INTERSTATE NUCLEAR SERVICES
A SUBSIDIARY OF UNIFIRST CORPORATION

September 6, 1994

030-04632

Mr. Steven Courtemanche
Industrial Applications Section
Division of Radiation Safety and Safeguards
U.S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406-1415

RE: Information requested for Radioactive Materials License Number: 20/03529/01

Mr. Courtemanche:

On August 31, 1994, you called and talked with Mik Bovino regarding two questions/concerns associated with our license renewal. Your concerns were; 1) cameras used for container inspections, and 2) the grams of Plutonium and U-235. Attached are the updated pages which reflect the changes discussed over the telephone.

Please call me if there is anything I can do to expedite your review and the pending license renewal.

Sincerely,

Kent Anderson

Kent Anderson, Health Physicist
Interstate Nuclear Services Corp.

cc: D. Barrow
J. Badey
M. Bovino
file

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Item 19

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Item 5 - Radioactive Material

	Radioactive Material	Physical Form	Possession Limit
5.1	Any radioactive material	Contaminated garments and other launderable items, equipment, machinery, protective devices and associated decontamination wastes. Miscellaneous Exempt Radiation Standards (MRSs) from the National Institute of Standards & Technology.	11 Curies
5.2	Any Source material	" "	10 kilograms
5.3	Any Special Nuclear Material	" "	350 grams as U-235, 20 grams as Plutonium
5.4	Any radioactive material atomic number 84 - 102 except SNM.	" "	10 millicuries

Item 6 - Purpose(s) For Use

The radioactive materials listed in 5.1, 5.2, 5.3 and 5.4 are in the form of: (1) Contaminated garments, plastics, PVC and other launderable items; (2) contamination on INS' equipment, machinery, protective devices; (3) resulting decontamination wastes; and (4) exempt sources used for instrument calibration. Operations include the transportation of contaminated articles, decontamination by laundry, or other industrial cleaning processes, and testing and monitoring of items.

Individuals Responsible for Radiation Safety Program[1]

David Barrow, Plant Manager/RSO
Grace Bowen, Assistant Plant Manager/Alt. RSO
Paul Kistner, Production Supervisor
Philip Rumian, Production Supervisor
George J. Bakevich, General Manager
John Badey, Eastern Operations Manager
Michael J. Bovino, Manager, Health Physics and Engineering
Leslie B. Case, Corporate Engineer
Kent Anderson, Health Physicist/Alternate RSO
Michael R. Fuller, Radiation Protection Engineer/Alternate RSO

Licensed material shall be used by, or under the supervision of, David Barrow, Grace Bowen, Paul Kistner, Philip Rumian, George Bakevich, Michael Bovino, Kent Anderson, or Michael Fuller.

The Radiation Safety Officer is David Barrow.

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[1] See Appendix E for Training and Responsibilities of the individuals listed.

APPENDIX I

Extended Interim Storage of Low-Level Radioactive Waste

A. General

The Low-Level Radioactive Waste Policy Amendments Act of 1985 (LLRWPAA) established a series of milestones, penalties and incentives to ensure that States or Regional Compacts make adequate progress toward being able to manage their Low Level Waste (LLW) by 1993. As of July, 1994, milestones had not been met by the State of Massachusetts and out of state LLW burial was suspended. Because no off-site options are available for storage or disposal, Interstate Nuclear Services (INS) Springfield plant, must take action to comply with the Extended Interim Storage of Low-Level Radioactive Waste guidelines as outlined in the NRC Information Notice 90-09. This appendix outlines the actions INS will take to comply with those provisions to allow for a suggested five year storage period.

B. Provisions

1.0) Identification of Waste to be Stored

1.1) To allow for a five year storage period, the on-site activity limit will be increased to 11 Curies.

1.2) The estimated amount of LLW to be stored in a 5 year period is outlined below.

1.2.1) Pre-Processing Volume: 7500 cubic feet

1.2.2) Post-Processing Volume: 1500 cubic feet

1.2.3) Total Activity: 7.5 Curies

1.2.4) Expected Nuclide Distribution:

52%	Co-60	0.2%	Co-58
6.8%	Cs-137	0.6%	Cs-134
2.4%	Mn-54	0.4%	Cr-51
16%	Fe-55	4.4%	C-14
4.3%	H-3	0.7%	Sr-90
7.1%	Zn-65	2.0%	Tc-99
3.1%	All others		

1.3) The characterization of the LLW to be stored in a 5 year period is outlined below.

