

44 Shelter Rock Road
Danbury, CT 06810
(203) 796-5000

- Integrated Environmental Services
- Engineering & Technical Services
- Engineered Products

FOI/PA REQUEST

Case No: 97-0012
Date Rec'd: 1-15-97
Action Off: Red
Related Case: _____

January 9, 1997

FREEDOM OF INFORMATION OFFICER
US NRC
Washington, DC 20555

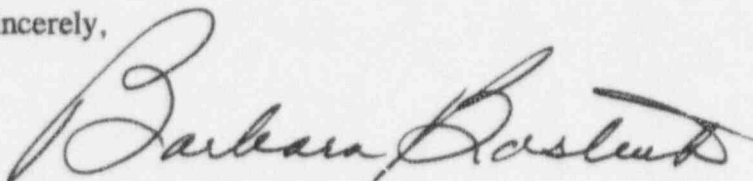
Dear Sir:

Under the Freedom of Information Act I am requesting the following:

List of burial sites (and responsible parties) in the United States of radioactive materials that were previously authorized under former 10 CFR 20.304 and 20.302 and current 20.2002. The list should include only those sites that exceed the prescreening criteria of greater than 100 mrem/year.

Please advise if there is a fee for this list. I can be reached at (203) 796-5298 if you have any questions. Thank you for your prompt response to this request.

Sincerely,



Barbara Bastenbeck
Business Development

MEMORANDUM FOR: Those on Attached List

FROM: Richard L. Bangart, Director
Division of Low-Level Waste Management
and Decommissioning, NMSS

SUBJECT: REQUEST TO REVIEW UPDATED DATABASE FOR 20.302/20.2002
DISPOSAL REQUESTS

The Division of Low-Level Waste Management (LLWM) is responsible for coordinating and tracking reviews and approvals of all requests from licensees for disposal of waste under 10 CFR 20.302/20.2002. With your help, we have updated the existing database of 20.302/20.2002 disposal requests and approvals. A copy of the updated data base is enclosed for your review.

Please review the current list and submit to us any corrections, or additional 20.302 requests or approvals you have on record. It would be helpful if you identified any additional disposals using the same format by May 15, so the database can be updated as soon as possible.

In addition, to maintain a current data base, any future disposal requests of this type should be routed to the Chief of the Decommissioning and Regulatory Issues Branch, LLWM for information and/or assistance in conducting the review and coordinating policy.

If you have any further questions concerning the database, please contact Harvey Spiro on 504-2559 or Michael Weber on 504-1298.

Richard L. Bangart, Director
Division of Low-Level Waste Management
and Decommissioning, NMSS

Enclosure: As Stated

OFC	LLWM	LLWM	LLWM	LLWM	LLWM
NAME	HSpiro <i>HS</i>	MWeber <i>MW</i>	JAustin	WBrach	RBangart
DATE	4/14/93	4/15/93	/ /93	/ /93	/ /93

Path and file name: S:\llwmtype\cecilia\note414.hs

x4
9307010208

B/1

APR 20 1993

Attached List for Multiple Addressees Memorandum dated: _____

Richard E. Cunningham, Director
Division of Industrial and Medical
Nuclear Safety
Office of Nuclear Material Safety
and Safeguards

Robert F. Burnett, Director
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety
and Safeguards

Vandy L. Miller, Assistant Director
State Agreements Program
Office of State Programs

Bill M. Morris, Director
Division of Regulatory Applications
Office of Nuclear Regulatory Research

Frank J. Congel, Director
Division of Radiation Safety and Safeguards
Office of Nuclear Reactor Regulation

Richard W. Cooper, II, Director
Division of Radiation Safety and Safeguards, Region I

J. Philip Stohr, Director
Division of Radiation Safety and Safeguards, Region II

Charles E. Norelius, Director
Division of Radiation Safety and Safeguards, Region III

Leonard Joe Callan, Director
Division of Radiation Safety and Safeguards, Region IV

