



RECEIVED  
REGION 1

2007 DEC -7 AM 9: 47

Westinghouse Electric Company  
Nuclear Services  
Waltz Mill Service Center  
P.O. Box 158  
Madison, Pennsylvania 15663  
USA

U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, Pennsylvania 19406  
Attn: Licensing Assistance Team

Direct tel: 724 722-6363  
Direct fax: 724.722.5581  
e-mail: howel1da@westinghouse.com

L-8

December 6, 2007

- Subject: Application for an amendment to USNRC License No. SNM-770 (Docket No. 070-00698) to permit acceptance of the residual radioactive material presently remaining onsite in the TR Facilities (USNRC License No. TR-2)
- Reference: (1) Letter from George Pangburn, Director, Division of Nuclear Material Safety, Region I, U.S. Nuclear Regulatory Commission to A. Joseph Nardi, Supervisory Engineer, Westinghouse Electric Company LLC dated March 16, 2006 transmitting "Path Forward"
- (2) CBS Corporation (Waltz Mill Facility) CLI-07-15, 65 NRC 221 (March 29, 2007)

Gentlemen:

As discussed with the Nuclear Regulatory Commission (NRC) and other parties during a conference call held on October 25, 2007, Westinghouse Electric Company LLC (Westinghouse) hereby submits this application for a license amendment to its License Number SNM-770 for the Waltz Mill Site, Docket No. 070-00698 (the SNM-770 License). The amendment request represents the first of two steps in implementing the NRC's "Path Forward" (Ref. 1) related to the Waltz Mill site and would permit the acceptance by Westinghouse, the SNM-770 licensee, of the residual radioactive material presently remaining onsite in the Test Reactor (TR) Facilities currently possessed by CBS Corporation (CBS) in accordance with NRC License No. TR-2. Westinghouse submits that prompt approval of this amendment request will result in a single licensee responsible for the entire Waltz Mill site and permit efficient unified decision making for the entire site. Bifurcating the implementation of the "Path Forward" will also permit Westinghouse to complete its ongoing detailed review of its projected activities at Waltz Mill and better respond to the remaining elements of the "Path Forward." It will also remove a barrier to the transfer of the license for the entire Waltz Mill site to the Commonwealth of Pennsylvania should it assume regulatory authority as an Agreement State.

The amendment follows the completion of an arbitration proceeding concerning a contractual dispute between Westinghouse and CBS, the present holder of License No. TR-2 (Docket No. 50-22).<sup>1</sup> CBS had previously filed an application for NRC Orders (1) terminating the 10 CFR Part 50 portion of TR-2

<sup>1</sup> See fn. 1 of Reference 2 and Reference 2 generally and the Letter from Richard G. Murphy, Jr. to Ms. Annette L. Vietti-Cook, Secretary to the U.S. Nuclear Regulatory Commission, dated August 30, 2007.

**FULL COST RECOVERY ACTION**

**TAC NO.** 401753

141403

NMSS/RGN1 MATERIALS-002

License and (2) declaring that decommissioning of TR-2 structures has been satisfactorily completed. In accordance with the Path Forward, CBS, with the support of Westinghouse, is contemporaneously filing a superseding request for license termination and requesting, with Westinghouse's concurrence, an exemption from 10 CFR 50.82(b)(6)(ii). Also, in accordance with the Path Forward, Westinghouse states that it is willing to accept the radioactive material associated with the former test reactor facility in the condition as left.

The requested SNM-770 license amendment will require that License Condition 6 be amended. Upon approval of the requested amendment, the SNM-770 License would also include the onsite contaminated structures, equipment, soil and debris now associated with the TR Facilities as noted in Section 5 of the license application (Attachment 1).

Upon approval of the requested license amendment, Westinghouse will provide financial assurance (Letter of Credit) in the amount of \$69,181,000 for the SNM-770 license and an amendment to the Standby Trust Agreement modifying the existing Schedule B (Attachment 4). The total amount of the financial assurance is comprised of the following:

- Financial assurance in the amount of \$38,603,000 for the decontamination and decommissioning of the residual radioactivity being transferred from the TR Facilities and the radioactivity contained in the Retired Facilities under the SNM-770 license. Westinghouse has prepared an updated decommissioning funding plan in accordance with the requirements of 10 CFR §30.35 and 10 CFR §70.25 for these facilities. The decommissioning funding plan assumes unrestricted release under 10 CFR Subpart E. (See Attachment 3 discussed below.) CBS currently provides the financial assurance for these facilities.
- Financial assurance associated with the remainder of the SNM-770 license, i.e., the so-called active areas. Westinghouse is presently providing this financial assurance through a Letter of Credit in the amount of \$30,578,000. The amount of decommissioning financial assurance for these areas is unaffected by this amendment.

Westinghouse's understanding is that following acceptance of the amended Letter of Credit and Standby Trust Agreement, the Letters of Credit presently provided by CBS for the TR-2 license and Retired Facilities under the SNM-770 license would be returned.

The SNM-770 License is being amended to reflect the change to the license described above, specifically the amendment relates to the description of the facilities in which the residual radioactivity is being transferred. The transfer of the residual radioactivity presently associated with the TR Facilities will not require any change to the personnel, organization, procedures or equipment presently associated with the SNM-770 license. The Radiation Safety Officer ("RSO") and Radiation Safety Committee ("RSC") for the SNM-770 license will assume authority for the transferred residual radioactive material in accordance with the license requirements

The requested license amendment is neither a license transfer nor change in control over a license. In accordance with the "Path Forward," the TR-2 license would remain in effect until terminated by application of CBS Corporation and action by the NRC.

Westinghouse acknowledges that upon transfer of the radioactive material currently associated with the TR-2 License (a Part 50 License), the TR Facilities become subject to the Timeliness Rule requirements in 10 CFR §30.36 and 10 CFR §70.38. Upon transfer, the TR Facilities will be added to Table 2-1 of the "Waltz Mill Facility, SNM-770 Remediation Plan" dated November 27, 1996 as "Retired Facilities" and

will be incorporated into the provisions of this approved plan. This complies with the commitment made in the TR-2 Decommissioning Plan in Section 1.2 that "Those activities not completed under this plan will be completed after being transferred to the SNM-770 License. The approved acceptance criteria associated with the Retired Facilities in the SNM-770 Remediation Plan will also be used for these other areas." Westinghouse is continuing the development of detailed plans for the Waltz Mill Site and will communicate them to the NRC at the earliest possible date as part of the submittal regarding completion of the remainder of the "Path Forward."

As part of this application, there are a number of attachments containing information in fulfillment of the NRC's requirements for the requested license amendment.

**Attachment 1** contains the revised pages of the amended renewal application for the SNM-770 license application. The attachment expands the discussion contained in the present license to include the facilities currently covered by NRC License TR-2. Item 9 of this attachment revises the "Description of Operations, Facilities, and Equipment" of the SNM-770 License to include the TR Facilities. Inasmuch as the TR Facilities are located within the Waltz Mill site and Westinghouse has been performing radiological surveillance of the TR Facilities using Westinghouse procedures applicable to the entire Waltz Mill site, the transfer of the TR Facilities residual radioactive material is expected to have minimal impact on site operations.<sup>2</sup> The RSO for the Waltz Mill site presently serves as the RSO for the TR Facilities. Certain members of the RSC for Waltz Mill also serve in that same capacity for the TR Facilities. Upon the transfer of the residual radioactive material from the TR-2 License to the SNM-770 license, the responsibility for oversight will be with the SNM-770 RSC and SNM-770 RSO.

Common procedures have been used in the remediation of the TR-2 Facility and the Retired Facilities for Waltz Mill under the SNM-770 license. Westinghouse presently has in its possession sufficient records to support the completion of remediation of the radioactive material being transferred and the ultimate decommissioning of the facilities and site and at the termination of the SNM-770 license. Westinghouse is aware of surveys and surveillances required following transfer for the material being transferred.

**Attachment 2** provides a conservative analysis of the types and quantities of the radioactivity in the TR Facilities which demonstrates that the possession limits presently contained in the SNM-770 license are adequate to cover possession of the additional radioactivity being transferred and that, even after the transfer of the residual radioactivity from the TR Facilities, the amount of Special Nuclear Material (SNM) does not exceed the current SNM-770 possession limits.<sup>3</sup> This analysis was requested in the "Path Forward"<sup>4</sup> and demonstrates that the Waltz Mill site remains in compliance with License Condition 12 even after transfer of the residual radioactive material presently onsite associated with the TR. A summary of the latest radiation surveys for the TR Facilities is included as part of the evaluation. Complete records of radiation surveys are available at the Waltz Mill site and will be retained as required by NRC regulations.

---

<sup>2</sup> Westinghouse has recently exercised its option to purchase the entire site from CBS. It currently holds a 99-year lease for the entire site. This purchase will be finalized following NRC approval of this amendment and the termination of the TR-2 license.

<sup>3</sup> However, the residual contamination associated with the TR Facilities would be covered by Item R in the Table of Possession Limits. Item R has no possession limits.

<sup>4</sup> Reference 1 at 1.

**Attachment 3** contains a summary table of the decommissioning cost estimate for the residual radioactive material associated with the TR Facilities and the Retired Facilities already covered under the SNM-770 license. The detailed cost estimate will be submitted under separate cover together with a request that the document be withheld from public disclosure in accordance with 10 CFR §2.390.

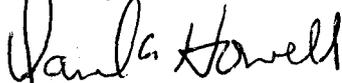
**Attachment 4** contains a draft of an amendment to the Standby Trust Agreement modifying the existing Schedule B. The revised Schedule B would reflect the new amount of financial assurance (letter of credit) for License No. SNM-770. Also attached is a draft of the language to be provided by the issuer of the Letter of Credit increasing the amount to \$69,181,000 for Waltz Mill.

There are no environmental impacts associated with the amendment of the SNM-770 license to accept the residual radioactive material currently possessed under the TR-2 license. There is no change in location or state of the radioactive materials being transferred. There are no physical changes to such material. Doses to radiation workers and members of the public will be unaffected by the amendment. By virtue of an existing contract between CBS and Westinghouse, Westinghouse workers already fulfill all functions associated with the license responsibilities for the material, including surveys and security. Westinghouse's site organization is unchanged by the amendment. In summary, there is no change in the types or increase in the amounts of any effluents that may be released offsite. There is no increase in individual or cumulative occupational radiation exposure, and there is no significant construction impact and no significant increase in potential for or consequences from radiological accidents associated with the license amendment.

Westinghouse requests that the effectiveness of the requested SNM-770 license amendment be contingent on NRC approval of the licensing action to License No. TR-2 permitting transfer of the residual radioactive materials and if a hearing on that license or this amendment request is requested, upon final agency action on such hearing and the exhaustion of any related appeals.

If you have any questions concerning this amendment application or any of the information provided in this letter, please contact me at the above address or call me at (724) 722-6363 or Wayne Vogel at (724) 722-5924.

Sincerely,



David A. Howell  
Vice President  
Field Services  
Nuclear Services  
Westinghouse Electric Company LLC

Attachments

WDV:dat

cc: Russ C. Cline  
Ramsey Coates  
Raymond C. Crott  
Michele M. Gutman  
Clay D. Jennings  
Ric G. Perez  
Michael T. Sweeney  
Wayne D. Vogel  
Robert Maiers (PADEP)  
James Yusko (PADEP)  
Martin G. Malsch (Egan, Fitzpatrick, Malsch, Cynkar, PLLC)  
Richard G. Murphy, Jr. (Sutherland, Asbill & Brennan LLP)  
Richard K. Smith (CBS Corporation)  
M.J. Wetterhahn (Winston & Strawn LLP)

**ATTACHMENT 1**

**WESTINGHOUSE ELECTRIC COMPANY LLC  
WALTZ MILL SITE  
MADISON, PA**

**APPLICATION FOR RENEWAL  
USNRC LICENSE NUMBER SNM-770  
DOCKET NUMBER 070-00698**

**REQUEST FOR AMENDMENT**

**REVISION 3 – December 6, 2007**

**TABLE OF CONTENTS**

<u>Item</u>	<u>Title</u>	<u>Page</u>
1.	License Action Type .....	1-1
2.	Applicant's Name and Mailing Address .....	2-1
3.	Address(es) Where Licensed Material Will Be Used or Possessed .....	3-1
4.	Person to be Contacted About Application .....	4-1
5.	Radioactive Material.....	5-1
6.	Purpose for Which Licensed Material Will be Used.....	6-1
7.	Individuals Responsible for Radiation Safety Program and Their Training and Experience .....	7-1
8.	Training for Individuals Working In or Frequenting Restricted Areas .....	8-1
9.	Facilities and Equipment .....	9-1
10.	Radiation Safety Program .....	10-1
11.	Waste Management .....	11-1

## REVISION RECORD

<u>Revision Number</u>	<u>Pages Revised</u>	<u>Revision Reason</u>
0	All	Original License renewal submission.
1	3-1	Updated physical location address
1	5-2 5-3	Changed Table of Possession Limits Item O Added Items V through AA
1	6-2	Revised Purpose of Use Item 6.2 c) Added Item 6.2 f)
1	6-3	Revised Item 6.3 k) area release criteria
1	9-13	Revised Item 9.4 to describe method for changes to facilities and equipment
1	10-12	Revised Item 10.6.1.4 to clarify what changes could be made to the Radiation Protection Program and Procedures without NRC approval
1	10-21 to 10-23	Revised Item 10.7.2 3) to change the building surface release criteria Added Table 10.7.2-2
1	10-25	Revised Item 10.7.5 to change the release limits for building surfaces
2	5-2 to 5-3	Updated Table of Possession Limits W. through Z.
2	6-2	Revised Item 6.2(c) Purpose of Use
2	10-22	Provided additional information for when a mixture of radionuclides is present

<u>Revision Number</u>	<u>Pages Revised</u>	<u>Revision Reason</u>
2	10-23	Corrected the Screening Values in Table 10.7.2-2 "Radionuclide Specific Release Criteria for Building Surfaces" for Zr-95 and Nb-95.
3	5-1 to 5-3	Revised Table of Possession Limits Added TR Facilities to Item R.
3	5-3 to 5-4	Revised decommissioning financial assurance information to include updated decommissioning cost estimated for SNM-770 Retired Facilities and TR Facilities.
3	5-5	Added Item # 9 to Table 5.2-1
3	6-1 to 6-2	Revised Item 6.2 Added TR Facilities to Item 6.2(f)
3	9-3	Added TR Facilities to Item 9.3
3	9-6 to 9-7	Corrected paragraph numbering
3	9-7 to 9-11	Revised description of TR Facilities
3	9-20	Update Figure 9.3-1
3	9-22	Updated Figure 9.3.3-1
3	9-23	Updated Figure 9.3.3-2

## ITEM 5 RADIOACTIVE MATERIAL

5.1 Table of Possession Limits

	Material	Chemical and/or Physical Form	Maximum Quantity
A.	Any byproduct material with atomic numbers 1 through 83	Any	50 curies per radionuclide and 200 curies total
B.	Mn-54	Any	200 curies
C.	Fe-55	Any	300 curies
D.	Co-58	Any	300 curies
E.	Co-60	Any	300 curies
F.	Ni-63	Any	300 curies
G.	Uranium-233	Any	1 gram
H.	Enriched uranium (up to fully enriched)	Any	300 grams
I.	Plutonium	Any	2 grams
J.	Any byproduct material with atomic number 84 through 96	Any	2 curies per radionuclide and 5 curies total
K.	Sr-90	Sealed Source (Isotope Products Laboratories Model PHI-090 GFS Series, BF-090-SS)	2 millicuries per source 10 millicuries total
L.	Cesium-137	Sealed source (J.L. Shepherd Model 6810)	70 curies per source and 141 curies total
M.	Cs-137	Sealed Source (AEA Technology-QSA Incorporated Model CDC.700)	15 millicuries per source 30 millicuries total
N.	Cs-137	Sealed Source (Amersham Corporation Model CDC.800 Series)	20 millicuries
O.	Cs-137	Sealed Source (Amersham Corporation Models CDC.93, CDC.192, CDC.PE2, CDC.PE3, CDC.PE4, CDC.PE5, CDC.PE6, CDC.PE7, and	1.2 curies

	Material	Chemical and/or Physical Form	Maximum Quantity
P.	Am-241	CDC.800 Series) Sealed Neutron Source (Monsanto Agricultural Company Model 2720 A, B, and C Series)	650 millicuries
Q.	Am-241	Sealed Source (Amersham/Searle Model XN.264, AMC.1064; New England Nuclear Model NER-478SP)	15 millicuries
R.	Any byproduct, source, or special nuclear material	Contaminated structures, equipment, soil, and debris	(Note 2)
S.	Pu-238	Sealed Neutron Source (Monsanto Agricultural Company Model 2720 A, B, and C Series)	1 gram per source and 4 grams total
T.	Am-241	Sealed Neutron Source (Monsanto Agricultural Company Model 2723 Modified)	790 millicuries
U.	Am-241	Sealed Neutron Source (Gamma Industries Model NB(HP))	500 millicuries
V.	Any byproduct material with atomic numbers 1 through 83	Any	0.1 millicurie per radionuclide and 1 millicurie total
W.	Any byproduct material with atomic number 84 through 96	Any	10 microcuries per radionuclide and 100 microcuries total
X.	Enriched uranium (up to fully enriched)	Any	0.5 grams
Y.	Plutonium	Any	0.001 grams

## Notes:

1. In addition to the above possession limits, license material at a single location shall be further restricted to quantities below the limits specified in 10 CFR 30.72 which require consideration of the need for an emergency plan for the responding release of a licensed material.
2. Possession is limited to licensed material as contaminated structures, equipment, soil and debris, as described in the "SNM-770 Remediation Plan" dated November 27, 1996, that existed on December 31, 2001 and in the former TR-2 Facilities, as described in Item 9.3.4, that existed on the date of the TR-2 license termination.

