ABB

December 23, 2009

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License No. SNM-1067
Docket No. 70-1100

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Licensing Assistance Team
Division of Nuclear Materials Safety
U.S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406-1415

07001100

Subject: **Application for Renewal of NRC License SNM-1067**

Ladies and Gentlemen:

ABB Inc. (ABB) requests the approval of the enclosed application for renewal of NRC License No. SNM-1067. By this submittal, ABB understands that it has met the requirements for timely submittal as described in the NRC's "Notice of Expiration" letter to ABB Inc., dated October 22, 2009, and that the current License No. SNM-1067 remains in full effect until final action is taken on this application. This application reflects the current conditions and ABB's mission for the Combustion Engineering (CE) Site.

Please find the completed NRC Form 313, "Application for Materials License". The information for Items 5-11 has been included on separate paper with this submittal. Several license application revisions, necessary for current conditions, are described in Enclosure I of this submittal. Enclosure II includes the existing complete License Renewal Application for SNM-1067, including the several revision pages needed to update the renewal.

Some of the revisions referenced above are important to support ABB's CE Windsor site decommissioning effort being conducted under ABB's NRC License No. 06-00217-06. ABB, therefore, would appreciate expedited processing of this application by the NRC in order to be ready for spring work. If there are any comments or questions concerning the enclosed documents, please do not hesitate to contact the ABB Radiation Safety Officer, Heath Downey, at (207) 939-5560, or me at (860) 285-5002, or by E-mail at john.conant@us.abb.com.

Sincerely,

ABB INC.

John F. Conant
Senior Project Manager

JFC/et

FULL COST RECOVERY ACTION

TAC NO. 401824

Enclosures

xc: John Nicholson (NRC Region I)
Charles Petrillo (Town of Windsor)
Edward Wilds (CTDEP)

ABB Inc.

2000 Day Hill Road
Windsor, CT 06095

Phone: 860-285-3003
Fax: 860-285-5832

www.abb.us

144355

NMSS/RGN1 MATERIALS-002

NRC FORM 313 (3-2009) 10 CFR 30, 32, 33, 34, 35, 36, 39, and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR MATERIALS LICENSE

APPROVED BY OMB: NO. 3150-0120 **EXPIRES: 3/31/2012**

Estimated burden per response to comply with this mandatory collection request: 4.3 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

OFFICE OF FEDERAL & STATE MATERIALS AND
ENVIRONMENTAL MANAGEMENT PROGRAMS
DIVISION OF MATERIALS SAFETY AND STATE AGREEMENTS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM
DIVISION OF NUCLEAR MATERIALS SAFETY
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

07001160

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
612 E. LAMAR BOULEVARD, SUITE 400
ARLINGTON, TX 76011-4125

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S.NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR *(Check appropriate item)*

- [ ] A NEW LICENSE
- [ ] B AMENDMENT TO LICENSE NUMBER
- [x] C RENEWAL OF LICENSE NUMBER **SNM-1067**

2. NAME AND MAILING ADDRESS OF APPLICANT *(Include ZIP code)*

ABB Inc.
2000 Day Hill Road, CEP 880-1911
Windsor, CT 06095-0500

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

2000 Day Hill Road
Windsor, CT 06095-0500

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

John F. Conant

TELEPHONE NUMBER

(860) 285-5002

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL
a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSE FEES *(See 10 CFR 170 and Section 170.31)*

FEE CATEGORY	AMOUNT ENCLOSED $

13. CERTIFICATION *(Must be completed by applicant)* THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTANED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER – TYPED/PRINTED NAME AND TITLE	SIGNATURE	DATE
John F. Conant, Senior Project Manager	John F. Conant	12/23/08

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			$		
APPROVED BY				DATE	

144355

APPLICATION FOR MATERIAL LICENSE
ITEMS 5 - 11

Item	Response	Description Attached
5.	**RADIOACTIVE MATERIAL**	
	a. Element and mass number: Uranium enriched to any weight percent, U^{235}	License Renewal Application Part I, Section 1.4
	b. Chemical and/or physical form: Irradiated and/or contaminated debris or residues, low level radioactive waste (LLRW)	License Renewal Application Part I, Section 1.4
	c. Maximum amount which will be possessed at any one time: 700 grams of U^{235}	License Renewal Application Part I, Section 1.4
6.	**PURPOSE FOR WHICH LICENSED MATERIAL WILL BE USED**	
	The authorized activities for the licensed material are limited to packaging, repackaging, evaluation, storage, handling, and transportation of waste (LLRW).	License Renewal Application Part I, Section 1.5
7.	**INDIVIDUALS RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE**	
	The Radiation Safety Officer (RSO) is responsible for definition, implementation, and supervision of radiological safety and protection procedures.	License Renewal Application Part I, Sections 2.1 & 2.2
8.	**TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS**	
	The licensee provides training for personnel working with licensed material commensurate with the task/job hazards.	License Renewal Application Part I, Section 2.5
9.	**FACILITIES AND EQUIPMENT**	
	The remaining facilities associated with usage of radiological material at the site no longer house active operations and are in the process of decommissioning. The remaining facilities include: • Building 6. Activities included radioactive liquid waste processing and LLRW storage.	License Renewal Application Part II, Section 6.4
10.	**RADIATION SAFETY PROGRAM**	
	<u>Radiation Monitoring Instruments</u> Written procedures will be implemented and maintained for calibration and operation of radiation monitoring instruments. Calibration will be performed by written procedure or by authorized service provider.	License Renewal Application Part II, Section 9.0