1.3.1) All waste will be Class A/LSA Unstable.

1.3.2) All waste will be solid.

1.3.3) Waste may be compacted, incinerated, or otherwise volume reduced.

1.3.3) The only hazard associated with the waste is Radioactive (no biological, flammable, corrosive, etc., properties).

1.4) As of August 9, 1994 there was 194.9 cubic foot of waste packaged for off-site processing. The activity of this waste is 85.94 mCi.

1.5) No additional permits (as an example: EPA Hazardous Waste Permit, State or local approvals, etc.) are required.

2.0) Plans for Final Disposal

2.1) As of July 1, 1994, access to a disposal site was suspended. On-site storage began on July 1, 1994.

2.2) As of July 1, 1994, the State of Massachusetts was not in a waste compact. There is no foreseeable access to a LLW burial facility.

2.3) When access to a waste disposal facility becomes available, INS will ship all processed waste in storage within one year.

3.0) Physical Description of Storage Area

3.1) Appendix B of the license application, figure B-2 outlines the location of the storage area and major equipment.

3.2) Materials packaged for shipment, including those awaiting volume reduction, will be stored in the storage area.

3.3) If practicable, waste processing for volume reduction will be completed by an off site vendor.

3.4) The air from the storage area is ventilated to the processing areas of the plant. The plant has a HEPA unit that maintains negative pressure on the building including the waste vault. In-plant and post HEPA discharge air sample points are located throughout the plant as appropriate. There is an air sampling head in the vault (See Appendix D of the license application, Figure D-2).

3.5) The maximum amount of waste that can be stored in the storage area is approximately 5000 cubic feet. Annual generation, after volume reduction activities is estimated to be about 300 cubic feet.

3.6) The storage area is constructed of a poured concrete basement accessed from within the plant. The waste will not be in contact with the elements such as extreme heat, extreme cold, rain, etc.

3.7) Plant access is controlled and restricted to authorized employees only. The plant is locked except during normal plant operations and is equipped with a security alarm system. In addition to the normal radiological posting, the waste area is posted as a potential confined space (by OSHA definition) thereby further limiting access to a need-only basis.

3.8) All packages will be inventoried/inspected on a quarterly basis through physical inspection.

3.9) The existing plant ventilation system will provide adequate ventilation of the storage area. See Appendix C of the license application for more detailed information on the ventilation system.

3.10) The storage area is equipped with a fire suppression system suitable for combustible material storage.

3.11) The storage area is located entirely within the plant. Because of this, additional temperature controls are not needed. The plant HVAC system will ensure that extreme cold and heat will not adversely affect waste container integrity.

3.12) As described previously, the storage area is located within the plant in a basement configuration. The concrete seams are sealed with rubber, and a 6 mil PVC barrier was installed under the floor area. Because of this design, the risk due to tornado, hurricane, flood, etc. is greatly minimized.

4.0) Packaging and Container Integrity

4.1) Waste will be stored in strong tight containers. Typical configurations include 55 gallon drums and LSA boxes of various sizes. All containers used for final processed waste will be new or refurbished. The waste inside the containers is not corrosive and will not degrade the containers. The projected storage life of the containers is well beyond the anticipated storage period.

4.2) As outlined in step 3.8 above, all packages will be inventoried/inspected on a quarterly basis. This inspection will be completed through physical inspection.

4.3) If container integrity is breached, the damaged package will be overpacked or repackaged in the processing area of the plant as appropriate.

5.0) Radiation Protection

5.1) Waste containers are inspected, filled and sealed within the plant. Packages ready for shipment are lowered into the storage area using suitable material handling devices.

5.2) A radiation and contamination survey is performed on each container when the package is filled.

5.3) A radiation and contamination survey will be performed in the storage area annually, or more frequently if container degradation is apparent.

5.4) The entrance to the plant and storage area will be posed in accordance with 10 CFR 20.1901 and 1902 as required.