Ross A. Scarano, Director
Division of Radiation Safety and Safeguards, Region V

Applicant Location	Date Rec'd	Date Compl.	Lic# Type Rq. Tac #	Waste Chars.	Proposed Disposal	Nuclides Present	Total Act. (uCi)	Total Conc. uCi/gm or uCi/ton	Rec. Action, Crit. Pthw. Analysis
Atlantic Research Corp., Alexandria, VA	10/11/82	10/12/83	20.302	Soil; 2,000 cubic feet	Burial in place	Sr-90	1	--	APPROVAL with restricted area for 18 yrs. <3.8 mrem to bone from well at 150 feet
Ohio Agriculture R&D, Wooster, OH	1/13/83	4/5/83	34-00410-02 expand 20.306	Carcasses trash, LS media; 60 cu m/yr	Onsite burial	H-3 C-14	46 4	-- --	APPROVAL with a 250 foot restriction zone for 30 years. 1.3 mrem from well at 250 feet
University of Utah, Salt Lake City, UT	4/14/83	10/19/84	43-01884-01. 20.302(a)	Carcasses, LS media bedding	Offsite burial	P-32 S-35 Fe-59 I-125 I-131	--	(<0.05 uCi/gm) T1/2 < 100 days	REJECT. Request an exemption to rule
University of Wyoming Laramie, WY	6/13/83	3/29/85	49-09955-0 20.302 formerly 20.302(a)	Solid waste liquids	Onsite burial	All nuclides in 10 CFR 20	--	(< Appendix B 10 CFR Part 20)	REJECT 147 mrem ingestion of food with P-32
Boston University, Cambridge, MA	6/13/83	10/19/84	20-02215-1 exempt	Solid Lab waste	Onsite burial or incinerate	H-3 S-35 C-14 Cr-51 P-32 I-131	--	(<0.01-0.05 uCi/gm)	REJECT
Yale University, New Haven, CT	8/11/83	10/19/84	06-00183-03 20.302(a)	Carcasses LS media, bedding	Offsite burial	H-3, C-14 P-32, Sc-36 Cr-51, Fe-59 I-125, I-131	--	(<0.05 uCi/gm) T1/2 < 100d	REJECT
Montana State University, Norris, MT		8/14/84	25-00326-06 continue 20.304	Solid and aqueous wastes in bottles and cans	Burial in abandoned Red Bluff Mine	H-3 C-14 Cr-51 S-35 P-32 I-125 Co-60 Cs-137 Ni-63	320 <50 29 54 <3 3 3.2 <2 1.5	--	REJECT but allow final burial and sealing

Enclosure

Applicant Location	Date Rec'd	Date Compl.	Lic # Type Rq Lic #	Waste Chars.	Proposed Disposal	Nuclides Present	Total Act (uCi)	Total Conc uCi/gm or uCi/tm	Rec. Action, Crt. Pthw. Analysis
Harvard University Cambridge, MA	11/18/83	9/13/84	20-00297-53 20-302 formerly 20-302(a)	Carcasses, bedding, lab trash; < 750 cu. ft/yr; fiber drums with plastic liners.	Onsite burial	I-121 P-32, S-35 Cr-51, Fe-59 Ga-67, I-131, Tc-99M, other	100 25 10	--	APPROVAL 21 mrem to intruder's thyroid.
S. R. Noble Foundation, Ardmore, OK	12/16/83	12/19/84	35-00141-03 20-302	Carcasses, culture media ten 55 gallon drums	Onsite burial	H-3 C-14 I-125	300 2 0.3	--	REJECT: 40 mrem whole body dose from well at 250 feet
University of Pittsburgh, in PA	7/16/84	10/19/84	37-00245-02, 20-201	Ash residue	Onsite burial	H-3 C-14 other	--	< 0.05 uCi/gm T1/2 < 275d	REJECT:
University of Alaska Fairbanks, AK	10/30/84	3/1/85	50-02430-07, lic. renewal	Carcasses, bedding, plants, < 1000 cu. ft/yr.	Onsite burial or surface spreading	H-3 C-14 P-32 Cr-51 I-125 OTHER	< 500 < 50 < 20 < 25 < 10	--	REJECT: insufficient data
		1980		NA	Onsite 20-304 burial	Cr-51 S-35 I-125 Ru-103 Se-75 C-14			Performed under 20-304
Halliburton Services Duncan, OK	11/19/84	11/4/86	35-00502-02 20-302	frac. sands	Onsite burial	Ir-192	< 10 millituries	500 pCi/g	APPROVAL with specifications for burial. 19.8 mrem whole body
Boston University Cambridge, MA	3/25/85	5/13/85	20-02215-01, deregulate 20-306	Paper, plastic, ten 55 gallon drums	Incinerate onsite or at municipal incinerator	H-3 C-14 I-125	(< 0.05 uCi/gm) (< 0.02 uCi/gm)		REJECT:

