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A Compilation of the Electricity Generated and Low-Level Radioactive Wastes Shipped for Disposal by U.S. Nuclear Power Plants, 1959–1985

A. H. Kibbey
S. M. DePaoli

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CONTENTS

LIST OF FIGURES

LIST OF FIGURES (continued)

LIST OF FIGURES (continued)

LIST OF TABLES

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ABSTRACT

The LWRDATA data base contains both volume and radioactivity data on nearly all the low-level radioactive waste (LLW) shipments from commercial boiling-water reactor (BWR) and pressurized-water reactor (PWR) nuclear power plants from 1959 through 1985. The corresponding net electrical output is also included in the data base. This report compares the various physical forms of LLW (i.e., wet; dry, compressible; irradiated, non-fuel core component; and miscellaneous) generated by BWR and PWR plants on the basis of their annual net electricity generation. Further comparisons are made of three specific categories of BWRs based on their size and condensate polishing systems: (1) small deep-bed plants, (2) large deep-bed plants, and (3) filter-demineralizer plants. The various types and volumes of PWR wastes generated per net megawatt (electrical)-year are also compared by nuclear steam supply system manufacturer. Limitations of the available data are discussed.

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1. INTRODUCTION

Every year since 1979, the U.S. Department of Energy (DOE) has published current estimates of the volume, radioactivity, and thermal power of all radioactive wastes generated, stored, or disposed of in the United States. These reports[1] include data on historical inventories; current generation, storage, and disposal rates; and projections through the year 2020. The waste projections are based on DOE's Energy Information Administration (EIA) estimates of future nuclear power growth. As part of this effort, generic source terms were developed for

projecting the data for low-level radioactive wastes (LLW) disposed of by light-water-cooled nuclear power reactors (LWRs) on the basis of selected operating data.[2-18] Advances in reactor design and operation, as well as improvements in waste disposal technology and changes in regulatory requirements, necessitate periodic updates of the LLW projection source terms. A data base named LWRDATA has been compiled at Oak Ridge National Laboratory (ORNL) to provide background material in support of such updates. The entire data base for the years 1959 through 1985 is presented in Appendix B. The data base begins with the most recent data and progresses backward in time.

The data base gives the annual net electricity generated at each plant site and the volume and radioactivity of each of four categories of LLW that was shipped to commercial disposal. These four waste categories are specified in U.S. Nuclear Regulatory Commission (NRC) Regulatory Guide 1.21 (ref. 19) as: Type A (wet), Type B (dry, compressible), Type C (irradiated, nonfuel core components), and Type D (other miscellaneous waste). These waste categories should not be confused with those classifications promulgated by the NRC in 10 CFR 61.[20] In some cases, accompanying pertinent explanatory remarks are also given. When the reported shipment data had no indication as to type of waste, it was usually assigned to Type A (wet) to assure that any error would be conservative with respect to volume and radioactivity. The wet wastes arise from process stream cleanup and are comprised mainly of solidified evaporator bottoms, spent resins, filter sludges, and filter cartridges. The dry, compressible waste is comprised largely of plastics, paper, cloth, and contaminated equipment. The irradiated, nonfuel core components include such items as shrouds, fuel channels, poison curtains, control rods, and control rod blades and channels. The miscellaneous wastes include organic decontamination solutions, scintillation vials, oil, noncompactible trash, soil, rubble, etc. Waste Types A, B, and D are considered routine, whereas Type C is nonroutine since irradiated core component shipments require special individual treatment and occur only sporadically. Currently, the Electric Power Research Institute (EPRI) in Palo Alto, California, is attempting to quantify other nonroutine, one-time-generated LLW

(e.g., from steam generator replacement) and to determine its impact on day-to-day waste management;[21] these wastes are included in Type D in this report.

Some typical plots of the data [expressed in cubic meters or curies per net megawatt (electrical)-year] are presented in Sect. 2 for comparison of waste shipments from boiling-water reactors (BWRs) and pressurized-water reactors (PWRs). For BWRs, such comparisons are also made between wastes shipped from plants which use deep-bed (db) bead resin ion exchangers in their condensate polishing systems and those with powdered resin precoat filter-demineralizers (f/d) in their condensate polishing systems.[22] These comparisons of LLW shipments from the two types of BWRs are shown in Figs. A.1 to A.10 in Appendix A. Similar comparisons are presented for PWRs on the basis of their nuclear steam supply systems [i.e., manufacturers: Combustion Engineering, Inc. (CE), Babcock & Wilcox Company (B&W), and Westinghouse Electric Corp. (West)], as shown in Figs. A.11 to A.20 in Appendix A.

2. BACKGROUND AND TRENDS

Over the last five to six years, nuclear power plants in the United States have expended considerable effort in reducing the volume of LLW they ship for commercial disposal. The skyrocketing transportation and disposal costs that followed the early closing of three Eastern burial sites (West Valley, New York; Maxey Flats, Kentucky; and Sheffield, Illinois) initially gave impetus to the movement. Passage of the Low-Level Radioactive Waste Policy Amendments Act of 1985 (LLRWPAA)[23] further influenced the cutback by establishing caps on waste acceptance at the three remaining licensed commercial disposal sites (Barnwell, South Carolina; Richland, Washington; and Beatty, Nevada) over the seven-year period 1986 to 1992. The LLRWPAA also limits and allocates the amounts of LLW that individual BWR or PWR plants may dispose of during this transition time when new regional disposal sites are not fully operational within the state compacts mandated by the 1980 Low-Level Radioactive Waste Policy Act.[24]

This report deals only with the LLW reported as shipped to disposal by commercial U.S. nuclear power plants from 1959 through 1985. Shippingport and N-reactor are excluded since their dominant roles have been to serve DOE research and defense programs. Complete reactor-by-reactor LLW data for 1986 are not yet available, but the total volume of waste shipped to burial in 1986, as reported by the disposal sites, was approximately one-third less than that shipped in 1985, when a total of roughly 75,000 m^3 was disposed of. The enforcement of more stringent requirements for disposal of wastes containing both chemically hazardous and radioactive constituents (i.e., "mixed" waste) may be a contributing factor. The volume of nuclear power plant waste alone dropped from approximately 43,000 m^3 in 1985 to roughly 29,000 m^3 in 1986.[25]

2.1 VOLUME

The actual total annual volumes of each waste type[19] shipped to burial from 1959 through 1985, together with the corresponding net electrical output,[2,5-7] are presented in Tables 1 and 2 for BWRs and PWRs, respectively. Also included are the calculated annual volumes shipped per megawatt (electrical)-year of net electricity generated. A plot of the total volumes shipped annually by BWRs and PWRs on this basis is shown in Fig. 1. Similar plots for each of the four waste types (A: wet; B: dry, compressible; C: irradiated nonfuel core component; and D: miscellaneous) are given in Figs. 2 to 5, respectively. The scales for the plots in Figs. 4 and 5 have been adjusted to de-emphasize the uncommonly high volumes of these waste types (i.e., C and D) that were shipped from BWRs in the early years of commercial operation. This allows a more meaningful depiction of the more typical volumes reported in recent years. This same practice was used in other, later figures in this report when only a few points would otherwise obscure direct comparisons among the wastes generated in most years. The exaggerated volumes of Type C and D wastes shipped during the first few years of BWR operation may have been due to fuel failures or some other conditions (e.g., inadequate system design) that were rectified as more experience was gained.

Table 1. Summary (1959-1985) of the annual total net electricity generated and the volumes of low-level waste shipped to burial by BWR nuclear power plants

Year	Net electricity generated [MW(e)-year]	Volume (m^3) for waste type[a] A (Wet)	B (Dry)	C (Core component)	D (Other)	Volume [m^3/MW(e)-year (net)] for waste type[a] A (Wet)	B (Dry)	C (Core component)	D (Other)	A+B+D (Sum)
1959	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1960	28.752	0.000	0.000	0.000	31.153	0.000	0.000	0.000	1.084	1.084
1961	59.534	0.000	130.616	0.000	17.693	0.000	2.194	0.000	0.297	2.491
1962	136.706	0.000	0.000	12.178	0.000	0.000	0.000	0.089	0.000	0.000
1963	135.642	0.000	28.377	0.000	0.000	0.000	0.209	0.000	0.000	0.209
1964	164.331	0.000	54.347	0.000	0.000	0.000	0.331	0.000	0.000	0.331
1965	164.232	21.750	138.816	5.523	0.000	0.132	0.845	0.034	0.000	0.978
1966	221.362	33.220	27.470	3.286	0.000	0.150	0.124	0.015	0.000	0.274
1967	183.760	116.398	232.341	5.075	0.000	0.633	1.264	0.028	0.000	1.898
1968	204.632	32.710	266.820	1.699	0.000	0.160	1.304	0.008	0.000	1.464
1969	237.756	12.744	106.968	19.513	0.000	0.054	0.450	0.082	0.000	0.504
1970	1,010.790	585.533	424.107	8.000	0.000	0.579	0.420	0.008	0.000	0.999
1971	1,969.381	1,660.812	873.861	2.498	0.000	0.843	0.444	0.001	0.000	1.287
1972	3,187.983	3,780.456	871.787	4.368	28.000	1.186	0.273	0.001	0.009	1.468
1973	4,446.498	2,754.766	2,956.402	41.000	0.000	0.620	0.665	0.009	0.000	1.284
1974	5,297.741	5,257.674	2,138.928	0.210	457.150	0.992	0.404	0.000	0.086	1.482
1975	6,308.900	8,712.018	6,808.875	0.488	73.467	1.381	1.079	0.000	0.012	2.472
1976	8,043.699	9,383.820	9,026.530	13.300	1,176.273	1.167	1.122	0.002	0.146	2.435
1977	9,635.681	11,699.900	6,523.560	55.520	705.780	1.214	0.677	0.006	0.073	1.964
1978	11,353.111	10,597.360	8,596.000	205.450	727.480	0.933	0.757	0.018	0.064	1.755
1979	11,390.306	9,920.990	7,627.270	2,019.020	772.100	0.871	0.670	0.177	0.068	1.608
1980	10,415.738	11,825.100	14,925.300	662.500	16.180	1.135	1.433	0.064	0.002	2.570
1981	10,187.386	9,625.158	12,768.306	1,618.760	624.970	0.945	1.253	0.159	0.061	2.260
1982	10,200.593	9,075.716	11,924.230	42.320	4,516.245	0.890	1.169	0.004	0.443	2.501
1983	9,363.476	10,635.270	9,621.598	38.170	2,314.196	1.136	1.028	0.004	0.247	2.411
1984	9,766.307	9,748.830	12,988.766	142.770	1,652.725	0.998	1.330	0.015	0.169	2.497
1985	12,151.061	8,436.382	11,411.623	252.862	2,374.368	0.694	0.939	0.021	0.195	1.829

[a]As defined in NRC Regulatory Guide 1.21 (ref. 19).

Table 2. Summary (1959–1985) of the annual total net electricity generated and the volumes of low-level waste shipped to burial by PWR nuclear power plants

Year	Net electricity generated [MW(e)-year]	Volume (m^3) for waste type[a] A (Wet)	B (Dry)	C (Core component)	D (Other)	Volume [m^3/MW(e)-year (net)] for waste type[a] A (Wet)	B (Dry)	C (Core component)	D (Other)	A+B+D (Sum)
1960	3.843	2.082	0.000	0.000	0.000	0.542	0.000	0.000	0.000	0.542
1961	96.980	14.571	0.000	0.000	0.000	0.150	0.000	0.000	0.000	0.150
1962	95.607	107.617	0.000	0.000	0.000	1.126	0.000	0.000	0.000	1.126
1963	207.600	104.286	0.382	5.412	27.220	0.502	0.002	0.026	0.131	0.635
1964	198.305	102.413	23.105	24.208	2.914	0.516	0.117	0.122	0.015	0.648
1965	212.293	173.212	42.464	0.000	0.000	0.816	0.200	0.000	0.000	1.016
1966	334.161	71.189	79.307	0.416	0.000	0.213	0.237	0.001	0.000	0.450
1967	418.974	0.000	201.911	5.828	0.000	0.000	0.482	0.014	0.000	0.482
1968	780.732	26.528	131.104	4.163	4.078	0.034	0.168	0.005	0.005	0.207
1969	1,048.714	110.043	150.705	5.828	0.000	0.105	0.144	0.006	0.000	0.249
1970	1,191.611	286.973	1.482	0.000	0.000	0.241	0.001	0.000	0.000	0.242
1971	2,102.782	983.867	102.449	0.000	0.000	0.468	0.049	0.000	0.000	0.517
1972	2,449.813	1,307.339	209.969	0.000	0.000	0.534	0.086	0.000	0.000	0.619
1973	4,619.735	1,731.179	1,440.276	0.000	0.000	0.375	0.312	0.000	0.000	0.687
1974	6,649.772	6,523.451	334.775	0.227	33.192	0.981	0.050	0.000	0.005	1.036
1975	12,088.576	15,903.955	1,531.616	0.000	214.469	1.316	0.127	0.000	0.018	1.460
1976	13,112.590	9,908.535	2,733.723	192.490	62.598	0.756	0.208	0.015	0.005	0.969
1977	17,737.460	9,576.672	4,613.302	49.340	60.330	0.540	0.260	0.003	0.003	0.803
1978	19,595.616	10,601.360	11,952.610	384.960	1,009.180	0.541	0.610	0.020	0.052	1.202
1979	17,331.550	10,905.280	7,999.850	102.150	273.990	0.629	0.462	0.006	0.016	1.107
1980	17,848.355	8,280.240	11,055.500	373.568	1,735.612	0.464	0.619	0.021	0.097	1.181
1981	20,309.717	14,295.146	7,982.540	160.674	495.257	0.704	0.393	0.008	0.024	1.121
1982	20,715.779	11,079.831	8,742.184	428.400	877.600	0.535	0.422	0.021	0.042	0.999
1983	22,494.229	9,773.575	11,165.702	120.242	745.245	0.434	0.496	0.005	0.033	0.964
1984	26,427.453	6,234.050	14,172.060	112.430	374.700	0.236	0.536	0.004	0.014	0.786
1985	30,413.357	5,628.400	12,198.408	36.260	876.993	0.185	0.401	0.001	0.029	0.615

[a]As defined in NRC Regulatory Guide 1.21 (ref. 19).

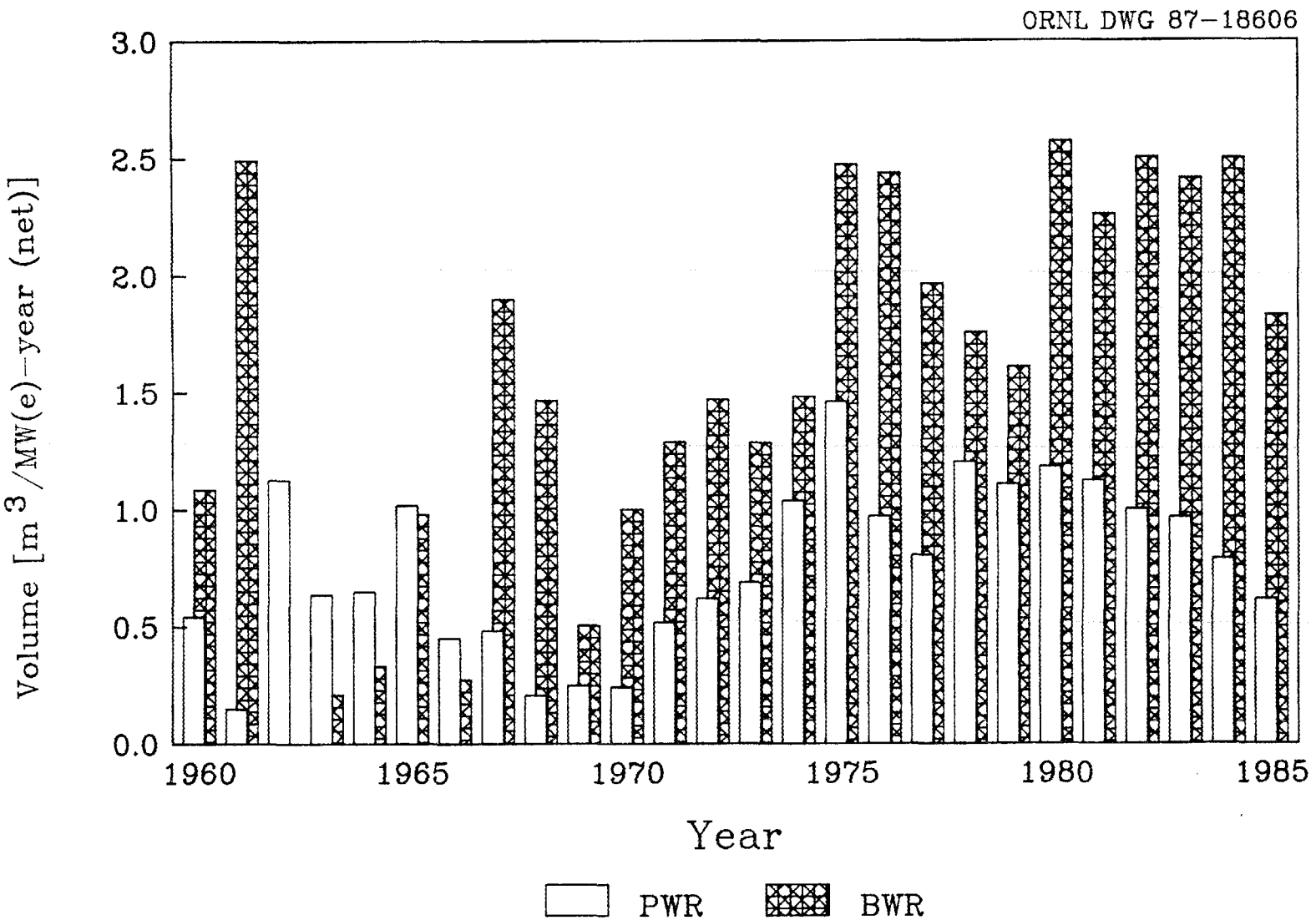

Fig. 1. Total volume of LLW (routine power reactor waste — no irradiated, nonfuel core components) shipped to burial.

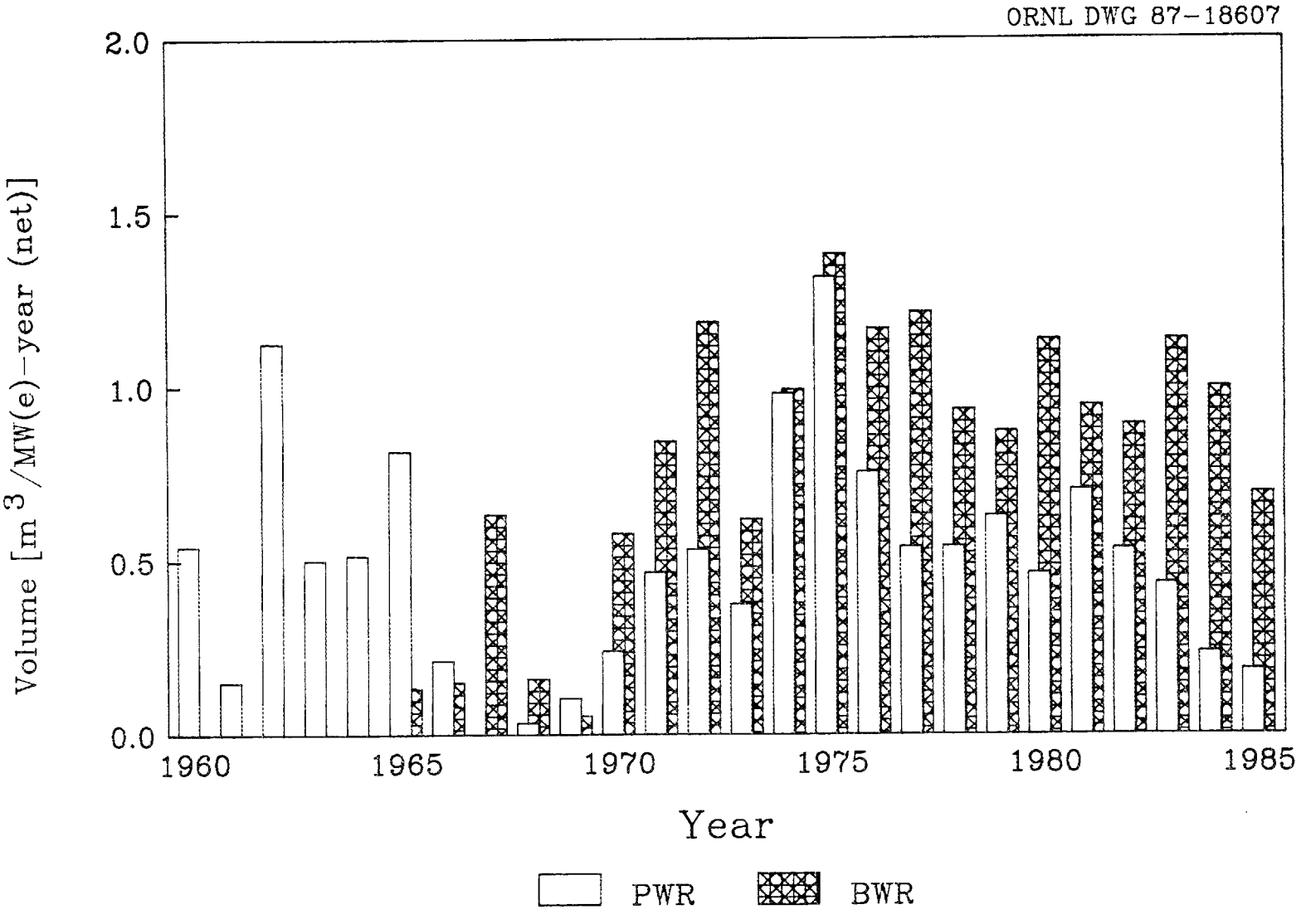

Fig. 2. Volume of reactor LLW (routine Type A — evaporator bottoms, resins, and sludges) shipped to burial.