5.5) Radiation exposures associated with the storage area will be maintained ALARA. Some of the tools available to ensure radiation exposures are maintained ALARA include; a knowledgeable plant staff which includes a Radiation Safety Officer and trained health physics technicians, a corporate ALARA policy, and annual health physics audits. The ALARA policy is included as license correspondence dated May 15, 1994.

5.6) Pre/post processed waste container dose rates will generally not exceed 100 mR/hr.

5.7) Because of the storage area configuration and construction, no additional shielding is expected to be needed.

5.8) The plant has thermoluminescent dosimeters (TLD's) located within the plant as area monitors and at all boundaries of the controlled area as well as the storage area boundaries.

5.9) Emergency procedures for the plant are outlined in Appendix G of the license application.

5.10) Each package of waste is assigned a unique number. This number is entered into the Radioactive Waste Log in accordance with INS approved procedures.

6.0) Training

6.1) Procedures and/or training are used at the plant for packaging, handling, placement, inspection, surveying and emergency response associated with normal plant operations. Normal plant operations include receipt, inspection, processing, packaging and shipment of protective clothing which is radioactive. The existing procedures and/or training programs are adequate and broad enough to address all aspects necessary to package, handle, place, inspect, survey and respond to emergencies associated with LLW storage.

7.0) Financial Assurance

7.1) Financial assurance for the plant is in place and up-to-date. However, to provide financial assurance for the waste (assuming a five year volume is accumulated) INS will update the standing Letter of Credit with the Bank of Boston at each annual May renewal date in accordance with the schedule outlined below.

Total 5 year costs are projected as follows:

Radioactive waste disposal:	$450,000[1]
Transportation:	$6,000[2]
Handling:	$5,000[3]
Total increase in the Letter of Credit over the 5 year period:	$461,000

Annual increase in the Letter of Credit will be: $92,200[4]

Assumptions:

[1] : 300 cu.ft. per year of LLW processed for final disposal at $300 per cu.ft.

[2] : Because no burial site in Massachusetts is expected, the cost is based on $2/mile with a maximum distance of 3000 miles.

[3]: Based on previous handling experience, it should take no more than 250 man-hours to load the truck and complete pre-shipment surveys and shipping paperwork. \$20/hour was used as the average loaded man-hour cost.

[4]: If generation rates are significantly below or above the projections, INS reserves the right to adjust the schedule accordingly without a license amendment.

8.0) Emergency Preparedness

8.1) The types and amounts of radioactive material in the storage area and the plant, at maximum curie load, are not sufficient to require an emergency preparedness plan based on the criteria specified in Subsections 30.32(i)(1), 40.31(j)(1) or 70.22(i)(3). However, an emergency plan is included with the license application, Appendix G.

CONVERSATION RECORD

TIME	DATE
12:15 PM	9/8/94

TYPE

☐ VISIT ☐ CONFERENCE ☑ TELEPHONE

☐ INCOMING

☑ OUTGOING

Location of Visit/Conference:

ROUTING	
NAME/SYMBOL	INT

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU	ORGANIZATION (Office, dept., bureau, etc.)	TELEPHONE NO:
Kent Anderson	I&S Corporation	(413) 543-6911

SUBJECT

Frequency of radiation/contamination surveys of Interim Waste Storage Area

SUMMARY

Left a message

1:00 PM Kent Anderson called. I told him that all the changes that I had requested had not been made.

Page I-4, Item 4.3 should ~~be~~ refer to a contamination survey should the integrity of the container be breached of the storage area in the vicinity of the breached container to ensure contamination had not spread

Page I 4, Item 5.3. The frequency of the radiation and contamination survey of the entire storage area should be quarterly.

ACTION REQUIRED

Document Await reply

NAME OF PERSON DOCUMENTING CONVERSATION	SIGNATURE	DATE
Steven Courtemanche	Steven Courtemanche	9/8/94

ACTION TAKEN

SIGNATURE	TITLE	DATE

50271-101

U.S. G.P.O. 1983-381-526/8346 CONVERSATION RECORD

OPTIONAL FORM 271 (12-76) DEPARTMENT OF DEFENSE

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