mrem per year. This scenario is representative of the types of exposures that could potentially exist for a member of the public. These results reinforce that potential dose to members of the public will be very low and insignificant.

4.13 Waste Management Impacts

The proposed action will result in the removal of contaminated soil, sediment, debris, and building material waste from the site. Both chemical and radiological waste will be generated during the operation. Waste streams will be characterized through routine sampling and analysis. Waste management is described in detail in Section 12 of the DP (ABB, 2010).

5.0 MITIGATION MEASURES

The following section summarizes mitigation measures that can be implemented to reduce adverse impacts during the proposed action.

D&D activities will be conducted in a manner that protects the health and safety of the public and employees, and the environment. This includes development of programs and procedures that provide for monitoring and detection, and control of releases of radioactive material into the environment as a result of decontamination and deconstruction activities.

Available process options will be considered to control the concentration of radioactive material in effluents to the environment. Examples of process controls include recycling, leakage reduction, and modification of facilities, operations, and/or procedures. If further reduction in effluent concentration is necessary, available engineering options will be considered. Examples of available engineering options include filtration, adsorption, containment, and storage.

Process and engineering options will be implemented unless a review indicates that a substantial reduction in effluent concentration would not result or costs are considered unreasonable. A determination of reasonableness may be based on a qualitative review requiring the exercise of professional judgment for factors difficult to quantify. These factors could include non-radiological social or environmental impacts, availability and practicality of alternative technologies, and potential for unnecessarily increasing occupational exposures.

Effluent controls will be described in a written procedure or incorporated into operating procedures. The primary effluent controls used are expected to be dust suppression and erosion control.

5.1 Dust Suppression

Procedural controls, such as use of less aggressive decontamination or demolition techniques, will be used to minimize generation of fugitive emissions. Engineering controls, such as water spray or filtration, will also be utilized to control fugitive emissions and minimize visible dust.

5.2 Erosion and Sediment Control

Erosion and sediment controls may be temporary or permanent, depending on the duration of the activity and any specific objectives. Controls will be provided in accordance with best management practices, regulatory guidance, manufacturer's specifications, and good engineering practices. Temporary controls serve to minimize erosion and restrict the transport of sediment within the project area. Permanent controls serve to stabilize the site with durable erosion control features to control sediment discharge, and protect nearby surface waters. The erosion and sedimentation control practices that will be used during the project include:

Stabilization practices include the following:

- Minimizing disturbance areas;
- Minimizing and controlling dust;
- Stabilizing surfaces after final grading; and

- Permanent vegetative cover for disturbed areas not intended for other cover.

Structural features to control erosion and sedimentation include:

- Barriers to isolate areas of erosion and minimize sediment transport;
- Check dams in swale areas to minimize sediment transport;
- Erosion control blankets to minimize erosion due to concentrated flow prior to establishing vegetation;
- Construction of stabilized construction entrances to minimize the transport of sediment from project areas; and
- Stockpiles will be surrounded by sediment barriers.

Storm Water Management practices include:

- Maintaining runoff flow patterns and discharge locations similar to existing conditions; and
- Maximizing overland flow through vegetated areas.

Stormwater management and erosion and sedimentation control measures will be implemented in accordance with the CTDEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities and the associated Stormwater Pollution Control Plan.

6.0 ENVIRONMENTAL MEASUREMENTS AND MONITORING PROGRAMS

ABB will conduct decontamination and deconstruction activities in a manner that protects the health and safety of the public, site workers, and the environment through the implementation of approved programs, plans, and procedures that include their Radiation Protection Program (RPP), DP, and Health and Safety Program (HASP). These work control documents and associated procedures describe how ABB will conduct appropriate and effective monitoring, detection, and control of radioactive and chemical contaminants during the proposed action. See Sections 10 and 11 of the DP (ABB, 2010) for monitoring programs applicable to radiological, physiochemical, and ecological measurements.

6.1 Radiological Monitoring

Monitoring for exposure to radiation and radioactive contaminants is described in the RPP, DP, and HASP. The Site environmental monitoring program includes a combination of environmental TLDs and environmental media sampling. Soil, sediment and water samples are routinely collected, analyzed and evaluated. In addition, air monitoring is performed during decommissioning activities. As decommissioning activities progress and remaining areas are remediated, the monitoring program will be revised as necessary to ensure that adequate environmental monitoring and controls are in place. It is anticipated that there will not be any liquid or airborne effluents discharged during the remaining decommissioning activities.

6.2 Physiochemical Monitoring

Monitoring of other non-radiological materials and parameters will be conducted as part of decommissioning operations. This monitoring will be determined based upon known hazards in areas for decommissioning operations and generally will be performed during remedial activities. Again, it is anticipated that there will not be any liquid or airborne effluents discharged during the remaining decommissioning activities.

6.3 Ecological Monitoring

No significant ecological impacts are expected as a result of the proposed action. Remediation and restoration of Site brook and the adjacent wetland areas will be conducted in accordance with the CTDEP 401 Water Quality Certification, U.S. Army Corps of Engineers Programmatic General Permit, and Town of Windsor Inland Wetlands and Watercourses Permit. These Permits also contain specifications for restoration monitoring, which will be performed for five years following completion of restoration activities.

7.0 COST BENEFIT ANALYSIS

A cost estimate for decommissioning of the remaining areas has been prepared and will be submitted in the near future. This cost estimate represents a general approximation of expected costs to achieve license termination. Significant long-term benefits from the proposed action include:

- Removal of radiological and chemical sources that continue to contribute to the migration of contamination to surrounding soil, surface water, and groundwater;
- Improved environmental conditions at the site;
- Potential economic benefits due to the likelihood of site redevelopment; and
- NRC license termination.

8.0 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The proposed action is not expected to cause any adverse impacts to the surrounding communities as discussed in Section 4 and will improve the overall environmental condition by removing remaining residual radiological contamination. Completion of the proposed action and regulatory release of the site will enable site redevelopment resulting in economic growth for the local community.

9.0 LIST OF REFERENCES

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10.0 LIST OF PREPARERS

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