APPLICATION FOR MATERIAL LICENSE
ITEMS 5 - 11

Item	Response	Description Attached
	Material Receipt and Accountability Written procedures will be implemented and maintained for safely opening packages that meet the requirements in 10 CFR 20.1906. Written procedures will be implemented and maintained for licensed material accountability and control to ensure that: • License possession limits are not exceeded; • Licensed material in storage is secured from unauthorized access or removal; • Licensed material not in storage is maintained under constant surveillance and control; and • Records of receipt, transfer, and disposal of licensed material are maintained.	License Renewal Application Part II, Section 9.1
	Operating and Emergency Procedures Written procedures will be implemented and maintained for safe use and emergencies. Procedures may be revised if: • The changes are consistent with the procedures submitted with the license application; • The changes are reviewed and approved by licensee management and the RSO; • Licensee staff is trained in the revised procedures before they are implemented; • The changes do not degrade the effectiveness of the program.	License Renewal Application Part II, Section 9.1
	Leak Tests Sealed sources are not authorized under this license.	Not Applicable
	Surveys Radiological surveys will be implemented following written procedures consistent with the types and quantities of materials in use.	License Renewal Application Part I, Section 3.2.7
11.	**WASTE MANAGEMENT**	
	During decommissioning activities, the licensee will generate LLRW. All licensed LLRW shall be disposed of in accordance with the requirements of 10 CFR Part 20 Subpart K.	License Renewal Application Part I, Section 4.1.1

Enclosure I

Description of Proposed Changes

Description of Proposed Changes

This license renewal application proposes to make administrative and minor technical revisions to update the license to the contemporary status of the CE Windsor Site.

- Page 4-1, Section 4.1.1, 2nd paragraph: Change "for up to one year" to "in accordance with federal, state and local regulations" to be consistent with NRC License No. 06-00217-06.

- Page 4-1, Section 4.1.1, 3rd paragraph: Remove "All packages will be stored on raised platforms (e.g., built in or portable pallets) or legs and stacking will be limited to three (3) high" to be consistent with NRC License No. 06-00217-06. Also, when this requirement was added to the license application, long-term storage on Site was envisioned for up to ten years, which is no longer applicable.

- Page 5-1, Section 5.0: Update Decommissioning Funding Plan, Standby Letter of Credit, Standby Trust Agreement, and Certificate of Financial Assurance to reflect changes in decommissioning funding for the Windsor Site. The primary change has been the combination of decommissioning funding for both NRC License No. SNM-1067 and 06-00217-06.

Enclosure II

License Renewal Application

(For Information, Not A Part Of License Application)
WINDSOR SPECIAL NUCLEAR MATERIALS LICENSE NO. SNM-1067
LIST OF EFFECTIVE PAGES

Pages	Date	Pages	Date
		Chapter 4	
		4-1	12/23/09
		4-2	06/30/05
		Chapter 5	
		5-1	12/23/09
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i	12/23/09	Chapter 6	
Table of Contents		6-1	02/01/07
		6-2	02/01/07
ii	01/06/06	6-3	02/01/07
iii	02/01/07	6-4	02/01/07
		6-5	06/30/05
Part I Title Page		6-6	06/30/05
		6-7	03/31/00
iv	12/23/09	6-8	03/31/00
		6-9	12/27/07
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		Chapter 7	
1-1	12/27/07		
1-2	12/27/07	7-1	06/30/05
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		Chapter 8	
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2-2	04/16/97	8-3	06/30/05
2-3	04/16/97	8-4	02/01/07
2-4	04/14/00		
2-5	06/30/05	Chapter 9	
Chapter 3		9-1	06/30/05
3-1	06/30/05	Chapter 10	
3-2	06/30/05		
3-3	01/06/06	10-1	03/31/00
3-4	02/01/07		
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3-6	06/30/05		
3-7	04/16/97	11-1	04/16/97

SNM-1067

LICENSE RENEWAL APPLICATION

PARTS I & II

ABB INC.
2000 Day Hill Road
Windsor, Connecticut 06095-0500

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SNM-1067

LICENSE RENEWAL APPLICATION

PART I – LICENSE CONDITIONS

PART I – LICENSE CONDITIONS

1.0 STANDARD CONDITIONS AND SPECIAL AUTHORIZATIONS

1.1 NAME

ABB Inc. is incorporated in the State of Delaware with a principal office at 501 Merritt 7, Norwalk, CT. The location where licensed activities are conducted is at 2000 Day Hill Road in Windsor, Connecticut.

1.2 LOCATION

The mailing address for all license correspondence is:

ABB Inc.
2000 Day Hill Road
Windsor, CT 06095-0500

Attn: John F. Conant
CEP 880-1911

1.3 LICENSE NUMBER

Activities are covered by NRC License SNM-1067; Docket 70-1100.

1.4 POSSESSION LIMITS AND LOCATION

ABB Inc. requests authorization at its Windsor Site for the following quantities of radioactive materials:

	Material	Form	Quantity	Location
(1)	Uranium enriched to any weight percent ^{235}U	Irradiated and/or contaminated debris, or residues (LLRW)	700 gms ^{235}U	Specified Storage Areas

Licensed material may only be possessed, used or stored within the license boundary limits of ABB's NRC License No. 06-00217-06 at the Windsor Site.

1.5 AUTHORIZED ACTIVITIES

The activities carried out with Special Nuclear Material (SNM) at the Windsor Site are limited to activities involving LLRW as follows:

Specified Storage Areas* -	Packaging, repackaging, evaluation, storage, handling, and transportation of waste from prior operations for the purpose of SNM control. These activities pertain to the material under Item 1 of Section 1.4.