## 5.2 Decommissioning Financial Assurance

Westinghouse has established Decommissioning Financial Assurance for License Number SNM-770 in accordance with the provisions of 10CFR30.35. This financial assurance is in the form of a Letter of Credit issued by Bank One, NA that covers the SNM-770 active, retired and former Test Reactor (TR) facilities associated with the license in accordance with the following:

	<u>Amount</u>
SNM-770 Active Facilities	\$30,578,000
SNM-770 Retired Facilities and TR Facilities	\$38,603,000
TOTAL	\$69,181,000

The latest cost estimate for the active facilities was submitted to the NRC by letter dated August 14, 2006, and the cost estimate for the SNM-770 Retired and TR Facilities was submitted to the NRC by letter dated November 30, 2007.

The plan for the remediation of the retired facilities and soil areas was submitted on November 27, 1996 as the SNM-770 Remediation Plan. Table 5.2-1 provides a listing of the submittals that have been made as part of this ongoing remediation effort. These submittals incorporate the commitments that have been made with respect to the completion of the remediation effort. Pending completion of the remediation effort, these documents constitute ongoing license commitments and are incorporated by reference as part of the application for license renewal.

**Table 5.2-1 List of Submittals to USNRC Applicable to Remediation Program for the Waltz Mill Site, License Number SNM-770**

Item #	Sender	Date	Description
1	Westinghouse Electric Corporation	11/27/96	Submitted the "Waltz Mill Facility, SNM-770, Remediation Plan"
2	Westinghouse Electric Company, a division of CBS Corporation	6/19/98	Provides response to question regarding remediation criteria for the retired facilities per NRC request dated 6/10/98.
3	Westinghouse Electric Company, a division of CBS Corporation	8/12/98	Provides additional information regarding remediation of exterior areas in response to NRC request dated 6/10/98.
4	Westinghouse Electric Company LLC	6/22/99	Submittal of application for license amendment to revise the environmental monitoring program in support of soil remediation activities. Revision changed groundwater monitoring program.
5	Westinghouse Electric Company LLC	8/9/99	Submittal of Revised Soil Plan for NRC approval. Includes "Basis for Request for Alternate Schedule"
6	Westinghouse Electric Company LLC	1/11/00	Submittal of response to NRC letter dated 12/21/99 requesting additional information.
7	Westinghouse Electric Company LLC	6/6/00	Submittal of Soil Survey Plan to support Revised Soil Plan.
8	Westinghouse Electric Company LLC	11/9/01	Submittal of response to NRC letter dated 8/10/01 requesting additional information concerning remediation activities.
9	Westinghouse Electric Company LLC	11/30/07	Adds the TR facilities to the list of Retired Facilities in Table 2-1 of the SNM-770 Remediation Plan, November 27, 1996.

## ITEM 6 PURPOSE FOR WHICH LICENSED MATERIAL WILL BE USED

### 6.1 Introduction

This application is for renewal of a Type A Broad Scope license. An important characteristic of the license is flexibility. Such flexibility may relate, for example, to the types and amounts of radioactive materials used; the type, location, and method of use; the types and frequency of measurements; or the delegation of responsibility and authority for the use of radioactive materials. Within the limits of flexibility of the license, Westinghouse Nuclear Services requires the prerogative and responsibility to make decisions that may have a significant effect on licensed activities and that are necessary to maintain compliance with Commission regulations.

The following provides a general description of the use of radioactive materials under this license. Any new use other than those described in this application shall be subject to a license amendment.

### 6.2 Purpose of Use

The licensed operations conducted on the Waltz Mill Site involve a wide variety of operations and analyses, including appropriate support activities. Radioactive material will be transferred, received, acquired, owned, possessed, and used in accordance with the provisions of this license for the purpose of research and development, and to provide support activities for other licensees. Specifically with respect to the Item 5, Table of Possession Limits:

- a) Items A. through P. include byproduct and special nuclear materials in any form for the following uses:
  1. Research and development as defined in 10 CFR Part 30.4;
  2. Storage, decontamination, refurbishment, maintenance, and testing of contaminated equipment, components and supplies as a service for other persons as defined in 10 CFR 20.1003;
  3. Receipt, storage, preparation, and analysis of a wide variety of radioactive samples for radiochemical and other analyses and investigations; and
  4. Calibration and reference
- b) Item L. is for use in a J.L. Shepherd and Associates Model 81-10 for calibrations and checking of survey instruments.

- c) Item N. is for use in a J.L. Shepherd and Associates Model 423 for calibrations and checking of survey instruments.
- d) Item O. is for use in a J.L. Shepherd and Associates Model 28-6 for calibrations and checking of survey instruments.
- e) Item P. is for use in a Columbia Scientific Industries Corp, Model 720 portable device for measuring chemical properties of materials.
- f) Item R for the possession, characterization and remediation of the grounds and retired facilities as described in the "SNM-770 Remediation Plan" submitted to the USNRC by letter dated November 27, 1996 and the TR Facilities as described in Item 9.3.4 and in various site characterization reports submitted to the Commission on February 15, 1994, August 4, 1994, August 17, 1994, and August 31, 1995. Remediation activities shall be conducted in accordance with a plan approved by the USNRC.
- g) Items S. through U. is for possession and storage only
- h) Items V. through Y. is for the refurbishment, maintenance, and testing of contaminated equipment, components and supplies as a service to other persons as identified in 10 CFR 20.1003 at temporary job sites.

### **6.3 Authorization for Use of Materials at Temporary Job Sites**

In certain situations, it may become necessary to perform certain licensed activities at an unlicensed facility. Although the Waltz Mill Site has facilities to handle a wide variety of anticipated licensed activities, situations may arise in which there is a need for specialized services or equipment to refurbish, maintain, or test contaminated or potentially contaminated equipment or components. It may become necessary to perform these work activities at a temporary job site when it is not practicable to decontaminate radiologically contaminated equipment or components requiring these specialized services or equipment to levels that would permit release for unrestricted use. Use of this provision is expected to be infrequent and use of a licensed facility will be the preferred option when commercial needs can be met.

The following conditions shall apply:

- a) The quantity of licensed material shall be limited to that described in Item 5 K through N of the Table of Possession Limits;
- b) The Radiation Safety Committee shall document, review, and approve the work activity;
- c) The material shall be transported in packages which fulfill the requirements of USDOT regulations;
- d) The material, while in use, shall be in the constant surveillance of a Westinghouse employee, approved in writing by the Radiation Safety Committee or the Radiation Safety Officer;
- e) The individual specified in (d) shall be cognizant of, and shall ensure

- compliance with, the radiation protection requirements of 10 CFR 20 and the terms and conditions of the license;
- f) All licensed materials when not in use shall be secured from unauthorized access or removal, so that individuals who may not be knowledgeable about radioactive materials cannot be exposed to or contaminated by the material, and individuals cannot take the material;
  - g) Licensed material while at a temporary job site shall be secured to prevent unauthorized removal and to prevent exposure to members of the public. Methods include but are not limited to: 1) Limiting access to an entire facility or building or portion only to radiation workers; 2) Providing storage/use areas that can be locked; or 3) Implementing procedures that require a radiation worker to be within "line of sight" of the materials;
  - h) The material or its containers shall be labeled in accordance with the requirements of 10 CFR 20.1904 and 20.1905;
  - i) Where such off-site use is to occur in an Agreement State, as defined in 10 CFR 150.3(b), arrangements shall be made in accordance with the provisions of the reciprocity regulations of that Agreement State prior to any such use;
  - j) All low-level waste or potentially contaminated waste shall be returned to the Waltz Mill site for disposal; and
  - k) A survey of any affected equipment shall be conducted and documented upon job completion to ensure the facilities and equipment meet the requirements and limits specified in Table 1 of "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. Surveys of building surfaces areas shall be conducted and documented upon job completion to ensure that the building surfaces meet the limits specified in Table 10.7.2-2 of this application.

## ITEM 9 FACILITIES AND EQUIPMENT

### 9.1 Description of Operations

The Waltz Mill Site, located near Yukon, Pennsylvania, is part of Westinghouse Electric Company LLC.

Principal operations involve nuclear power reactor service work such as refueling, steam generator testing and repair, primary and secondary side systems services, reactor cavity services, motor, pump and valve services, and other similar services.

Major license operations involve the decontamination, repair, modification, assembly, checkout, operation, and design of specialized equipment and systems used to service nuclear power plants. The site also provides services that encompass analytical chemistry, radiochemistry, metallography, mechanical and materials testing and spectroscopy. A number of facilities are devoted to research and development activities in support of the various product line groups on the site.

### 9.2 Description of the Site

#### 9.2.1 Location

The authorized place of use of materials covered by this license is at the facilities located on the Westinghouse Waltz Mill Site in Westmoreland County, Pennsylvania and at temporary job sites as noted in Section 6.3.

The Site is near Madison and Yukon, Pennsylvania, and is located on a tract of approximately 850 acres, on the east and west sides of Legislative Route 64117, in a sparsely settled area of Sewickley and Hempfield Townships, Westmoreland County, and is about 20 miles southeast of the Pittsburgh suburbs as shown in Figure 9.2-1.

The topography of the Site and the approximate distances from the various facilities to the Site boundary are shown in Figure 9.2-2.

The watershed for the Site is shown in Figure 9.2-2. Buffalo Run (also known as Calley's Run) flows into Sewickley Creek, which eventually drains into the

Youghiogheny River. This is a part of the Ohio River watershed via the Monongahela River.

### **9.2.2 Site Access**

The Central Operations Area (COA) and the East Site Area are surrounded by 8-foot high chain link fence, topped with barbed wire and are guarded 24 hours a day, seven days a week by security guards. To enter the site, an identification badge is required. Visitors must sign and receive an identification badge. Separate fenced areas are provided around the Service Center facility and Sanitary Sewerage facility within the Central Operations Area, in order to further limit access.

### **9.2.3 Utilities**

Electric power is furnished by the Allegheny Power Company with two separate feeder lines supplying the substation on the Site. Service is supplied to the various facilities through a central power panel, which serves several subpanels. Diesel and/or natural gas emergency power generators are available and provide power for critical equipment. Some of the buildings are also provided with diesel-generated emergency lighting. Where such equipment is not available, battery-powered emergency lighting units have been provided.

All water used on the Site, whether for domestic or process purposes, is supplied by the Westmoreland County Municipal Authority. No wells have been drilled on the Site for the purposes of providing water.

The source of heating is natural gas provided by the Peoples Natural Gas Company and several gas wells that have been drilled on the Site.

### **9.2.4 Meteorology**

Meteorological data for annual average conditions were taken the National Oceanic and Atmospheric Association (NOAA) based on the average for the Pittsburgh area. Based on the data provided by NOAA, the prevailing wind at the facility is out of the west at an average speed of 7 miles per hour (approximately 4 meters per second).

### **9.3 Facilities and Buildings**

Two area designations, as shown in Figures 9.3-1 and 9.3-2 are on the Waltz Mill Site: Central Operations Area and East Site Area.

As shown in Figure 9.3-1, the following major buildings and facilities are in the Central Operations Area:

- A-B-C-D Buildings
- F Building
- G Building
- Test Reactor (TR) Facilities
- Truck Lock (G-1)
- Facilities Operations Building (P)
- Service Center Complex
- Former Solid and Liquid Waste Processing Area
- Groundwater Treatment Building
- Sanitary Sewerage Facility and Weir House

The East Site area, shown in Figure 9.3-2, is located approximately one half mile east of the Central Operations Area.

Except as authorized in Paragraph 6.3, material under this license shall be ordinarily possessed and used within the Central Operations Area on the Waltz Mill Site. Other portions of the Site may be used for operations upon review and approval of the Radiation Safety Committee.

Additional details regarding the description and status of facilities on the Waltz Mill Site are provided in the various site characterization reports submitted to the USNRC (see Section 6.2(c) for specific reference).

#### **9.3.1 A-B-C-D Buildings**

The A-B-C-D Buildings are located on the southwest side of the Central Operations Area (Figure 9.3-1).

The A-B Buildings, located west of the C and D Buildings, are low-bay areas. These buildings contain the WesDyne offices, engineering offices and laboratories, storeroom, shipping and receiving, and other service operations. Licensed material will normally only be present in the Shipping and Receiving area of this building incident to shipment and receipt activities.

The C and D Buildings are both high-bay areas, each serviced by a bridge crane that traverses the area. Facilities such as nuclear power plant mockups, miscellaneous robotic equipment, and other equipment requiring a high bay and a large amount of floor space are located in these buildings. Low-levels of radioactive materials may be used in these buildings primarily for training, research and development, and other reactor field service purposes.

### **9.3.2 F-Building**

The F Building is the main administration building and is located along the west side of the Central Operations Area (Figure 9.3-1). In addition to engineering offices, it houses the executive and administrative offices, a cafeteria, and auditorium. No laboratories are contained in this building, and no licensed materials, except in the form of low-activity sealed sources as training aids or calibration and reference sources, will ordinarily be used in this building.

### **9.3.3 G-Building**

The G Building is located along the northwest side of the Central Operations Area. In addition to administrative and engineering offices, it contains the Analytical Chemistry Laboratories and the retired Post Irradiation Facility (PIF), which includes the former Hot Cell Area, Annex Area, and Transfer Canal. These facilities are principally located in the north wing of the G-Building as shown in Figures 9.3.3-1, 9.3.3-2, and 9.3.3-3.

