NRC FORM 313 (10-94) 10 CFR 30, 32, 33, 34, 35, 36, 39 and 40

U. S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR MATERIAL LICENSE

APPROVED BY OMB: NO. 3150-0120
EXPIRES: 6-30-96

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 9 HOURS. SUBMITTAL OF THE APPLICATION IS NECESSARY TO DETERMINE THAT THE APPLICANT IS QUALIFIED AND THAT ADEQUATE PROCEDURES EXIST TO PROTECT THE PUBLIC HEALTH AND SAFETY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0120), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW. 030-34322

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS.

IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
101 MARIETTA STREET, NW, SUITE 2900
ATLANTA, GA 30323-0199

IF YOU ARE LOCATED IN:

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

MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
801 WARRENVILLE RD
LISLE, IL 60532-4351

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

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-8064

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

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

- [X] A NEW LICENSE
- [ ] B AMENDMENT TO LICENSE NUMBER _____
- [ ] C RENEWAL OF LICENSE NUMBER _____

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

EASTERN TECHNOLOGIES, INC.
P.O. BOX 409
ASHFORD, AL. 36312

3 ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

4 NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

MARK FELLOWS

TELEPHONE NUMBER
334-899-4351

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

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

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

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

8 TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS

9 FACILITIES AND EQUIPMENT

10 RADIATION SAFETY PROGRAM

11 WASTE MANAGEMENT

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

FEE CATEGORY 6A

AMOUNT ENCLOSED $ 5,100.00

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

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

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

CERTIFYING OFFICER – TYPED/PRINTED NAME AND TITLE	SIGNATURE	DATE
MARK FELLOWS-VICE PRESIDENT	Mark Fellows	12-20-96

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			$		

APPROVED BY

DATE

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PDR FOIA
ROBERTS97-295 PDR

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124065

SECTION COPY

NRC1596.DOC

Adendum To NRC Form 313

5. Radioactive Material

A. Element And Mass Number

1. Any radioactive material with atomic numbers 1-83 except source or special nuclear material.

2. Any radioactive material with atomic numbers 84-101 except source or special nuclear material.

3. Plutonium 238 (94).

4. Cesium 137 (55), Technetium 99 (43), Strontium 90 (38), Cobalt 60 (27).

5. Natural or depleted Uranium (92) or natural thorium (90).

6. Uranium 235 (92).

B. Chemical And/Or Physical Form

1. Atomic Numbers 1-83

a. Metal oxides contained within processing equipment as contamination.

b. Contaminated garments and other launderable items, equipment, protective devices, and associated decontamination waste.

2. Atomic Numbers 84-101

a. Metal oxides contained within processing equipment as contamination.

b. Contaminated garments and other launderable items, equipment, protective devices, and associated decontamination waste.

3. Plutonium 238 (94)

Calibration and reference sources authorized for distribution by U.S. NRC or Agreement State.

4. Cesium 137 (55), Technetium 99 (43), Strontium 90 (38), Cobalt 60 (27)

   Calibration and reference sources authorized for distribution by U.S. NRC or Agreement State.

5. Natural or Depleted Uranium (92) or Natural Thorium (90)

   Contaminated garments and other launderable items, equipment, protective devices, and associated decontamination waste.

6. Uranium 235 (92)

   Contaminated garments and other launderable items, equipment, protective devices, and associated decontamination waste.

C. Maximum Amount which will be Possessed at any one time

   1. Atomic Numbers 1-83

      a. Contamination Within Processing Equipment

         1. Mobile Laundry Equipment

            100 Millicuries

         2. Permanent Laundry Facility

            200 Millicuries

      b. Contaminated Garments And Other Launderable items

         2.5 curies

   2. Atomic Numbers 84-101

      A. Contamination within Processing Equipment

         1. Mobile Laundry Equipment

            1.0 Millicurie

2. Permanent Laundry Facility

2.0 Millicuries

B. Contaminated Garments And other launderable items

20 Millicuries

3. Plutonium 238 (94)

1.5 Millicuries

4. Cesium 137 (55), Technetium 99 (43), Strontium 90 (38), Cobalt 60 (27)

500 Millicuries total activity

5. Natural or Depleted Uranium (92) or Natural Thorium (90)

10 Kilograms

6. Uranium 235 (92)

350 grams

6. Purpose(s) For Which Licensed Material will be used

A. Any Radioactive Material with atomic numbers 1-101 except source or special nuclear material

1. Mobile Laundry Equipment

Radioactive Material within and on components of Mobile laundry equipment used to laundry contaminated protective clothing at nuclear power plants for the purpose of maintenance and storage.

2. Permanent Laundry Facility

Radioactive Material within and on components of laundry facility. Contaminated garments and other launderable items, equipment, protective devices and associated decontamination waste. Laundering of contaminated garments and other launderable items, equipment, protective devices,

and managment of associated decontamination wastes.