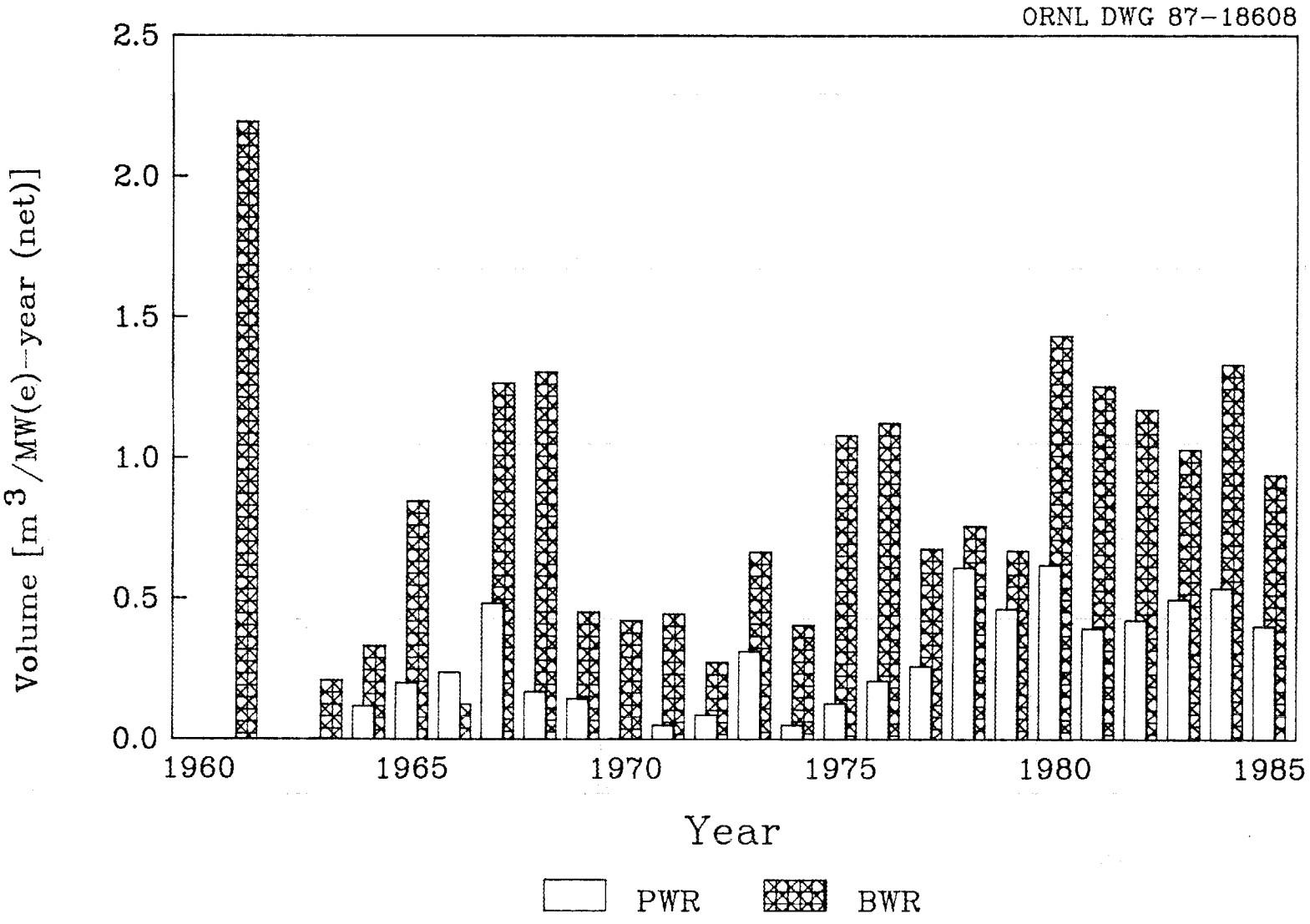

Fig. 3. Volume of reactor LLW (routine Type B — dry, compressible waste and equipment) shipped to burial.

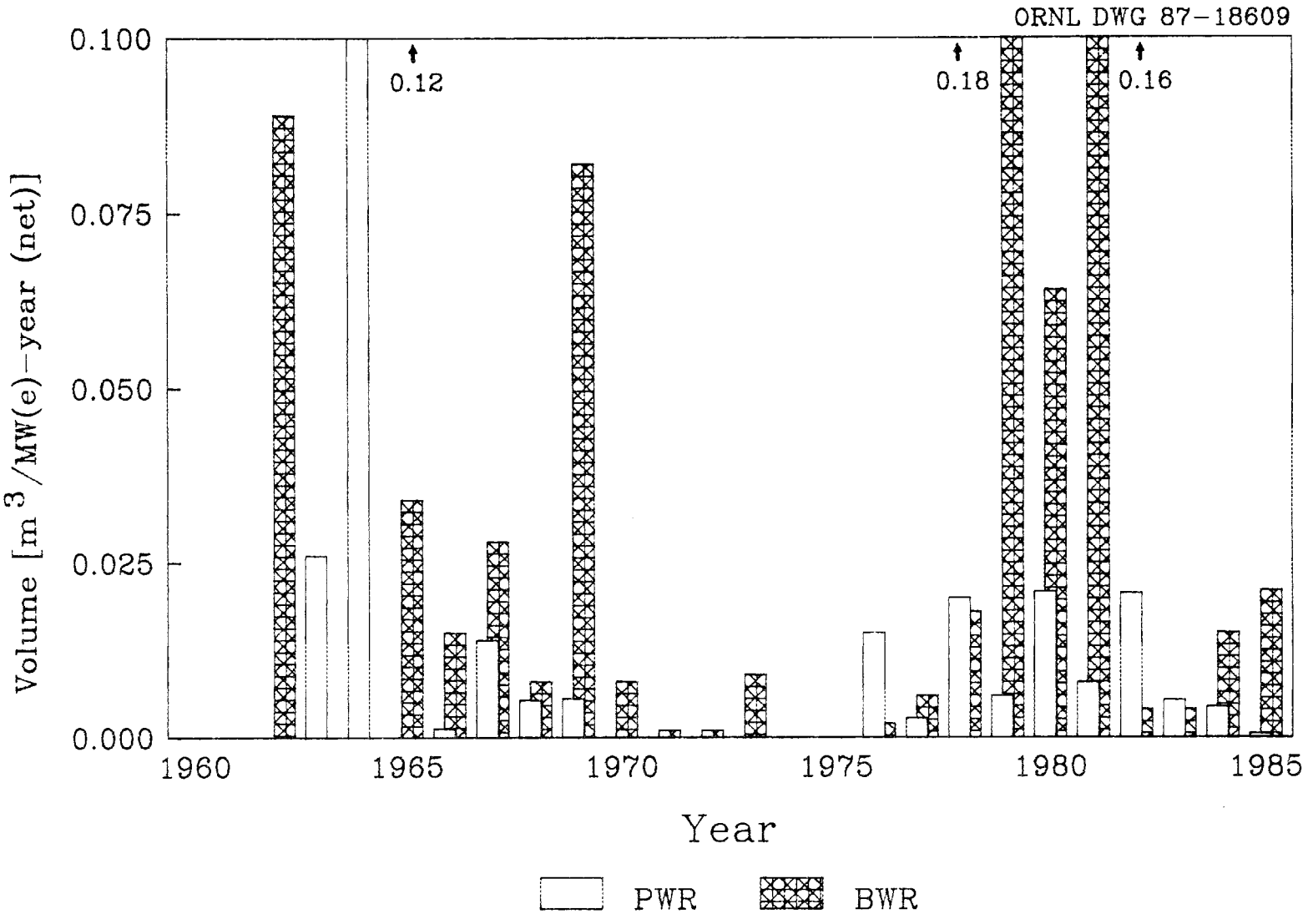

Fig. 4. Volume of reactor LLW (nonroutine Type C — irradiated, nonfuel core components) shipped to burial.

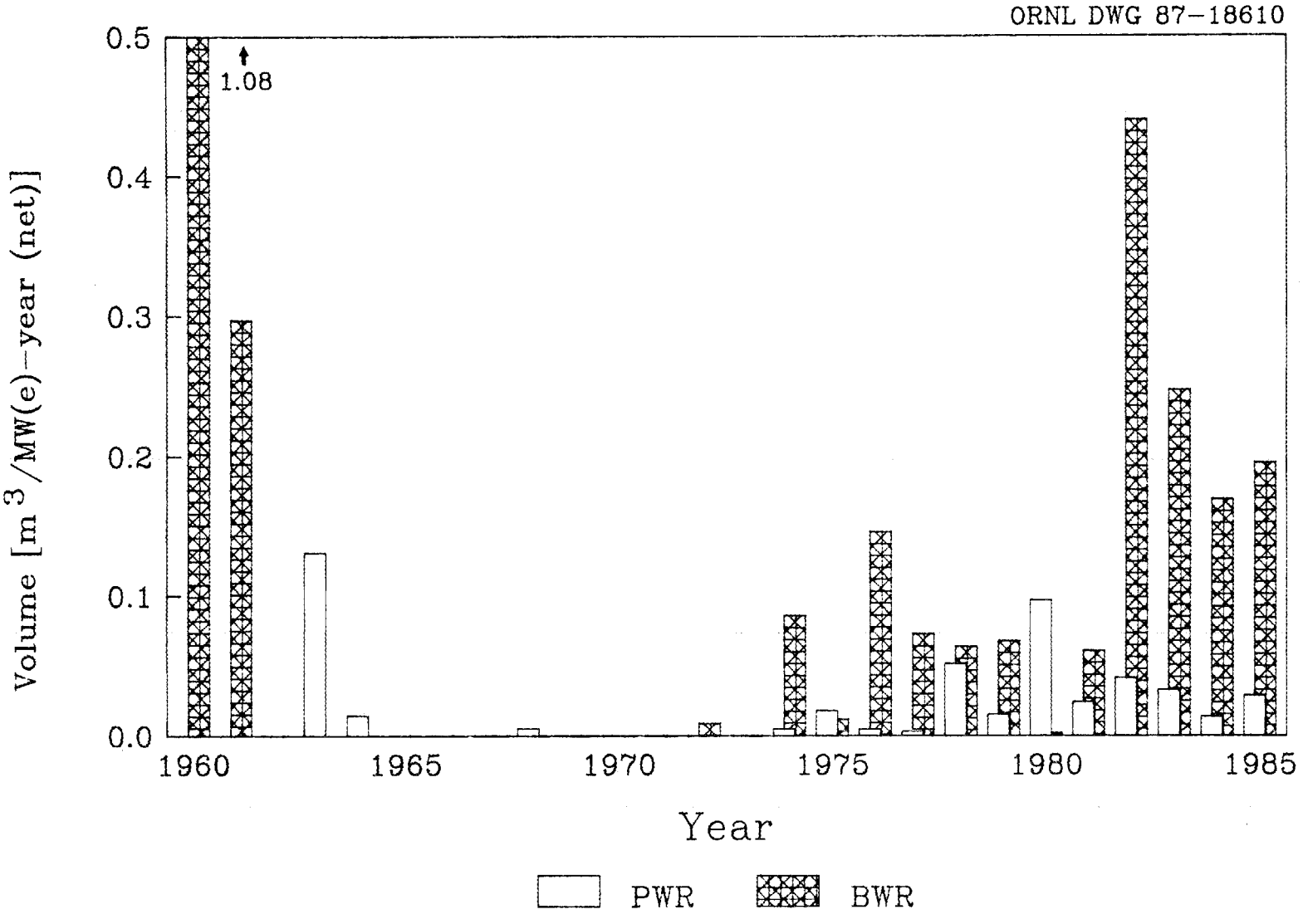

Fig. 5. Volume of reactor LLW (miscellaneous routine Type D — noncompactible rubbish, oil, organic liquids, etc.) shipped to burial.

On the basis of net electricity generated, the PWRs show a distinct downward trend in the volume of Type A (wet) waste shipments in recent years, whereas the BWRs do not (Fig. 2). The BWRs, however, indicate a somewhat greater tendency toward reduction in Type B (dry, compressible) waste volumes on the same basis. Note that the BWRs ship larger volumes of all routine (Type A, B, and D) wastes per megawatt (electrical)-year of net electricity generated than do PWRs (Figs. 2, 3, and 5). In recent years, the total volume of nonroutine (Type C) waste shipped per megawatt (electrical)-year of net electricity generated shows little difference between BWRs and PWRs (Fig. 4).

Comparisons of the volumes of the four waste types shipped from the three categories of BWR plants (small and large deep-bed plants and filter/demineralizer plants as defined in ref. 21) per megawatt (electrical)-year net electricity generated are presented in Figs. A.1 to A.5 in Appendix A. Similar comparisons are made for the PWRs according to nuclear steam supply system manufacturer in Figs. A.11 to A.15 in Appendix A.

2.2 RADIOACTIVITY

The reported gross radioactivity in each waste shipment from 1959 through 1985 is presented in Tables 3 and 4 for BWRs and PWRs, respectively, for each waste type. The corresponding annual net electricity generated is also included. As shown in Fig. 6, the BWR wastes generally contain more radioactivity per megawatt (electrical)-year of net electrical output than do PWR wastes. The Type A wastes (Fig. 7) display fairly constant levels of radioactivity per megawatt (electrical)-year of net electricity generated by both types of reactor plants, although these BWR wastes did show exceptionally high curie contents in 1968 and 1984. The curies per megawatt (electrical)-year of net electricity generated in Type B waste (Fig. 8) have fluctuated in the range of 0 to 0.1 for PWRs but show wider swings for BWRs. In the Type B wastes from BWRs, peaks of 1.15 and 0.8 Ci/MW(e)-year net generation occurred in 1975 and 1977, respectively, with values exceeding 0.1 Ci/MW(e)-year on a total of nine occasions since 1969;

Table 3. Summary (1959–1985) of the annual total net electricity generated and the radioactivities of low-level waste shipped to burial by BWR nuclear power plants

Year	Net electricity generated [MW(e)-year]	Activity (Ci) for waste type[a] A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity [Ci/MW(e)-year (net)] for waste type[a] A (Wet)	B (Dry)	C (Core component)	D (Other)	A+B+D (Sum)
1959	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1960	28.752	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.026	0.026
1961	59.534	0.000	1.891	0.000	61.100	0.000	0.032	0.000	1.026	1.058
1962	136.706	0.000	0.000	560.000	0.000	0.000	0.000	4.096	0.000	0.000
1963	135.642	0.000	0.193	0.000	0.000	0.000	0.001	0.000	0.000	0.001
1964	164.331	0.000	1.324	926.766	0.000	0.000	0.008	5.640	0.000	0.008
1965	164.232	378.537	0.797	40.000	0.000	2.305	0.005	0.244	0.000	2.310
1966	221.362	174.900	0.409	1,617.000	0.000	0.790	0.002	7.305	0.000	0.792
1967	183.760	13.418	1.347	2,950.150	0.000	0.073	0.007	16.054	0.000	0.080
1968	204.632	1,747.831	2.340	263.200	0.140	8.541	0.011	1.286	0.001	8.553
1969	237.756	62.080	2.150	280.000	0.000	0.261	0.009	1.178	0.000	0.270
1970	1,010.790	24.924	118.708	16,120.000	0.000	0.025	0.117	15.948	0.000	0.142
1971	1,969.381	361.869	7.347	8.492	0.000	0.184	0.004	0.004	0.000	0.187
1972	3,187.983	3,280.532	9.039	20,107.400	1.250	1.029	0.003	6.307	0.000	1.032
1973	4,446.498	6,165.017	290.333	40,001.700	0.000	1.386	0.065	8.996	0.000	1.452
1974	5,297.741	10,032.701	794.210	4,300.000	0.117	1.894	0.150	0.812	0.000	2.044
1975	6,308.900	23,895.978	7,260.671	1,400.001	16.455	3.788	1.151	0.222	0.003	4.941
1976	8,043.699	23,268.600	1,201.140	31,458.245	5.900	2.893	0.149	3.911	0.001	3.043
1977	9,635.681	31,935.780	7,656.632	303,479.000	131.300	3.314	0.795	31.495	0.014	4.123
1978	11,353.111	25,460.500	614.031	275,997.500	2.746	2.243	0.054	24.310	0.000	2.297
1979	11,390.306	34,913.100	789.490	32,185.967	24.501	3.065	0.069	2.826	0.002	3.137
1980	10,415.738	40,395.800	1,039.820	21,403.530	0.048	3.878	0.100	2.055	0.000	3.978
1981	10,187.386	40,602.364	1,418.800	2,288.000	49.810	3.986	0.139	0.225	0.005	4.130
1982	10,200.593	35,323.280	1,784.390	172,673.040	488.720	3.463	0.175	16.928	0.048	3.686
1983	9,363.476	54,680.660	1,336.853	172,530.000	52.836	5.840	0.143	18.426	0.006	5.988
1984	9,766.307	28,109.839	563.211	185,869.790	51.257	2.878	0.058	19.032	0.005	2.941
1985	12,151.061	25,804.572	513.475	399,507.780	311.469	2.124	0.042	32.878	0.026	2.192

[a]As defined in NRC Regulatory Guide 1.21 (ref. 19).

Table 4. Summary (1959–1985) of the annual total net electricity generated and the radioactivities of low-level waste shipped to burial by PWR nuclear power plants

Year	Net electricity generated [MW(e)-year]	Activity (Ci) for waste type[a]				Activity [Ci/MW(e)-year (net)] for waste type[a]				
		A (Wet)	B (Dry)	C (Core component)	D (Other)	A (Wet)	B (Dry)	C (Core component)	D (Other)	A+B+D (Sum)
1960	3.843	0.150	0.000	0.000	0.000	0.039	0.000	0.000	0.000	0.039
1961	96.980	0.107	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001
1962	95.607	1.480	0.000	0.000	0.000	0.015	0.000	0.000	0.000	0.015
1963	207.600	3.272	0.001	11.100	1.600	0.016	0.000	0.053	0.008	0.023
1964	198.305	94.988	0.466	60,000.050	0.242	0.479	0.002	302.565	0.001	0.483
1965	212.293	365.815	1.168	1,140.000	0.000	1.723	0.006	5.370	0.000	1.729
1966	334.161	5.846	0.842	486.000	0.000	0.017	0.003	1.454	0.000	0.020
1967	418.974	0.000	5.398	37,001.546	0.000	0.000	0.013	88.315	0.000	0.013
1968	780.732	14.838	1.769	627.229	0.002	0.019	0.002	0.803	0.000	0.021
1969	1,046.714	205.521	2.831	11.284	0.000	0.196	0.003	0.011	0.000	0.199
1970	1,191.611	344.047	0.018	0.000	0.000	0.289	0.000	0.000	0.000	0.289
1971	2,102.782	329.331	1.746	0.000	0.000	0.157	0.001	0.000	0.000	0.157
1972	2,449.813	6,634.313	3.268	0.000	0.000	2.708	0.001	0.000	0.000	2.709
1973	4,619.735	3,324.064	444.189	100,390.000	0.000	0.720	0.096	21.731	0.000	0.816
1974	6,649.772	5,706.963	13.760	4,946.000	3.515	0.858	0.002	0.744	0.001	0.861
1975	12,088.576	18,582.277	209.379	0.000	4.230	1.537	0.017	0.000	0.000	1.555
1976	13,112.590	5,858.372	212.836	235.080	41.540	0.447	0.016	0.018	0.003	0.466
1977	17,737.460	16,484.322	1,452.921	32,097.890	104.862	0.929	0.082	1.810	0.006	1.017
1978	19,595.616	20,833.259	855.834	45,398.784	500.411	1.063	0.044	2.317	0.026	1.132
1979	17,331.550	13,684.470	558.647	4,867.764	236.326	0.790	0.032	0.281	0.014	0.835
1980	17,848.355	19,690.260	1,531.430	14,348.600	2,592.592	1.103	0.086	0.804	0.145	1.334
1981	20,309.717	30,082.174	643.951	15,603.990	220.529	1.481	0.032	0.768	0.011	1.524
1982	20,715.779	31,132.188	1,959.316	1,850.000	500.943	1.503	0.095	0.089	0.024	1.622
1983	22,494.229	30,431.016	798.470	119,855.200	439.714	1.353	0.035	5.328	0.020	1.408
1984	26,427.453	40,007.330	612.420	210,648.420	452.185	1.514	0.023	7.971	0.017	1.554
1985	30,413.357	26,489.220	1,664.745	25,772.430	391.188	0.871	0.055	0.847	0.013	0.939

[a]As defined in NRC Regulatory Guide 1.21 (ref. 19).

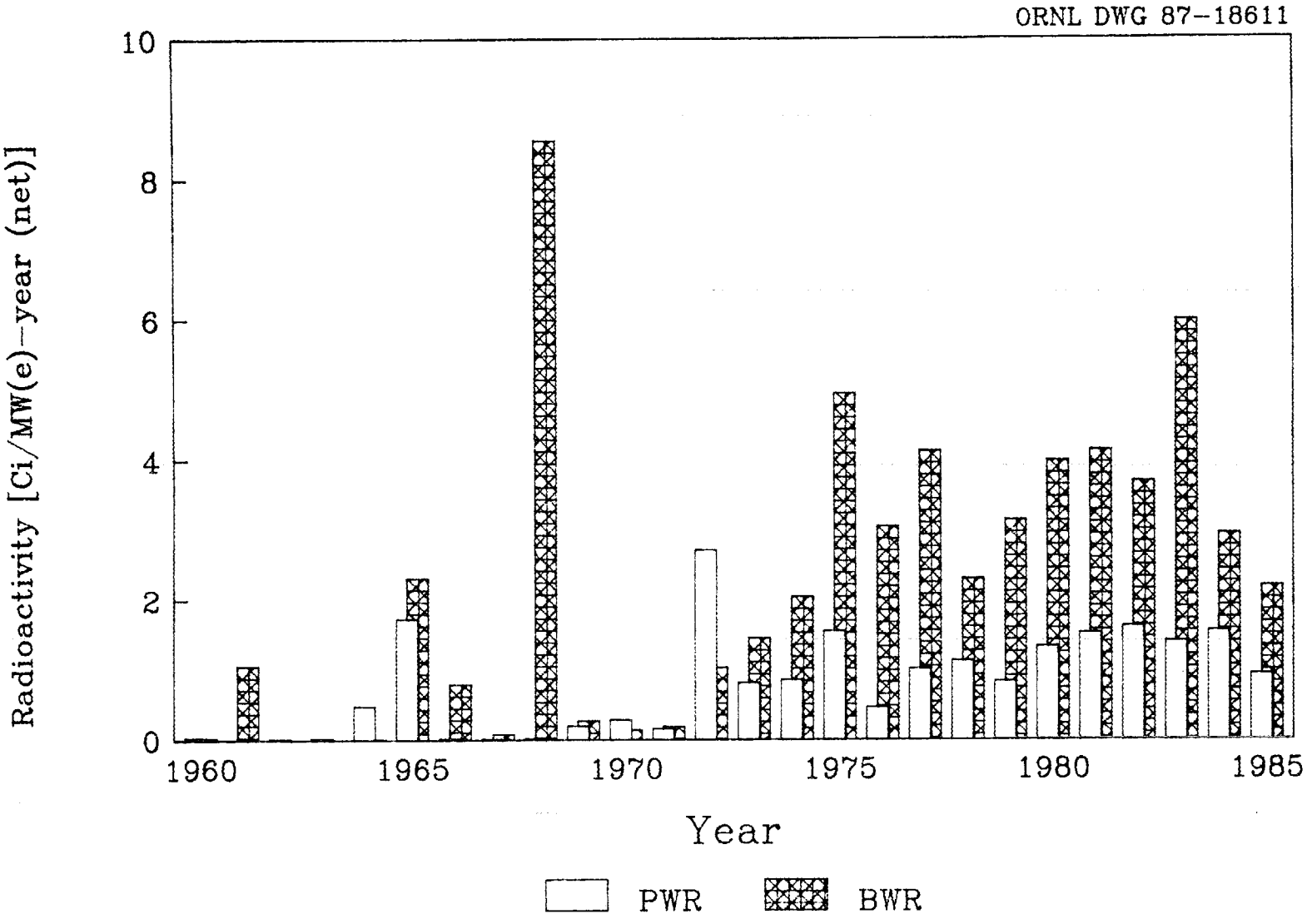

Fig. 6. Total radioactivity of LLW (routine power reactor waste — no irradiated, nonfuel core components) shipped to burial.