Licensed materials will be primarily used in the analytical laboratory areas of this building that are involved in research and development and analytical chemistry of samples containing radioactive materials. In addition, licensed material will be present as residual contamination in the retired Post Irradiation Facility.

a) Analytical Laboratories

The Analytical Laboratories, principally located on the second floor of the north wing of G Building (see Figure 9.3.3-2), provide analytical chemistry services and carry out a wide variety of analytical work. The laboratories are divided into areas of specialization, which currently include sample receipt, radiochemistry, environmental, general analytical chemistry, and counting laboratory.

Radioactive samples are accepted for chemical and radiochemical analyses. Samples in dispersible form, i.e., friable or volatile, are generally handled in fume hoods and other appropriate containment devices. In hoods where radioactive materials are processed, an exhaust system containing a HEPA filter is installed. Air being discharged is continuously sampled for activity to ensure effluents remain within 10 CFR Part 20 limits.

Liquid radioactive waste discarded in the laboratory sinks is collected in holding tanks located in the G Building Annex basement for subsequent processing in the site's water processing system located in the Facilities Operations Building. The Water Processing System is further described in Items 9.3.5(c) and 11.6.

b) Annex Area

The Annex is located in the basement of the G Building. It contains the Transfer Canal, Sub-Cell Room and Sub-Cell Fan Room (see Figure 9.3.3-3). The Sub-Cell Room and Sub-Cell Fan Room are now retired. The Transfer Canal is no longer in use and all water has been drained from the canal. Residual radioactivity in the form of surface contamination is present in these facilities.

Service and utility lines of significant importance to the entire Waltz Mill Site pass through this area, and a tank for the collection of liquid radioactive waste from the Analytical Laboratories is located on the east side of the Transfer Canal.

Access to the Annex Area is provided from the Truck Loading Dock (see Figure 9.3.3-1), which may be entered either from the outside or from the access vestibule. The door to the Annex Area is locked with the key being maintained by Radiation Safety.

e) Retired Areas

(1) Post Irradiation Facility

The Post Irradiation Facility (PIF) and associated support facilities have been retired. These areas are shown in Figures 9.3.3-1, 9.3.3-2 and 9.3.3-3. No routine operations are performed in these areas and normal access is restricted. The following identifies the various areas and describes the current conditions. A complete description of these areas and plans for remediation is provided in the "SNM-770 Remediation Plan" submitted to the NRC by letter dated November 27, 1996.

(a) Hot Cell Loading Area

The Hot Cell Loading Area is a 1,600 square foot room on the ground floor of the G-Building that previously contained the three Hot Cells and a Chemistry Cell. The Hot Cells and a portion of the Chemistry Cell were removed in 2000 under the SNM-770 Remediation Plan. Residual radioactivity in the form of surface contamination remains in this area. Additionally, the floor area contains high levels of contamination in several grouted cavities. These include the Hot Cell door wells and Hot Cell floor access ports that were sealed with grout and covered with steel plate for shielding.

(b) Metallography Cell Area

The Metallography Cell Area is located north of the Hot Cell Loading Area. The Metallography Cell has been removed under the SNM-770 Remediation Plan. Residual

radioactivity in the form of surface contamination remains in this area.

(c) Sub-Cell Room

The Sub-Cell room is located in the basement of the G-Building directly beneath the three former Hot Cells. The Sub-Cell Room provided access from the Hot Cells to the Transfer Canal through the hot cell floor access ports. All material has been removed from this room and the access ports to the Hot Cells plugged and sealed. Residual radioactivity in the form of surface contamination remains in this area.

(d) Sub-Cell Fan Room

The Sub-Cell Fan Room is located in the basement of the G-Building directly below the Metallography Cell and Hot Cell Loading Areas. Residual radioactivity in the form of surface contamination remains in this area.

(e) Transfer Canal

The Transfer Canal located the G-Building Annex was previously used to provide water shielding during the movement of irradiated test specimens into the three Hot Cells. The overall length of the canal is approximately 98 feet and ranges from 7 to 10 feet in width. The canal is approximately 18 feet in depth. All water has been drained from the canal. Residual radioactivity in the form of surface contamination remains in this area.

#### 9.3.4 Test Reactor Facilities (TR)

The former Test Reactor (TR) is located within the Central Operations Area directly north of the G Building. The TR was previously possessed under a separate NRC

License (License Number TR-2) for possession only, encompassing the requirements of 10 CFR Part 50. The TR Facility includes all of the structures, equipment, areas and materials previously included under the TR-2 License that have not previously been transferred by specific license amendments to the SNM-770 license or to other licensees. Specifically excluded are any materials that are not presently on-site, e.g., have been shipped and transferred to a licensed disposal site or waste processor prior to approval of this license amendment request. Those remaining portions of the TR facility (not previously transferred to the SNM-770 License), including the associated residual radioactive material, have been transferred to the SNM-770 license and are now included as "Retired Facilities" for remediation under the SNM-770 Remediation Plan.

In accordance with the TR-2 Decommissioning Plan, the reactor vessel, the reactor internals, and a large portion of the biological shield have been removed from containment, packaged, and shipped to a licensed low-level waste processor or disposal facility. Some remediation of the other facilities was accomplished as part of that remediation program.

A general schematic of the TR facilities is shown on Figure 9.3.3-1. A description of the major areas of the TR facilities being transferred to the SNM-770 License is given below.

#### Containment Building (Vapor Shell)

The Containment Building is a cylindrical steel vapor shell covered on the outside with transite panels. The containment shell is 90 feet in diameter, with a total floor area of 5,000 square feet. There are two airlocks, and a large overhead door that provides access from the truck lock to the TR. There are two remaining support platforms: the truck lock platform and the beam port platform. The biological shield was partially removed down to the 32-foot level to allow removal of the reactor vessel. The remaining portion of the bioshield is included as a retired facility.

The containment building also houses the rabbit pump room, polar crane, and other support systems. Most of the piping, electrical conduit and boxes, plant and instrument air lines, hydraulic lines, steam and condensate lines, and ventilation ductwork have been removed.

#### Sub-pile Room

The sub-pile room is a 15' x 15' room located beneath the remainder of the biological shield. This room has a ¼-inch steel liner on all four walls covering the concrete biological shield. The floor is uncoated concrete. The TR canal runs through the sub-pile room (north-south), separating the room into two areas (east and west). The two doors to the sub-pile room consist of a steel liner filled with 12 inches of poured lead. One permits accesses to the east side of the canal and the other to the west side.

#### Rabbit Pump Room

The Rabbit Pump Room measures approximately 6'6" by 10'0" by 7'6" high and is located on the operating floor along the north wall of the containment building. The pumps and valves that delivered the rabbits (test material samples) in a container, to the reactor core via the rabbit tubes were removed.

#### Test Loop Cubicles

Three test loop cubicles are located in the west side of the containment building adjacent to the reactor biological shield. Each cubicle is constructed of concrete of varying dimensions and all cubicles are currently vacant.

#### Test Loop Dump Tank Pits

Two 8'0" by 9'0" by 13'0" high Test Loop Dump Tank Pits are located below the operating floor on the east and west side of the transfer canal. All tanks have been removed from the pits and the pits are currently vacant.

#### Primary Coolant Pipe Tunnels

The primary coolant pipe tunnels surround the north end of the transfer canal along the

east and west sides below the operating floor. Each tunnel measures approximately 5'0" wide by 10'0" high by 39'0" long and merge into a common tunnel at the north side of the containment building. This includes the North and South Top Test Loop Tunnels which are located beneath the Truck Lock building. The tunnel continues below grade to the northeast to the Facilities Operations Building. The pipe tunnels contained the primary coolant circulation supply and return lines, demineralizer, emergency coolant and various other piping systems. All piping has been removed from the tunnels.

#### Transfer Canal

The transfer canal is approximately 19 feet deep, varies in width from 7 feet to 10 feet and is approximately 160 feet long north-south down the axis of the reactor. The canal begins north of the biological shield and continues beneath the sub-pile room to the south, through the G building Annex, ending beneath the Hot Cell area. The transfer canal was the means of transporting spent fuel rods from the reactor vessel to the Annex Building and irradiated test specimens to the Hot Cell area. The fuel rod conveyor, storage racks, thimble loading machine, transfer chute, rabbit tubes, piping and pipe supports were left in the canal following the 1962 shut down. All of the hardware and equipment have been removed from the canal. A layer of radioactive sediment has been removed from the bottom of the canal. All of the water has been removed from the canal.

#### Diesel Pump Pit

The Diesel Pump Pit is constructed with concrete walls and floor. The size of the pit is 6' by 6' by 32' deep. The entrance to the pit is adjacent to the West Primary Coolant Tunnel personnel hatch. This pit was utilized as an emergency standby cooling system for the test reactor in case of power failure. The shed over the pit is constructed of concrete with steel support I- beams. The ceiling is made of corrugated plastic and metal supports, and the floor is made of concrete with a steel plate covering the pit entrance. The size of the shed is 16' by 10' and the entrance is adjacent to the West Primary Coolant Tunnel.

A bounding estimate has been prepared for the inventory of residual radioactive material associated with the transferred TR facilities. It is estimated that the total amount of radioactive material is approximately 180 milliCuries of a mixture of radionuclides. The current mixture of radionuclides has not yet been established for these facilities following the remediation activities that have been completed to-date, however, the following distribution that was determined prior to the remediation effort is considered to be reasonably representative of the current residual material:

Isotopic Distribution	
Radionuclide	Fraction of Total Activity
Ag-108m	0.0003
Am-241	0.001
Bi-214	0.001
Cm-242	0.003
Co-60	0.004
Cs-137	0.610
Fe-55	0.012
I-129	0.017
Ni-63	0.192
Pu-238	0.005
Pu-239/240	0.014
Pu-241	0.005
Sr-90	0.068
Tc-99	0.063

A bounding estimate has been made of the SNM content of the radioactive material associated with the TR facilities and found to be 20 grams of fissile material.

### 9.3.5 Truck Lock

The Truck Lock is a building located directly north of the TR vapor shell containment. The building contains three shielded pits approximately 12'x16' by 16 feet deep each covered with concrete shield plugs. This building is used for principal licensed activities including the storage of sealed sources not in use and low-level radioactive waste pending shipment.

### 9.3.6 Facilities Operations Building (P Building)

The Facilities Operations Building shown in Figure 9.3.6-1 contains the site maintenance shops, administrative and engineering offices, storage areas and instrument shop. This building also houses the Liquid Waste Processing Facility, Radiation Safety Instrument Calibration Facility, Axial Test Facility, and certain support facilities formerly associated with the retired TR. Licensed materials, except in the form of sealed sources, will not ordinarily be used in the shops or offices of this building. Specific facilities associated with operations conducted under SNM-770 are:

a) Radiation Safety Instrument Calibration Facility

This area is used for the repair, maintenance, testing, and calibration of a wide variety of radiation protection instrumentation. Licensed materials in the form of sealed sources are used in this area including the J.L. Shepherd Model 81 calibrator. A photoelectric interlock device, as well as visual indicators, is provided for when the source is in operation.

b) Liquid Waste Processing Facility

The Liquid Waste Processing Facility shown in Figure 9.3.6-2 is presently used to process radioactive liquid waste generated primarily by the Service Center facility and the analytical chemistry laboratories. The facility contains several liquid storage tanks and a liquid waste processing system. Additional information on this facility is provided in Item 11 "Waste Management." All liquid is transferred to the area via above ground piping, or piping which is in tunnels accessible to personnel. Respirator maintenance and cleaning facilities are also available in this area.

c) Axial Test Facility

The Axial Test Facility is located at the northeast end of the Facilities Operations Building. The facility is presently used for storage and operation of contaminated test equipment and other R&D activities involving radioactive material.

e) Storage Rooms

Four shielded storage rooms are located at the north end of the building. These rooms may be used for the storage of license radioactive material. Presently only the northwest room is an active radioactive material storage area.

### 9.3.7 Service Center Facility

The Service Center facility shown in Figure 9.3.7-1 is located southeast of the Facility Operations Building and consists of several buildings surrounded by a security fence. It includes administrative and engineering offices, Radiation Safety offices and laboratories, change rooms, equipment decontamination facilities, equipment storage buildings, several high-bay areas, work areas for contaminated equipment and other support facilities. In addition, included in this complex is a parking lot used for the parking of over-the-road trailers that contain contaminated equipment. Radioactive material, in the form of residual contamination on equipment, reactor components, and facility surfaces and structures, is present in these buildings.

The facility consists of the following buildings:

- R Buildings (R, R-1, R-2, R-3, R-4, and R-5)
- North and South Test Cells
- T Buildings (T, T-1, and T Annex)
- S-3, S-4, S-5 Storage Buildings
- Truck Loading Dock
- GPL-1 Building

The floor plans for various buildings are shown in Figures 9.7.2-2 through 9.7.2-4.

Radioactive liquid waste generated during decontamination operations in the Service Center facility is discharged to the radioactive drain system for collection and

processing in the Facilities Operations Building. Exhaust ventilation is presently provided in the North Test Cell, South Test Cell, the R-2, R-3, R-4, R-5, T, T Annex, T-1, and GPL1 Buildings with the air being exhausted through HEPA filters. The air being discharged is continuously sampled for beta-gamma particulate activity.

a) R Buildings (R, R-1, R-2, R-3, and R-4)

The R Building is an office area, which includes a lunchroom (R-1). East of this building are three high-bay areas (R-2, R-3, and R-4) which are currently used for the testing, maintenance, and refurbishment of contaminated equipment and tooling. Between the main building and the high-bay buildings are the North and South Test Cells. The R-3 Building contains a separate ventilated room used for decontamination.

b) North and South Test Cells

The North and South Test Cells are two multi-level high bay shielded rooms. These cells are used for decontamination, testing, maintenance, and refurbishment of equipment and tooling.

c) T Buildings (T, T-1 and T Annex)

The T, T-1 and T-Annex Buildings are used for the decontamination, testing, maintenance, and refurbishment of equipment and tooling. Two ventilated decontamination rooms and a decontamination pit are located in the T-Building. The principle use of the T-Buildings is for the decontamination, repair, modification, and testing of contaminated pumps and motors. The building contains machine shops, test stands, abrasive blast facilities, and paint booth to support these activities. The T-Building also contains a change room, a laboratory and an administrative office.

## d) S-3, S-4 and S-5 Buildings

These buildings provide space for the storage of contaminated equipment and materials. Such equipment and materials are ordinarily wrapped in plastic and/or stored in containers, thereby providing adequate protection against the spread of contamination.

## e) S-3 Truck Loading Dock

The Truck Loading Dock is located to the south of the S-3 Building and is used principally for the staging, receipt, and shipment of materials and equipment.

## f) GPL-1 Building

This building is presently utilized for the low-level radioactive waste operations and storage of contaminated equipment and materials. This area contains a high force compactor used for volume reduction of low-level radioactive waste generated on-site. Additional information on this facility is provided in Item 11 "Waste Management."

## g) R-5 Building

The R-5 Building is a pre-engineered, metal fabricated building located east of the A, B, C, and D Buildings. A 1-ft thick cast-in place concrete wall divides the building interior space into a 20,000 ft<sup>2</sup> office space and a 16,400 ft<sup>2</sup> high bay (height 70-ft) radiological work area.

The concrete floor in the radiological work area is finished with a water-based industrial floor sealer. Interior concrete block walls are finished with one coat block filler and two coats semi-gloss latex. The interior of the metal building is covered with metal panels similar to the exterior with insulation sandwiched in between.

A 20-ton bridge crane and three 2-ton wall jib cranes are located in the in the radiological work area. The radiological work area is serviced by a 45,000 cfm HEPA exhaust system located on the roof of the Decon Room.

There are no floor drains located in the radiological work area.