1.6 (Deleted)

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*The Specified Storage Areas are defined as areas approved by the Radiation Safety Officer. Analyses may be made, under License No. 06-00217-06, on samples of waste.

2.0 ORGANIZATION AND ADMINISTRATION

2.1 ORGANIZATION RESPONSIBILITIES AND AUTHORITY FOR KEY POSITIONS IMPORTANT TO SAFETY

2.1.1 (Deleted)

2.1.2 Radiation Safety Officer (RSO)

ABB, Inc. management is responsible for safe operation under this license. The Radiation Safety Officer is responsible for defining and implementing procedures related to radiological safety. Procedures address safety criteria, monitoring, and training necessary to ensure the protection of employees, the public and the environment.

The Radiation Safety Officer is responsible for supervising the radiological protection team. The radiological protection team performs radiological surveys, air sampling, and radiological safety job coverage. If the Radiation Safety Officer believes an operation to be unsafe, he or she has the authority to halt that operation, and to restart such operation.

2.2 PERSONNEL EDUCATION AND EXPERIENCE REQUIREMENTS FOR KEY POSITIONS IMPORTANT TO SAFETY

2.2.1 (Deleted)

2.2.2 Radiation Safety Officer

The minimum qualifications for this position are a bachelor's degree in one of the sciences or engineering or its equivalent with two (2) years experience in health physics.

2.3 (Deleted)

2.4 APPROVAL AUTHORITY FOR PERSONNEL SELECTION

The personnel for key positions important to safety who are involved in activities within the scope of this application are approved by a higher level of management than the position of concern.

2.5 TRAINING

Training for personnel working with licensed material is provided commensurate with the hazards faced by the worker. The training program defines training requirements for in-house workers, contractors, and visitors. Personnel will not work unsupervised with licensed material prior to completion of the minimum training requirements.

Topics that are included in personnel training programs for persons working with licensed material include:

(1) Procedures for the storage, transfer, and use of radioactive materials.

(2) Health protection problems associated with exposure to the types of radioactive materials and radiation that are encountered.

(3) Precautions or procedures to minimize exposure.

(4) The purposes and functions of protective devices and/or equipment employed.

(5) The need to observe the applicable provisions of Nuclear Regulatory Commission regulations and licenses for the protection of personnel from exposures to radiation or radioactive material, especially for the purpose of ensuring the worker has the ability to recognize and mitigate the hazards to which he is exposed.

(6) The responsibility of the worker to promptly report to the Licensee management any condition which may lead to or cause a violation of Nuclear Regulatory Commission regulations and licenses or unnecessary exposure to radiation or to radioactive material.

(7) The appropriate response to warnings made in the event of an unusual occurrence or malfunction that may involve exposure to radiation or radioactive material.

(8) The radiation exposure reports which workers may request (as referenced in 10 CFR § 19.13).

Training methods include lecture, classroom participative training, programmed instruction, challenge testing, on-the-job training, or other training methods as appropriate. The effectiveness of training shall be suitably demonstrated; e.g., by written, oral or practical examination, or other suitable methods. The adequacy of each individual's training shall be evaluated on a biennial basis, and retraining shall be provided as appropriate.

2.6 OPERATING PROCEDURES

Activities involving licensed materials are conducted in accordance with approved written procedures and radiation work permits. Health physics activities shall be conducted in accordance with written procedures approved by the RSO and reviewed for potential update on a biennial basis.

2.7 INTERNAL INSPECTIONS

Inspections are performed to determine if operations are being conducted in accordance with applicable license conditions and written procedures. Annual inspections cover radiological and environmental safety and are conducted based upon a written plan.

Qualified personnel having no direct responsibility for the operation being inspected are used as inspectors to ensure unbiased and competent results. The annual inspection for radiological safety shall be performed by an individual with at least two years experience in applied health physics. Items requiring corrective action are documented in a report distributed to the Senior Project Manager. Follow-up actions will be documented.

2.8 INVESTIGATIONS AND REPORTING

Abnormal occurrences are investigated and reported to the Senior Project Manager. Reports to the Nuclear Regulatory Commission are made in accordance with specific conditions of this application and the applicable Federal Regulations. The level of investigation and the need for corrective action are determined based on the severity of the incident.

2.9 RECORDS

Records pertaining to health and safety, abnormal occurrences, inspections, employee training, personnel exposures, and routine radiation and contamination surveys are retained to demonstrate compliance with the conditions of this application and the applicable Federal, State and local regulations. Such records are retained for at least two years, unless otherwise specified in the governing regulations.

3.0 RADIATION PROTECTION

3.1 SPECIAL ADMINISTRATIVE REQUIREMENTS

3.1.1 ALARA Commitment

The Licensee has a strong commitment to the ALARA philosophy. In support of this commitment, the Radiation Safety Officer periodically reviews safety related activities, including abnormal occurrences and the implementation of ALARA policies. The following policies are implemented for work at the site:

(1) The key ALARA objective is to minimize exposure to radioactive material for the public, the environment, and the workers at the Windsor site.

(2) In the interest of limiting exposures to the public, the objective is to have minimal effluents from the activities under this license.

(3) The preferred method of limiting intake is the use of engineering controls. Engineering control of intake is achieved with ventilation control as described in Section 3.2.3, and, when engineering controls are not adequate, intake is limited by the use of respiratory protection as described in Section 3.2.8.