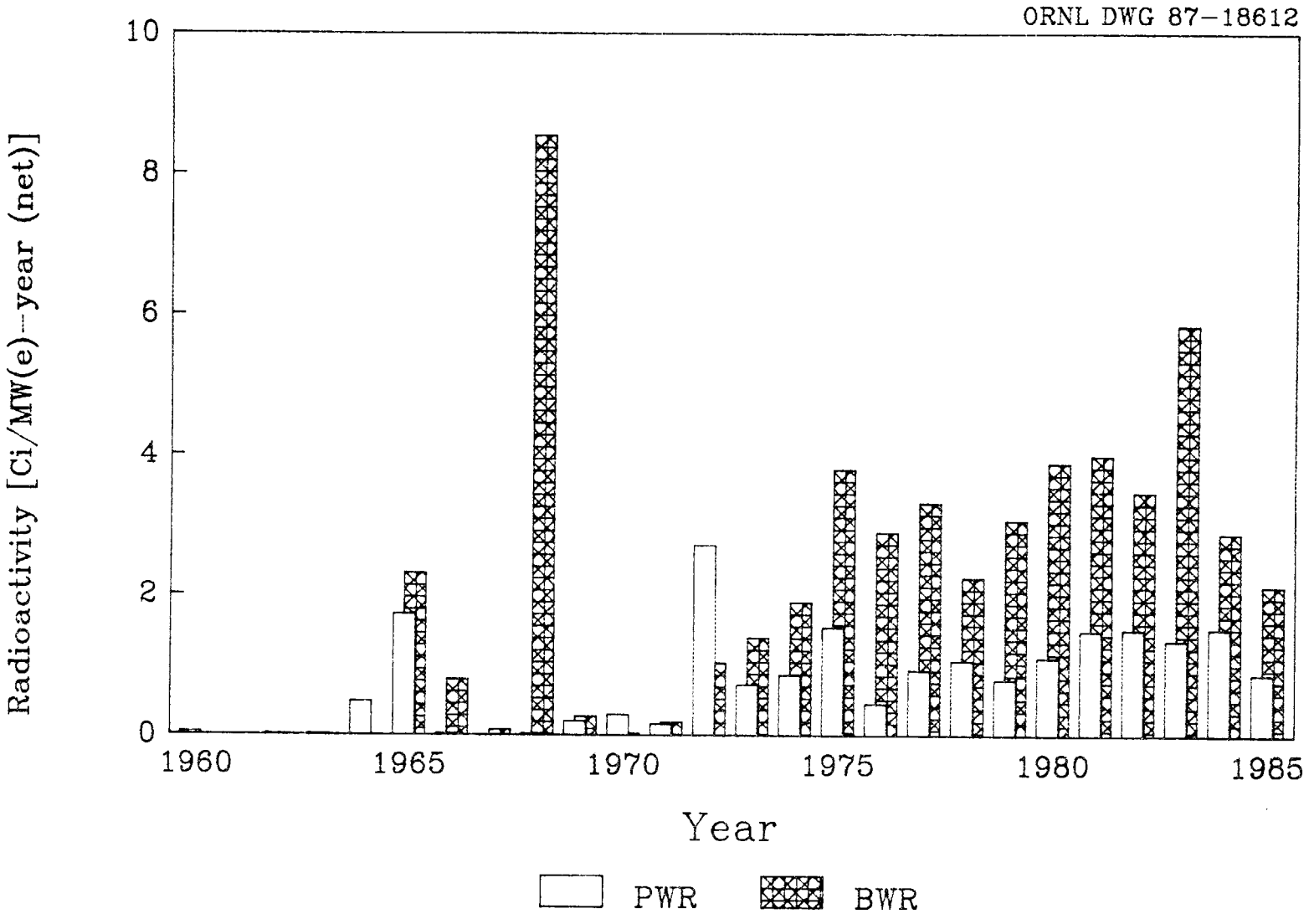

Fig. 7. Radioactivity of reactor LLW (routine Type A — evaporator bottoms, resins, and sludges) shipped to burial.

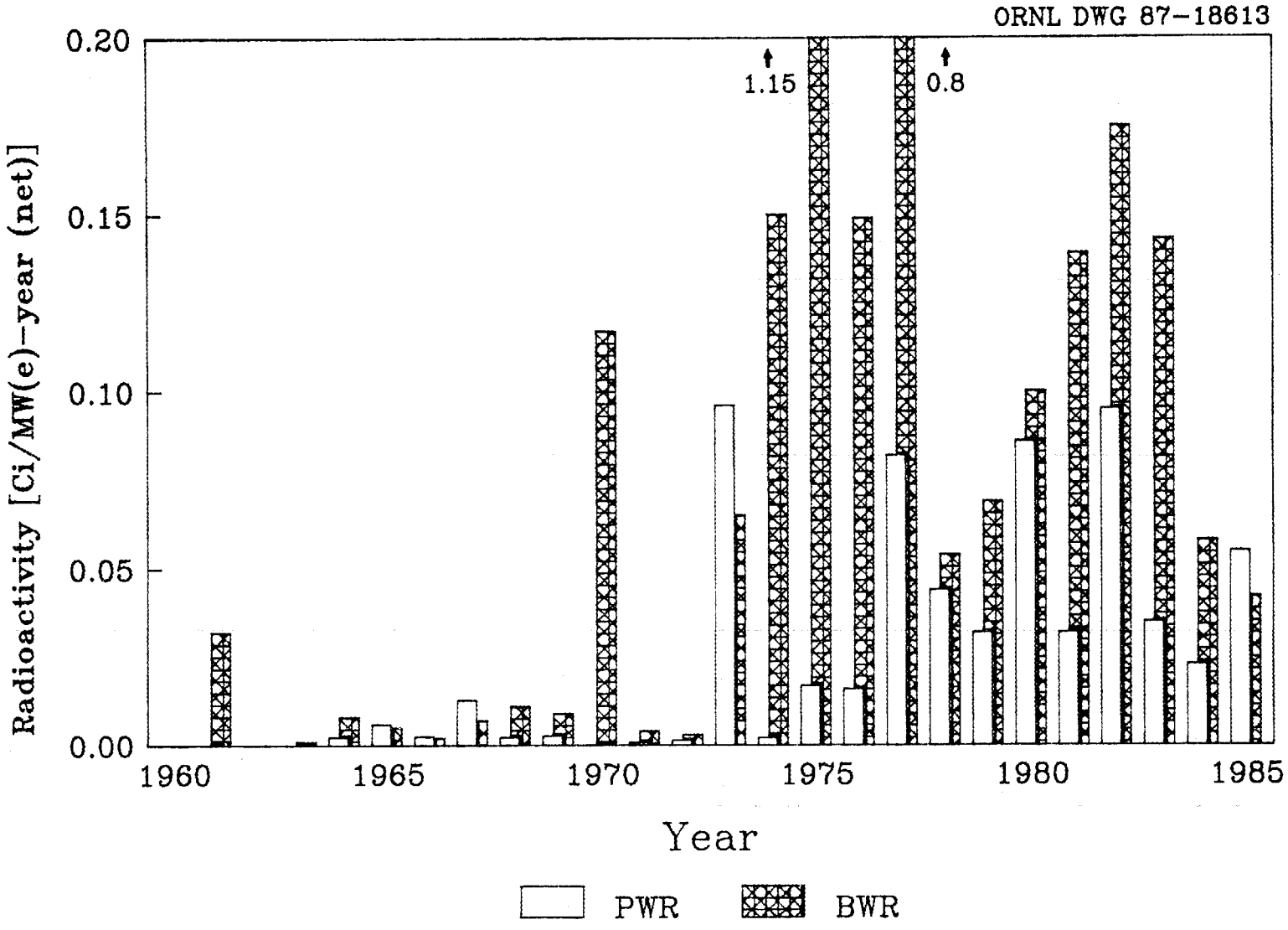

Fig. 8. Radioactivity of reactor LLW (routine Type B — dry, compressible waste and equipment) shipped to burial.

however, a steep downward trend began in 1983. The curies per megawatt (electrical)-year net electrical output in Type C wastes have, in general, been higher in the BWR wastes than in those from PWRs (Fig. 9). Notable exceptions occurred in 1964 and 1967, which were early operating years for PWRs, and again in 1973. As seen in Fig. 10, the Type D wastes are the least radioactive of all. Peaks in the curies per megawatt (electrical)-year net generation occurred in 1980 and 1982 for PWRs and BWRs, respectively. Since 1982, the curies per megawatt (electrical)-year net generation have declined steadily for PWRs but have not shown such a trend for BWRs.

Comparisons of the radioactivity of the four waste types shipped from the three categories of BWR plants (small and large deep-bed plants and filter/demineralizer plants) per megawatt (electrical)-year net electricity generated are presented in Figs. A.6 to A.10 in Appendix A. Similar comparisons are made for the PWRs according to nuclear steam supply system manufacturer in Figs. A.16 to A.20 in Appendix A.

3. DISCUSSION

The volume and radioactivity of LLW shipped to disposal from BWR and PWR power plants, as compiled in this report, have been gleaned from several sources,[2-18] all of which ultimately depended on the reporting requirements originally established by the U.S. Atomic Energy Commission and, later, by the U.S. Nuclear Regulatory Commission. The early nuclear power plants did not have rigidly uniform reporting requirements written into the technical specifications governing plant operations. Hence, reporting periods and the information reported varied somewhat from plant to plant. In 1974, an attempt was made to standardize reporting methods.[19] Semiannual reporting of waste shipments and a categorization of the wastes according to physical form was an innovation. The volume and gross curie content of each waste type shipped were requested, along with an estimate of the corresponding radionuclide distribution in the wastes. The average gross activity per cubic meter of BWR and PWR wastes from 1959 to 1985 is summarized in Table 5.

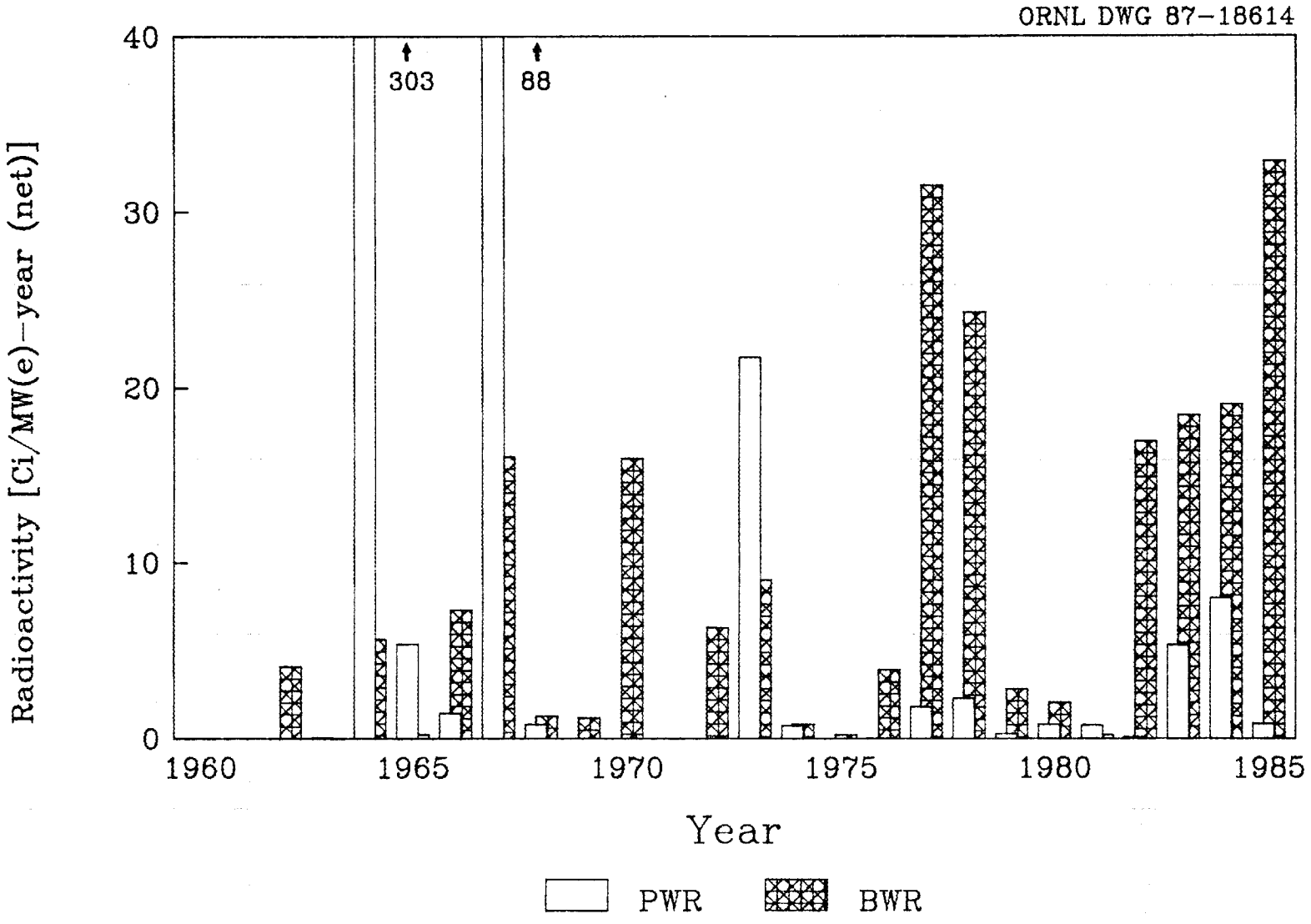

Fig. 9. Radioactivity of reactor LLW (nonroutine Type C — irradiated, nonfuel core components) shipped to burial.

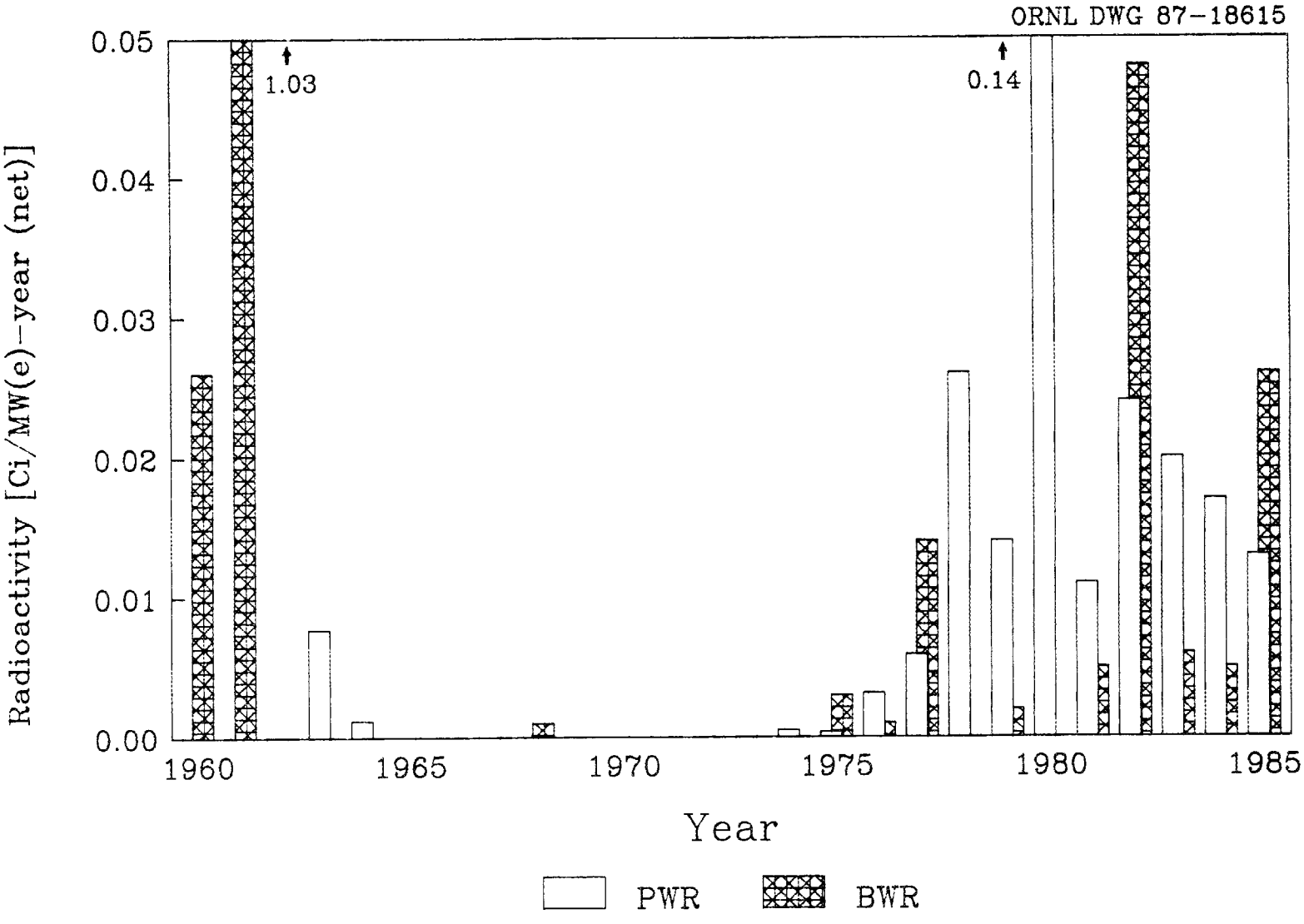

Fig. 10. Radioactivity of reactor LLW (miscellaneous routine Type D — noncompactible rubbish, oil, organic liquids, etc.) shipped to burial.

Table 5. Average concentration of radioactivity in the four types[a] of BWR and PWR low-level waste

	Concentration (Ci/m^3)							
	BWR waste type				PWR waste type			
Year	A (Wet)	B (Dry)	C (Core component)	D (Other)	A (Wet)	B (Dry)	C (Core component)	D (Other)
1959								
1960				0.024	0.072			
1961		0.014		3.453	0.007			
1962			45.985		0.014			
1963		0.007			0.031	0.003	2.051	0.059
1964		0.024			0.927	0.020	2,478.522	0.083
1965	17.404	0.006	7.242		2.112	0.028		
1966	5.265	0.015	492.088		0.082	0.011	1,168.269	
1967	0.115	0.006	581.310			0.027	6,348.927	
1968	53.434	0.009	154.915		0.559	0.013	150.668	0.000
1969	4.871	0.020	14.349		1.868	0.019	1.936	
1970	0.043	0.280	2,015.000		1.199	0.012		
1971	0.218	0.008	3.400		0.335	0.017		
1972	0.868	0.010	4,601.236	0.045	5.075	0.016		
1973	2.238	0.098	975.651		1.920	0.308		
1974	1.908	0.371	20,476.190	0.000	0.875	0.041	21,788.546	0.106
1975	2.743	1.066	2,868.855	0.224	1.168	0.137		0.020
1976	2.480	0.133	2,365.282	0.005	0.591	0.078	1.221	0.664
1977	2.730	1.174	5,466.120	0.186	1.721	0.315	650.545	1.738
1978	2.403	0.071	1,343.380	0.004	1.965	0.072	117.931	0.496
1979	3.519	0.104	15.941	0.032	1.255	0.070	47.653	0.863
1980	3.416	0.070	32.307	0.003	2.378	0.139	38.410	1.494
1981	4.218	0.111	1.413	0.080	2.104	0.081	97.116	0.445
1982	3.892	0.150	15.904	0.108	2.810	0.224	4.318	0.571
1983	5.135	0.139	4,520.042	0.023	3.114	0.072	996.783	0.590
1984	2.883	0.043	1,301.883	0.031	6.418	0.043	1,873.596	1.207
1985	3.059	0.045	1,579.944	0.131	4.706	0.136	710.768	0.446

[a]As defined in NRC Regulatory Guide 1.21 (ref. 19).

Although some ambiguity may still exist, the volume of waste shipped is generally interpreted to mean the volume of the final waste package. Also, until the end of 1982 (ref. 20), there were few requirements for reporting the presence of specific radionuclides. Additionally, readily available detection (counting) methods were often imprecise, and difficult analyses (such as those for pure beta or alpha emitters) required expensive chemical separations. The recently instituted waste classification requirements of 10 CFR 61.55 (see Tables 1 and 2 in ref. 20) are bringing changes in reporting the radionuclide content of nuclear power plant LLW. However, even as late as 1985, many reporting deficiencies persisted. For example,

1. Many plants did not report the presence (or absence) of the nuclides listed in 10 CFR 61.55, Tables 1 and 2, but reported only five or six major radionuclides as accounting for 100% of the activity in the waste, thus implying that all others were negligible.
2. Some plants that reported Class B or C waste (as defined by 10 CFR 61.55) did not indicate the concentrations of the isotopes responsible for the higher classification.
3. This regulation also stipulates that long-lived alpha emitters be determined as nanocuries per gram, but no plant gave weight or density values for the wastes reported to contain such nuclides; inclusion of a density factor would allow the calculation of nanocuries per gram from the usually reported curie and volume data.
4. Frequently, neither the date of radioactive analysis nor the date of shipment of the waste was reported; this information is useful in data analysis and in making long-term LLW projections.
5. Usually, only the parent of a radioactive mother-daughter couple was reported (e.g., ^{144}Ce with no ^{144}Pr), or the couple (e.g., $^{144}Ce/^{144}Pr$) was reported with a single curie value, making it ambiguous as to whether the curies apply only to the parent or to the pair.