B. Plutonium 238 (94)

Instrument calibration and reference sources

C. Cesium 137 (55), Technetium 99 (43), Strontium 90 (38), Cobalt 60 (27)

Instrument calibration and reference sources

D. Natural or Depleted Uranium (92) or Natural Thorium (90) (Permanent laundry facility only)

Contaminated garments and other launderable items, equipment, protective devices, and associated decontamination waste. Laundering of contaminated garments and other launderable items, equipment, protective devices and management of associated decontamination waste.

E. Uranium 235 (92) (Permanent laundry facility only)

Contaminated garments and other launderable items, equipment, protective devices and associated decontamination waste. Laundering of contaminated garments and other launderable items, equipment, protective devices and management of associated decontamination waste.

7. Individual Responsible For Radiation Safety Program And Training Experience.

A. Responsible Individual

Mark Fellows

B. Training Experience

See enclosed resume

8. Training For Individuals Working In Or Frequently Restricted Areas

See enclosed document titled, Eastern Technologies, Inc.

Qualification and Training Requirements Nuclear Laundry Facility (NRC1496.DOC)

9. Facilities And Equipment

See enclosed document titled, General Design And Process Description of ETI Nuclear Laundry Facility (ETI-NLFAC96.DOC).

10. Radiation Safety Program

See enclosed document titled, Eastern Technologies, Inc. Radiation Safety Program (NRC696.DOC).

11. Waste Managment

See enclosed document titled, Eastern Technologies, Inc. Procedures For Incoming Radioactive Material Shipments,... Handling of Contaminated Sludge Waste (NRC796.DOC).

Example

M9101.DOC

EASTERN TECHNOLOGIES, INC.
DECOMMISSION FUNDING PLAN
COST ESTIMATE

A. PRECAUTIONS
B. ESTIMATE OF TOTAL COST FOR DECOMMISSIONING
C. METHOD FOR UPDATING AND ADJUSTMENTS
D. FINANCIAL ASSURANCE

APPROVED BY: _____

SUBMITTED BY: _____

9709080187

REV. 4
02-26-93

A/2

A. PRECAUTIONS

1. Floors and walls throughout the facility will be sealed with a coating to help ensure that concrete/block surfaces do not become impregnated with radioactive material.

2. All waste water lines and holding tanks in the facility will be made from plastic or fiberglass base. This will ensure quick dismantling and volume reduction. Volume reduction will be accomplished through the use of chippers that will reduce the PVC/fiberglass material into small highly compactable pieces.

3. House keeping techniques for the continuous decontamination of plant surfaces and components will be implemented to keep the facility as free as possible from any build up of contamination.

B. ESTIMATE OF TOTAL COST FOR DECOMMISSIONING

I. PLANNING AND PREPARATION

Estimated Work Days

Task	Super-visor	Plant Mngr.	Health Physi-cist	Health Physi-cist Tech.	Clerical	Total	Total Cost
1. Preparation of Documen-tation for Regulatory Agencies	1 @ 7	1 @ 2			1 @ 2	11	$1,344.89
2. Submittal of Decommission-ing Plan to State	1 @ 2	1 @ 1			1 @ 1	4	465.34
3. Development of work plans	1 @ 3	1 @ 2	1 @ 2		1 @ 1	8	933.01
4. Procuring of Special Equipment	1 @ 2	1 @ 1	1 @ 1		1 @ 1	5	569.09
5. Staff Train-ing	1 @ 5	1 @ 2	1 @ 2	3 @ 2	1 @ 2	18	1,789.01
6. Characteriza-tion of Radiological condition of facility (facility and environmental samples)	1 @ 1	1 @ 1	1 @ 5	3 @ 2	1 @ 1	14	1,358.78
					TOTAL		$6,460.12

Unit Cost of Workers

Position	Basic Salaries ($/yr)	Overhead Rate %	Worker Cost/yr.
Supervisor	$28,600.	18.28%	$33,828.08
Plant Mngr.	24,960.	19.81%	29,904.58
Health Physicist	20,800.	22.21%	25,419.68

Health Physicist Tech.	16,640.	25.82%	20,936.45
Laborer	12,480.	32.02%	16,476.10
Clerical	12,480.	31.72%	16,438.66