Applicant Location	Date Rec'd	Date Compl.	Lic# Type Rq. Tac #	Waste Chars.	Proposed Disposal	Nuclides Present	Total Act. (uCi)	Total Conc. uCi/gm or uCi/ton	Rec. Action, Crit. Pthw. Analysis
US Dept. of Agriculture Clay Center, NE; Miles City, MT; Beltsville, MD	4/7/86		19-00915-03, 20.302	N/A	Onsite burial	All nuclides in 10 CFR Part 20.	N/A	—	Pending further information from licensee
Hawaiian Sugar Planters Assoc. Aiea, Hawaii	3/86	6/86	53-00515-01	Contaminated soil	Leave in place	C-14	8.5	—	REJECT. Recommend interim restricted access and re-evaluation at next license renewal.
	10/6/75			Contaminated cellar	Onsite burial	Cs-137	13		Performed as 20.304 disposal
Harvard University Cambridge, MA	11/14/86	1/20/87	20-00297-53 Amend. # 41 continuation	Microspheres ash from incineration	Onsite	Sr-113	1000 millicuries per year	—	APPROVAL: Region I issued license for burial. Approx. 6 mrem/yr (whole body at 500 feet to nearest groundwater)
U. S. Dept. of Interior Tucson, AZ	3/88 12/10/90 2/5/91	REG open IMNS LLWM	02-08779-01	well logging source	Leave in well	Am-241	2.7 Ci	—	DOI needs to submit final report
University of Mass. Worcester, MA	4/13/88 2/22/92 4/09/92	REG IMNS LLWM	20-13758-01 license renewal	Incineration ash	continue with non-restricted disposal	H-3 C-14 Sc-46 Sr-85 Ce-141 Cr-51	— 2.9E-3 pCi/day 7.8E-4 pCi/day 6.1E-4 pCi/day 1.9E-3 pCi/day		REJECT: not able to approve as part of license renewal, must apply for 20.302 separately
Protecnics International Elk City, OK	4/06/89 4/12/89	IMNS LLWM	42-26928-01 license renewal	frac sands	Onsite burial	Ir-192	2500	900 pCi/g	APPROVAL: < 1 mrem direct radiation 2 yrs administrative control
Core Laboratories Farmington, NM	9/22/89 9/25/89 1/29/91	REG IMNS LLWM	42-207018-01 20.302	Soil	Onsite burial	Sc-46	588	18 pCi/g	APPROVAL: with specifications for burial < 1 mrem/day direct rad