The radiological work area contains a 1600 ft<sup>2</sup> (28-ft X 58-ft X 32-ft high) Decon Room in the northeast corner. The Decon Room is constructed from 12-inch, filled concrete block. The Decon Room is accessed by two overhead doors and two personnel doors. The room is used for the initial decontamination of reactor service equipment and components. The concrete floor is finished with an industrial sealer. The ceiling height is 32-ft and is constructed of precast concrete planks. A 5-ton overhead bridge crane is located in the room. The room is serviced by the building HEPA exhaust system. A floor trench drain and channel is used to direct decontamination water to a floor sump located in the northeast corner of the room. Water from the floor sump is pumped to a water holding system located in the Decon Room. The waste water system consists of two 1,500 gallon fiberglass holding tanks with pump and piping to empty the tanks. The waste water from decontamination operations is pumped into a portable 500-gallon steel tank for transport to the Facilities Operations Building Water Processing System.

A 17-ft X 19-ft X 20-ft deep cast-in-place concrete pit is located in the southeast corner of the building. The pit holds a 10-ft diameter X 20-ft high water-filled stainless steel tools tank for underwater testing of contaminated, tooling, equipment and instrumentation. The tools tank is provided with a water treatment system including filters, chemical feed and circulation pump installed within the tank pit.

### **9.3.8 Former Solid and Liquid Waste Processing Area (SLWPA)**

The former Solid and Liquid Waste Processing Area shown in Figure 9.3.8-1 previously included an Evaporator building, a concrete retention basin, several above ground storage tanks previously used for radioactive liquid waste storage and processing, a concrete pad for temporary storage of solid radioactive waste and several buildings which house various radioactive waste processing equipment. Two buried retention basins were also previously located in this area. A complete description of these areas and plans for remediation are provided in the "SNM-770 Remediation Plan" submitted to the NRC by letter dated November 27, 1996. The contaminated structures and buried basins have been removed from this area. Extensive soil remediation was completed in

this area in 2001. Numerous groundwater monitoring wells are located throughout this area to monitor groundwater conditions. The Groundwater Treatment Building contains water processing equipment used to pump and treat an existing groundwater contamination plume.

### **9.3.9 Groundwater Treatment Building**

The Groundwater Treatment Building contains facilities for pumping and treating contaminated groundwater located in the former Solid and Liquid Waste Processing Area. Groundwater extracted from the pump and treat wells is processed through filters and ion exchange prior to discharge. The effluent from the treatment system is discharged and sampled via a monitored weir to Calley's Run.

### **9.3.10 Sewage Treatment Facility and Weir House**

The Sewage Treatment Facility contains tanks, pumps, aeration, and chlorination equipment for the treatment of sanitary sewage. This facility is also surrounded by a security fence. The Site liquid effluent, which includes the discharge from the Groundwater Treatment System, is monitored at the Weir House prior to discharge into Calley's Run.

## **9.4 Changes in Licensed Facilities and Related Equipment**

Any proposed change in the facility (building structure, room layout, shielding walls, etc.) or related equipment (ventilation system, fire alarms, electric power supply, etc.) shall be reviewed by the Radiation Safety Officer. Minor changes to facilities or equipment may be approved by the Radiation Safety Officer. Significant changes to facilities or equipment shall be referred to the Radiation Safety Committee for review and approval. The initial review may be performed by a Radiation Safety Committee Sub-Committee appointed by the Radiation Safety Committee Chairman. However final approval shall be given by the full committee. The Radiation Safety Committee shall document the review and approval of changes to facilities that use radioactive material.