All the above-mentioned factors should be kept in mind when interpreting the reported data as collected and presented in this report. It is hoped that future LLW reporting will improve as the waste classification demands of 10 CFR 61.55 are met with better, cheaper methods of analysis.

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APPENDIX A:

COMPARISON OF THE VOLUME AND RADIOACTIVITY OF LLW SHIPPED PER MEGAWATT (ELECTRICAL)-YEAR OF NET ELECTRICITY GENERATED FOR EACH TYPE OF BWR OR PWR

APPENDIX A.1: BWR WASTES

Comparison of small [<200-MW(e)] deep-bed (db) plants, large [>200-MW(e)] db plants, and filter/demineralizer (f/d) plants

Volume: Figs. A.1 to A.5
Radioactivity: Figs. A.6 to A.10

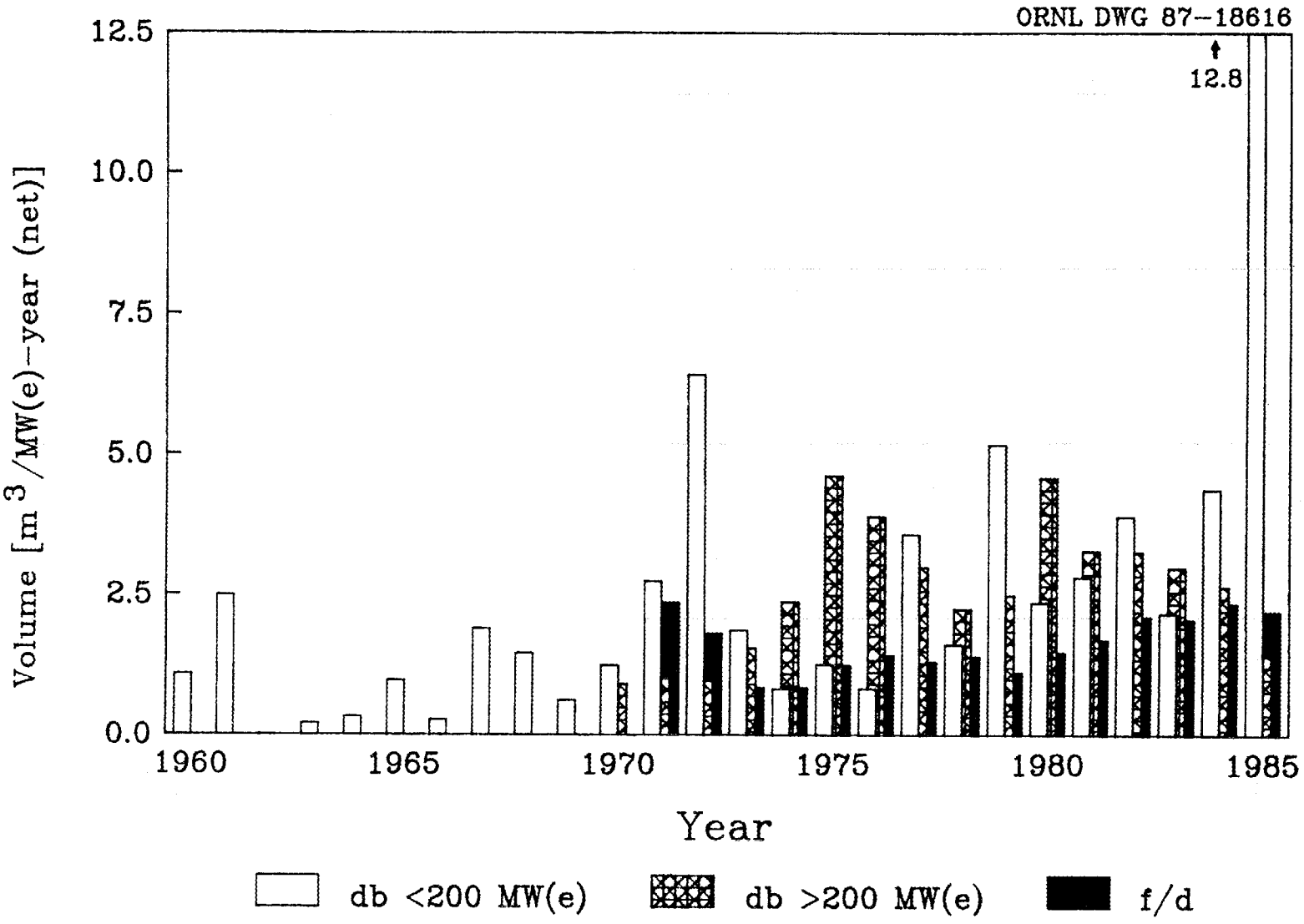

Fig. A.1. Total volume of LLW (routine waste — no irradiated, nonfuel core components) shipped to burial by small and large deep bed (db) BWR plants and filter/demineralizer (f/d) BWR plants.

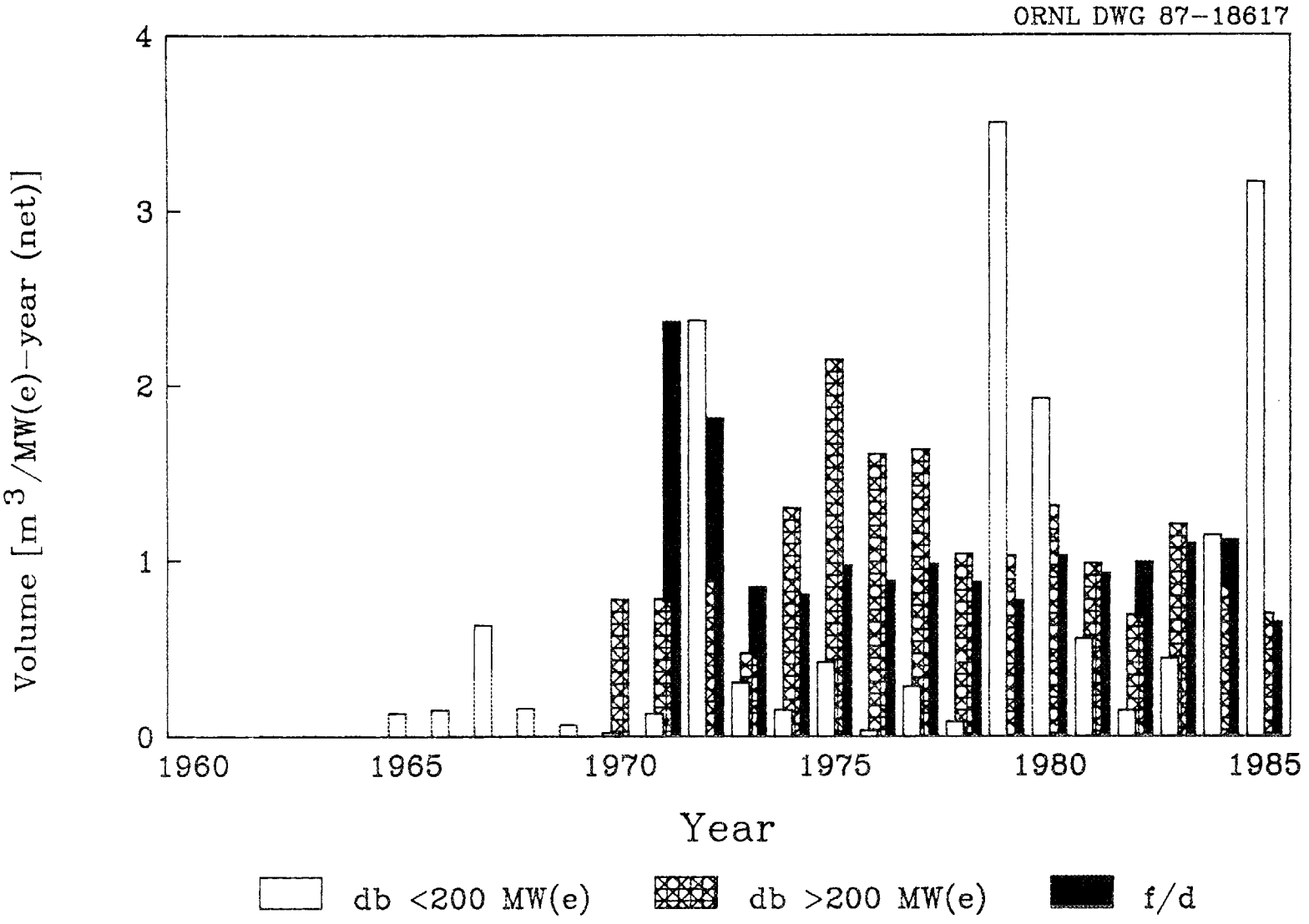

Fig. A.2. Volume of LLW (routine Type A — evaporator bottoms, resins, and sludges) shipped to burial by small and large deep bed (db) BWR plants and filter/demineralizer (f/d) BWR plants.

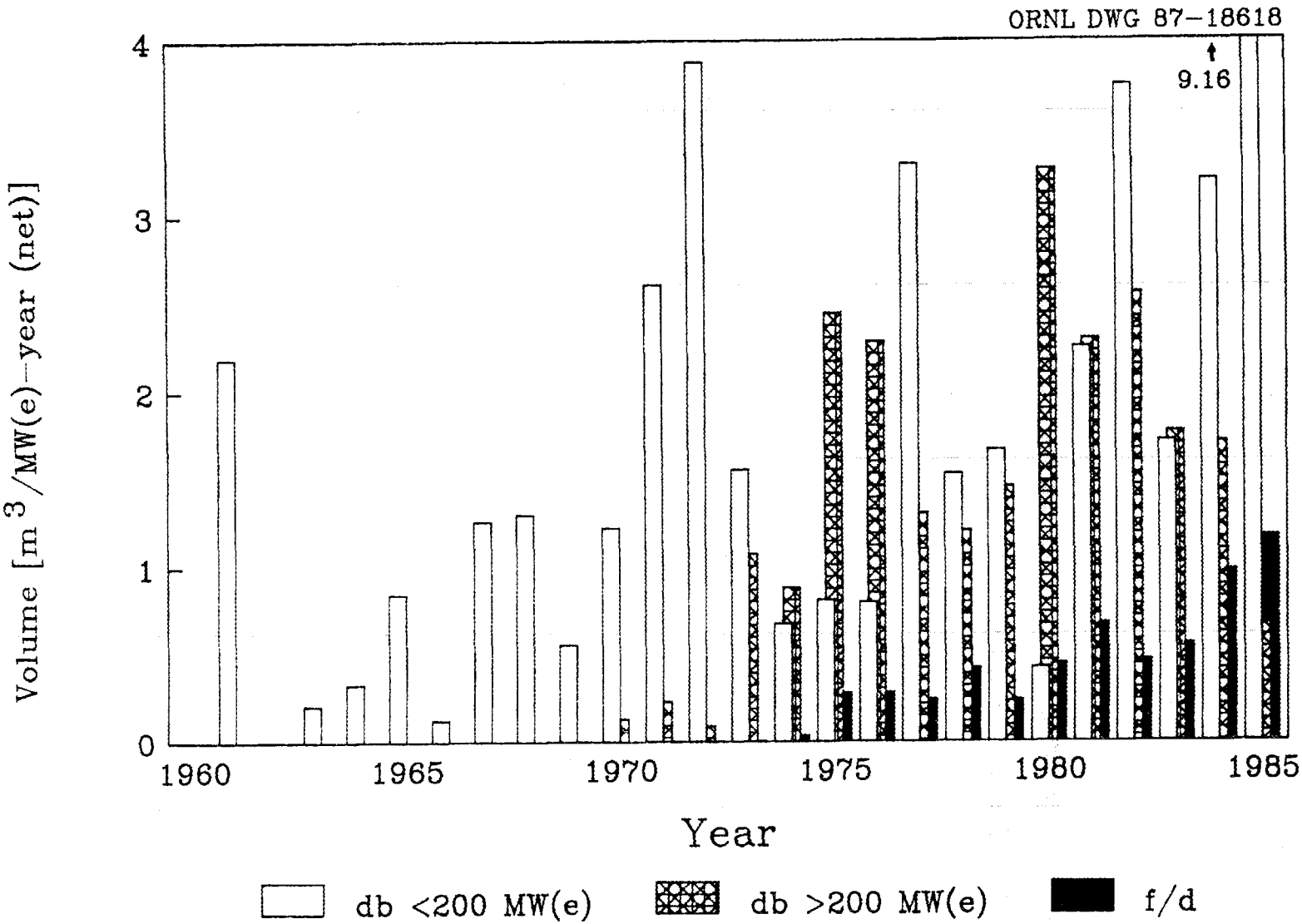

Fig. A.3. Volume of LLW (routine Type B — compressible, dry waste and equipment) shipped to burial by small and large deep bed (db) BWR plants and filter/demineralizer (f/d) BWR plants.

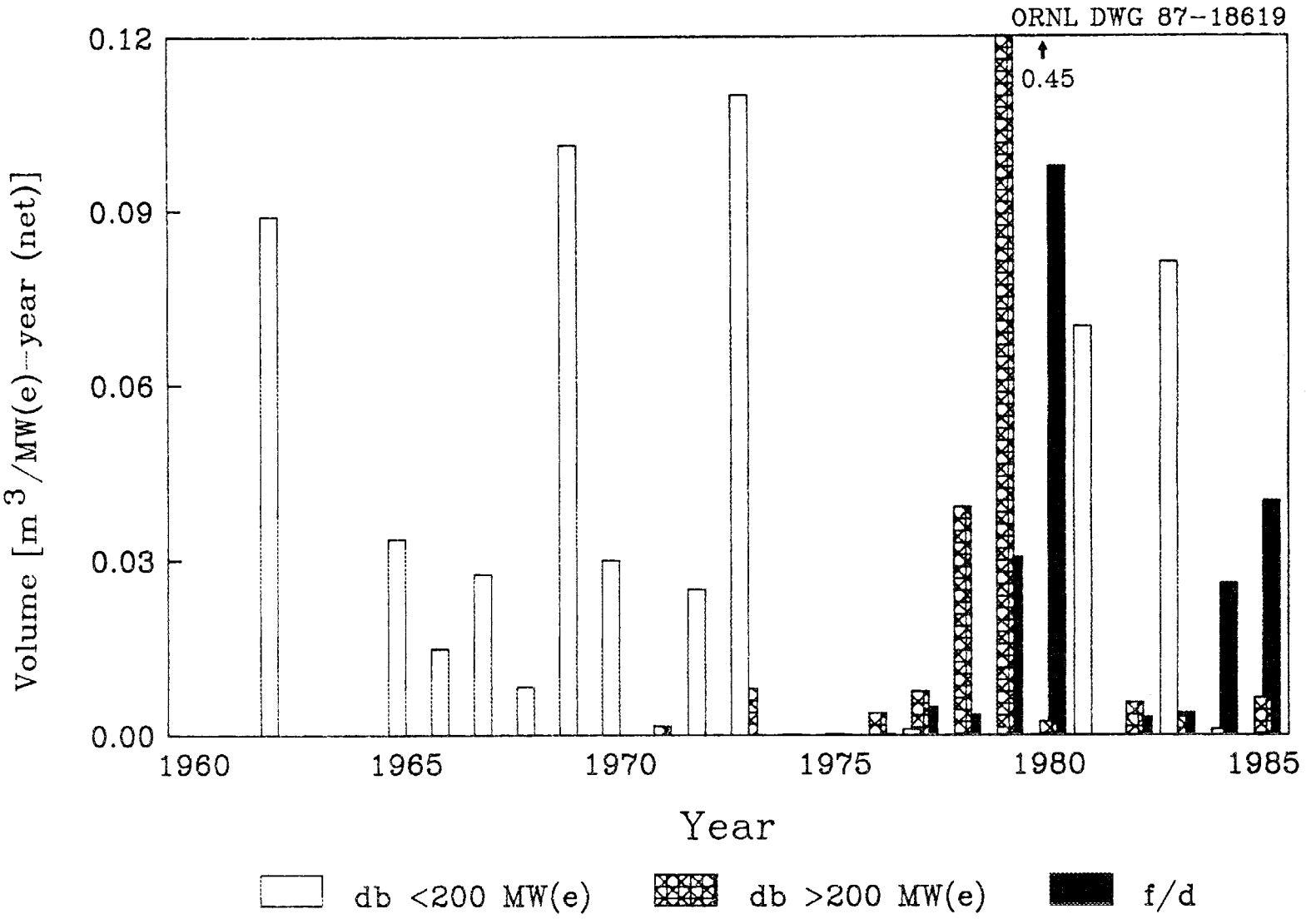

Fig. A.4. Volume of LLW (nonroutine Type C — irradiated, nonfuel core components) shipped to burial by small and large deep bed (db) BWR plants and filter/demineralizer (f/d) BWR plants.

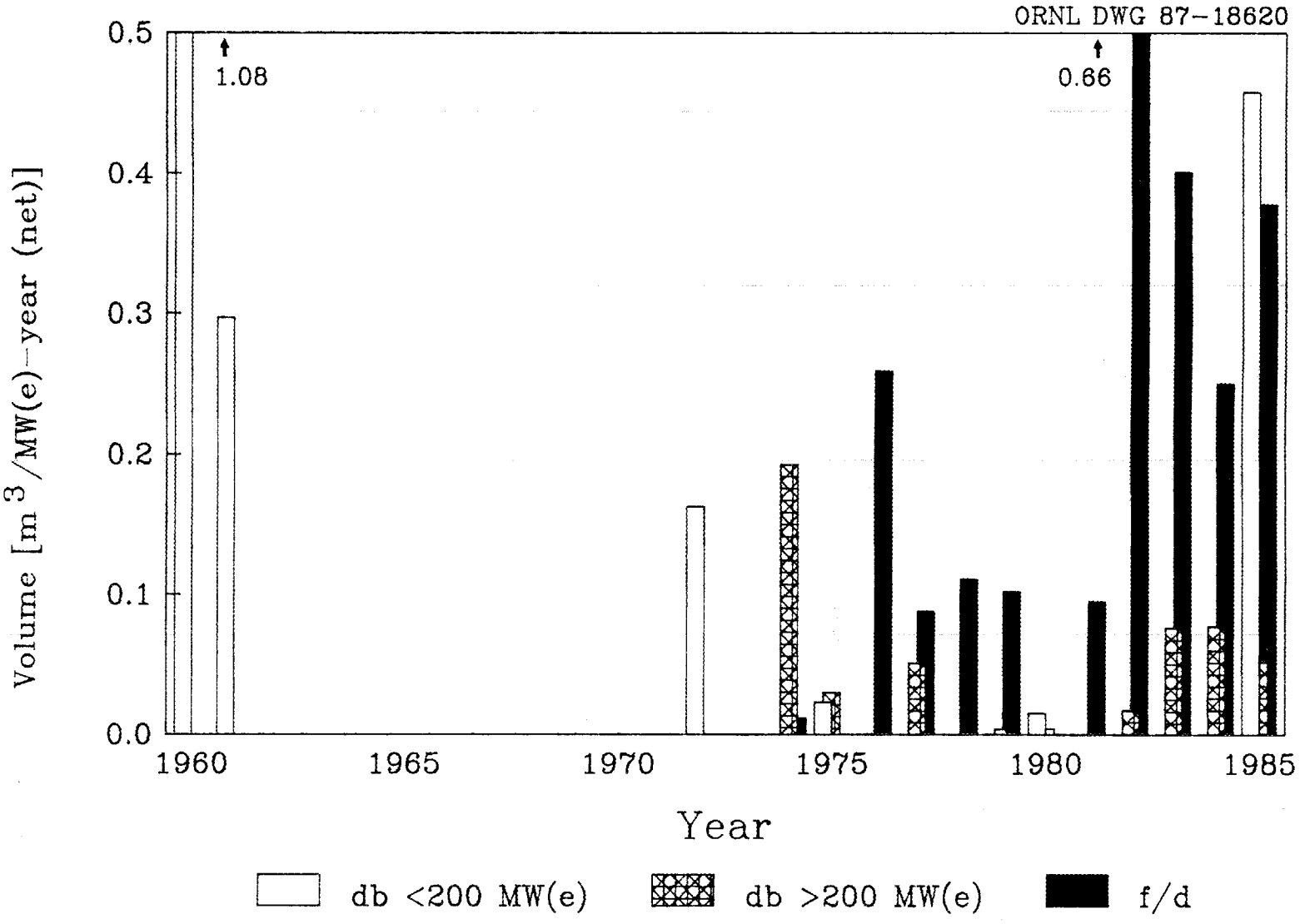

Fig. A.5. Volume of LLW (miscellaneous routine Type D — noncompactible rubbish, oil, organic liquids, etc.) shipped to burial by small and large deep bed (db) BWR plants and filter/demineralizer (f/d) BWR plants.