Applicant Location	Date Rec'd	Date Compl.	Lic# Type Rq. Tac #	Waste Chars.	Proposed Disposal	Nuclides Present	Total Act. (uCi)	Total Conc. uCi/gm or uCi/ton	Rec. Action, Crit. Pthw. Analysis
U.S. Air Force Kirtland Air Force Base, N.M.	2/23/90 5/01/92 5/21/92	REG IMNS LLWM	42-23539-01AF	Solidified waste w/ arsenic	Burial in Class I Hazardous Waste Landfill	Th-232		189.8 pCi/g 19.71 pCi/g	Additional information request suggested by LLWM Sent to IMNS 7/10/92
Armed Forces Research Inst. Bethesda, MD	3/30/90 6/11/90 6/22/90	REG IMNS LLWM	19-08330-02 20.302	tank waste system	Onsite burial	Na-22 Co-60 Eu-152	--	2.2E-7 9.8E-8 1.2E-7	Recommended army apply for exemption; not 20.302
Schering Corp Cream Ridge, NJ	4/12/90 6/19/91 7/01/91	REG IMNS LLWM	29-00244-02 20.306(b)	Cow carcasses	Onsite burial	H-3 C-14 I-125 total	--	1.86E-6	APPROVAL: < 0.05 uCi/g animal tissue
South Dakota State Univ. Brookings, SD	late 90 3/29/91	REG LLWM	open 40-27018-01 20.302	Carcasses plants, rad slurries in drums	Onsite burial	H-3 C-14 Cl-36 Co-60 Cs-137	0.9 mCi 2.5 mCi 0.03 mCi 1.1E-3 mCi 1.5E-3 mCi	--	Dose assesment being done by PNL (done by 4/93)
U. S. Army Fort Bragg, NC	4/22/91	open	12-00722-07	Ceramic microspheres sealed in weapon sights	Onsite burial	Pm-147	300 mCi	--	Assessment being performed by LLWD.
U.S. Dept. Agriculture Las Cruces, NM	11/29/91 1/92	IMNS LLWM	3/26/92 3/13/92	Goat & coyote carcasses	Onsite burial	Mn-54 Zn-65 I-125 Cs-134	7.2 98.4 71.0 86.0	--	APPROVAL: < 26 mrem/yr with conservative assumptions
St. Lucie Plant FP&L Hutchinson Island, FL	2/27/92 3/13/92	REG/OSP LLWM	4/27/92	20.302 waste water residues	Onsite spreading of material	Co-60 Fe-55 Ni-63	9	--	OPEN

Applicant Location	Date Rec'd	Date Compl.	Lic# Type Rq Tac #	Waste Chars.	Proposed Disposal	Nuclides Present	Total Act. (uCi)	Total Conc. uCi/gm or uCi/ton	Rec. Action, Crit. Pthw. Analysis
H.B. Robinson Unit #2 Hartsville, SC	2/10/83	--	40447	Sediment 6,000 cu meters	Fossil plant ash pond in licensee's controlled area	Co-60	75	<30 pCi/gm -- --	APPROVAL: <5 mrem (teenager, whole body, direct radiation, spending 67 hrs on shoreline of ash pond).
H.B. Robinson, Unit #2 Hartsville, SC	4/28/83	--	51347	Soil, 50 cu feet 1.5 cu meters	Onsite, along the bottom of a drainage ditch	Co-58 Co-60(68%) Co-134(10%) Cs-137(23%) Mn-54 All nuclides	-- -- 0.014	0.18 pCi/gm 0.46 pCi/gm 0.73 pCi/gm 1.7 pCi/gm 0.16 pCi/gm	APPROVAL: <5 mrem (direct radiation, whole body of person working 400 hrs/yr above contaminated surface of soil cover zone)
Humboldt Bay 3 Eureka, CA	10/27/83	--	52637 DPR-7	Sludge, 1300 cu feet or 39 cu meters	Offsite RCRA chemical waste disposal landfill (Martinez, CA)	Co-60 Cs-134 Cs-137 Th-234	267.8 3.1 155 19.3	7.8 pCi/cc 0.08 pCi/cc 4.5 pCi/cc 0.24 pCi/cc	APPROVAL: 1.5 mrem (direct radiation to worker standing on uncovered dried sludge)
Oconee Units 1, 2 and 3 Clemson, SC	7/19/84	--	55264, 55265, 55266	Sewage sludge 4,000 cu ft or 120 cu meters	Offsite sanitary landfill	Co-58 Co-60(27%) Cs-134 Cs-137(45%) All nuclides	-- -- 0.07	0.092 pCi/cc 0.17 pCi/cc 0.083 pCi/cc 0.28 pCi/cc	APPROVAL: 0.6 mrem (whole body direct radiation, standing on uncovered dried sludge). 0.2 mrem (whole body, ingestion of veg grown on landfill w/ sludge). <0.3 mrem (highest dose to any organ, ingestion of vegetation).
H.B. Robinson 2 Hartsville, SC	10/17/84	--	54484	Settling pond sediment 50,000 cu. meters	Onsite fossil ash pond	Co-60	1700 (over life of ash pond)	30 pCi/gm wet sediment	APPROVAL: 5 mrem (direct radiation to teenager 67 hrs/yr at ash pond)
R.E. Ginna 1	10/17/84	--	54509	Roofing materials <100 tons	Offsite municipal landfill	Co-60 Cs-134 Cs-137	0.30 0.23 0.92	--	APPROVAL: 4 mrem (1st year) 9 mrem (thereafter)