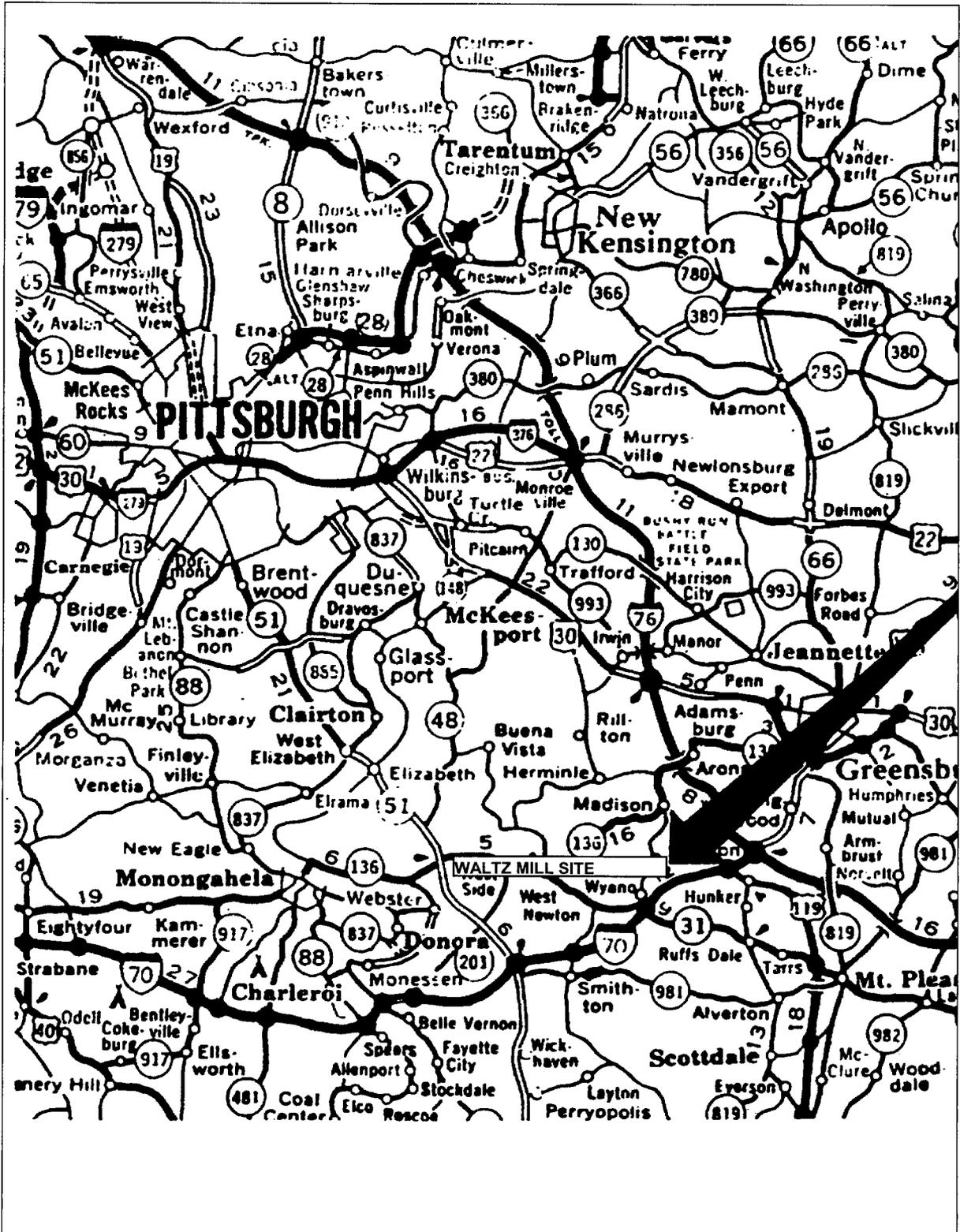


Figure 9.2-1 Map of Area Surrounding Waltz Mill Site

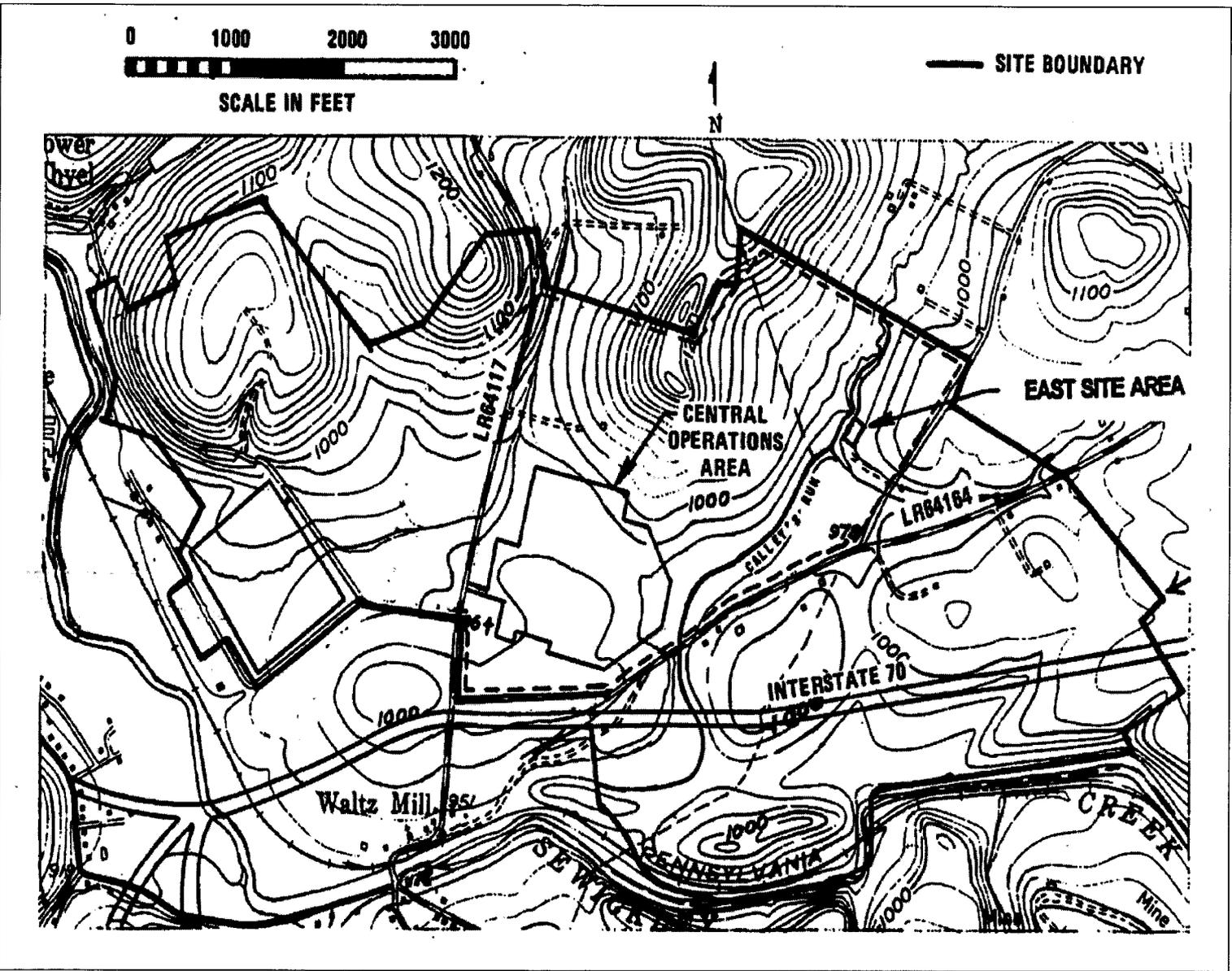


Figure 9.2-2 Topographical Map of Area Surrounding Waltz Mill Site

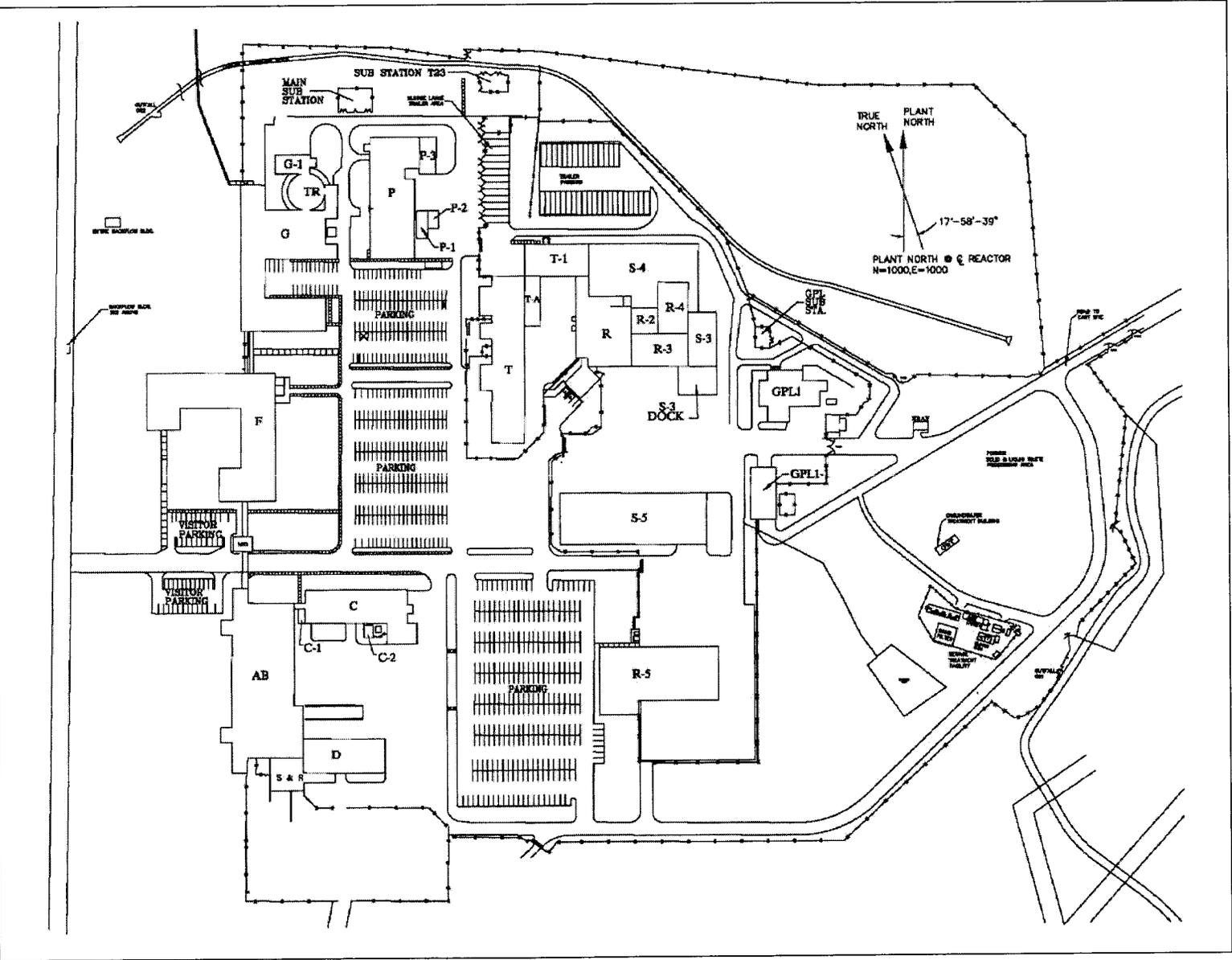


Figure 9.3-1 Central Operations Area Boundaries and Building Locations

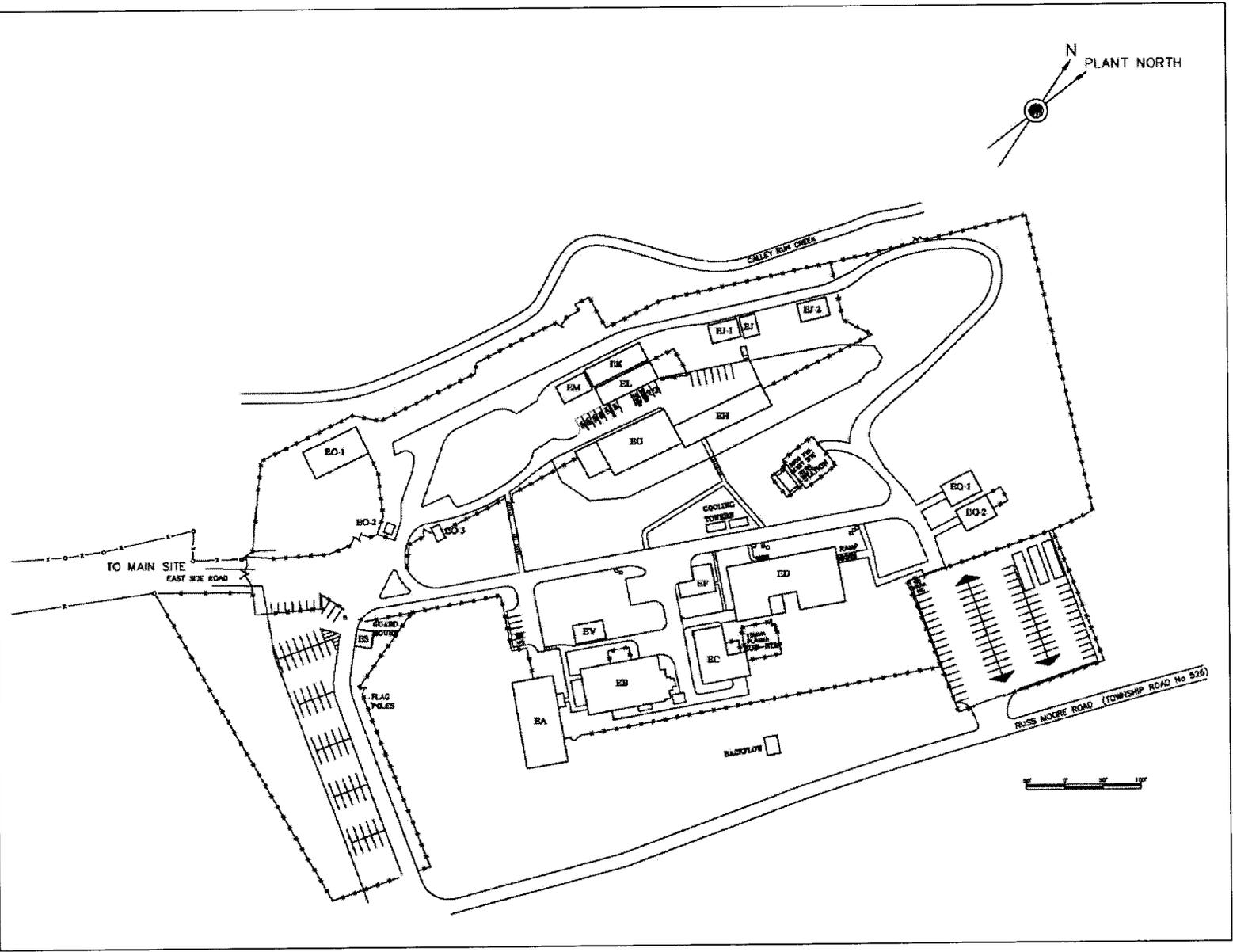


Figure 9.3-2 East Site Area and Boundaries and Building Locations

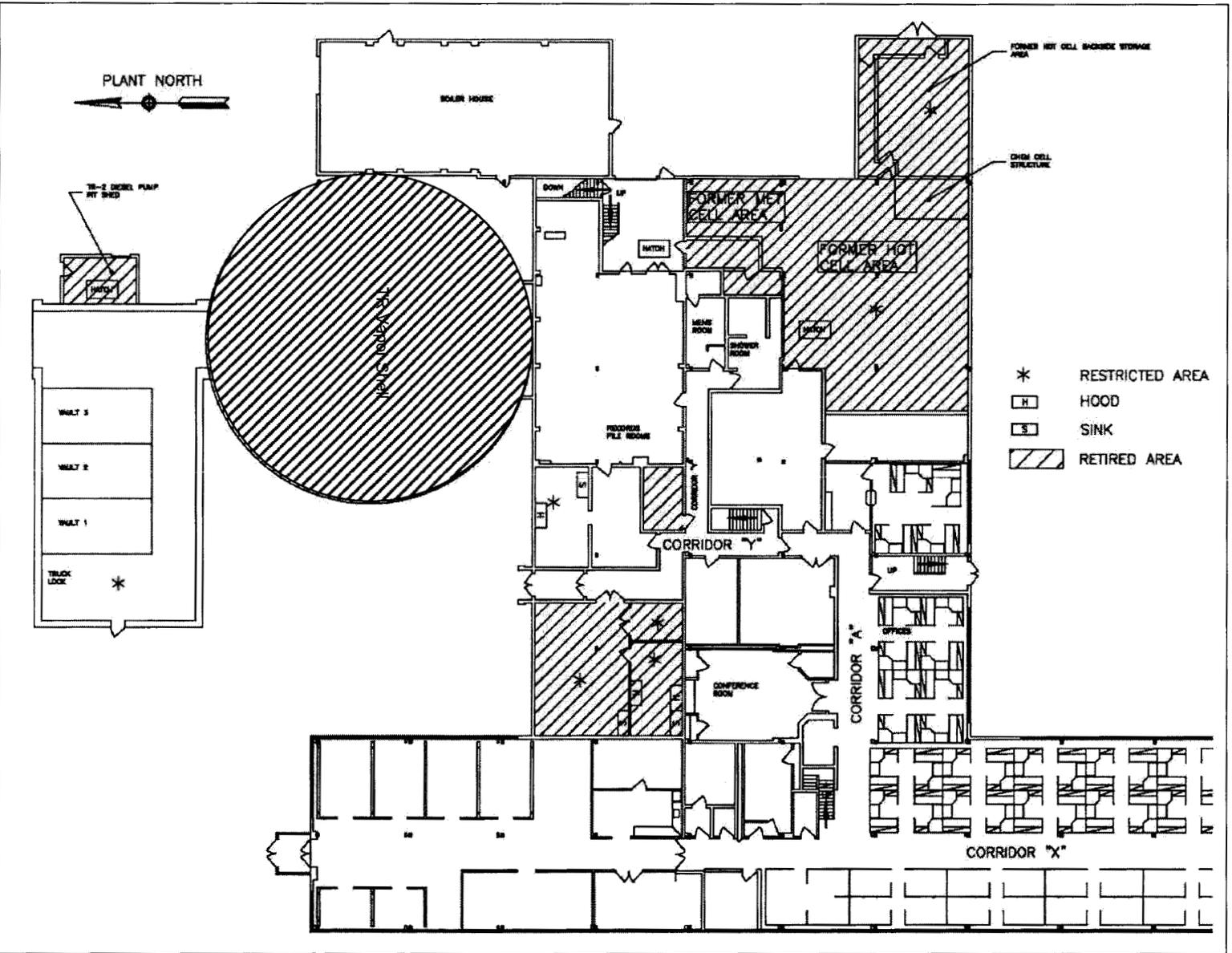


Figure 9.3.3-1 First Floor G Building North Wing, Test Reactor (TR), and Truck Lock