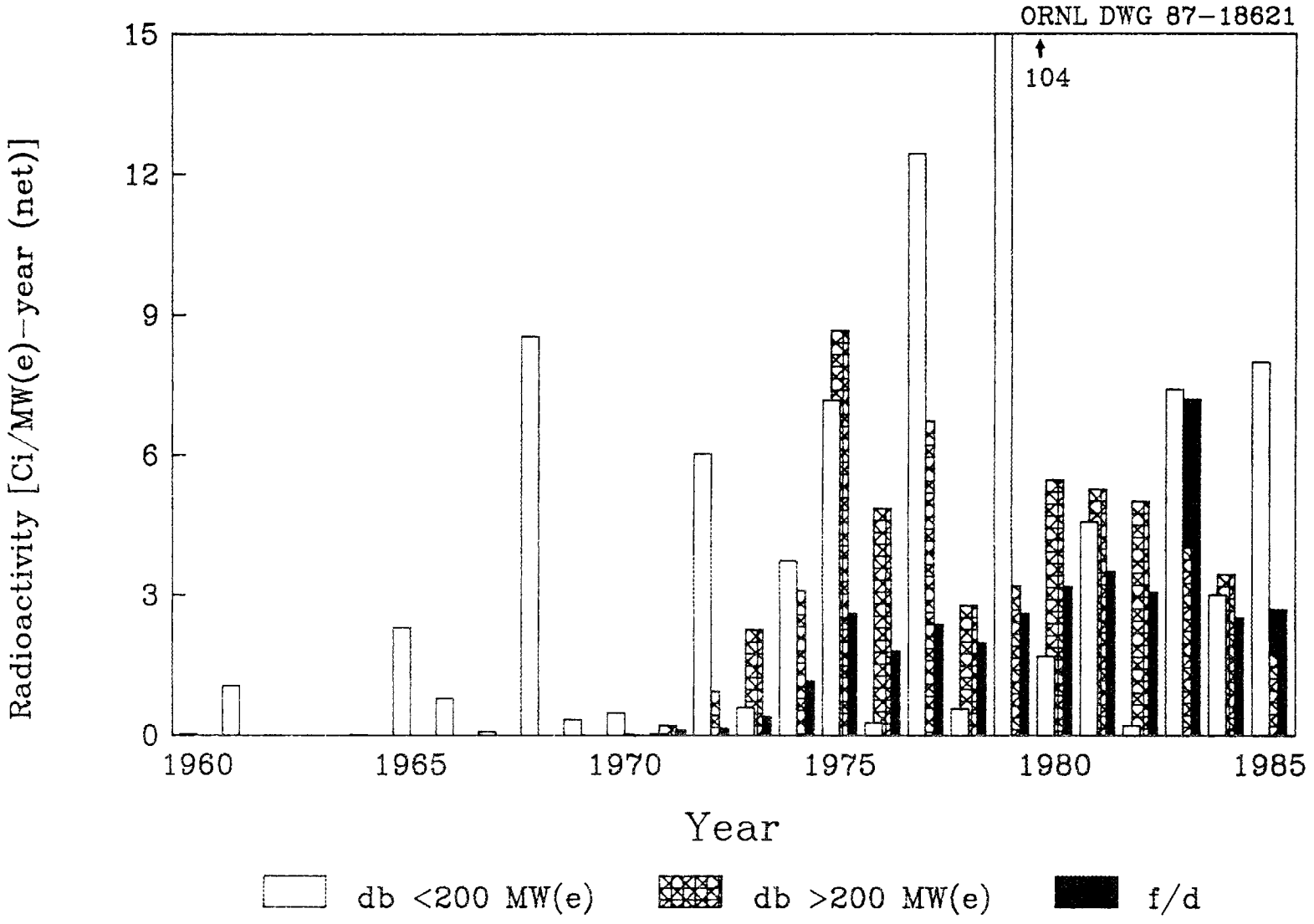

Fig. A.6. Total radioactivity of LLW (routine waste — no irradiated, nonfuel core components) shipped to burial by small and large deep bed (db) BWR plants and filter/demineralizer (f/d) BWR plants.

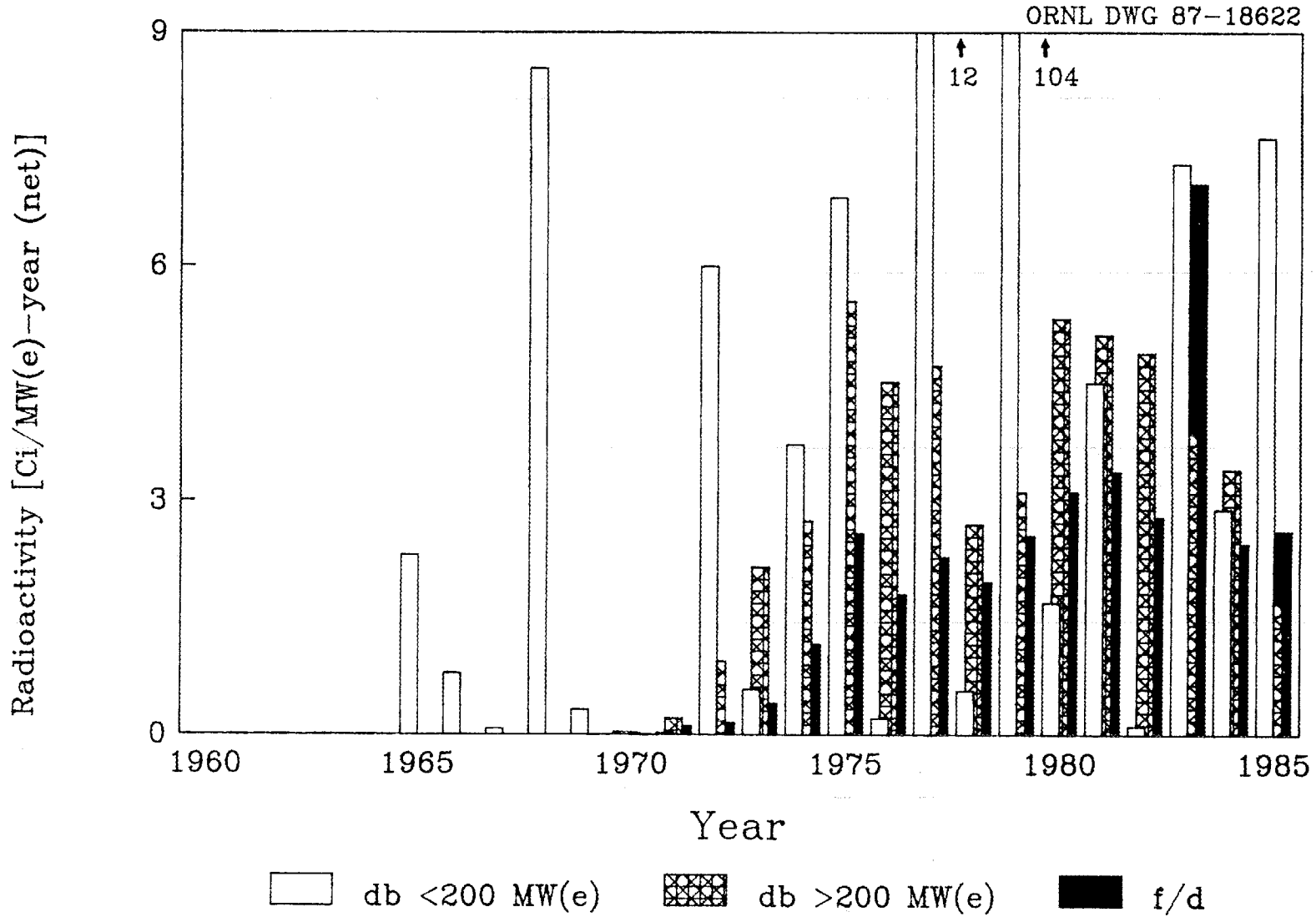

Fig. A.7. Radioactivity of LLW (routine Type A — evaporator bottoms, resins, and sludges) shipped to burial by small and large deep bed (db) BWR plants and filter/demineralizer (f/d) BWR plants.

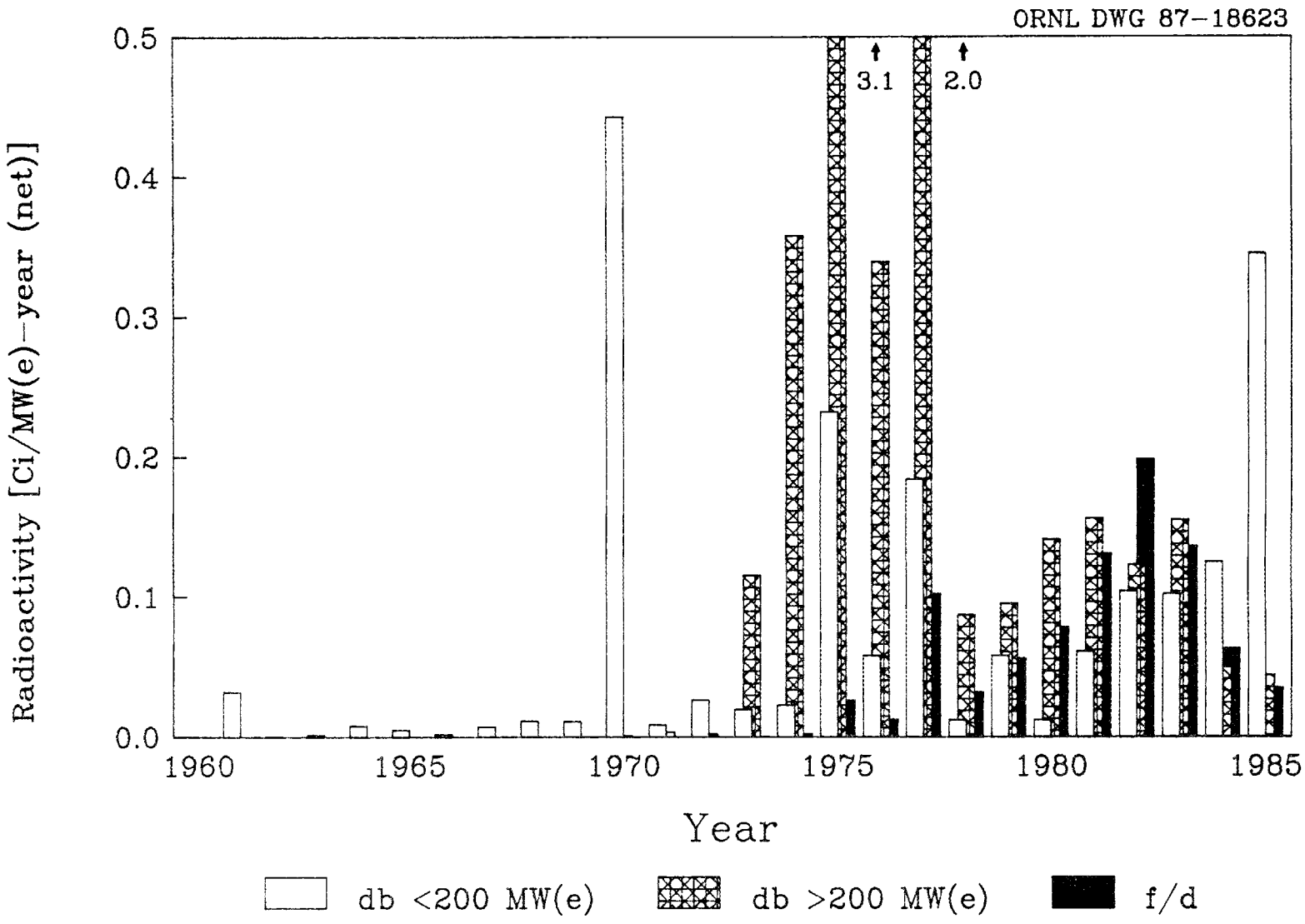

Fig. A.8. Radioactivity of LLW (routine Type B — compressible, dry waste and equipment) shipped to burial by small and large deep bed (db) BWR plants and filter/demineralizer (f/d) BWR plants.

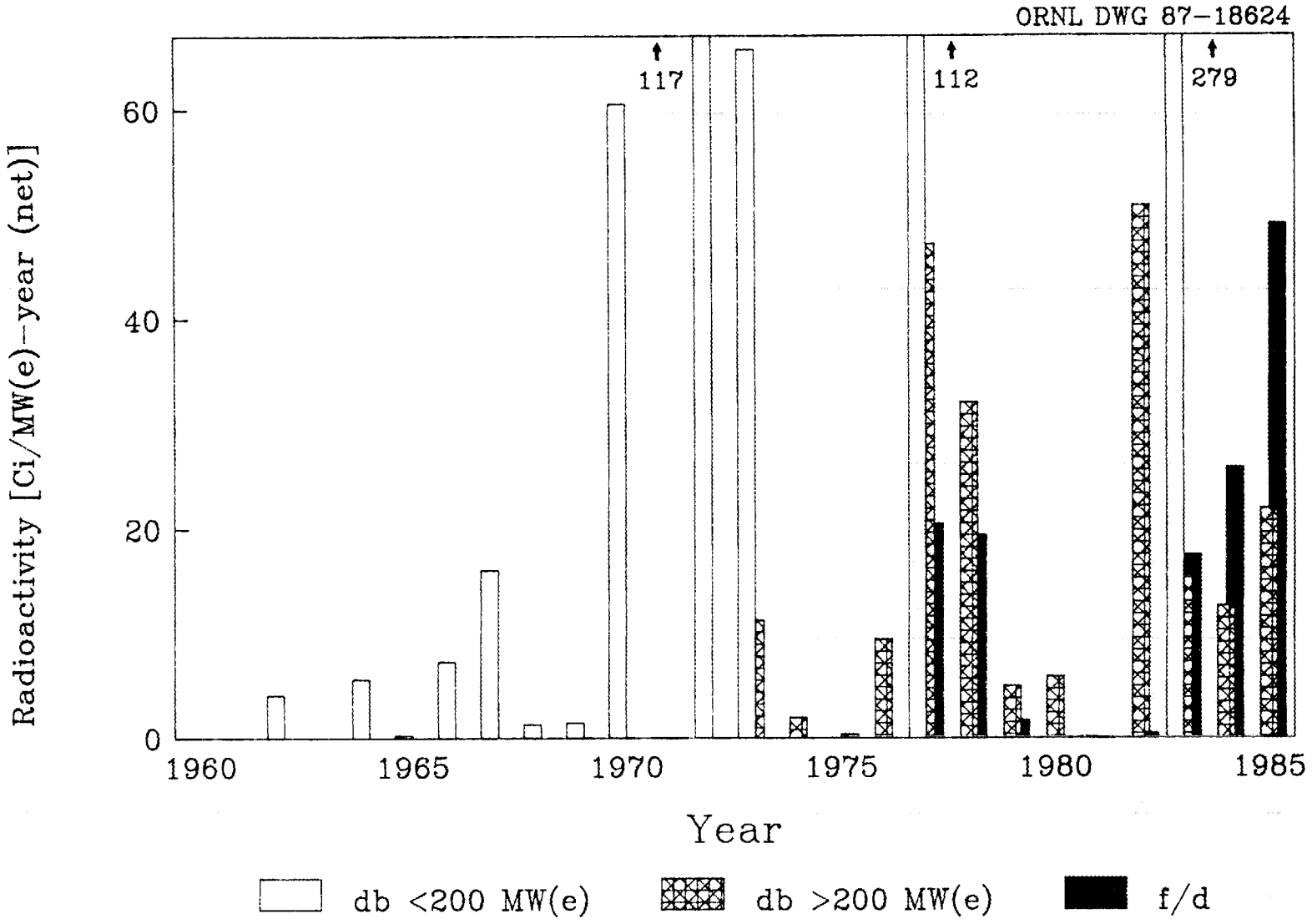

Fig. A.9. Radioactivity of LLW (nonroutine Type C — irradiated, nonfuel core components) shipped to burial by small and large deep bed (db) BWR plants and filter/demineralizer (f/d) BWR plants.

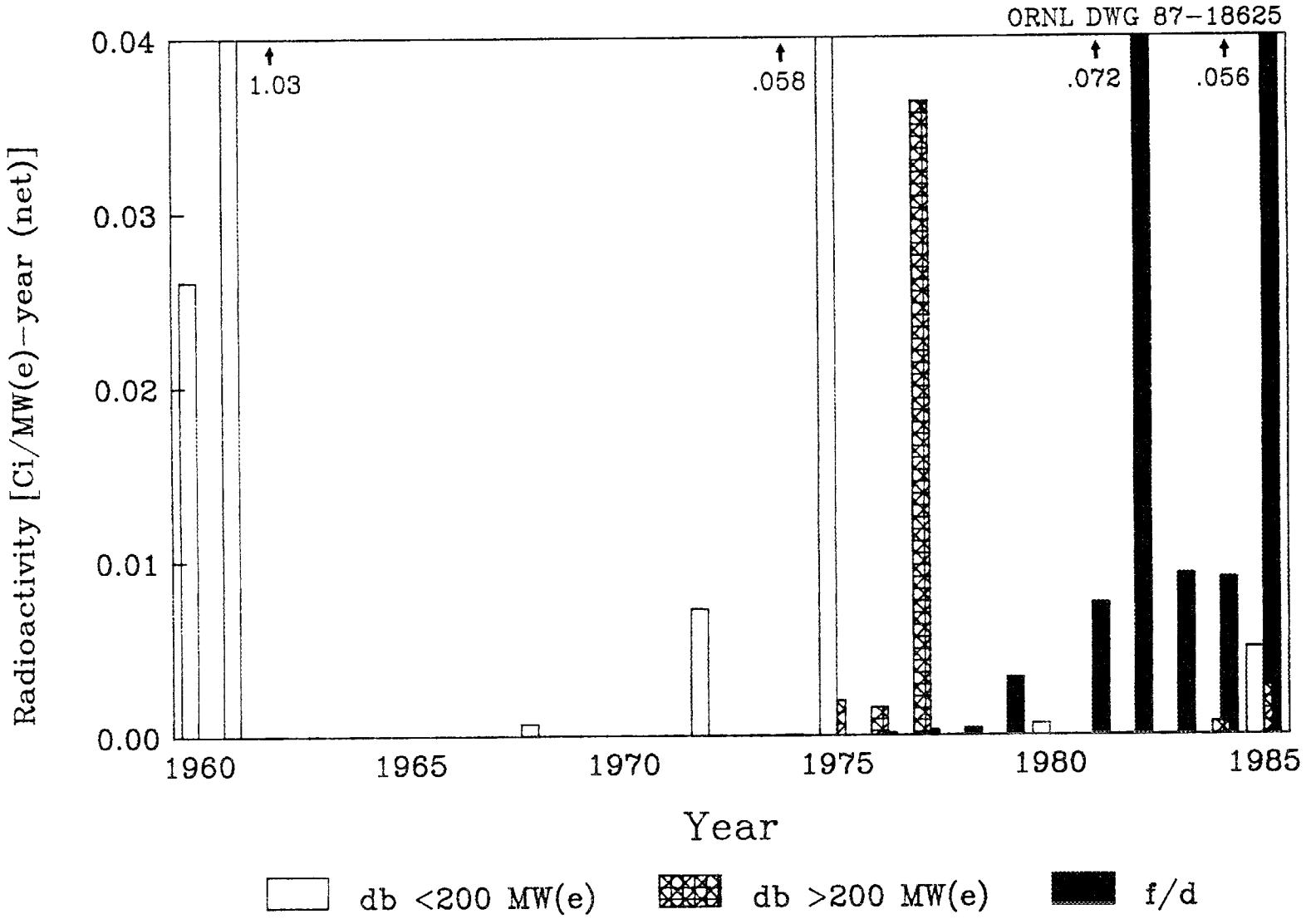

Fig. A.10. Radioactivity of LLW (miscellaneous routine Type D — noncompactible rubbish, oil, organic liquids, etc.) shipped to burial by small and large deep bed (db) BWR plants and filter/demineralizer (f/d) BWR plants.

APPENDIX A.2: PWR WASTES

Comparison of nuclear steam supply system (NSSS) manufacturers:
Combustion Engineering (CE), Babcock & Wilcox (B&W),
and Westinghouse (West)

Volume: Figs. A.11 to A.15
Radioactivity: Figs. A.16 to A.20

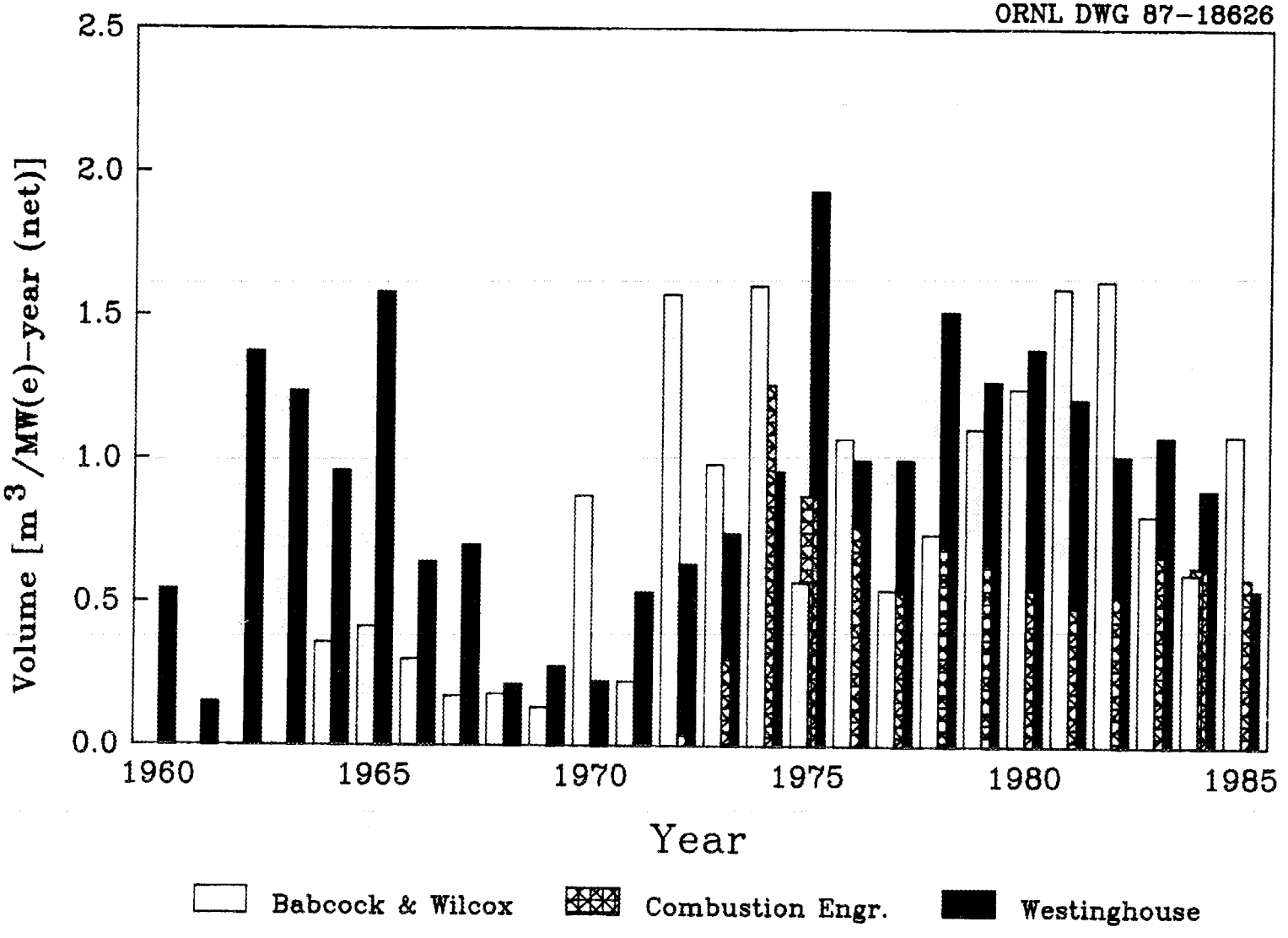

Fig A.11. Total volume of LLW (routine waste — no irradiated, non fuel core components) shipped to burial by PWR plants.