Applicant Location	Date Rec'd	Date Compl.	Lic# Type Rq. Tac #	Waste Chars.	Proposed Disposal	Nuclides Present	Total Act. (uCi)	Total Conc. uCi/gm or uCi/ton	Rec. Action, Crit. Pthw. Analysis
McGuire 1 & 2 Charlotte, NC	10/18/84	--	55306	Wastewater residue sludge, < 13,000 cu ft or 380 cu m/yr	Onsite	Co-58 Co-60	0.05 0.05	0.19 pCi/cc 0.12 pCi/cc	APPROVAL: < 1 mrem (whole body direct rad. standing 2000 hrs/ yr on soil cover). < 0.1 mrem (lung dose, worker inhaling dust 2000 hrs/yr). < 0.1 mrem (highest dose to any organ, ingestion of vegetables).
Oconee Units 1, 2 & 3 Clemson, SC	--	--	55832, 55833, 55334	Feedwater heaters: a. High activity tube bundles, 160 tons b. Very low activity heater shells 100 tons	Company controlled area (outside security fence) Onsite	Co-60(79%) Cs-137(15%) Co-60(80%)	6.5 --	10 pCi/gm 1.9 pCi/gm < 10 pCi/gm	APPROVAL: 0.01 mrem (whole body direct rad standing on soil cover). < 2 mrem to maximally exposed individual.
Oconee Units 1, 2 & 3 Clemson, SC	1/31/85	--	55509, 55510, 55511	Sand 1500 cu ft or 45 cu meters	Company controlled area (outside security fence)	Cs-134 Cs-137 Co-60 Mn-54 All nuclides	1.2 3 0.1 0.05 < 12.3	15 pCi/gm 37 pCi/gm 1.2 pCi/gm 0.6 pCi/gm < 150 pCi/gm	APPROVAL: < 1 mrem (ground shine to whole body, standing 2000 hrs on soil cover). < 0.1 mrem (10 days inhalation of dust from disposal process). < 2 mrem (future ingestion of crops grown at burial site, whole body or any organ).
Brunswick 1 & 2 South Port, NC	2/4/85	--	53233	Waste oil, 12,000 gal. or 45,600 liters	Onsite incineration	Co-60	0.021	4.8 pCi/cc	APPROVAL: 0.1 mrem to maximally exposed individual.
		12/91		Sand (8000 yd3)	Transfer to onsite spoils pond	Co-60 Mn-54 Cs-137	8E-10 mCi	0.7 pCi/g	Deferred to state.