3.1.2 Radiation Work Permit

Work with licensed materials is covered by Radiation Work Permits (RWP). The Radiation Safety Officer (RSO), or his designee (with a minimum of 2 years experience in applied health physics with material similar to that authorized by this license), approves RWPs. RWPs specify applicable radiological controls for the activity, such as special radiological equipment, special personnel monitoring devices, protective clothing or air sampling requirements. Radiation Protection Technicians are responsible for ensuring the proper implementation of radiation work permits. RWPs which remain open for more than a month are reviewed on a monthly basis to ensure the controls are effective; RWPs which are no longer needed are closed.

3.1.3 Annual Report

The Radiation Safety Officer shall submit to the Senior Project Manager an annual report that reviews the employee radiation exposures to determine:

(1) if there are any upward trends developing in personnel exposures;

(2) if personnel exposures might be lower under the concept of As Low As Reasonably Achievable (ALARA); and

(3) if equipment for personnel exposure control is properly used, maintained, and inspected.

This report may be a part of the annual inspection and shall include the review of other required audits and inspections performed during the past 12 months and review of the data from the following areas as applicable: employees exposure (internal and external), bioassay results, and unusual occurrences.

3.2 TECHNICAL REQUIREMENTS

3.2.1 Control of Licensed Material

Access to licensed material is controlled.

The Licensee shall separate ^{235}U into batches no larger than 350 gms contained ^{235}U and shall maintain a minimum separation of 12 feet between batches.

3.2.2 Protective Clothing and Personnel Monitoring Requirements

Protective clothing, when required, is prescribed by the applicable radiation work permit, or at the direction of the Radiation Safety Officer.

Personnel exiting contaminated areas are required to survey themselves after removing protective clothing to ensure that they are free of contamination. Emergency evacuations are an exception to the personnel survey requirement.

3.2.3 Ventilation Requirements

Airborne effluents generated from operations involving licensed material, other than operations potentially involving trace amounts of licensed material, shall be controlled as necessary, in accordance with good health physics practices. When ventilation systems are required, they are designed and maintained to limit the spread of contamination into the environment. Exhaust from systems will be sampled, monitored and controlled pursuant to 10 CFR 20.1502.

3.2.4 Instrumentation

Instruments used for radiation detection and measurement have capabilities as follows (more than one instrument may be utilized to cover the specified range):

Alpha/Beta Counting Systems:	1 DPM to $1x10^5$ DPM (disintegrations per minute)
Alpha Survey Meters:	10 CPM to $1x10^5$ CPM (counts per minute)
Gamma Survey Meters:	1 uR/h to 50 mR/h (microrem/millirem per hour)

Radiation detection instruments are calibrated annually and after each repair that would affect accuracy.

3.2.5 Radiation Exposure

The intake of radioactive material shall be monitored for individuals likely to receive in excess of 10% of the applicable Annual Limit on Intake (ALI). Soluble uranium intake shall be limited to less than 10 milligrams per week per individual. Work activity restrictions shall be imposed when an individual reaches 50% of the applicable limit; i.e., 0.5 ALI (1,000 DAC hours) and 5 milligrams per week for soluble uranium. A diagnostic study to evaluate intakes shall be started at these action levels.

Exposure to radiation shall be monitored for individuals likely to receive, in one year from sources external to the body, in excess of 10% of the occupational dose limits of 10 CFR 20. The personnel monitoring device will be a thermoluminescent dosimeter (TLD). TLDs shall be processed for dose reading on at least a quarterly basis by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited dosimetry processor. The action level for investigation and possible work restrictions shall be 1 rem for deep dose equivalent (DDE) on an annual basis.

Total Effective Dose Equivalent for occupational exposures shall be calculated in accordance with 10 CFR 20 using a combination of personal lapel air sampling data, personnel radiation exposure data and/or bioassay measurement data.

The primary method of calculating Committed Effective Dose Equivalent is by using personal lapel air sampling results. Personal lapel monitors shall be counted on a daily basis when in use for this purpose.

3.2.6 Bioassay Program

If a respiratory protection program is utilized or personnel are likely to receive greater than 10% ALI such that monitoring is required, then a bioassay program shall be maintained for confirmation and evaluation of intakes. If a bioassay program is required, then bioassay assessments of intakes shall be performed on an annual basis, or, for personnel exposed to soluble uranium, bioassay assessment shall be on a monthly basis. Bioassay assessment may also be used to perform the diagnostic study at the action levels of Section 3.2.5.

3.2.7 Contamination Surveys

Contamination surveys are performed at a minimum of once per week in loose surface contaminated areas where work involving radioactive materials may be in progress. Surveys in step-off pad areas in use are performed on a daily basis. Contamination surveys are performed on a quarterly basis in clean areas designated by the RSO, based on their potential to become contaminated. Surveys conducted in support of work performed under a Radiation Work Permit (RWP) may be used to meet the survey requirement.

3.2.8 Respiratory Protection

To the extent practicable, process or other engineering controls will be used to control the concentration of radioactive material in air. When it is not practicable to apply these controls to limit the concentration of radioactive material in air to values below those that define an airborne radioactivity area, other controls will be implemented to limit intake, which could include use of respiratory protection equipment. Respiratory protection will be consistent with 10 CFR 20.

3.2.9 Materials and Equipment Released for Unrestricted Use

Release of equipment and materials from restricted areas to clean areas on-site or unrestricted areas shall be in accordance with the NRC's "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," dated April, 1993.

3.2.10 Nonexempt Sealed Source Control

(This section is deleted. There are no sealed sources under this license application.)

4.0 ENVIRONMENTAL PROTECTION

4.1 EFFLUENT CONTROL SYSTEMS COMMITMENTS

4.1.1 Low-Level Radioactive Waste

Low level radioactive wastes (LLRW) will be packaged in accordance with applicable regulations and delivered to a carrier for transport to an approved waste processor and/or disposal facility.