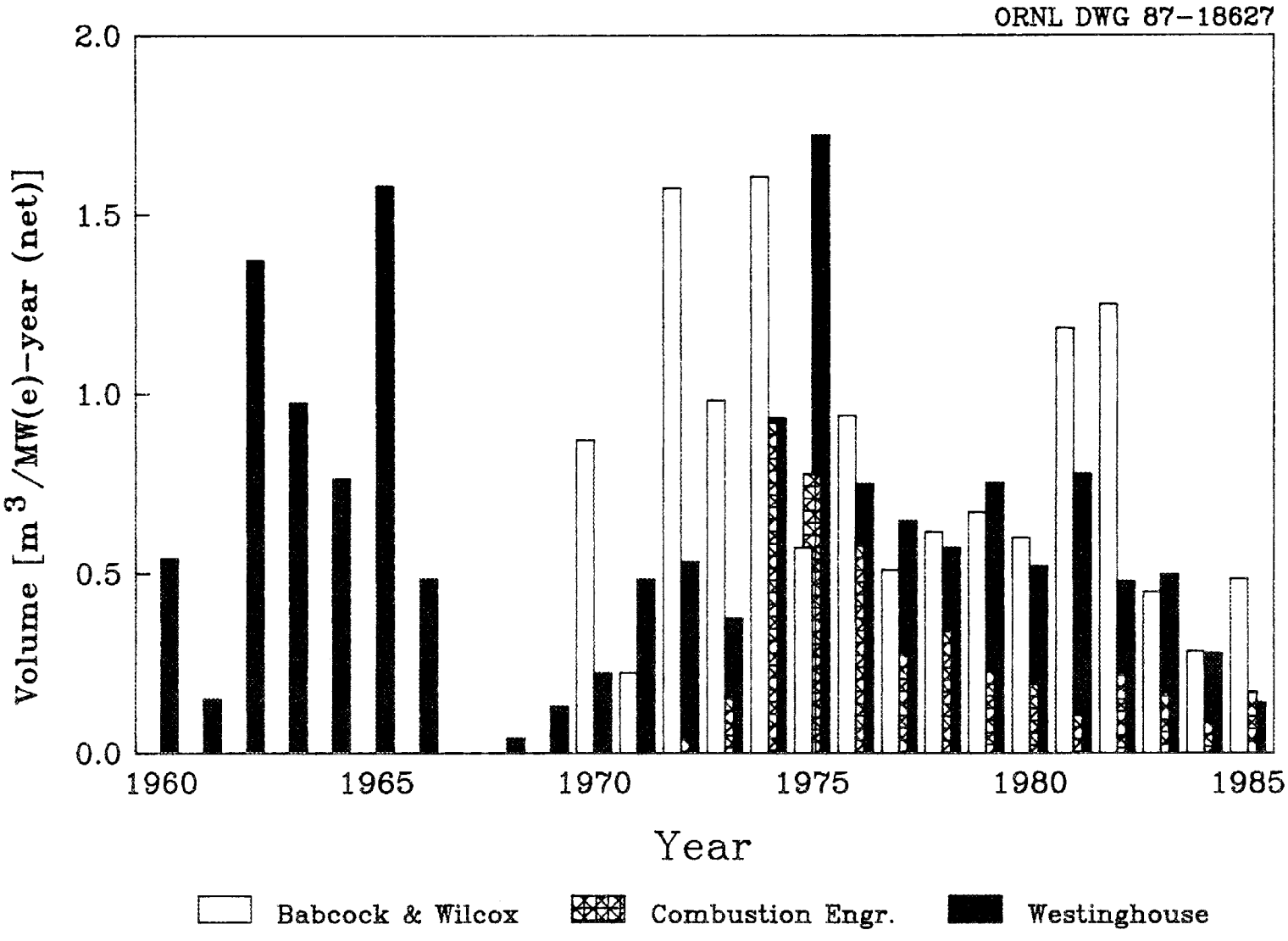

Fig A.12. Volume of LLW (routine Type A — evaporator bottoms, resins, and sludges) shipped to burial by PWR plants.

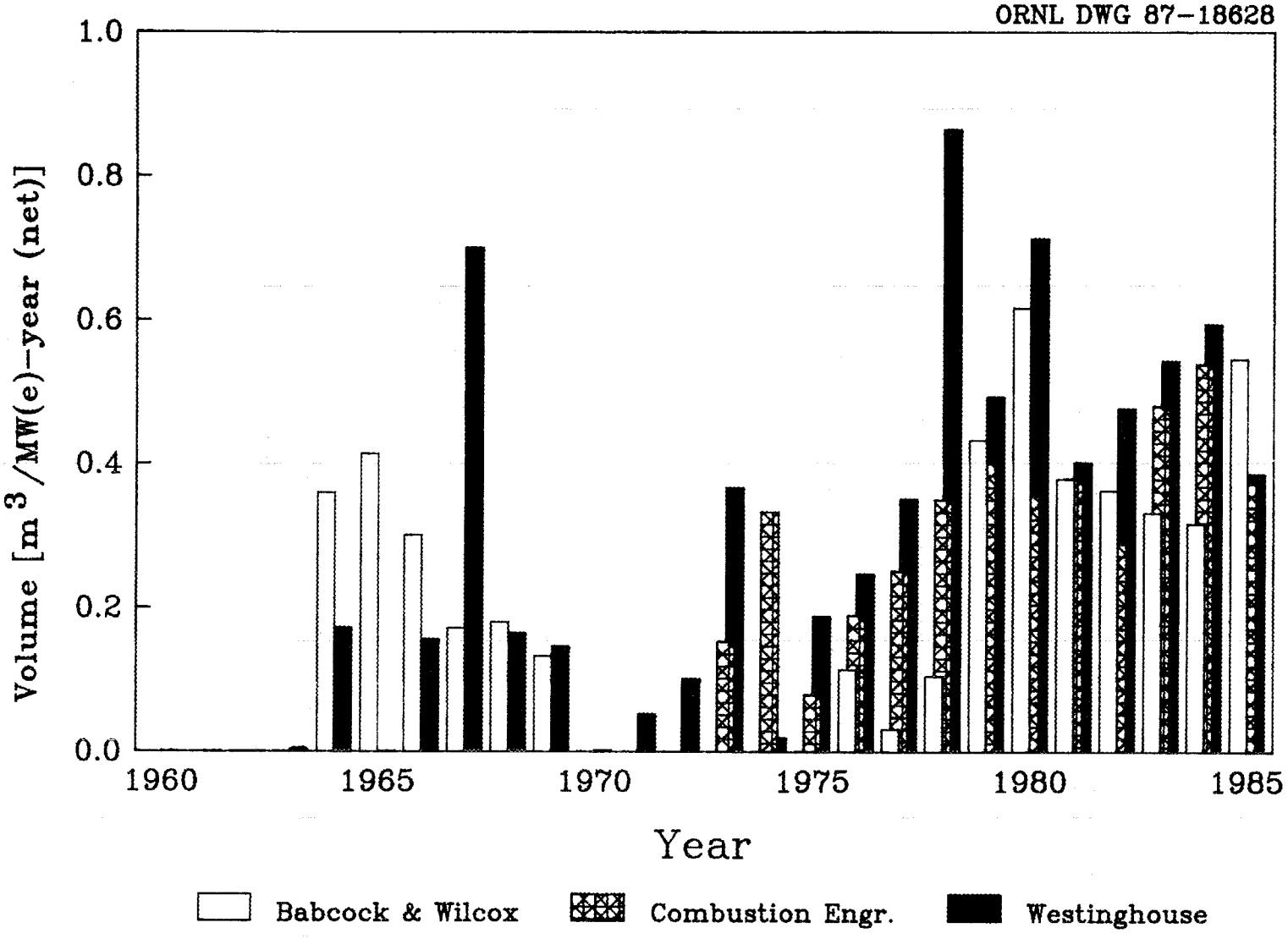

Fig A.13. Volume of LLW (routine Type B — compressible, dry waste and equipment) shipped to burial by PWR plants.

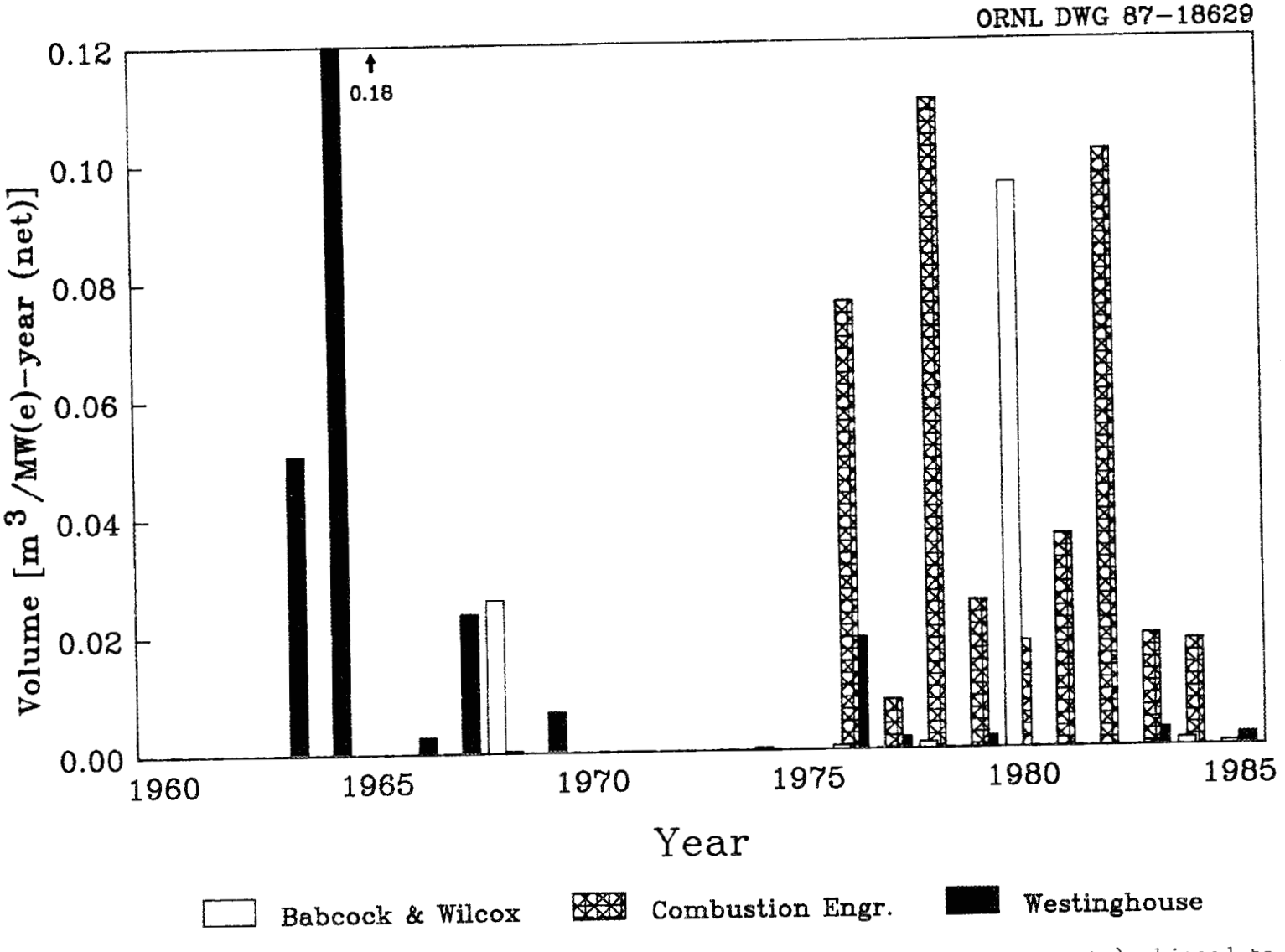

Fig. A.14. Volume of LLW (nonroutine Type C — irradiated, nonfuel core components) shipped to burial by PWR plants.

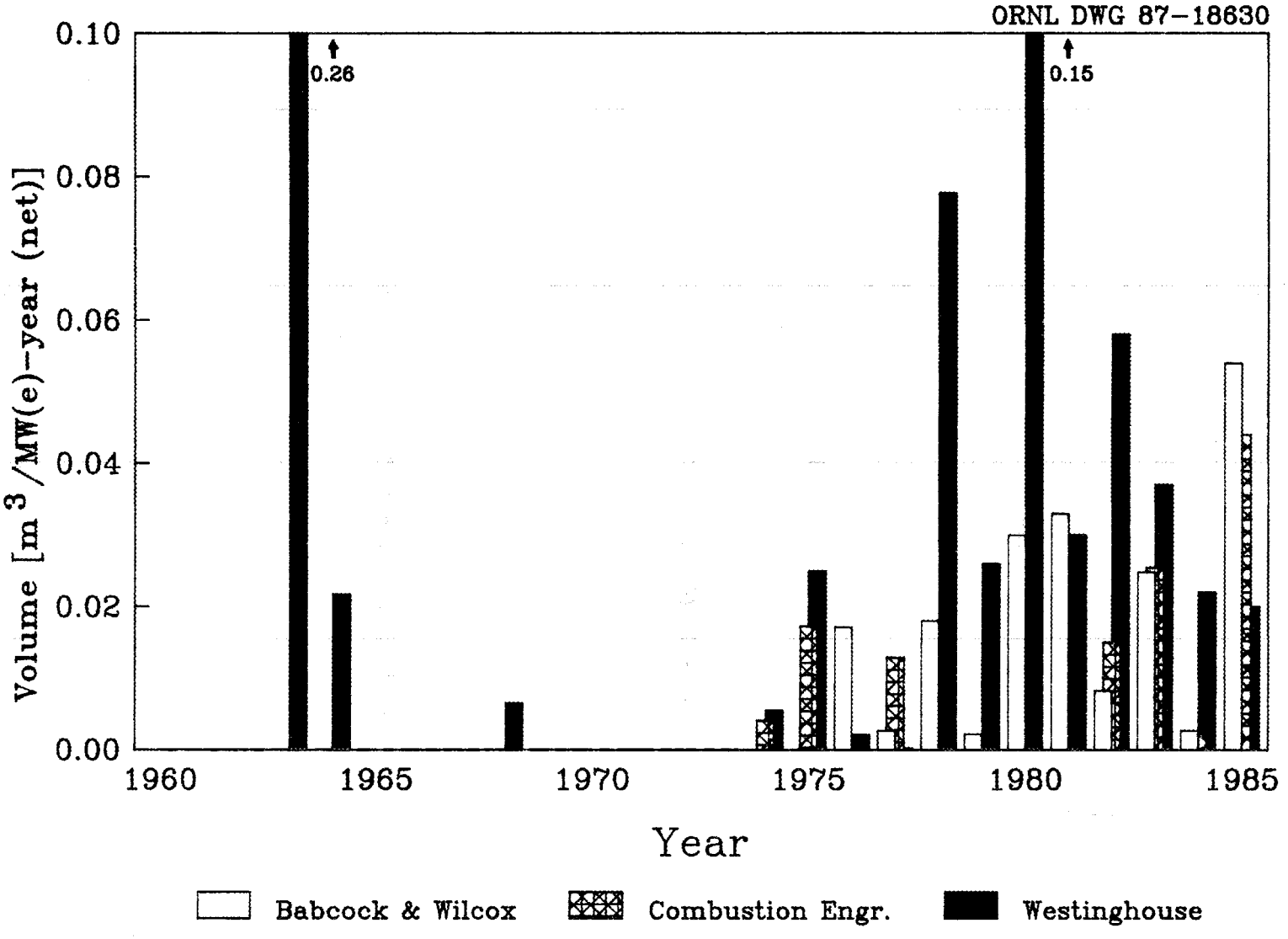

Fig. A.15. Volume of LLW (miscellaneous routine Type D — noncompactible rubbish, oil, organic liquids, etc.) shipped to burial by PWR plants.

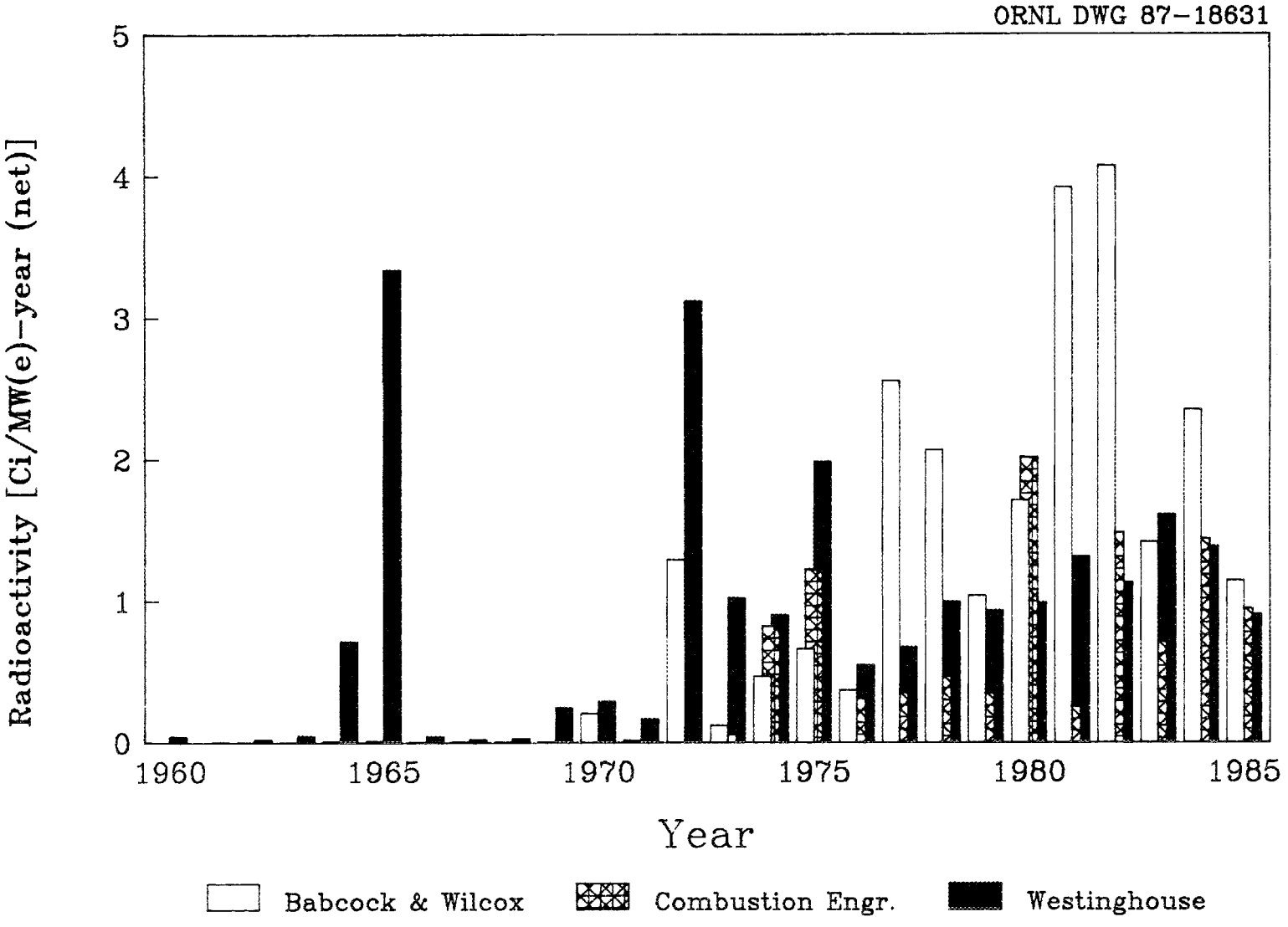

Fig. A.16. Total radioactivity of LLW (routine waste — no irradiated, nonfuel core components) shipped to burial by PWR plants.