Applicant Location	Date Rec'd	Date Compl.	Lic # Type Rq. Tac #	Waste Chars.	Proposed Disposal	Nuclides Present	Total Act. (uCi)	Total Conc. uCi/gm or uCi/ton	Rec. Action, Crit. Pthw. Analysis
Oconee 1, 2 & 3 Clemson, SC McGuire 1 & 2 Charlotte, NC Catawba 1 & 2 York, SC	2/7/85	--	55056 55057 55058 55058	Wood 400-700 cu ft. or 12-21 cu meters	Offsite sanitary landfill	Assume Co-60 100%	0.4 to 0.7 per yr per station	35 pCi/gm	APPROVAL: 1 mrem (landfill worker, direct rad, whole body 1st yr). <1 mrem (landfill worker, same pathway later yrs). <0.1 mrem (landfill worker, dust inhalation any organ).
Oconee 1, 2 & 3 Clemson, SC McGuire 1 & 2 Charlotte, NC Catawba 1 & 2 York, SC	2/7/85	--	55056 55057 55058 55058	Wood 400-700 cu ft. or 12-21 cu meters	Offsite sanitary landfill	Assume Cs-137 100%	0.4 to 0.7 per yr per station	35 pCi/gm	APPROVAL: <1 mrem (resident on decomm. landfill direct rad, whole body or any organ of adult eating veg. grown on soil cover). <0.1 mrem (nuclear station workers, direct rad. or inhalation).
Davis Besse Oak Harbor, OH	3/11/85	10/15/85	52484	Secondary side resins 5,000 cu ft. or 150 cu m. every 5 yrs	Offsite company owned land	Co-58(34%) Co-60(3%) Cs-134(27%) Cs-137(36%)	8.5/ every 5 yrs	3.0 pCi/cc 0.08 pCi/cc 2.4 pCi/cc 3.2 pCi/cc	APPROVAL: 0.7 mrem (direct rad. standing on uncovered basin dredgings). Adult eating veg. grown on disposal site: <3 mrem (whole body) <4 mrem highest dose to any organ <0.1 mrem (drinking ground water- licensee's estimate).
H.B. Robinson Unit #2 Hartsville, SC	3/14/85	--	56992	Soil 1,000 cu. m.	Onsite	Co-60(65%) Cd-109(17%) Cs-137(3.6%) Ce-144(3.6%)	1.3	9 pCi/gm 2.4 pCi/gm 0.5 pCi/gm 0.5 pCi/gm	APPROVAL: <0.1 mrem (direct rad to teenager standing 67 hrs/yr on shoreline

Applicant Location	Date Rec'd	Date Compl.	Lic.# Type Rq. Tec #	Waste Chars.	Proposed Disposal	Nuclides Present	Total Act (uCi)	Total Conc. uCi/gm or uCi/ton	Rec. Action, Crit. Pthw Analysis
Schoff Glass Duryea, PA	8/1/88		STB-988	Thorium glass Contaminated soil	Onsite	Natural Th		1.97 pCi/g	License amended 5/81 to approve burial, but state rejected plan because of hazardous wastes (lead). Licensee is revising disposal plan.
Heritage Minerals inc Lakehurst, NJ	9/3/91	4/29/92	SMB-1541	Monazite sand	Onsite	Natural Th	5.7E6	< .004	REJECTED: Dose rates for residential use too high under proposed plan.
Eye Research Institute Boston, MA	5/15/92		20-02082-01	Ash	Offsite Sanitary Landfill	H-3 C-14 S-35 I-125	< MPC	0.05 0.05 < .005 < .001	NRC/IMNS currently (8/92) reviewing existing license condition to dispose of ash as trash.
Merck & Co. Rahway, NJ	5/15/92		29-00117-06	Ash	Offsite Sanitary Landfill	3 thru 83	< MPC	< 10 CFR 20 App B Table 2, Column 2	NRC/IMNS currently (8/92) reviewing existing license condition to dispose of ash as trash.
University of Pittsburgh Pittsburgh, PA	9/11/92		37-00245-02	Ash	Offsite Sanitary Landfill	3 thru 83	< MPC	?	NRC/IMNS currently (8/92) reviewing existing license condition to dispose of ash as trash.
Dept. of Health & Human Services Bethesda, MD	9/28/92		19-00298-10	Ash	Offsite Sanitary Landfill	3 thru 83	< MPC	?	NRC/IMNS currently (8/92) reviewing existing license condition to dispose of ash as trash.
University of Cincinnati Cincinnati, OH	2/19/91	8/16/91	34-06803-05	Tissue samples	Normal trash	I-125		< 0.02 uCi/g	REJECT: Hold for decay.
Cincinnati, OH Big Rock Point (BWR) Charlevoix, MI	5/8/86		UPH-6/50-155	Contaminated soil from leak in condensate process monitor	Retain soil in place				Approved
	12/29/89	8/24/90		Dredged canal sediments (15 m3)	Onsite	Co-60 Mn-54 Cs-137 Cs-134 Sr-90	0.9 mCi		Approved: 0.03 mrem/yr whole body dose received by maximally exposed individual. Groundshine, inhalation, groundwater 0.8 mrem/10 yrs