LLRW packages awaiting shipment to a processor or disposal facility may be temporarily stored on site in accordance with federal, state and local regulations. LLRW packages in such temporary storage will be checked quarterly for integrity and exterior contamination. LLRW storage areas shall be appropriately posted and LLRW shall be secured from unauthorized removal. Prior to being placed into storage, packages will be checked for exterior contamination and labeled as radioactive material and, for SNM, as to ^{235}U content. LLRW packages may be stored for up to fifteen years as interim storage provided they are protected from the elements. Interim LLRW storage shall be in the Specified Storage Areas defined in Section 1.5. LLRW in interim storage will be checked annually for integrity and exterior contamination.

Records will be maintained of the contents of the LLRW packages. When placed into storage, the packages shall be sealed in a manner which precludes casual entry (e.g., by the use of steel clips or strapping) until final sealing is accomplished prior to shipment to the processor or disposal facility.

Containers containing liquid wastes shall not be stored outside, shall be segregated from solid waste containers (e.g., stocked separately) and shall be appropriately labeled.

4.1.2 Liquid Effluents

There are no liquid effluents.

4.1.3 Airborne Effluents

Airborne effluents are monitored in accordance with Section 3.2.3.

4.2 ENVIRONMENTAL MONITORING PROGRAM

The only materials authorization requested in this application is for residual material in the form of Low Level Radioactive Waste. The effectiveness of the controls over this material will be monitored under the Windsor Radioactive Materials License No. 06-00217-06. Section 10.2 of the Application for this License describes the environmental monitoring program.

5.0 DECOMMISSIONING FUNDING PLAN

The Licensee reaffirms that, upon terminating activities involving materials authorized under license SNM-1067, the premises where the licensed activities were carried out will be decommissioned in a manner that will protect the health and safety of the public in accordance with 10 CFR 70.25. ABB Inc. financial assurance instruments for SNM-1067 which have been combined with license 06-00217-06, were submitted to the NRC as follows:

Standby Letter of Credit:

Letter, J. Conant (ABB) to J. Schmidt (NRC), dated January 14, 2009.

Standby Trust Agreement:

Letter, J. Conant (ABB) to J. Schmidt (NRC), dated January 14, 2009.

Decommissioning Funding Plan:

Decommissioning Funding Plan, Revision 2, dated September 19, 2008.

Certificate of Financial Assurance:

Letter, J. Conant (ABB) to J. Schmidt (NRC), dated January 14, 2009.

SNM-1067

LICENSE RENEWAL APPLICATION

PART II – SAFETY DEMONSTRATION

PART II – SAFETY DEMONSTRATION

6.0 OVERVIEW OF OPERATIONS

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6.2 OPERATING OBJECTIVE

The operating objectives are as follows:

(1) Perform the activities involving waste from prior operations as described in Section 1.5.

(2) Perform testing and analyses to support the operational activities.

6.3 SITE DESCRIPTION

The Windsor site is located in north central Connecticut (Figure 6-1). The site is approximately 600 acres along the section of the Farmington River known as the Rainbow Reservoir in the town of Windsor, Connecticut (Figure 6-2).

6.4 LOCATIONS OF BUILDINGS ONSITE

The locations of buildings on the Windsor site are shown in Figure 6-3.

6.5 HISTORY OF LICENSE

Combustion Engineering first applied for this license to process low enriched uranium in 1968. License SNM-1067 was then issued for a period of 5 years by the U.S. Atomic Energy Commission (AEC). The license has been renewed at approximately 5 year intervals since then.

6.6 HISTORY OF LICENSED ACTIVITIES IN BUILDINGS ON SITE

License SNM-1067 was initially issued in 1968 to allow use of low enriched uranium special nuclear material and source material in Building 17 for the purpose of commercial nuclear fuel manufacturing. Later, Building 21 was added as a warehouse and shipping and receiving building. Such activities continued in the Building 17/21 Complex until September 1993, when commercial nuclear fuel manufacturing ceased, and decommissioning of those buildings was initiated. In 1996, the decommissioning of Building 17 was deferred to allow the building to be used for processing of equipment returned from reactor sites and contaminated with byproduct material.

In Buildings 1/1A and 2A licensed activities included the storage of source material.

In Building 2, licensed activities have consisted of storage of sealed test rods containing SNM and mechanical testing using sealed simulated fuel rods containing source material. In addition, archived special nuclear material had, in the past, been stored in Building 2.

In Building 3/3A, the primary licensed activities involved the use of sealed sources and sealed testing specimens (e.g., for x-ray measurements).

The primary licensed activities performed in Building 5 have been past developmental fuel manufacturing and the laboratory activities previously associated with the current license application.

In Building 6, activities involving SNM have been radioactive liquid waste processing and low level radioactive waste storage.

In Building 16, the primary licensed activities were the use of sealed sources and source material handling.

In Building 18, the primary licensed activities have been hydraulic loop testing using sealed simulated fuel rods containing source material.

By letter to the NRC dated April 16, 1997, ABB submitted an "Amendment Request to Downgrade License No. SNM-1067." The purpose of this Request was to move all authorized buildings, operations and materials, with the exception of Building 21 and SNM waste from prior operations, to the ABB Broad Scope License 06-00217-06. This Request was approved by the NRC by letter dated September 30, 1997. Building 21 decommissioning continued and was removed from the license as an authorized place of use by NRC letter dated October 29, 1997.