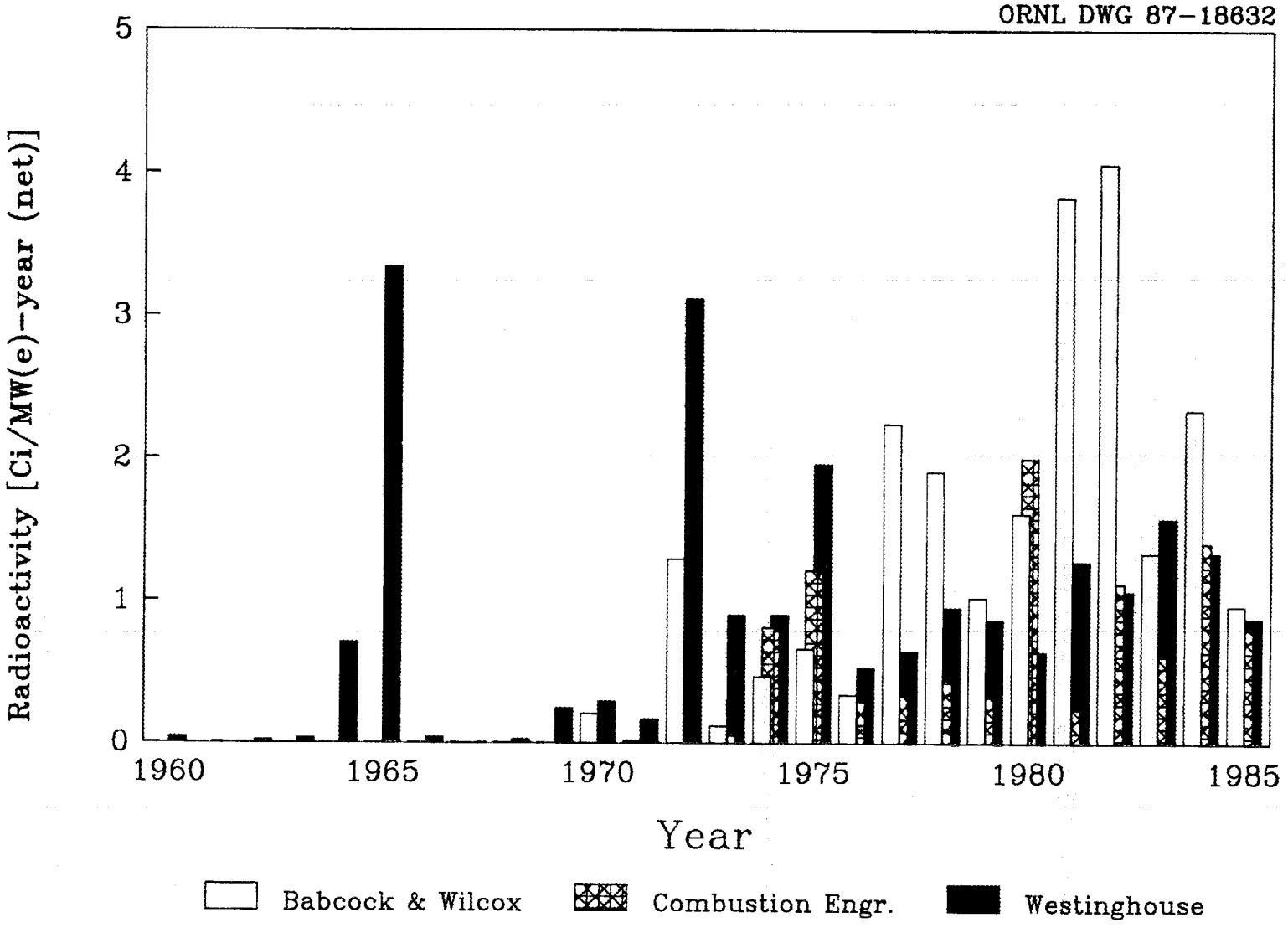

Fig. A.17. Radioactivity of LLW (routine Type A — evaporator bottoms, resins, and sludges) shipped to burial by PWR plants.

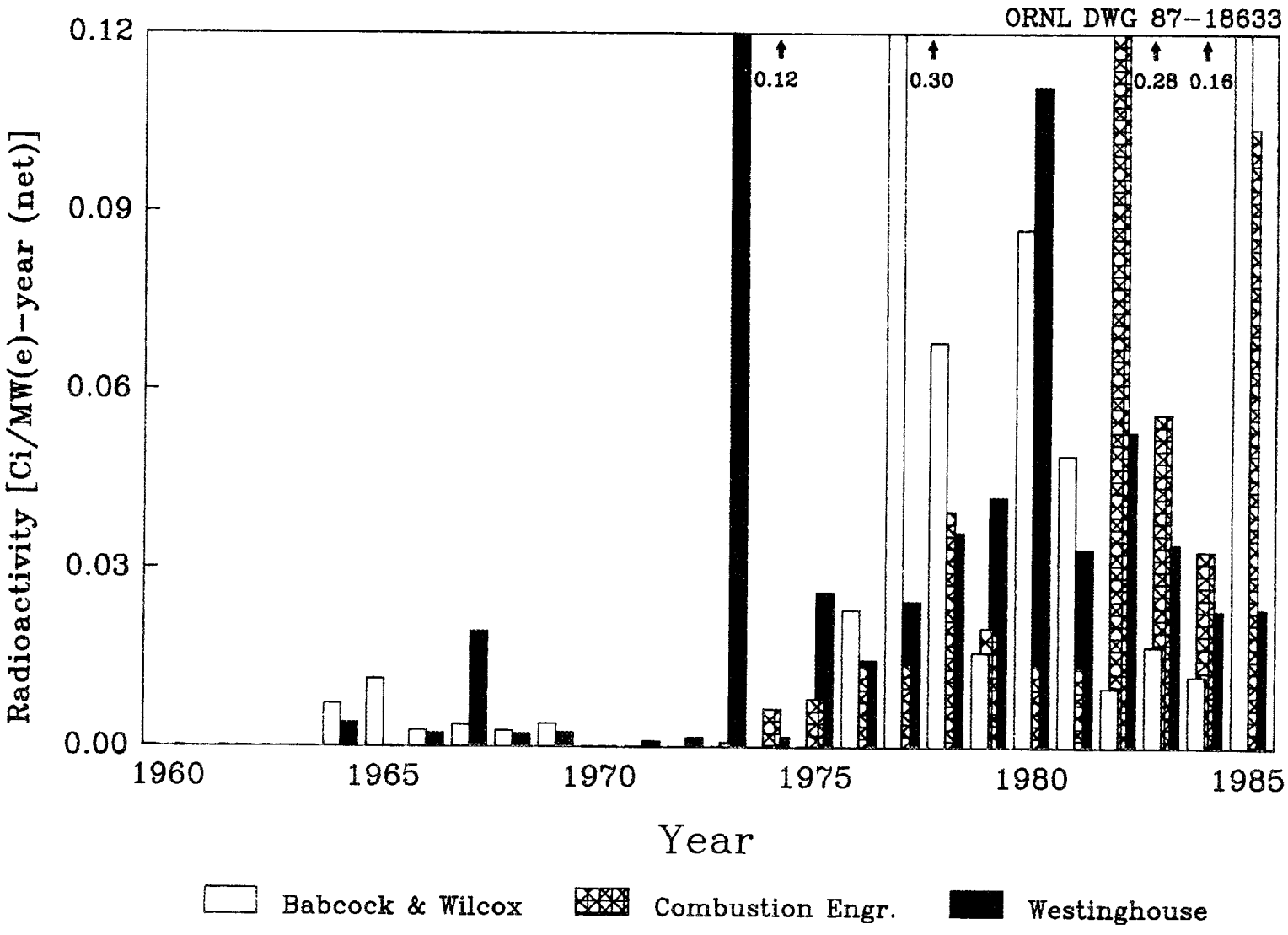

Fig. A.18. Radioactivity of LLW (routine Type B — compressible, dry waste and equipment) shipped to burial by PWR plants.

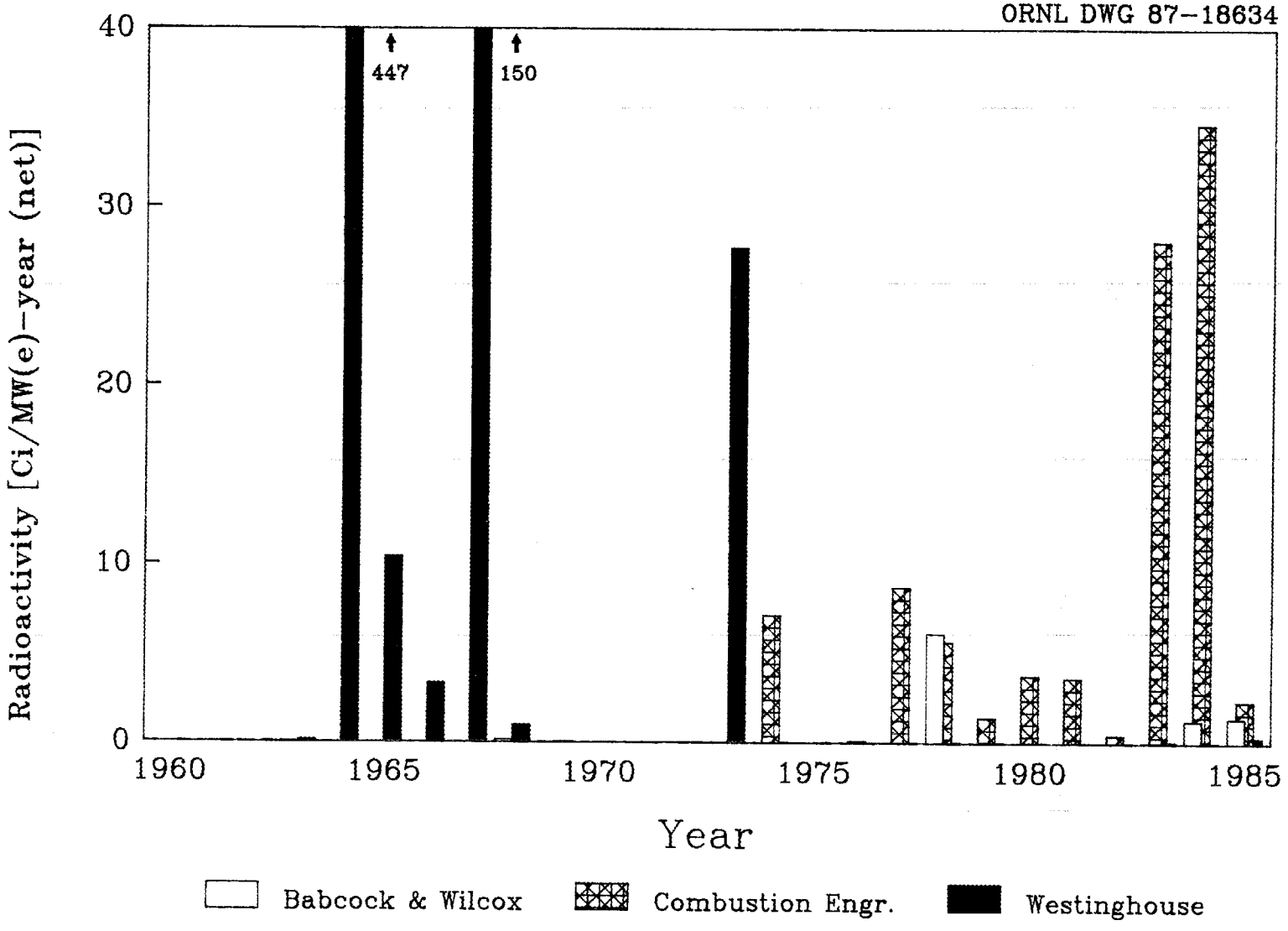

Fig. A.19. Radioactivity of LLW (nonroutine Type C — irradiated, nonfuel core components) shipped to burial by PWR plants.

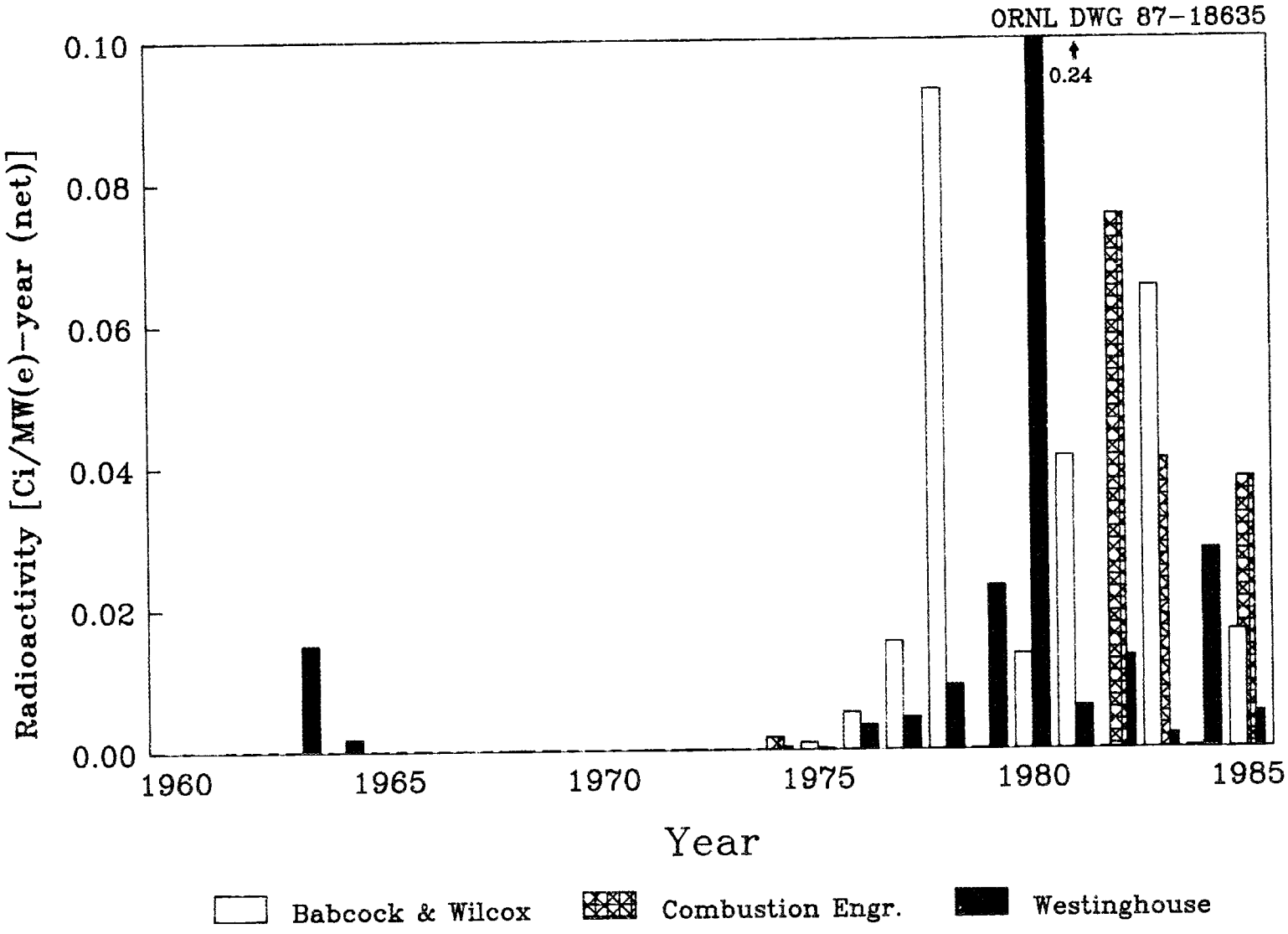

Fig. A.20. Radioactivity of LLW (miscellaneous routine Type D — noncompactible rubbish, oil, organic liquids, etc.) shipped to burial by PWR plants.

APPENDIX B:

LWRDATA – AN ANNUAL (1959-1985) REACTOR-BY-REACTOR DATA BASE CONTAINING THE REPORTED NET ELECTRICITY GENERATED AND THE VOLUME AND RADIOACTIVITY OF THE LLW SHIPPED TO DISPOSAL BY WASTE TYPE AS DEFINED IN NRC REGULATORY GUIDE 1.21

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
Year: 1985										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.326428	10.900	41.300	0.000	0.000	108.700	5.410	0.000	0.000	
Humboldt Bay	0.000000	208.800	588.700	0.000	33.950	226.800	16.865	0.000	0.368	
Dresden 1	0.000000	(Reported with Units 2 & 3)				(Reported with Units 2 & 3)				
LaCrosse	0.322909	14.440	48.600	0.000	0.000	231.000	3.270	0.000	0.000	
Total:	0.649337	234.140	678.600	0.000	33.950	566.500	25.545	0.000	0.368	
[db >200 MW(e)]:										
Brunswick 1&2	6.930329	314.237	808.000	0.000	196.600	2437.000	51.411	0.000	12.776	
Dresden 2&3	7.477552	1334.000	915.000	16.600	0.000	3060.000	31.690	63200.000	0.000	
FitzPatrick	4.166520	230.650	502.330	0.000	43.900	591.670	187.280	0.000	0.168	
Millstone 1	4.588353									
Nine Mile Point 1	4.932333	295.790	238.300	1.630	39.500	978.570	1.334	5810.000	4.767	
Oyster Creek	3.746033	162.600	299.000	0.000	0.000	622.000	7.750	0.000	0.000	
Pilgrim	4.950971	253.940	1111.620	23.910	20.390	1003.077	4.985	73786.800	0.005	
Susquehanna 1&2	12.219022	731.691	339.918	0.000	56.429	2135.504	10.958	0.000	0.943	Type B includes noncompactible trash.
LaSalle 1&2	8.240293	900.000	310.000	0.000	0.000	480.000	6.600	0.000	0.000	
Grand Gulf 1	2.654149	545.000	56.600	0.000	0.000	259.640	0.674	0.000	0.000	
Shoreham	0.000000	22.400	0.000	0.000	0.000	0.004	0.000	0.000	0.000	
Total:	59.905555	4790.308	4580.768	42.140	356.819	11567.465	302.682	142796.800	18.659	
(f/d):										
Browns Ferry 1,2&3	2.973591	417.700	270.300	0.000	1613.260	2826.000	6.243	0.000	243.202	Type D: noncompactible in boxes.
Cooper	1.067748	42.800	572.000	19.700	0.000	177.700	15.900	29600.000	0.000	
Arnold	1.940485	239.366	499.943	0.000	54.500	482.284	41.702	0.000	0.307	
Hatch 1&2	10.137494	485.000	1366.000	3.710	186.700	1833.000	26.100	36470.000	3.808	
Monticello	4.286986	181.300	356.000	6.510	0.000	1460.000	60.700	3350.000	0.000	
Peach Bottom 2&3	5.613396	703.838	1906.344	11.872	108.539	3805.251	16.706	117475.060	44.987	Type D: noncompactible equipment.
Quad Cities 1&2	10.629185	582.130	745.668	3.700	0.000	2513.134	8.678	52807.000	0.000	
Vermont Yankee	2.999402	95.800	281.500	165.230	0.000	254.300	8.800	17008.920	0.000	
WNP-2	5.176387	228.200	153.000	0.000	20.600	294.950	0.384	0.000	0.138	Type D: oil.
Limerick 1	1.136630	306.000	0.000	0.000	0.000	20.600	0.000	0.000	0.000	
Fermi 2	0.000000	109.000	1.500	0.000	0.000	3.350	0.035	0.000	0.000	
River Bend 1	0.000000	20.800	0.000	0.000	0.000	0.028	0.000	0.000	0.000	
Total:	45.961304	3411.934	6152.255	210.722	1983.599	13670.607	185.248	256710.980	292.442	
1985 BWR total	106.516196	8436.382	11411.623	252.862	2374.368	25804.572	513.475	399507.780	311.469	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
Year: 1985										
Type: PWR										
(CE):										
Palisades	5.301797	120.051	296.714	0.000	107.392	193.040	18.640	0.000	7.290	
Maine Yankee	5.354423	81.800	277.300	0.000	0.000	84.250	26.580	0.000	0.000	
Ft. Calhoun	3.066254	183.940	158.930	0.000	0.000	131.129	93.193	0.000	0.000	
ANO-1 (Unit 2)	4.699203	214.000	474.000	0.000	0.207	1331.000	416.000	0.000	0.001	
Calvert Cliffs 1&2	9.967782	87.300	297.000	1.470	3.570	242.000	10.560	14800.000	31.500	
Millstone 2	3.497696									No data.
St. Lucie 1&2	11.975070	79.300	420.000	0.000	45.300	1549.000	41.000	0.000	2.190	
Palo Verde 1	1.127650	84.200	0.000	0.000	0.000	68.000	0.000	0.000	0.000	
San Onofre 2&3	8.860680	35.030	403.425	1.490	120.510	1470.000	54.301	0.956	199.065	
Waterford 3	1.805153	195.150	40.300	0.000	0.000	32.974	0.910	0.000	0.000	
Total:	55.655708	1080.771	2367.669	2.960	276.979	5101.393	661.184	14800.956	240.046	
(B&W):										
Oconee 1,2&3	16.981975	243.190	528.980	1.620	176.200	835.437	17.115	1202.800	4.160	
TMI-1	0.811660	340.470	127.990	0.000	0.000	18.295	1.105	0.000	0.000	
TMI-2	0.000000	28.800	332.210	0.000	0.000	2.170	4.079	0.000	0.000	
ANO-1 (Unit 1)	5.190354	(Reported with Unit 2)				(Reported with Unit 2)				
Rancho Seco	1.936236	770.000	437.700	0.000	0.000	1363.000	481.040	0.000	0.000	
Crystal River	2.863575	225.900	269.000	0.370	2.340	1044.000	11.730	3540.000	0.008	
Davis-Besse	1.942921	38.320	154.000	0.000	4.190	7.300	36.470	0.000	52.000	
Total:	29.726721	1646.680	1849.880	1.990	182.730	3270.202	551.539	4742.800	56.168	
(West):										
Yankee Rowe	1.181666	48.840	151.600	0.000	0.000	261.827	6.452	0.000	0.000	
San Onofre 1	2.457762	0.000	136.300	0.000	44.000	0.000	5.050	0.000	0.995	
Haddam	4.638100	44.120	129.360	0.000	0.000	251.600	24.500	0.000	0.000	
Ginna	3.620296	116.000	107.000	0.000	0.000	111.000	8.100	0.000	0.000	
Robinson-2	5.239913	150.000	441.000	1.630	49.600	235.600	9.800	3100.000	8.420	Type D: oil.
Pt. Beach 1&2	6.957257	92.211	189.068	0.000	0.000	1240.499	1.195	0.000	0.000	
Surry 1&2	9.690730	71.100	1881.000	0.000	72.600	1141.000	61.000	0.000	4.410	
Turkey Pt. 3&4	8.590302	70.200	537.600	0.000	0.230	1495.000	2.100	0.000	0.001	
Indian Pt. 2	6.665039	153.465	522.160	14.270	0.000	554.185	22.360	0.010	0.000	
Indian Pt. 3	4.728523	79.900	159.000	0.000	0.000	541.300	7.500	0.000	0.000	
Zion 1&2	9.928135	164.410	443.599	6.810	57.774	675.000	12.977	1998.660	0.001	
Prairie Is. 1&2	7.285494	46.759	72.982	0.000	52.730	400.058	2.106	0.000	0.100	
Kewaunee	3.699176	32.300	40.960	0.000	4.480	896.000	6.500	0.000	53.400	Type D: filter elements.