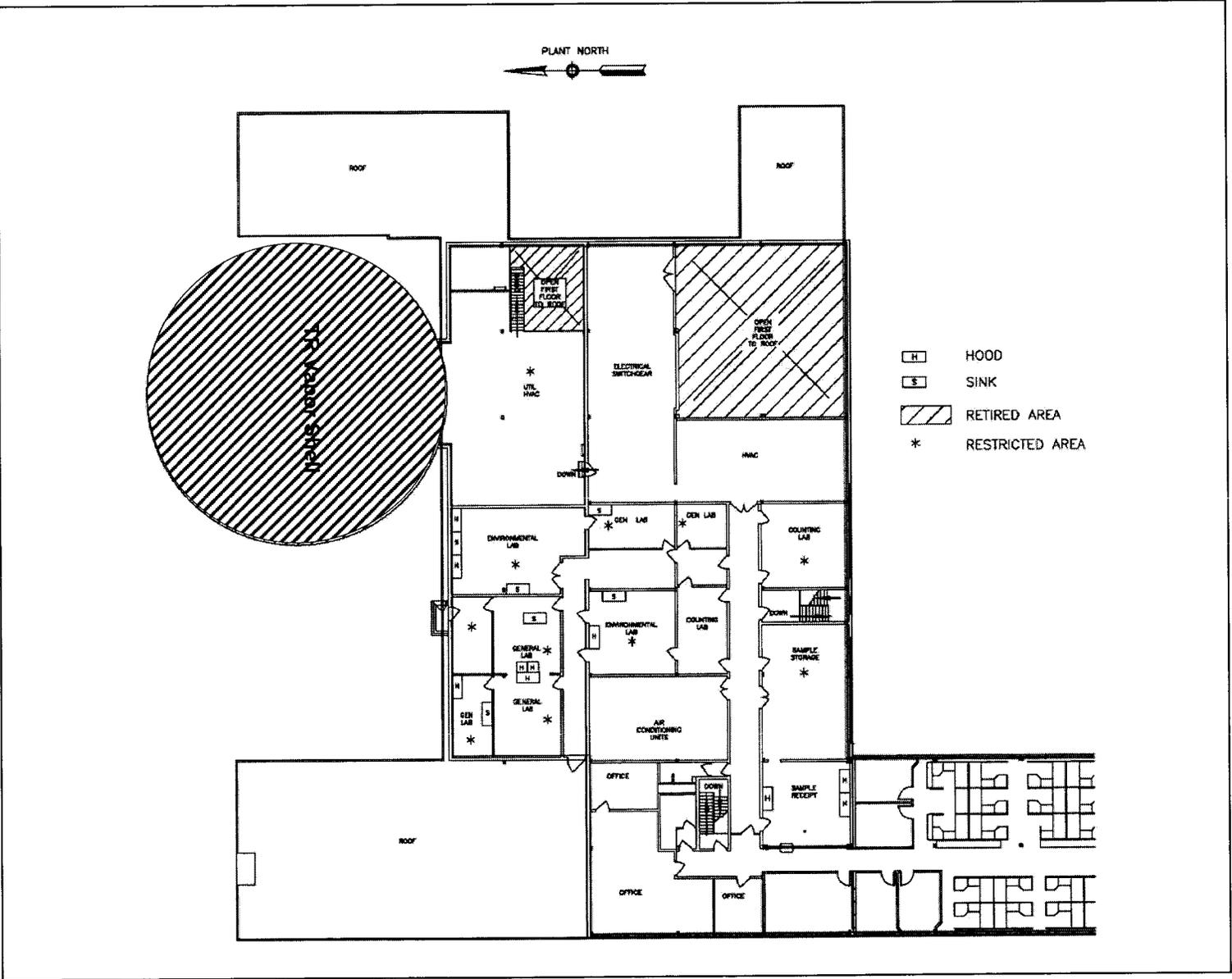


Figure 9.3.3-2 Analytical Laboratories – Second Floor G Building North Wing

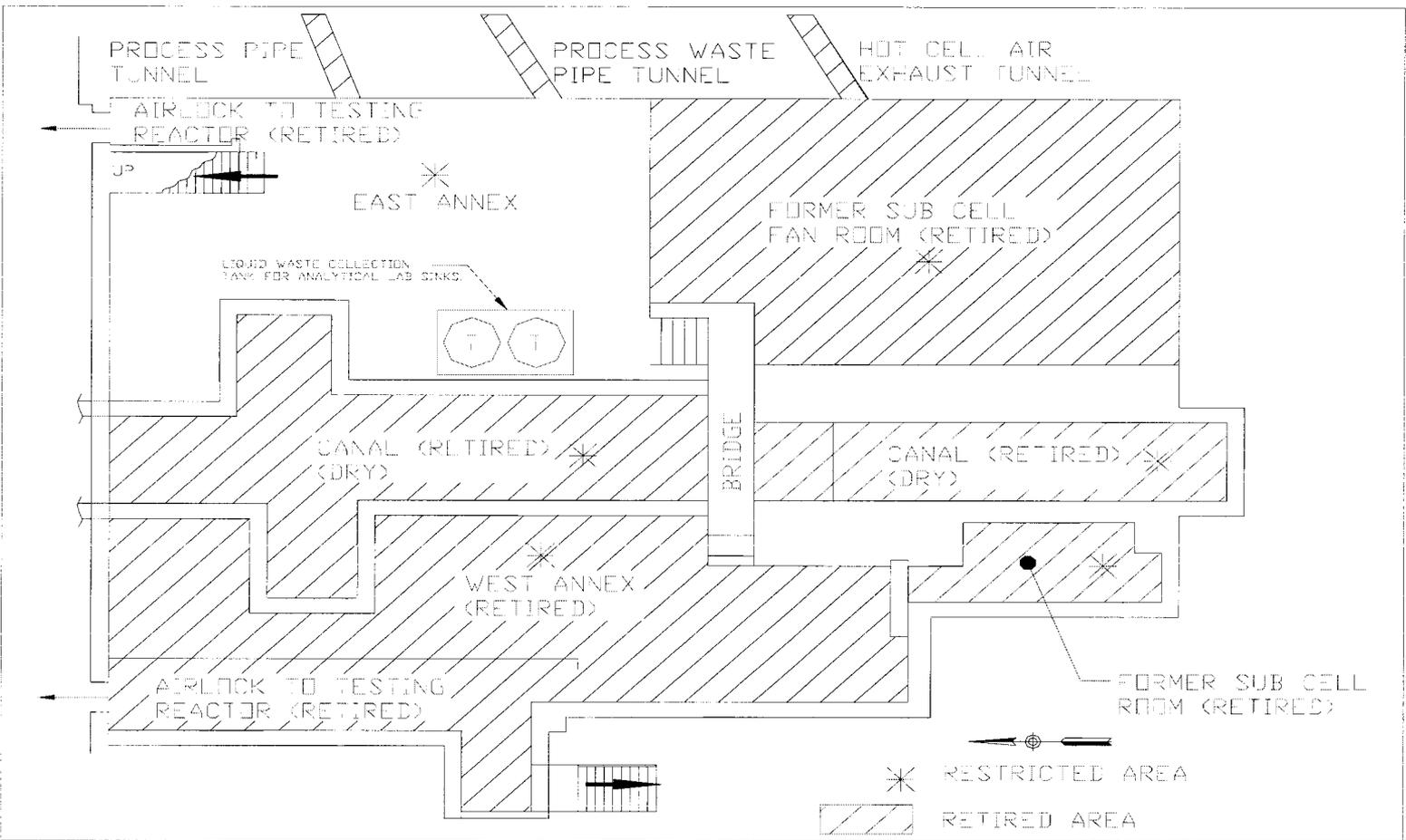


Figure 9.3.3-3 Annex and Retired Sub-Cell Areas - G Building

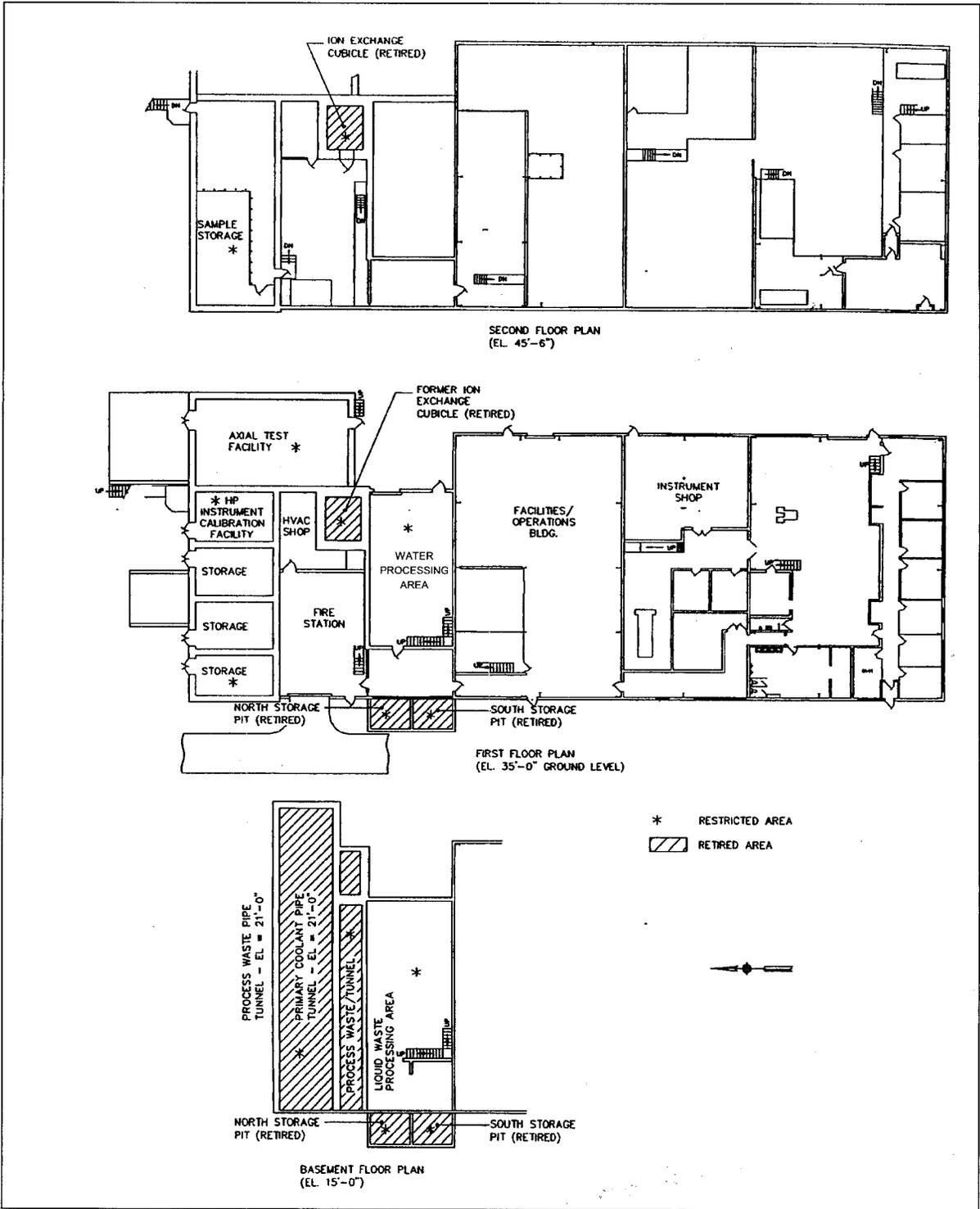


Figure 9.3.6-1 Facilities Operations Building



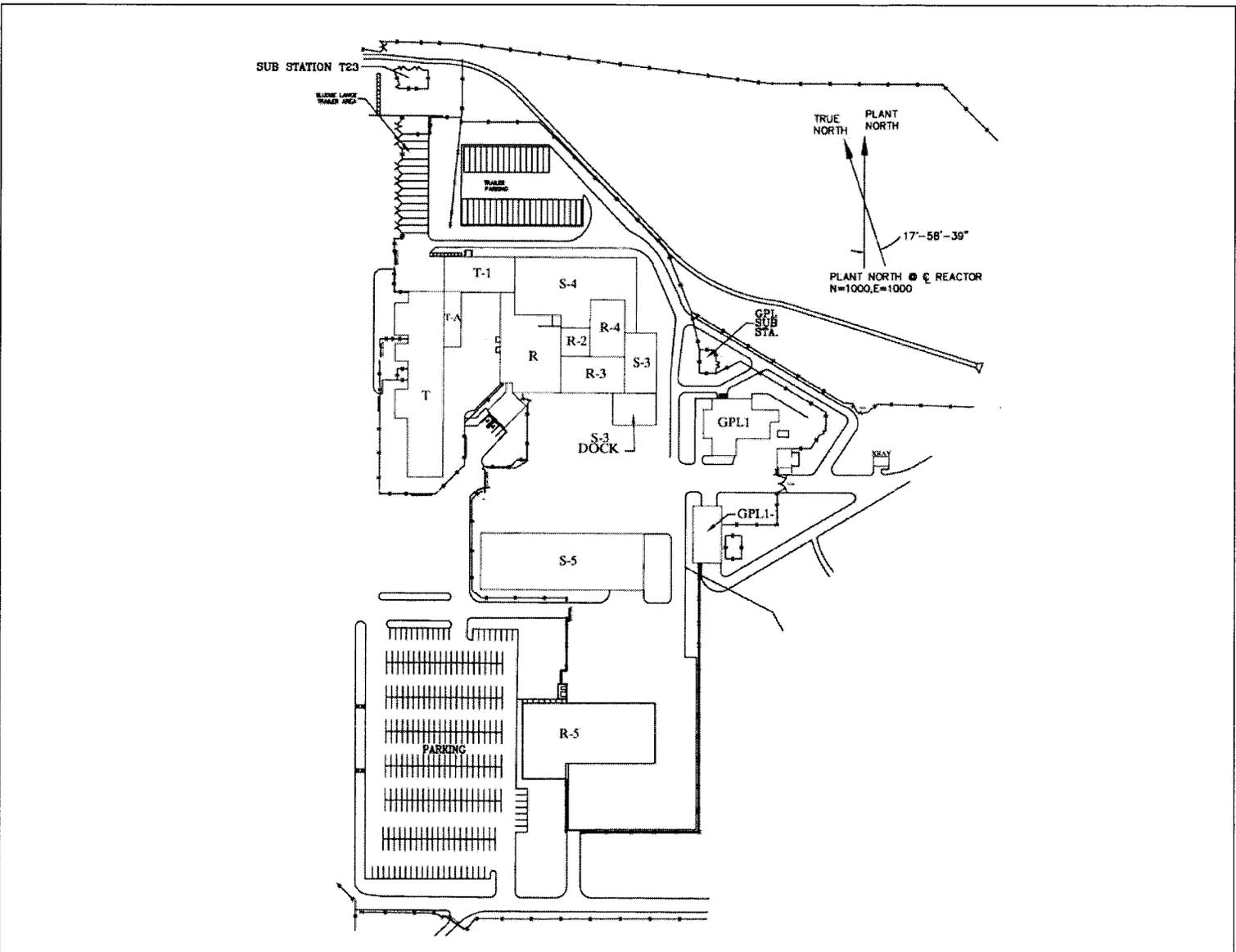


Figure 9.3.7-1 Service Center Facility

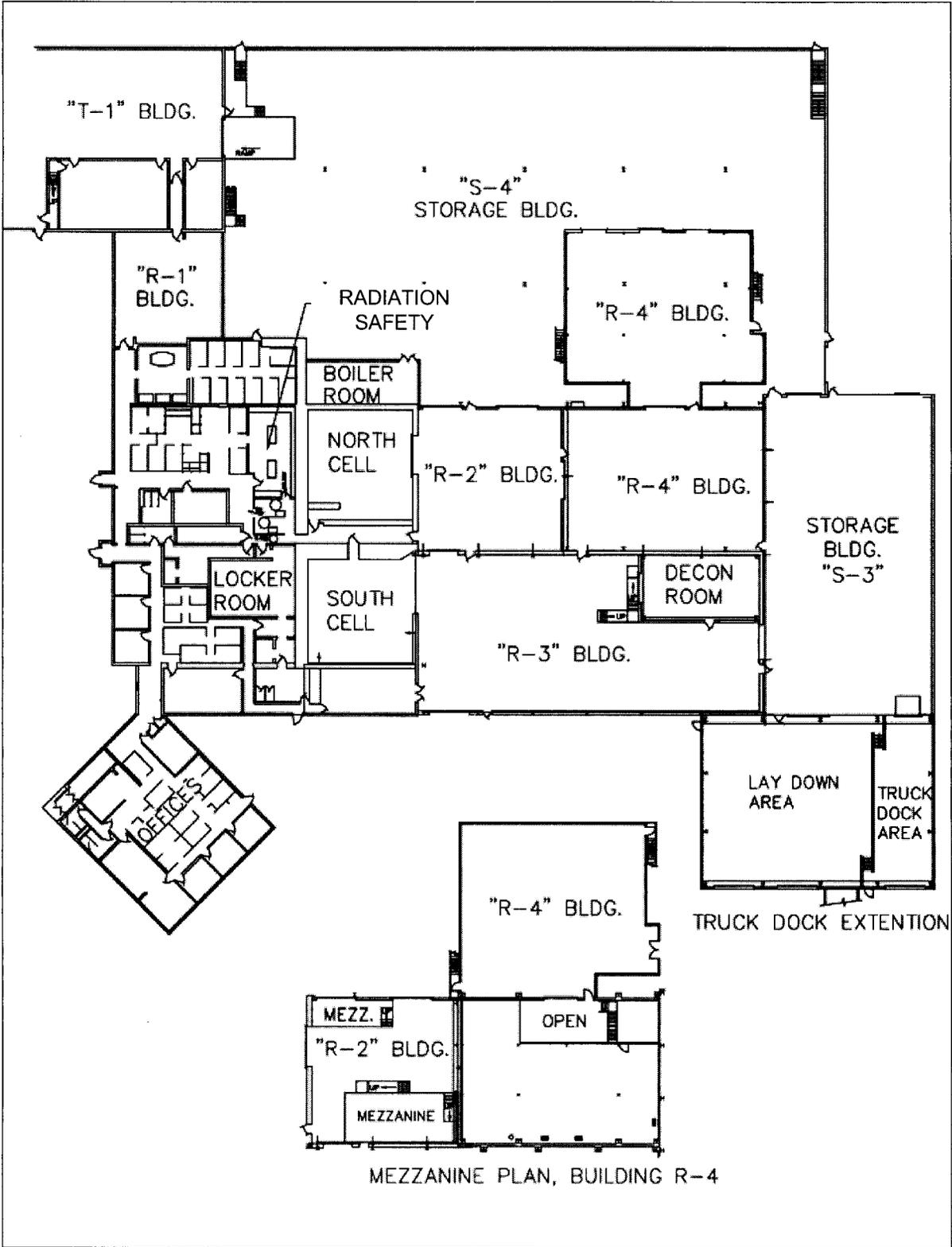


Figure 9.3.7-2 Service Center Floor Plan - R1, R2, R3, and R4 Buildings and S3 and S4 Buildings