Figure 6-1

Licensed Facility Location within Connecticut

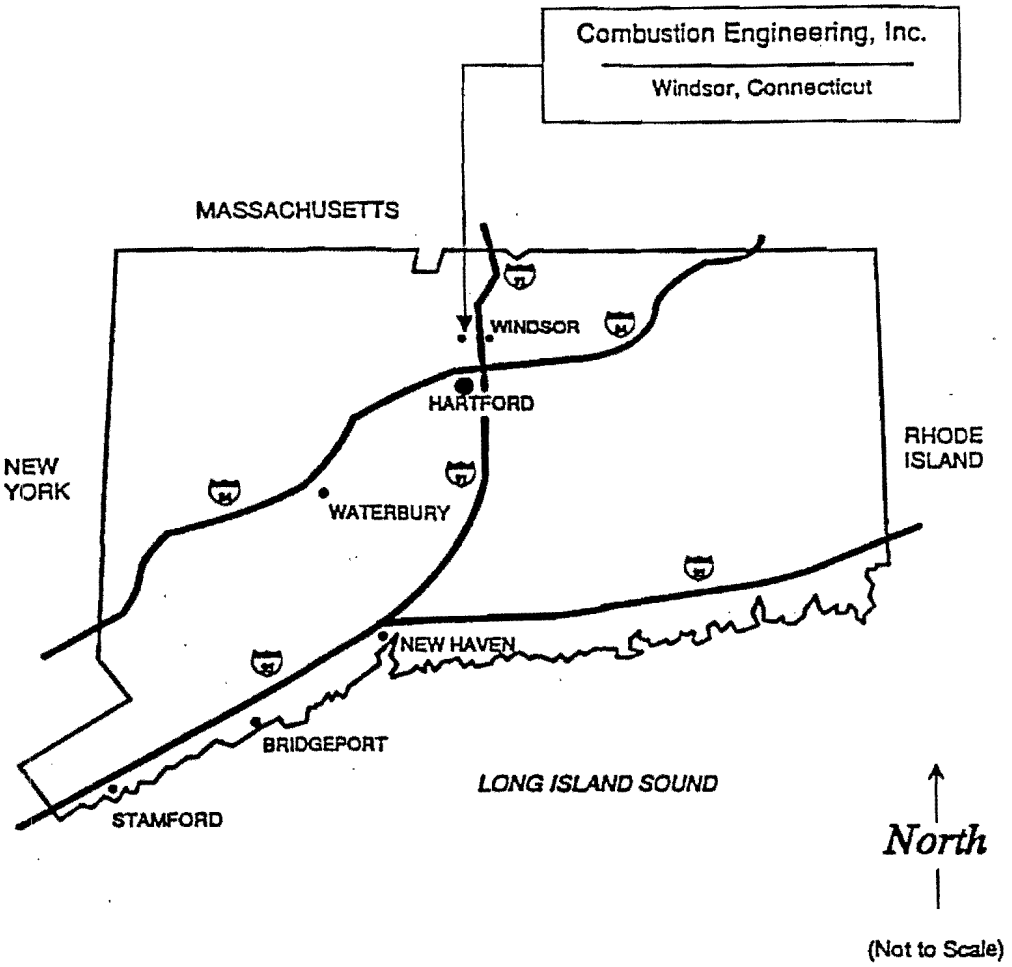


Figure 6-2

Licensed Facility Location – Local Area

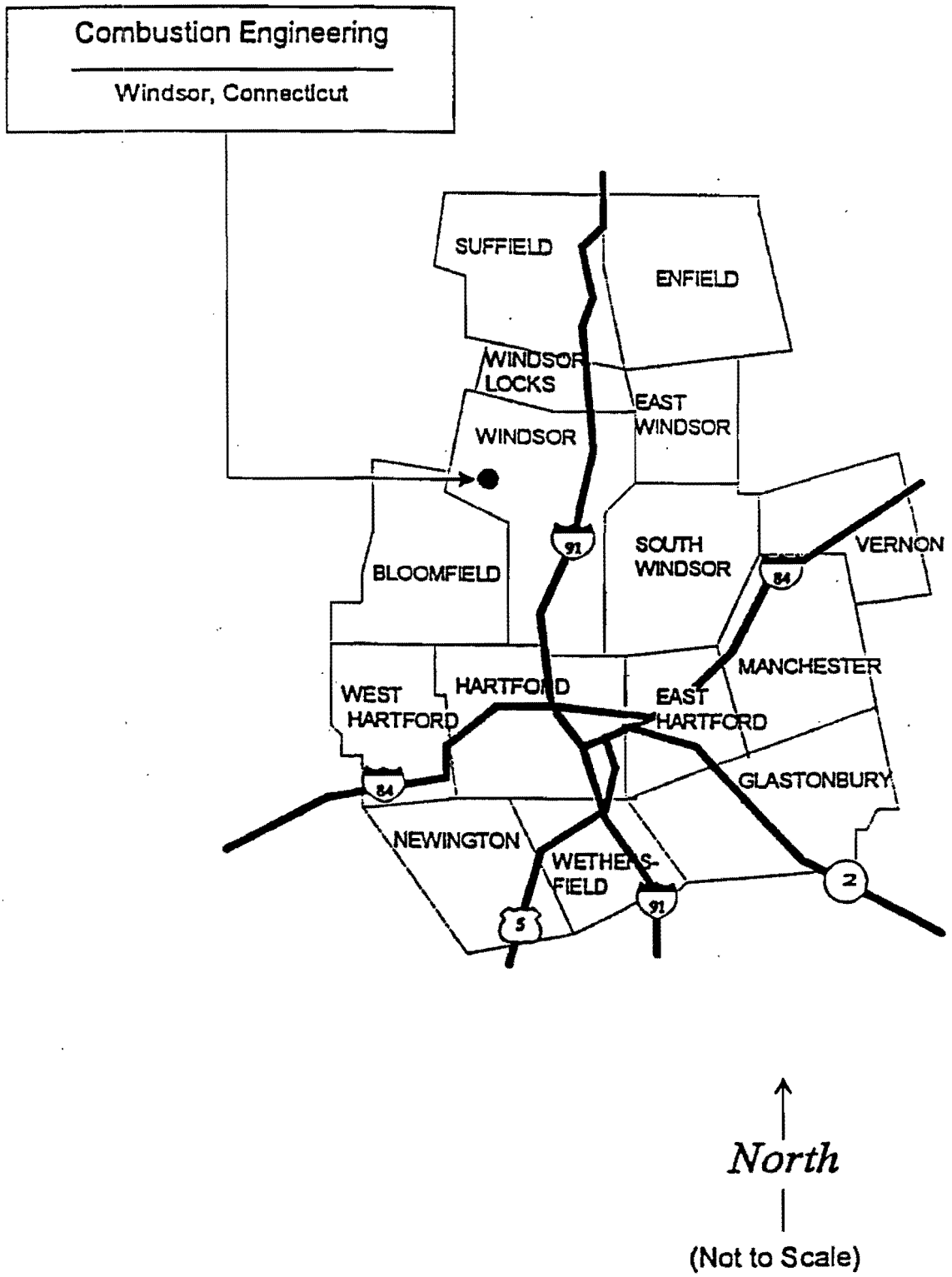
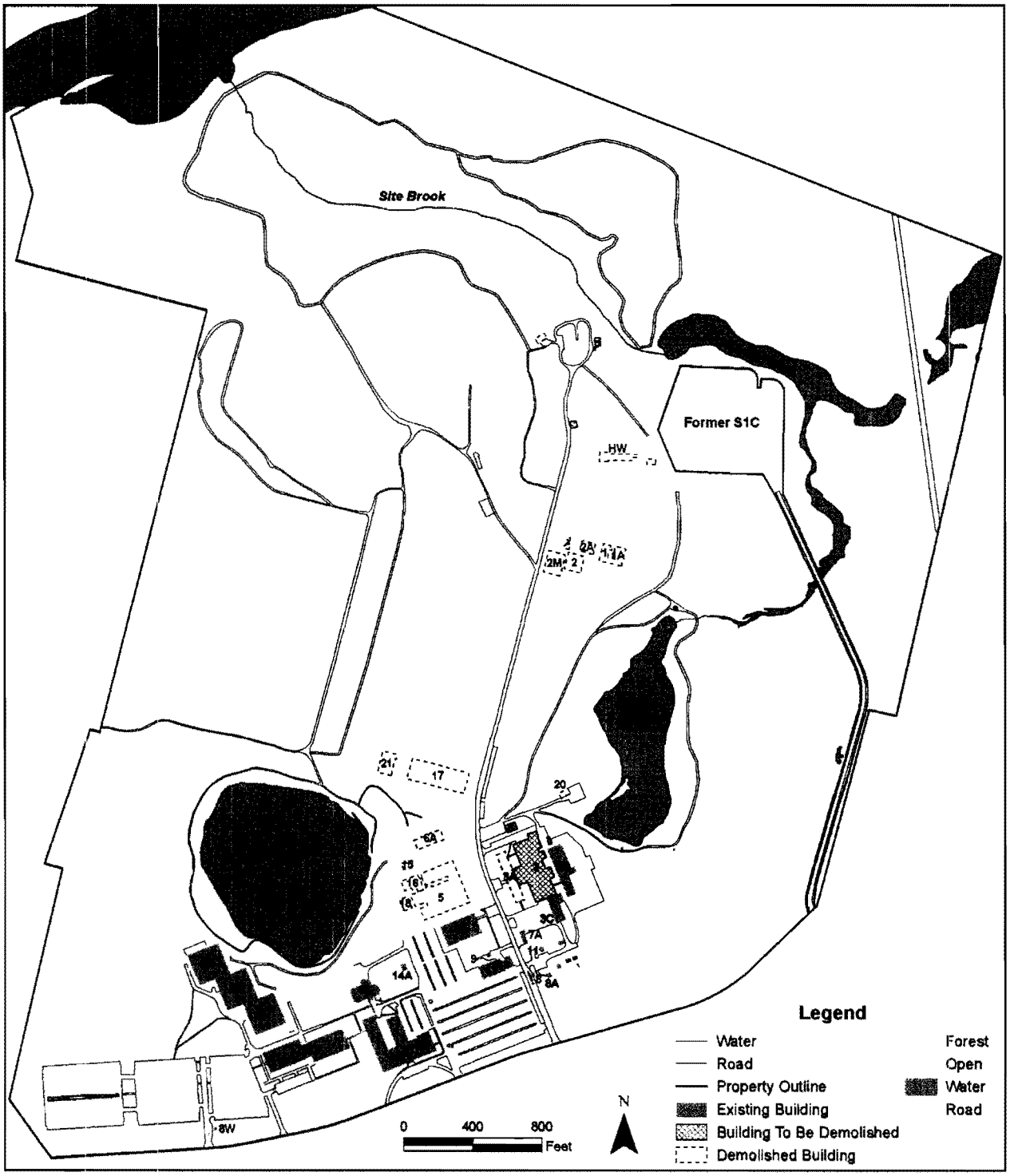


Figure 6-3

Location of Buildings on the Windsor Site



7.0 FACILITY DESCRIPTION

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7.2 FIRE PROTECTION

Under this license application, there are no facilities that require fire protection and no activities that may potentially initiate emergency response action.