Applicant Location	Date Rec'd	Date Compl.	Lic# Type Rq. Tac #	Waste Chars.	Proposed Disposal	Nuclides Present	Total Act. (uCi)	Total Conc. uCi/gm or uCi/ton	Rec. Action, Crit. Pthw. Analysis
D. C. Cook Units 1 & 2 Bridgman, MI		6/23/88	DPH-58, 74/50-315,316	Contaminated concrete	Onsite retention				Approved
	2/29/88	8/30/88	67788	Concrete blocks (653 m3)	Onsite	Co-60 Cs-134 Cs-137	0.1 mCi		Approved. Insignificant impact, since total activity disposed is below that in FES for liquid effluents
	10/91			Tritium in sediment	Onsite	H-3			
Fermi unit 2 Monroe, MI		4/14/88	NPF-43/50-341	Leak from condensate storage tank	Retain soil in place	Co-60	1 uCi	Contained in 350,000 gallons	Approved Area diked.
	5/26/87	3/14/88		Soil	Onsite	Cr-51 Mn-50 Co-58 Co-60	0.3 mCi	850 m3 soil	Approval: 0.044 mrem/yr whole body public water and fishing ingestion and shoreline sediments, 0.0674 mrem/yr direct exposure to contaminated soil resuspension of soil into air; 0.3 mrem/yr direct exposure
Kewaunee Nuclear Power Plant Kewaunee, WI	9/12/89	5/21/92	DPH-43/50-305	Sludge from secondary side of reactor	Onsite (lagoon)	Cs-137, Co-60	170 uCi	Contained in 15,000 ft3	Approved. Insignificant impact based on total activity; within FES limits for liquid effluents
	9/12/89	6/17/92					0.2 mCi		Approved: 0.034 mrem/yr (whole body) groundshine 0.008 mrem/yr (whole body) inhalation 0.007 mrem/yr (whole body) groundwater ingestion
Palisades Nuclear Generating Plant Covert, MI	11/12/87	3/21/91	DPH-20/50-255 67408	Overflow from cooling towers contaminated soil 170 m3	In place	Cs-137	5.1 mCi	Contained in 6000 ft3 soil	Approved

Applicant Location	Date Rec'd	Date Compl.	Lic. # Type Rq. Tac #	Waste Chars.	Proposed Disposal	Nuclides Present	Total Act. (uCi)	Total Conc. uCi/gm or uCi/ton	Rec. Action, Crit Pthw. Analysis
Point Beach Units 1 & 2 Two Rivers, WI Combustion Engineering Hemate, MO	10/18/87	1/13/88	DPR-24, 27/50-266, 301 SNM-33	Contaminated sewage sludge	In place	Co-60 Cs-137	0.003 mCi	Contained in 113 m3 of sludge	Approved. Activity well within FES consideration
Fausstee/Wellman Dynamics Creston, IA			0103-1-BB-SM1	Hemants from machining casting disposed under 20,304		Ha-228, Ra-228, Th-228, U-238	328 155-gallon drums		Groundshine, inhalation, and groundwater pathways dose 0.049 mrem/yr
BP Chemicals Lima, OH	7/20/92	9/9/92	40-07604	Liquids	EPA approved deep well injection system	DU	up to 30 pCi/l		Approved
San Onofre Unit 1	7/15/88	8/21/88	50206	Sand (300 m3)	Onsite	Cs-137	0.2 mCi		Approval 1 mrem/yr whole body dose
	6/22/81		DPR-13 (LER-81-11)	Contaminated sand	Onsite burial	Cs-137	< 0.2 mCi		
Oyster Creek	10/12/82	11/16/82	50219	Soil (480 m3)	Onsite	Co-60 Cs-137 Mn-54	5 mCi		Approval 3 mrem/yr whole body dose
Former University of Miami site Perrine, FL	3/13/84			Biological and laboratory waste	20,304 burial	Cs-137 Co-60 H-3 C-14	1.4 mCi 0.34 mCi 430 mCi 300 mCi	5.3 pCi/g 1.3 pCi/g 1630 pCi/g 1140 pCi/g	Buried under 20,304. Now under NMSS/LLWM review
VA Hospital Los Angeles, CA Palo Verde Unit 1	9/14/89		04-00181-04 NPT-41 (LER 89-08)	Carcasses, scint. liquid Cooling tower sludge	Onsite burial per 20,304 Onsite burial	H-3 C-14 Co-60 Cs-134 Cs-137 Mn-54	450 mCi 54 mCi		Site considered
								2 pCi/g 0.4 pCi/g 2 pCi/g 0.4 pCi/g	Agreement state
US Navy Port Hueneme, CA USGS Denver, CO Cape Thompson, AK Vermorl Vanlee			04-0537A-RTNP (Navy permit) 5-1399-3 73766	crushed rock from Antarctica Soil	Under parking lot Field experiment (20,304)	Sr-90 Cs-137 MFP	< 40 mCi < 600 mCi 26 mCi		U.S. Navy Oak Ridge performed survey for NRC July 1988
	6/28/89	8/30/89		Septic tank waste 262 m3	Onsite	Co-60 Mn-54 Cs-137 Cs-134	0.2 mCi/acre		Approval 0.2 mrem/yr (max. organ). 3.9 mrem/yr to inadvertent intruder