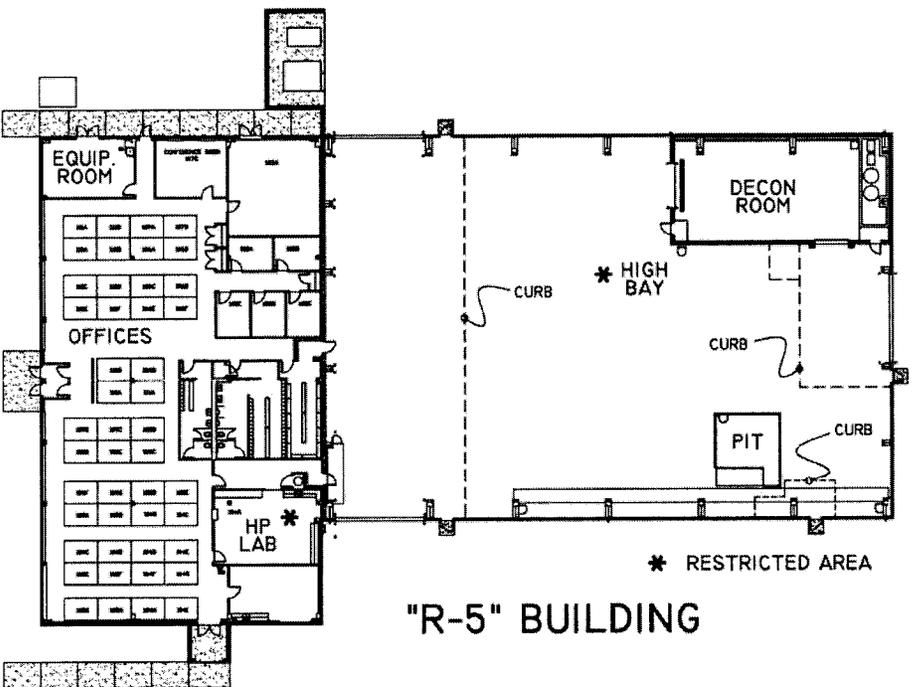


Figure 9.3.7-3 Service Center Floor Plan - R5 Building

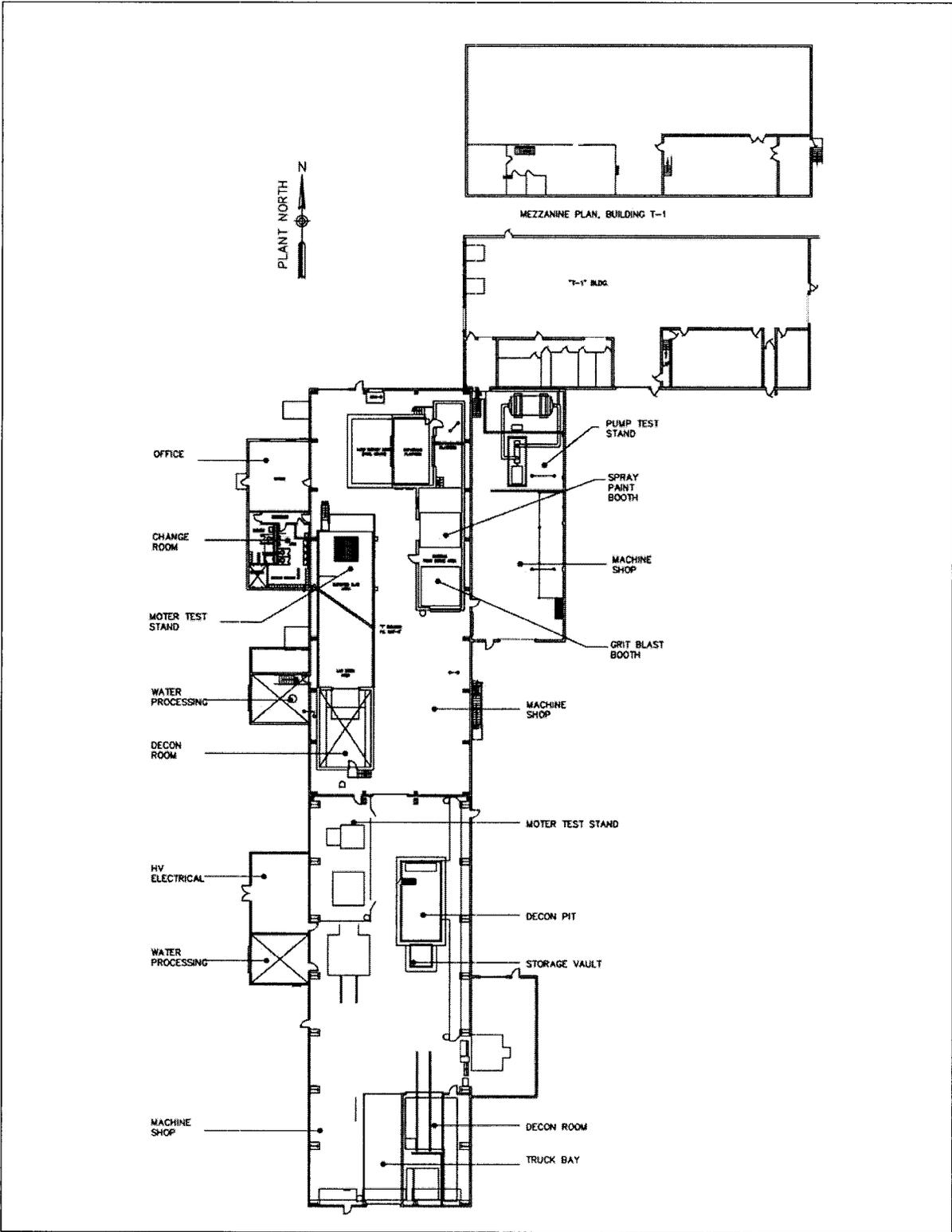
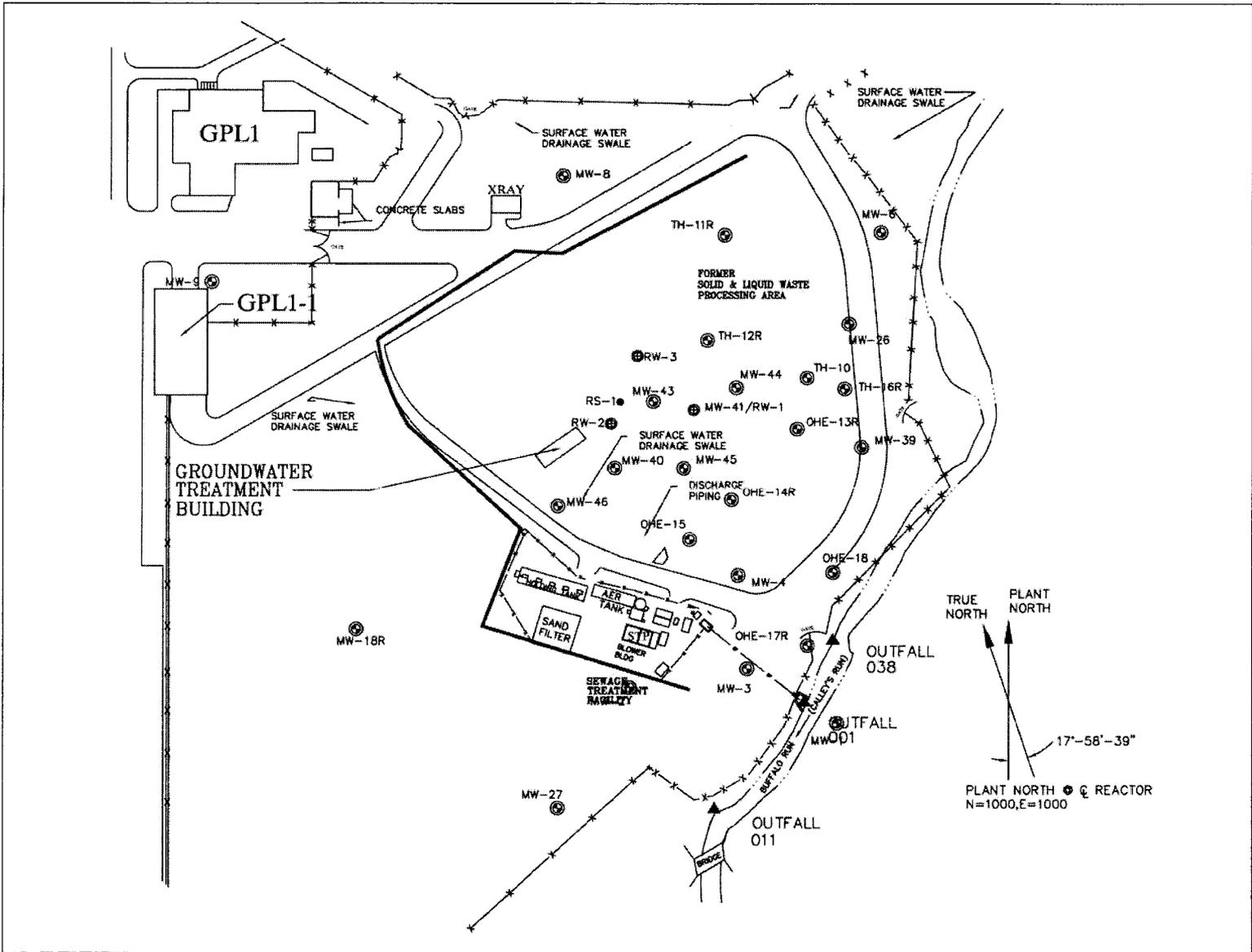


Figure 9.3.7-4 Service Center Floor Plan – T Buildings

Figure 9.3.8-1 Former Solid and Liquid Waste Processing Area



SNM-770

## ATTACHMENT 2

### Estimate of Radiological Inventory Associated with the Transfer of the Test Reactor Facilities to the SNM-770 License

#### **Background**

On March 17, 2006, the NRC provided both Westinghouse and CBS with a document entitled "Path Forward" that "addresses the steps necessary to complete the Decommissioning Plan and the transfer of materials to the SNM-770 License, and also addresses other areas of concern related to these two licenses." That document stated in part that:

"The Westinghouse application must include an estimate of the types and quantities of radioactive materials so that these quantities can be delineated in the amended SNM-770 License."

This document explains the method used to estimate the types and quantities of radioactive material associated with those facilities that are to be transferred to the SNM-770 License.

It is understood that the primary basis for this direction from the NRC is:

1. To determine whether the possession limits of the SNM-770 license need to be revised to accommodate the additional onsite radioactive material being transferred to the SNM-770 license that is associated with the Test Reactor (TR) facilities.<sup>1</sup>
2. To determine whether the quantity of fissile material associated with the TR facilities would establish new regulatory requirements for the SNM-770 license. (If the quantity of SNM exceeds certain quantities of fissile material, e.g., 10CFR150.11, additional regulatory requirements must be addressed.)

#### **Documents Utilized**

The as-left condition of these facilities has been documented in Work Packages that were compiled prior to the time the TR decommissioning effort was shut down near the end of 2001. Therefore, these Work Packages summarized the radiological condition of the facilities following remediation. No additional remediation effort has been undertaken for the TR facilities since that time. This analysis is based on the best available information. The only change that has occurred following the shutdown of the remediation effort would be the natural decay of the radioactive material. Such decay would not substantially affect the following analysis. These detailed Work Packages are

---

<sup>1</sup> However, the residual contamination associated with the TR Facilities would be covered by Item R in the Table of Possession Limits. Item R has no possession limits.

available at the site for inspection and will be retained as part of the decommissioning records.

### **Inventory of Radioactive Material Being Transferred**

The Work Packages document the average surface activity measured for various building segments within the TR facilities. These measured values provide the Total Surface Activity (TSA) for both alpha and beta activities (average and maximum values). The included sketches document the areas measured and the grid system employed for the detailed survey documents. On the average, each grid is about 1 square meter in size. Table 1 provides a summary of the calculated total beta surface activity determined by multiplying the average activity (dpm/100 cm<sup>2</sup>) times the number of grids (square meters).

Because of the inaccuracies associated with making alpha measurements on the rough surfaces associated with the remediated structures, only the beta activity has been summed in Table 1. The alpha activity inventory can be estimated by assumptions for the isotopic distribution of the radionuclide mixture as discussed later in this document.

The total beta activity is measured by a surface contact reading using a beta sensitive instrument and correcting for the detection efficiency. Experience has shown that the contamination present on the facility surfaces is deeper than would be accounted for by just a surface measurement. The total beta surface activity given in Table 1 (10.5 millicuries) must therefore be corrected by consideration of the following factors:

1. Increase due to the presence of alpha activity not accounted for by the beta measurements (Factor of 1.03 assumed). See the isotopic distribution in Table 2 for justification of this value.
2. Increase due to the deep penetration of the radioactive material into the depth of the structures by following cracks, etc. (Factor of 10 assumed). Measurements have been made for the "open and closed window" at various locations of the building surfaces. The bulk of the residual contamination is associated with the Diesel Pump pit walls. In this area, the ratio of open to closed window<sup>2</sup> readings is approximately 2 to 1 indicating that about 50% of the activity is from gamma emitters. This is consistent with the ratio of beta to gamma emitters based on the isotopic distribution in Table 2. The depth of the contamination has not been fully established but it is known that the contamination is not a surface effect, primarily for those surfaces that were wetted such as the Diesel Pump Pit and the Transfer Canal. A bounding estimate is that on the average all of the building surfaces are contaminated to an average depth of 2 inches. The primary gamma emitter is <sup>137</sup>Cs (Table 2) for which the "half-value thickness" for concrete is about 3 inches (thickness of concrete needed to reduce the gamma emission rate to one-half). It is conservatively assumed for bounding purposes that the survey instrument only can see about ¼ inch of concrete and the depth is uniformly contaminated (also conservative), the concentration of gamma emitters would be

---

<sup>2</sup> The open window measurement is sensitive to both beta and gamma emissions while the closed window measurement is sensitive only to the gamma emissions.

8 times higher (8 thicknesses of ¼ inch in 2 inches total). For bounding purposes, a factor of ten has been applied to the total activity to account for the concentration at depth in the building surfaces.

3. Increase due to the activity associated with pipes and ductworks that penetrated the structures and are not included in the documented measurements (Factor of 1.5 assumed). There are 743 penetrations (pipes, drain lines, and ductwork) that have been enumerated and may require further remediation. There is little information regarding the level of radioactivity on the internal surfaces of these penetrations. However, it is expected that the majority of them will meet the acceptance criteria without further remediation. In order to establish a bounding estimate it was assumed conservatively that the average length is 5 feet and the average inside diameter is 4 inches. This totals to about  $3.6 \times 10^6$  square centimeters, which is about 8% of the total area, associated with the building surfaces. Conservatively assuming that the contamination level inside the penetrations is the same average as the building surfaces, a factor of 1.08 could be used. This has been further increased to a factor of 1.5 to provide a bounding estimate.
4. Increase due to the presence of other structures and equipment not included in the Table 1 measurements (Factor of 1.1 assumed). Some of the Work Packages indicate that certain additional structures are present in addition to the building surfaces. In general, the contamination levels of such surfaces are lower than the building surfaces. Examples of such surfaces include the stairs and supporting structures in the containment building. The total area associated with such structures is a small fraction of the total surface area associated with the buildings. As a bounding estimate, a factor of 1.1 has been assigned to account for the radioactivity associated with these structures.

Each of the above-assumed factors was chosen to be reasonably conservative based on knowledge of the facilities. When the four factors are accounted for the corrected estimate becomes 180 millicuries of total radioactive material inventory associated with the TR structures to be transferred to the SNM-770 license.

### **Radionuclide Distribution of the Radioactive Material**

The radionuclide distribution of the material on the as-left surfaces can be estimated based on characterization samples collected prior to the remediation effort. Table 2 provides the analytical results for the TR West Primary Coolant Tunnel sludge sample, which indicates that the alpha activity is only about 2.8% of the total. This sample is considered reasonably representative of the mixture of radionuclides present on the remaining structures. Most of the activity (nearly 90%) is associated with the Diesel Pump Pit surfaces, which were directly connected to the Primary Coolant tunnel and the Transfer Canal. Another sample result is available for Transfer Canal sludge, which has a much higher fraction of alpha contaminants. However, this result is not considered representative since it is believed that that sludge is more associated with Hot Cell operations that occurred after the TR facilities were isolated from the Annex side facilities.

### **SNM Content of the Materials Being Transferred**

The analytical results in Table 2 indicate the presence of fissile plutonium ( $^{239}\text{Pu}$  and  $^{241}\text{Pu}$ ) but that  $^{235}\text{U}$  was not detected. Based on these results the plutonium mass content of the total radionuclide material being transferred is about 41 milligrams. Although  $^{235}\text{U}$  was not detected, the  $^{235}\text{U}$  mass can be bounded. The typical analytical minimum detectable activity (MDA) by alpha spectrometry for the sludge sample would be approximately 0.1 to 0.5 pCi/g for  $^{235}\text{U}$  (MARSSIM, Table 7.3). The total activity for the sludge sample was 2,065 pCi/g so the maximum activity fraction for the  $^{235}\text{U}$  is  $0.5/2,065$  or  $2.4 \times 10^{-4}$ . For a total activity of 180 millicuries, the  $^{235}\text{U}$  content would be 0.043 millicuries or 20 grams  $^{235}\text{U}$ . As a bounding estimate, this value is considered high but in any case would only exist in a diffuse form and would not result in any additional regulatory requirements for the license.

### **Conclusions**

The total activity associated with the TR facilities being transferred to the SNM-770 License is estimated to be 180 millicuries. Therefore, it is a small fraction of the current possession limits for the license and no change is required.

The SNM content of the transferred material is insignificant and will not impact the current regulatory requirements for the license.

**TR Radioactive Material Inventory**

Area Designation	Number Of Grids	Area sq cm	Average Beta dpm/100 cm <sup>2</sup>	Total Beta	
				pCi	% Contribution
Floors and Walls	61	610,000	37,623	1E+08	0.99%
Ceilings	9	90,000	24,350	2E+07	0.17%
TR Transfer Canal					
Floor	44	440,000	28,791	6E+07	0.55%
North Wall	12	120,000	9,100	5E+06	0.05%
South Wall	15	150,000	3,967	3E+06	0.03%
East Wall	102	1,020,000	21,454	1E+08	0.95%
West Wall	114	1,140,000	23,293	1E+08	1.15%
Headers	13	130,000	61,596	4E+07	0.35%
TR Containment Building - 16' to 36' Elevations					
16' Floor					
Floors	408	4,080,000	3,716	7E+07	0.66%
Parapet Walls	27	270,000	32,071	5E+07	0.43%
16' Walls and Ceilings					
Walls	367	3,670,000	1,112	2E+07	0.18%
Ceilings	530	5,300,000	401	1E+07	0.09%
32' Floor					
32' Walls	112	1,120,000	630	3E+06	0.03%
32' Walls					
356	3,560,000	119	2E+06	0.02%	
36' Floor					
60	600,000	517	1E+06	0.01%	
TR Containment Vapor Shell and Polar Crane					
Concrete ledge and walls to 2 meters	199	1,990,000	560	5E+06	0.05%
North and West Chemistry Test Loop Cubicles					
North Floors	12	120,000	207	1E+05	0.00%
North Walls	126	1,260,000	505	3E+06	0.03%
South Floors	12	120,000	72	4E+04	0.00%
South Walls	145	1,450,000	270	2E+06	0.02%
TR Sub-Pile Room					

**TABLE 2 – Radionuclide Distribution**

<b>West Primary Coolant Tunnel Sludge Sample</b>		
<b>Radionuclide</b>	<b>Sample Activity pCi/g</b>	<b>Relative Fraction (f)</b>
Ag-108m	0.712	0.0003
Am-241	2.16	0.001
Bi-214	1.05	0.001
Cm-242	7	0.003
Cm-243/244	11	0.005
Co-60	7.85	0.004
Cs-137	1260	0.610
Fe-55	24	0.012
I-129	35	0.017
Ni-63	397	0.192
Pu-238	9.39	0.005
Pu-239/240	28.8	0.014
Pu-241	9.43	0.005
Sr-90	141	0.068
Tc-99	131	0.063
Total Alpha activity (%)	2.8%	
Total Beta activity (%)	97.2%	

ATTACHMENT 3

SNM-770 Retired Facilities and TR Facilities Decommissioning Cost Estimate Summary Table