8.0 ORGANIZATION AND PERSONNEL

The Windsor radiation safety personnel organization structure is depicted in Figure 8-1.

8.1 FUNCTIONS OF KEY PERSONNEL

The function, responsibilities and authorities of key personnel important to safety are described in Part I, Section 2.1 of this application. This section provides descriptive information for the remaining "Facility" personnel. With the exception of the Radiation Safety Officer, any or all of these positions may or may not be filled, depending on activities being conducted under this License.

8.1.1 Radiation Safety Engineer

The Radiation Safety Engineer is responsible for assisting the Radiation Safety Officer in the many facets of his duties. This includes procedure development, radiation work permit development, radiological control planning, etc. When deemed qualified, the Radiation Safety Engineer may be delegated as the Radiation Safety Officer.

8.1.2 Health Physics Technicians

Health physics technicians ensure that the radiological controls requirements established by the Radiation Safety Officer are carried out; this includes monitoring of radiation exposures.

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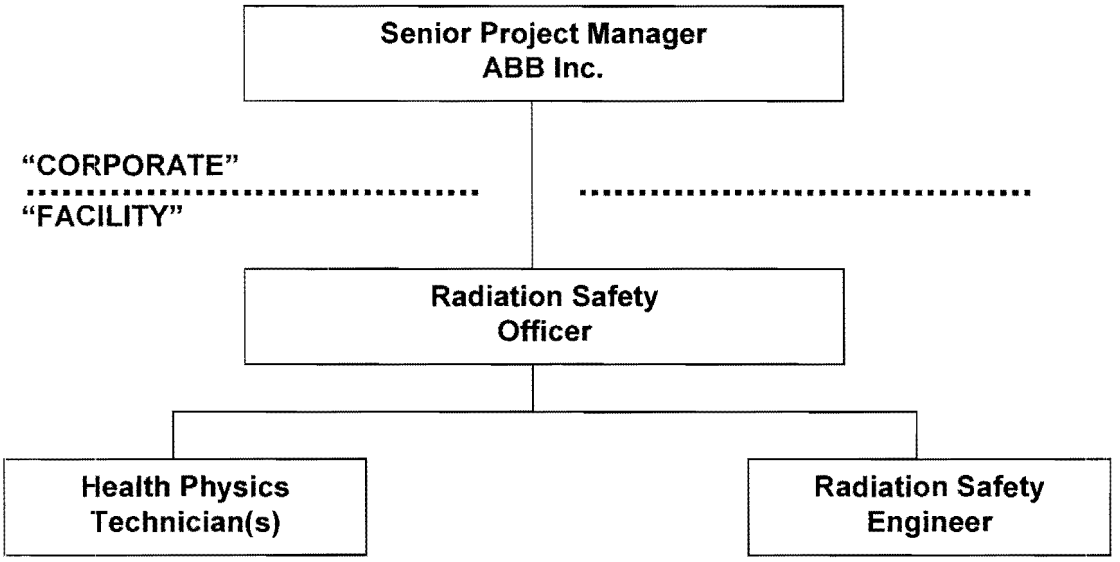
Figure 8-1

Personnel Organization



9.0 RADIATION PROTECTION PROCEDURES AND EQUIPMENT

9.1 PROCEDURES

Operations involving licensed materials are conducted in accordance with written procedures and/or radiation work permits. Radiation work permits are approved by the Radiation Safety Officer or his designee (e.g., Radiation Safety Engineer).

9.2 INSTRUMENTS

Alpha/Beta counting systems are used for radiation detection and measurement. The Alpha/Beta counting systems are calibrated annual and checked daily when in use through background and efficiency checks.

Gamma spectroscopy systems are also used for radiation detection and measurement. Operational integrity of the gamma spectroscopy systems is verified by gamma energy and efficiency calibration checks.

Radiation sources used in the instrument calibrations are NIST certified.

10.0 OCCUPATIONAL RADIATION EXPOSURES

With cessation of the uranium processing operations the potential for a release of radioactive material is greatly diminished. The Licensee will continue its emphasis on exposure control to minimize intake of uranium. The indicators used include the following:

(1) Shallow Dose Equivalent: Shallow Dose Equivalent is the external dose to the skin.

(2) Total Effective Dose Equivalent (TEDE): TEDE is the sum of the deep dose equivalent and committed effective dose equivalent.

(3) Airborne Radioactivity: A measure of the concentration of radioactivity in the ambient work place air. It is measured through the use of air sampling equipment and expressed in units of μCi/ml (Bq/m^3).

(4) Contamination: This is a measurement of the amount of uranium surface contamination in the work environment, expressed in units of $dpm/100cm^2$.

When thermoluminescent dosimeters (TLD) are used as monitoring devices, they are processed on at least a quarterly basis by an accredited dosimetry processor.

11.0 ENVIRONMENTAL SAFETY

The effectiveness of the controls over the licensed material will be monitored as described in Section 4.2 of this application.

This is to acknowledge the receipt of your letter/application dated

12/23/09, and to inform you that the initial processing which includes an administrative review has been performed.

RENEW (SNM-1067/07001100)

[X] There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

[ ] Please provide to this office within 30 days of your receipt of this card

_____.

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 144355.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

NRC FORM 532 (RI)
(6-96)

Sincerely,
Licensing Assistance Team Leader