II. RADIOACTIVE FACILITY COMPONENTS AND ASSOCIATED SURFACE AREAS

	Number	Surface Area
Re-use water tanks (3)	3	20.09^{m2}
Waste water holding tanks (3)	2	69.99^{m2}
Primary waste water holding tank (3)	1	11.89^{m2}
Waste water lines (4)	143'	10.44^{m2}
Washer waste water lines (4)	40'	8.31^{m2}
Recycle water lines (4)	47'	3.44^{m2}
Resin bed (4)	1	3.53^{m2}
Sorting tables (3)	2	12.64^{m2}
Washing machine (1,2)	2	56.08^{m2}
Washing machine (1,2)	1	18.91^{m2}
Dryer (1,2)	2	108.04^{m2}
Dryer (1,2)	1	7.64^{m2}
Dryer exhaust duct (4)	229'	140.49^{m2}
Air conditioning duct (3)	160'	118.91^{m2}
Floor area (laundry)		227.61^{m2}
Floor area (water processing room)		55.74^{m2}
Floor area (air handling room)		22.30^{m2}
Wall area (laundry)		264.57^{m2}
Wall area (water processing room)		178.37^{m2}
Wall area (air handling room)		95.13^{m2}

(1) Inside and outside surfaces taken into consideration.
(2) To be decontaminated to unrestricted release limits.
(3) To be monitored for activity and if grossly contaminated dismantled, packaged and disposed of at a low level waste site. If not grossly contaminated will attempt decontamination and release of materials.
(4) To be dismantled, packaged and disposed of at a low level waste site.

Task	Work Days: Super-visor	Plant Mngr.	Health Physi-cist	Health Physi-cist Tech.	Laborer	Total	Total Cost
1. Decon washing machines		2	1	6	25	34	$2,441.96
2. Decon dryers		2	1	6	25	34	2,441.96
3. Dismantle dryer exhaust system		1		1	4	6	494.85
4. Decon/dismantle reuse water tanks		1	1	2	4	8	665.77
5. Dismantle waste water lines and processing equipment		1		1	4	6	476.56
6. Decon/dismantle waste water holding tanks		1		2	7	10	763.77
7. Decon/dismantle HP lab (hood, sink, & work table)		.5	.5	1	1	3	265.64
8. Decon/dismantle sorting tables		.5	.5	1	2	4	332.89
9. Decon/dismantle air condition ventilation systems		.5	.5	1	2	4	332.89
10. Survey and mark areas of contamination on walls and floors		1	3	10		14	1,287.95
11. Decon walls and floors and re-survey for compliance		1	1	4	10	15	1,240.19

12. Package waste for shipment	1	1	5	562.10
			TOTAL	$11,306.5

III. PACKAGING, SHIPPING AND DISPOSAL OF RADIOACTIVE WASTES

Estimate of Volume

Secondary waste water tanks	1.074074 m^3
Reuse water tanks	.240722 m^3
Resin bed	.004660 m^3
Primary waste water holding tank	.151041 m^3
Washer waste water lines	.031494 m^3
Discharge waste water lines	.027596 m^3
Recycle water lines	.009070 m^3
Dryer exhaust duct	.14614 m^3
TOTAL	1.684797 m^3

Estimated know volume of radioactive waste	1.684797 m^3
Additional amount for possible errors in calculations (100%)	1.684797 m^3
TOTAL ESTIMATE	3.369594 m^3

Waste Type	Volume (m^3)	No. of containers	Type of containers	Unit cost of containers	Cost of containe
Class "A" Class "A" Unstable "DAW"	3.369594	2	Shipping/ Disposal Boxes	NA	NA

Distance Shipped	400 (miles)
Cost of Transportation	$1,344.00
Processing/Burial Charges	$2,074.51 per m^3
Total Associated Burial Charges	$8,334.24

IV. Associated Utility Charges

Estimated twelve week decommission @ $300.00 per week

Total Associated Utility Charge $3,600.

V. Total Estimate Of Decommission Cost

Planning and Preparation	$6,460.12
Task Performance	11,306.53
Burial Charges	8,334.24
Utility Charges	3,600.00

Total Estimate of Decommission Cost	$29,700.89
Additional Amount Included for Calculation Errors	20,299.11
Total Amount of Decommission Funding	$50,000.00

C. METHOD FOR UPDATING AND ADJUSTMENTS

The decommission funding plan will be updated every three years unless events dictate more frequent changes. The anniversary of this update will fall on or near the yearly license renewal date. All associated costs included in the decommission funding plan will be updated to reflect current costs of the items. Estimates of surface areas for equipment and processing areas will be updated to include any changes made in the facility. Estimate of associated wastes will also be updated to include these changes.

Note: Since the ETI facility has not been completed exact calculations of the drain lines, dryer exhaust duct, air conditioning duct and waste water lines are not possible. The exact calculations will be included on the first updated report unless otherwise requested.

D. FINANCIAL ASSURANCE

Finalcial assurance for this decommission funding plan will be proveded by and Escrow Account with the assets of the account being a Cerificate of Deposit sufficient in size to cover the present estimated decommissioning cost.