WBS #	Task Identification	Labor	Travel & Living	Equipment	Materials	Subcontracts	Waste Disposal	Total
1.1.1	D&D Pre-Planning	\$ 151,195.20	\$ 3,375.00	\$ -	\$ 1,600.00	\$ -	\$ -	\$ 156,170.20
1.2.1	Pre-Mobilization	\$ 288,169.60	\$ 10,125.00	\$ -	\$ -	\$ -	\$ -	\$ 298,294.60
1.2.2	Mobilization	\$ 145,757.00	\$ 61,512.50	\$ 11,923.42	\$ 13,214.65	\$ 29,351.57	\$ -	\$ 261,759.15
1.2.3	Preparatory	\$ 437,271.00	\$38,587.50	\$ 35,770.27	\$ 57,643.96	\$ 238,504.72	\$ 41,384.00	\$ 849,161.45
1.4.1.1.1	Hot Cell Slab	\$ 134,123.00	\$ 14,437.50	\$ 36,511.43	\$ 14,832.77	\$ 264,945.64	\$ 119,350.00	\$ 584,200.35
1.4.1.1.2	Chem Cell	\$ 9,754.40	\$ 1,050.00	\$ 973.34	\$ 9,578.75	\$ 2,396.05	\$ 49,910.00	\$ 73,662.53
1.4.1.1.3	HCLA	\$ 34,140.40	\$ 3,675.00	\$ 11,666.69	\$ 3,775.61	\$ 26,386.16	\$ 93,310.00	\$ 172,953.87
1.4.1.1.4	Met Lab	\$ 24,386.00	\$ 2,625.00	\$ 5,045.35	\$ 6,946.87	\$ 5,990.12	\$ 15,654.80	\$ 60,648.14
1.4.1.1.5	Pre-Demo Activities	\$ 48,772.00	\$ 5,250.00	\$ 324,866.70	\$ 5,393.74	\$ 189,980.23	\$ -	\$ 574,262.67
1.4.1.1.6	Demolition >32' Elev.	\$ 48,772.00	\$ 5,250.00	\$ 4,866.70	\$ 5,393.74	\$ 288,680.23	\$ 26,700.00	\$ 379,662.67
1.4.1.1.7	Remove Floors 32' Elev.	\$ 43,894.80	\$ 4,725.00	\$ 47,332.03	\$ 4,854.36	\$ 46,782.21	\$ 281,018.00	\$ 428,606.41
1.4.1.2.1	Sub Cell Fan Room	\$ 53,649.20	\$ 5,775.00	\$ 56,565.37	\$ 5,933.11	\$ 65,178.26	\$ 577,990.00	\$ 765,090.94
1.4.1.2.2	Sub Cell Room	\$ 19,508.80	\$ 2,100.00	\$ 16,814.68	\$ 2,157.49	\$ 63,317.09	\$ 168,140.00	\$ 272,038.07
1.4.1.2.3	West Annex	\$ 60,965.00	\$ 6,562.50	\$ 65,555.38	\$ 6,742.17	\$ 64,975.29	\$ 678,440.00	\$ 883,240.34
1.4.1.2.4	Transfer Canal - G-Bldg.	\$ 112,175.60	\$ 12,075.00	\$ 159,873.42	\$ 12,405.59	\$ 149,234.54	\$ 862,120.00	\$ 1,307,884.15
1.4.1.2.5	East Annex	\$ 29,263.20	\$ 3,150.00	\$ 39,264.02	\$ 3,236.24	\$ 7,188.14	\$ 403,620.00	\$ 485,721.60
1.4.2.1	Process Waste Tunnel	\$ 85,351.00	\$ 9,187.50	\$ 8,516.73	\$ 11,139.04	\$ 20,965.41	\$ 5,670.00	\$ 140,829.68
1.4.2.2	Service Tunnel	\$ 97,544.00	\$ 10,500.00	\$ 9,733.41	\$ 15,037.47	\$ 23,960.47	\$ 32,550.00	\$ 189,325.35
1.4.2.3	West Annex Utility Tunnel	\$ 146,316.00	\$ 15,750.00	\$ 19,220.11	\$ 32,467.21	\$ 85,440.70	\$ 151,040.00	\$ 450,234.02
1.4.2.4	Head Tank Tunnel	\$ 36,579.00	\$ 3,937.50	\$ 3,650.03	\$ 4,895.30	\$ 8,985.18	\$ 6,090.00	\$ 64,137.00
1.4.3.1	PDL - Surge Tank to MH-1	\$ 48,772.00	\$ 5,250.00	\$ 22,018.70	\$ 10,468.74	\$ 76,336.23	\$ 74,365.00	\$ 237,210.67
1.4.3.2	PDL - MH-1 to MH-2	\$ 73,158.00	\$ 7,875.00	\$ 60,156.05	\$ 25,938.60	\$ 116,582.35	\$ 159,042.50	\$ 442,752.51
1.4.3.3	PDL - G-Bldg. SCFR to MH-2	\$ 60,965.00	\$ 6,562.50	\$ 49,022.38	\$ 20,537.17	\$ 96,459.29	\$ 24,565.35	\$ 258,111.69
1.4.3.4	PDL - MH-2 to MH-3	\$ 73,158.00	\$ 7,875.00	\$ 46,099.05	\$ 33,204.60	\$ 109,354.35	\$ 173,384.80	\$ 443,075.81
1.4.3.5	PDL - MH-3 to MH-6	\$ 121,930.00	\$ 13,125.00	\$ 68,872.76	\$ 32,191.34	\$ 160,934.59	\$ 273,960.00	\$ 671,013.68
1.4.3.6	PDL - MH-6 to Stand Pipe	\$ 60,965.00	\$ 6,562.50	\$ 39,557.38	\$ 17,862.17	\$ 89,231.29	\$ 84,110.00	\$ 298,288.34
1.4.4.1	Ion Exchange Cubicle	\$ 7,315.80	\$ 787.50	\$ 730.01	\$ 809.06	\$ 1,797.04	\$ 800.80	\$ 12,240.20
1.4.4.2	N&S Storage Pits	\$ 60,965.00	\$ 6,562.50	\$ 30,863.38	\$ 18,406.17	\$ 136,995.29	\$ 352,170.00	\$ 605,962.34
1.4.4.3	Hot Cell Vent Stack Base	\$ 46,333.40	\$ 4,987.50	\$ 146,118.37	\$ 13,902.05	\$ 49,001.22	\$ 66,596.25	\$ 326,938.79
1.4.4.4	FLLWP	\$ 48,772.00	\$ 5,250.00	\$ 236,146.70	\$ 62,718.74	\$ 51,580.23	\$ 1,515,525.00	\$ 1,919,992.67
1.4.4.5	Groundwater Pump & Treat Facility	\$ 9,754.40	\$ -	\$ -	\$ -	\$ -	\$ 5,215.00	\$ 14,969.40
1.4.5.1	Hot Cell Vent Stack Soil	\$ 9,754.40	\$ 1,050.00	\$ 2,625.34	\$ 2,622.75	\$ 10,316.05	\$ 21,700.00	\$ 48,068.53
1.4.5.2	N&S Storage Pits Soil	\$ 7,315.80	\$ 787.50	\$ 2,382.01	\$ 1,594.06	\$ 7,737.04	\$ 11,200.00	\$ 31,016.40
1.4.5.3	G-Bldg. Area Soil	\$ 19,508.80	\$ 2,100.00	\$ 5,250.68	\$ 4,944.49	\$ 20,632.09	\$ 50,750.00	\$ 103,186.07
1.4.5.4	Works Eng. Bldg. Soil	\$ 29,263.20	\$ 3,150.00	\$ 17,788.02	\$ 17,710.24	\$ 30,948.14	\$ 232,750.00	\$ 331,609.60
1.4.5.5	T-Bldg. Yard Soil	\$ 26,824.60	\$ 2,887.50	\$ 14,240.69	\$ 13,324.55	\$ 28,369.13	\$ 171,500.00	\$ 257,146.47
1.4.5.6	MH-6 Soil	\$ 24,386.00	\$ 2,625.00	\$ 28,865.35	\$ 31,731.87	\$ 50,546.12	\$ 243,502.00	\$ 381,656.34
1.4.5.7	FSLWPA (Cost in FSS)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.4.5.8	WTR Basin 1 Area (Cost in FSS)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.4.5.9	WTR Basin 2 Area (Cost in FSS)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.4.5.10	WTR Basin 3 Area (Cost in FSS)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.5.1.1	Vapor Shell Pre-Demo Activities	\$ 182,895.00	\$ 19,687.50	\$ 18,250.14	\$ 20,226.51	\$ 599,925.88	\$ 64,470.00	\$ 905,455.02

ATTACHMENT 3

SNM-770 Retired Facilities and TR Facilities Decommissioning Cost Estimate Summary Table

WBS #	Task Identification	Labor	Travel & Living	Equipment	Materials	Subcontracts	Waste Disposal	Total
1.5.1.2	Vapor Shell Demolition	\$ 73,158.00	\$ 7,875.00	\$ 62,800.05	\$ 8,090.60	\$ 176,521.35	\$ 8,425.00	\$ 336,870.01
1.5.1.3	Truck Lock Demolition	\$ 43,894.80	\$ 4,725.00	\$ 35,768.03	\$ 4,854.36	\$ 56,782.21	\$ 397,734.00	\$ 543,758.41
1.5.1.4	Bioshield Removal	\$ 134,123.00	\$ 14,437.50	\$ 342,951.43	\$ 17,232.77	\$ 231,995.64	\$ 825,454.00	\$ 1,566,194.35
1.5.1.5	Chem Test Loop Cubicles	\$ 43,894.80	\$ 4,725.00	\$ 27,508.03	\$ 4,854.36	\$ 97,782.21	\$ 266,700.00	\$ 445,464.41
1.5.1.6	Rabbit Pump Room	\$ 17,070.20	\$ 1,837.50	\$ 1,703.35	\$ 6,137.81	\$ 18,193.08	\$ 32,396.00	\$ 77,337.94
1.5.1.7	Transfer Canal	\$ 97,544.00	\$ 10,500.00	\$ 93,985.41	\$ 10,787.47	\$ 97,460.47	\$ 718,440.00	\$ 1,028,717.35
1.5.1.8	Test Loop Dump Tank Pit	\$ 51,210.60	\$ 5,512.50	\$ 24,934.04	\$ 10,694.42	\$ 59,579.25	\$ 335,258.00	\$ 487,188.81
1.5.1.9	Diesel Pump Pit	\$ 56,087.80	\$ 6,037.50	\$ 23,768.71	\$ 25,978.80	\$ 117,567.27	\$ 414,820.00	\$ 644,260.07
1.5.2.1	Primary Coolant Tunnel	\$ 243,860.00	\$ 26,250.00	\$ 24,333.52	\$ 38,018.68	\$ 59,901.17	\$ 40,110.00	\$ 432,473.36
1.5.2.2	Top Test Loop Tunnels	\$ 134,123.00	\$ 14,437.50	\$ 13,383.43	\$ 15,682.77	\$ 32,945.64	\$ 7,210.00	\$ 217,782.35
1.5.3	Containment Construction	\$ 97,544.00	\$ 10,500.00	\$ 9,733.41	\$ 10,787.47	\$ 887,960.47	\$ -	\$ 1,016,525.35
1.6.1	Final Status Survey	\$ 497,698.80	\$ 48,825.00	\$ 45,260.34	\$ 50,161.74	\$ 146,416.18	\$ 14,000.00	\$ 802,362.06
1.6.2	Site Restoration	\$ 18,560.00	\$ 2,100.00	\$ 1,946.68	\$ 2,157.49	\$ 4,792.09	\$ -	\$ 29,556.27
1.6.3	Demobilization	\$ 145,757.00	\$ 12,862.50	\$ 11,923.42	\$ 13,214.65	\$ 29,351.57	\$ -	\$ 213,109.15
1.6.4	License Termination	\$ 72,204.00	\$ 5,906.25	\$ -	\$ -	\$ 50,000.00	\$ -	\$ 128,110.25
1.6.5	Final Report	\$ 81,440.00	\$ 6,675.00	\$ -	\$ -	\$ -	\$ -	\$ 88,115.00
1.7	Project Management	\$ 4,517,821.44	\$ 952,630.00	\$ 323,772.04	\$ 358,834.43	\$ 984,521.02	\$ -	\$ 7,137,578.93
<b>Sub-Total</b>		<b>\$ 9,245,615.04</b>	<b>\$ 1,452,611.25</b>	<b>\$ 2,690,908.00</b>	<b>\$ 1,122,929.00</b>	<b>\$ 6,270,778.00</b>	<b>\$ 10,099,140.50</b>	<b>\$ 30,881,981.79</b>
<b>Total Fully Burdened Costs</b>		<b>\$ 9,245,615.04</b>	<b>\$ 1,452,611.25</b>	<b>\$ 2,690,908.00</b>	<b>\$ 1,122,929.00</b>	<b>\$ 6,270,778.00</b>	<b>\$ 10,099,140.50</b>	<b>\$ 30,881,981.79</b>

<b>COST: \$30,881,982</b>
<b>CONTINGENCY (25%): \$7,720,495</b>
<b>TOTAL COST: \$38,602,477</b>

**ATTACHMENT 4**

**AMENDMENT NO. 11 TO  
STANDBY TRUST AGREEMENT**

**The STANDBY TRUST AGREEMENT** (the "Agreement") originally made and entered into as of the 12<sup>th</sup> day of March 1999 by and between Westinghouse Electric Company LLC, a Delaware Limited Liability Company (herein referred to as the "Grantor") and J. P. Morgan Trust Company, National Association, organized and existing under the laws of the United States of America (the "Trustee") as previously amended is hereby further amended by this Amendment No. 11 to the Agreement as follows:

- 1) The existing Schedule B submitted with the Agreement as previously amended is replaced with the Schedule B attached to this Amendment No. 11.
- 2) Except as set forth herein, the Agreement shall remain in full force and effect.

**IN WITNESS WHEREOF**, the parties have caused this Amendment No. 11 to the Standby Trust Agreement to be executed by their respective officers duly authorized and the corporate or company seals to be hereto affixed and attested as of this \_\_\_ day of \_\_\_\_\_, 2008.

**ATTEST:** **WESTINGHOUSE ELECTRIC COMPANY LLC**

\_\_\_\_\_  
By: \_\_\_\_\_  
Name: Kazumasa Z. Uchida  
Title: Chief Financial Officer

**ATTEST:** **J. P. MORGAN TRUST COMPANY,  
NATIONAL ASSOCIATION**

\_\_\_\_\_  
By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**AGREED TO AND ACCEPTED:**

**UNITED STATES NUCLEAR  
REGULATORY COMMISSION**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**SCHEDULE B TO STANDBY TRUST AGREEMENT**  
**(ADDED BY AMENDMENT NO. 11)**

**LISTING OF LETTERS OF CREDIT**

<u>Letter of Credit No.</u>	<u>Issuing Institution of Irrevocable Letter of Credit*</u>	<u>Amount and License Number</u>
██████████	Bank One, NA Global Trade Services One Bank One Plaza Mail Code IL1-0236 Chicago, IL 60670	\$58,839,000.00 No. SNM-33
██████████	Bank One, NA Global Trade Services Mail Code IL1-0236 Chicago, IL 60670	\$81,346,000.00 No. SNM-1107
██████████	Bank One, NA Global Trade Services Mail Code IL1-0236 Chicago, IL 60670	\$69,181,000.00 No. SNM-770
██████████	Bank One, NA Global Trade Services Mail Code IL1-0236 Chicago, IL 60670	\$5,879,000.00 No. SNM-1460
TOTAL		\$215,245,000.00

\*Beneficiary of Letter of Credit is NRC

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

12/6/2007, and to inform you that the initial processing which includes an administrative review has been performed.

ATTEND. SUM-770  
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** 141403.  
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 (R1)  
(6-96)

Sincerely,  
Licensing Assistance Team Leader