Applicant Location	Date Rec'd	Date Compl.	Lic# Type Rq Tac #	Waste Chars.	Proposed Disposal	Nuclides Present	Total Act. (uCi)	Total Conc. uCi/gm or uCi/ton	Rec. Action, Crit. Pathw. Analysis
Yankee Power	4/11/90	5/17/90		Septic tank waste every 1 - 2 years for 30 yrs. (200 m3)	Offsite at local municipal sewage treatment plants	Zn-65 Co-60 Mn-54 Cs-137 Cs-134	0.2 mCi		Approved: 0.12 mrem/yr (whole body, child); ground irradiation; inhalation, skin; vegetables, leafy; vegetables, milk; ingestion
Maine Yankee	4/26/90	4/18/91	71250	Hazardous chemical solution (40 m3)	Offsite at EPA approved hazardous waste site.	Co-60 Zn-65 Cs-137	0.1 mCi		Approval: 0.1 mrem/yr (lung) inhalation resuspended activity ingestion of crops grown onsite; 0.0064 mrem/yr (whole body) ingestion drinking water 0.34 mrem/yr (whole body) direct radiation buried activity, 0.12 (whole body) direct radiation waste transportation; 0.005 (whole body) direct radiation waste handling
Sequoia	12/23/85	12/7/87	0179/80	Trash: (750 m3)	Offsite yearly, at a sanitary landfill		200 mCi		Rejected: Total activity proposed per year of 200 mCi is orders of magnitude higher than similar 20,302 approvals for offsite disposal; also non-homogeneity of the trash
Sunny 1, 2	11/25/86	4/9/87	64191/82	Soil (300 m3)	onsite	Co-60 Cs-134 Cs-137 Mn-54	72 mCi		Approval: Ground shine, inhalation dose breathing resuspended airborne radioactivity and ingestion of radioactivity from contaminated water to maximally exposed member of public <1 mrem/yr; inadvertent intruder <5 mrem/yr

Applicant Location	Date Rec'd	Date Compl.	Lic# Type Rq. Tac #	Waste Chars.	Proposed Disposal	Nuclides Present	Total Act. (uCi)	Total Conc. uCi/gm or uCi/ton	Rec. Action, Cnt. Pthw. Analysis
Turkey point		5/82		Soil (2500 ft ³)	Burial with contaminated soil and 5 ft of overburden.	Co-58 Co-60 Cr-51 Cs-137 Co-60	35 mCi	465 pCi/g	Approved
Grand Gulf		3/87		Resin sludge (1384 ft ³)	Burial in metal liner with 4 ft overburden.		0.0016 mCi	0.04 pCi/g	Deferred to state
Pilgrim Nuclear Power Station Boston Edison Co.	1/15/93	4/8/93	TAC M85501	contaminated backfill soil (79,000 ft ³) (4.0 million kg)	On site, covered with topsoil and seeded	Cs-137 Co-60	442 194		Approved. Calculated dose from groundshine, inhalation and groundwater ingestion < 1 mrem/yr