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(West): contd.										
Cook 1&2	7.799696	359.000	480.000	8.600	0.000	827.400	43.870	1130.000	0.000	These values need checking.
Trojan	6.910774	141.671	168.263	0.000	0.000	3502.194	12.757	0.000	0.000	
Beaver Valley	5.901460	50.200	106.200	0.000	0.000	93.600	3.492	0.000	0.000	
Salem 1&2	14.024518	50.700	390.400	0.000	14.400	2005.000	6.920	0.000	5.440	
Farley 1&2	11.338990	71.070	393.700	0.000	17.200	799.770	18.220	0.000	0.002	
No. Anna 1&2	12.612517	261.000	341.000	0.000	48.000	225.000	61.700	0.000	3.130	Type D: oil.
Sequoyah 1&2	9.672056	236.000	519.000	0.000	0.000	2510.000	115.400	0.000	0.000	Type D: oil.
McGuire 1&2	12.372612	154.078	453.347	0.000	50.920	192.295	3.878	0.000	0.779	Type D: oil and noncompactible.
Summer	5.230522	243.000	200.900	0.000	2.380	101.400	9.920	0.000	18.200	
Diablo Canyon 1&2	5.234234	8.600	19.500	0.000	2.970	40.200	3.660	0.000	0.096	
Byron 1	1.012898	139.620	38.150	0.000	0.000	11.854	2.053	0.000	0.000	
Callaway 1	8.045764	116.700	22.300	0.000	0.000	5.846	0.443	0.000	0.000	
Catawba 1	3.440514	0.000	36.470	0.000	0.000	0.000	0.069	0.000	0.000	
Wolf Creek 1	2.942100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Total:	181.221048	2900.944	7980.859	31.310	417.284	18117.628	452.022	6228.670	94.974	
1985 PWR total	266.603477	5628.395	12198.408	36.260	876.993	26489.223	1664.745	25772.426	391.188	
Year: 1984										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.417523	0.000	36.700	0.000	0.000	0.000	2.132	0.000	0.000	
Humboldt Bay	0.000000	91.460	197.870	0.000	0.000	58.600	8.329	0.000	0.000	
Dresden 1	0.000000	(Reported with Units 2 & 3)				(Reported with Units 2 & 3)				
LaCrosse	0.318604	4.810	34.410	0.000	0.000	184.000	0.059	0.000	0.000	
Total:	0.736127	96.270	268.980	0.000	0.000	242.600	10.520	0.000	0.000	
[db >200 MW(e)]:										
Brunswick 1&2	6.424599	300.300	1018.000	0.000	52.500	3425.000	28.560	0.000	0.909	
Dresden 2&3	6.566006	583.900	676.000	0.000	0.000	4324.600	35.500	0.000	0.000	
FitzPatrick	4.899365	177.300	254.200	0.000	0.000	1235.000	21.530	0.000	0.000	
Millstone 1	4.322903	253.600	686.000	0.000	0.000	1946.000	22.380	0.000	0.000	
Nine Mile Point	3.635235	203.870	389.000	1.470	34.700	623.632	3.469	12800.000	0.044	
Oyster Creek	0.278777	242.000	1146.000	4.460	0.000	919.000	30.560	43000.000	0.000	
Pilgrim	0.003518	273.660	2843.270	0.000	0.000	1475.152	64.449	0.000	0.000	
Susquehanna 1	6.088141	789.579	259.983	0.000	250.708	912.330	11.570	0.000	2.253	
LaSalle 1&2	6.598326	526.830	312.700	0.000	0.000	175.930	4.493	0.000	0.000	
Grand Gulf 1	0.000000	431.000	0.000	0.000	0.000	9.090	0.000	0.000	0.000	
Total:	38.816870	3782.039	7585.153	5.930	337.908	15045.734	222.511	55800.000	3.206	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(f/d):										
Browns Ferry 1,2&3	12.183369	916.543	1637.482	0.000	1118.607	5532.900	9.057	0.000	46.051	
Cooper	3.469953	141.500	295.300	0.000	0.000	472.600	18.601	0.000	0.000	From DOE/LLW-50T.
Arnold	2.717563	130.274	137.751	0.000	0.000	911.447	2.137	0.000	0.000	From DOE/LLW-50T.
Hatch 1&2	5.473144	524.380	1655.200	121.770	196.210	2246.430	260.630	69.790	2.000	
Monticello	0.263119	110.400	1126.000	0.000	0.000	541.000	32.100	0.000	0.000	
Peach Bottom 2&3	9.871425	2250.061		11.339	0.000	1192.900	0.000	91000.000	0.000	No breakdown; Type C: assumed 11.339 m^3, 91,000 Ci.
Quad-Cities 1&2	8.333660	1344.663	0.000	3.731	0.000	1661.000	0.000	39000.000	0.000	No breakdown; Type C: assumed 3.731 m^3, 39,000 Ci.
Vermont Yankee	3.335832	131.700	216.600	0.000	0.000	278.000	7.110	0.000	0.000	
WNP-2	0.410386	321.000	66.300	0.000	0.000	35.228	0.545	0.000	0.000	
Total:	46.058451	5870.521	5134.633	136.840	1314.817	12871.505	330.180	130069.790	48.051	
1984 BWR total	85.611448	9748.830	12988.766	142.770	1652.725	28159.839	563.211	185869.790	51.257	
Year: 1984										
Type: PWR										
(CE):										
Palisades	0.811549	45.700	402.400	0.000	0.000	249.180	8.930	0.000	0.000	
Maine Yankee	5.134167	106.100	243.000	0.000	0.000	344.620	14.840	0.000	0.000	
Ft. Calhoun	2.337710	133.440	259.360	0.000	0.000	39.959	31.758	0.000	0.000	
ANO-1 (Unit 2)	6.203573	101.600	697.310	0.207	10.750	1400.158	61.581	0.053	0.300	
Calvert Cliffs 1&2	11.660047	32.200	491.700	4.440	0.000	798.000	4.990	36900.000	0.000	
Millstone 2	6.608337	41.900	(Unit 1)	18.900	0.000	4253.000	(Unit 1)	106000.000	0.000	
St. Lucie 1&2	9.792901	46.500	1094.000	83.700	0.000	1234.000	70.800	62300.000	0.000	
San Onofre 2&3	9.367662	(Reported with Unit 1)				(Reported with Unit 1)				
Total:	51.915946	507.440	3187.770	107.247	10.750	8318.917	192.899	205200.053	0.300	
(B&W):										
Oconee 1,2&3	18.818954	285.653	639.408	0.080	11.328	1472.536	23.000	4678.290	0.900	From DOE/LLW-50T.
TMI-1	0.000000	235.880	198.510	0.000	0.000	412.940	5.221	0.000	0.000	
TMI-2	0.000000	67.903	192.140	0.000	0.000	6579.057	12.037	0.000	0.000	
ANO-1 (Unit 1)	4.604135	(Reported with Unit 2)				(Reported with Unit 2)				
Rancho Seco	3.767551	257.000	168.000	0.000	0.000	37.900	8.090	0.000	0.000	
Crystal River	6.478928	320.000	86.000	5.100	0.000	1145.900	2.281	770.077	0.000	
Davis-Besse	4.291557	62.300	88.500	0.000	0.000	472.000	1.441	0.000	0.000	
Total:	37.961125	1228.736	1372.558	5.180	11.328	10120.333	52.070	5448.367	0.900	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(West):										
Yankee Rowe	1.026162	45.000	107.000	0.000	5.520	6.900	32.430	0.000	113.000	
San Onofre 1	0.261556	35.700	79.200	0.000	154.400	373.000	22.130	0.000	68.639	All units?
Haddam	3.362290	85.260	342.320	0.000	0.000	366.600	8.759	0.000	0.000	
Ginna	3.156778	121.400	130.400	0.000	0.000	312.000	11.250	0.000	0.000	
Robinson-2	0.190037	257.000	2780.000	0.000	16.900	140.200	24.540	0.000	30.100	
Pt. Beach 1&2	6.621581	712.388	0.000	0.000	0.000	1642.492	0.000	0.000	0.000	No breakdown.
Surry 1&2	8.543490	585.300	352.000	0.000	7.860	1154.470	6.790	0.000	0.212	
Turkey Pt. 3&4	7.863411	850.382	0.000	0.000	0.000	1910.296	0.000	0.000	0.000	No breakdown.
Indian Pt. 2	2.886727	303.000	870.000	0.000	0.000	3750.000	23.500	0.000	0.000	
Indian Pt. 3	6.041690	35.500	117.600	0.000	0.000	406.620	4.900	0.000	0.000	
Zion 1&2	11.678401	223.464	396.126	0.000	23.562	2495.153	25.566	0.000	95.836	
Prairie Is. 1&2	8.065345	24.060	9.110	0.000	8.690	11.396	0.109	0.000	0.366	
Kewaunee	3.810000	25.320	29.650	0.000	8.220	1479.800	14.600	0.000	106.210	
Cook 1&2	12.915118	270.000	224.000	0.000	0.000	666.000	3.080	0.000	0.000	
Trojan	4.736474	108.497	121.872	0.000	0.000	14.788	8.843	0.000	0.000	
Beaver Valley	4.745955	58.500	97.100	0.000	0.000	708.500	2.630	0.000	0.000	
Salem 1&2	5.327766	110.500	1383.000	0.000	24.100	599.500	22.600	0.000	0.710	
Farley 1&2	12.046880	33.950	528.300	0.000	0.000	267.500	30.960	0.000	0.000	
No. Anna 1&2	8.501995	214.000	652.000	0.000	33.700	875.300	77.600	0.000	0.222	
Sequoyah 1&2	12.507973	159.502	807.136	0.000	0.000	2400.000	29.800	0.000	0.000	
McGuire 1&2	12.976800	58.153	293.317	0.000	62.532	1865.460	15.090	0.000	4.720	
Summer	4.196525	181.000	291.600	0.000	7.140	122.100	2.269	0.000	30.970	
Diablo Canyon	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Callaway 1	0.323023									
Total:	141.785977	4497.876	9611.731	0.000	352.624	21568.075	367.446	0.000	450.985	
1984 PWR total	231.663048	6234.052	14172.059	112.427	374.702	40007.325	612.415	210648.420	452.185	
Year: 1983										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.348591	20.800	80.300	0.000	0.000	271.000	2.910	0.000	0.000	
Humboldt Bay	0.000000	0.000	22.700	5.100	0.000	0.000	3.200	17500.000	0.000	
Dresden 1	0.000000	(Reported with Units 2 & 3)				(Reported with Units 2 & 3)				
LaCrosse	0.201267	7.230	4.810	0.000	0.000	187.550	0.272	0.000	0.000	
Total:	0.549858	28.030	107.810	5.100	0.000	458.550	6.382	17500.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^5]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
[db >200 MW(e)]:										
Brunswick 1&2	5.324400	981.000	2530.000	1.700	0.000	7130.000	197.100	1030.000	0.000	
Dresden 2&3	7.545453	747.100	672.900	0.000	0.000	2812.000	42.230	0.000	0.000	
FitzPatrick	4.634255	218.000	493.000	0.000	0.000	623.000	80.200	0.000	0.000	
Millstone 1	5.354157	148.550	544.440	0.000	0.000	655.640	25.685	0.000	0.000	
Nine Mile Point	2.802108	144.400	567.000	9.730	0.000	449.800	7.840	53700.000	0.000	
Oyster Creek	0.205155	268.000	733.000	0.000	0.000	406.000	154.600	0.000	0.000	
Pilgrim	4.711898	191.010	474.030	0.000	0.000	1437.621	41.000	0.000	0.000	
Susquehanna 1	3.536373	1085.000	163.800	0.000	14.400	280.100	2.770	0.000	0.022	
LaSalle 1&2	0.000000	535.600	146.600	0.000	0.000	28.500	1.638	0.000	0.000	
Total:	31.311691	4318.660	6324.770	11.430	14.400	13822.661	553.063	54730.000	0.022	
(f/d):										
Browns Ferry 1,2&3	13.955428	828.380	775.710	0.000	2113.406	6151.240	698.250	0.000	47.485	
Cooper	3.343199	182.100	321.000	0.000	0.000	851.000	1.885	0.000	0.000	
Arnold	2.324318	185.358	407.208	0.000	88.290	1418.033	18.037	0.000	4.871	
Hatch 1&2	7.773603	513.000	1254.000	0.000	98.100	2225.000	49.620	0.000	0.458	
Monticello	4.147725	151.600	192.100	13.440	0.000	948.000	2.306	43300.000	0.000	
Peach Bottom 2&3	6.872274	2681.959	0.000	0.000	0.000	22465.000	0.000	0.000	0.000	
Quad-Cities 1&2	8.927659	1578.283	0.000	0.000	0.000	5847.176	0.000	0.000	0.000	No breakdown.
Vermont Yankee	2.874475	167.900	239.000	8.200	0.000	494.000	7.310	57000.000	0.000	
WNP-2	0.000000									
Total:	50.218681	6288.580	3189.018	21.640	2299.796	40399.449	777.408	100300.000	52.814	
1983 BWR total	82.080230	10635.270	9621.598	38.170	2314.196	54680.660	1336.853	172530.000	52.836	
Year: 1983 Type: PWR (CE):										
Palisades	3.769958	147.700	427.000	0.330	0.000	252.000	9.000	25300.000	0.000	
Maine Yankee	5.734209	142.500	194.900	0.000	0.000	91.310	12.100	0.000	0.000	
Ft. Calhoun	2.749832	211.700	253.150	0.000	0.370	379.774	153.905	0.000	166.897	
ANO-1 (Unit 2)	4.427954	81.400	268.000	0.000	1.270	1069.000	33.400	0.000	5.040	
Calvert Cliffs 1&2	11.683758	28.500	477.000	0.000	0.000	106.000	1.353	0.000	0.000	
Millstone 2	2.453990	44.820	(Unit 1)	0.000	0.000	257.721	(Unit 1)	0.000	0.000	
St. Lucie 1&2	3.467668	23.050	411.000	79.900	106.000	438.000	27.230	93500.000	0.135	
San Onofre 2	2.775644	(Reported with Unit 1)				(Reported with Unit 1)				
Total:	37.063013	679.670	2031.050	80.230	107.640	2593.805	236.988	118800.000	172.072	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type				Activity (Ci) for waste type				Remarks[a,b]
		A (Wet)	B (Dry)	C (Core component)	D (Other)	A (Wet)	B (Dry)	C (Core component)	D (Other)	
(B&W):										
Oconee 1,2&3	17.908976	1156.430	0.000	0.000	0.000	2842.981	0.000	0.000	0.000	
TMI-1	0.000000	206.645	391.227	0.000	7.255	635.806	24.048	0.000	24.284	
TMI-2	0.000000	0.000	311.635	0.000	0.000	0.000	13.140	0.000	0.000	July-Dec.: Type A to HANF had 182.41 m^3, 66446 Ci.
ANO-1 (Unit 1)	3.220578	(Reported with Unit 1)				(Reported with Unit 1)				
Rancho Seco	2.850698	0.000	187.000	0.000	85.200	0.000	7.300	0.000	218.000	
Crystal River	3.772203	282.000	257.300	0.212	0.000	858.000	13.900	89.100	0.000	
Davis-Besse	4.883259	25.360	88.100	0.000	0.000	630.900	5.882	0.000	0.000	
Total:	32.635714	1670.435	1235.262	0.212	92.455	4967.687	64.270	89.100	242.284	
(West):										
Yankee Rowe	1.343134	51.790	58.590	0.000	2.760	1.401	3.519	0.000	0.030	
San Onofre 1	0.000000	30.900	264.600	0.000	225.900	222.580	7.959	0.000	4.055	
Haddam	3.781899	249.210	402.700	0.000	0.000	1510.210	13.683	0.000	0.000	
Ginna	3.040184	262.910	67.000	0.000	0.000	506.700	14.480	0.000	0.000	
Robinson 2	3.347522	297.000	798.000	0.000	0.000	14.680	31.430	0.000	0.000	
Pt. Beach 1&2	5.401142	57.410	654.000	0.000	0.000	1001.000	118.300	0.000	0.000	
Surry 1&2	7.603412	3077.032	0.000	0.000	0.000	3563.710	0.000	0.000	0.000	
Turkey Pt. 1&2	7.298902	1212.400	0.000	0.000	0.000	926.334	0.000	0.000	0.000	
Indian Pt. 2	5.895035	113.400	903.000	0.000	269.000	2092.000	31.000	0.000	0.003	
Indian Pt. 3	0.060735	31.500	280.000	0.000	4.810	718.700	4.820	0.000	8.720	
Zion 1&2	10.198141	590.423	330.605	0.000	0.000	2941.180	28.503	0.000	0.000	
Prairie Is. 1&2	7.605073	71.210	167.270	0.000	0.000	187.800	4.392	0.000	0.000	
Kewaunee	3.706928	22.108	33.605	0.000	0.000	668.104	17.102	0.000	0.000	
Cook 1&2	12.300418	311.000	357.000	0.000	0.000	1940.000	73.900	0.000	0.000	
Trojan	4.081296	118.100	109.600	0.000	0.000	1673.858	1.364	0.000	0.000	
Beaver Valley	4.676771	79.100	139.700	0.000	0.000	472.400	2.338	0.000	0.000	
Salem 1&2	6.120063	420.000	1633.000	0.000	19.300	291.000	7.440	0.000	0.100	
Farley 1&2	11.244818	35.300	405.100	1.000	0.000	1001.200	24.420	5.100	0.000	
No. Anna 1&2	11.112905	110.700	368.000	38.800	21.000	848.000	56.100	961.000	0.050	
Sequoyah 1&2	14.032371	71.707	620.900	0.000	0.000	2269.850	45.759	0.000	0.000	
McGuire 1&2	4.634932	16.560	227.920	0.000	0.000	18.020	10.180	0.000	0.000	
Summer	0.000000	11.300	78.800	0.000	2.380	0.797	0.523	0.000	12.400	
Total:	127.485681	7241.060	7899.390	39.800	545.150	22869.524	497.212	966.100	25.358	
1983 PWR total	197.184408	9591.165	11165.702	120.242	745.245	30431.016	798.470	119855.200	439.714	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
Year: 1982										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.359883	5.100	103.880	0.000	0.000	0.370	3.960	0.000	0.000	
Humboldt Bay	0.000000	0.000	77.100	0.000	0.000	0.000	1.340	0.000	0.000	
Dresden 1	0.000000	(Reported with Units 2 & 3)				(Reported with Units 2 & 3)				
LaCrosse	0.137976	3.390	31.860	0.000	0.000	5.950	0.610	0.000	0.000	
Total:	0.497859	8.490	212.840	0.000	0.000	6.320	5.910	0.000	0.000	
[db >200 MW(e)]:										
Brunswick 1&2	4.824145	721.000	2810.000	0.000	0.000	5210.000	285.600	0.000	0.000	
Dresden 2&3	9.010923	377.200	518.600	2.620	0.000	2899.200	20.720	163470.000	0.000	Type B activity assigned to core curtains.
FitzPatrick	4.959655	268.200	1313.200	0.000	58.200	759.770	29.010	0.000	0.142	
Millstone 1	4.078277	181.900	795.000	0.000	0.000	1067.000	14.450	0.000	0.000	
Nine Mile Point	1.134758	159.000	415.300	1.700	0.000	1309.400	13.364	5750.000	0.000	
Oyster Creek	2.013090	370.000	609.000	17.000	0.000	4160.000	52.700	453.000	0.000	
Pilgrim	3.287027	196.306	2086.776	0.000	0.000	942.704	15.819	0.000	0.000	
Susquehanna 1&2	0.000000	40.000	5.100	0.000	0.000	0.062	0.003	0.000	0.000	
LaSalle 1&2	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Total:	29.307875	2313.606	8552.976	21.320	58.200	16348.136	431.666	169673.000	0.142	
(f/d):										
Browns Ferry 1,2&3	17.224657	784.400	834.800	0.000	4290.700	4542.000	952.740	0.000	12.490	
Cooper	5.276082	187.100	257.600	0.000	0.000	425.000	2.206	0.000	0.000	
Arnold	2.280467	233.504	152.718	0.000	67.545	1267.826	5.131	0.000	0.000	
Hatch 1&2	6.605836	648.000	930.000	14.200	99.800	3537.000	21.920	0.041	476.088	
Monticello	2.420820	82.900	660.000	6.800	0.000	526.000	360.500	3000.000	0.000	
Peach Bottom 2&3	13.326733	3234.210	0.000	0.000	0.000	4508.000	0.000	0.000	0.000	No breakdown.
Quad-Cities 1&2	8.303807	1455.506	0.000	0.000	0.000	3957.901	0.000	0.000	0.000	No breakdown.
Vermont Yankee	4.174255	128.000	323.300	0.000	0.000	205.100	4.320	0.000	0.000	
Total	59.612657	6753.620	3158.418	21.000	4458.045	18968.827	1346.817	3000.041	488.578	
1982 BWR total	89.418391	9075.716	11924.234	42.320	4516.245	35323.283	1784.393	172673.041	488.720	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
Year: 1982										
Type: PWR										
(CE):										
Palisades	3.345123	340.100	368.300	0.000	0.000	64.840	14.960	0.000	0.000	
Maine Yankee	4.524228	71.400	148.900	0.000	0.000	19.010	11.893	0.000	0.000	
Ft. Calhoun	3.482164	183.060	158.710	0.000	0.000	27.627	7.789	0.000	0.000	
ANO-1 (Unit 2)	3.807388	248.000	195.000	402.000	64.000	3250.000	1150.000	1090.000	320.000	From DOE/LLW-27T.
Calvert Cliffs 1&2	10.367126	47.400	82.800	26.400	0.000	144.000	11.875	760.000	0.000	
Millstone 2	5.009081	6.850	(Unit 1)	0.000	0.000	484.000	(Unit 1)	0.000	0.000	
St. Lucie 1	6.784644	32.200	275.000	0.000	0.000	778.000	17.390	0.000	0.000	
Total:	37.319754	929.010	1228.710	428.400	64.000	4767.477	1213.907	1850.000	320.000	
(B&W):										
Oconee 1,2&3	10.706762	3062.592	0.000	0.000	0.000	10910.828	0.000	0.000	0.000	
TMI-1	0.000000	116.396	595.540	0.000	0.000	5.749	15.339	0.000	0.000	
TMI-2	0.000000	(Reported with Unit 1)				(Reported with Unit 1)				
ANO-1 (Unit 1)	3.721409	(Reported with Unit 2)				(Reported with Unit 2)				
Rancho Seco	3.366508	166.000	49.100	0.000	24.500	465.000	0.914	0.000	0.019	
Crystal River	4.915582	339.000	323.300	0.000	0.000	620.000	7.540	0.000	0.000	
Davis-Besse	3.218155	15.000	105.000	0.000	0.000	13.000	6.000	0.000	0.000	From DOE/LLW-27T.
Total:	25.928416	3698.988	1072.940	0.000	24.500	12014.577	29.793	0.000	0.019	
(West):										
Yankee Rowe	0.882161	40.598	136.506	0.000	32.341	1.061	7.013	0.000	20.058	
San Onofre 1	0.510223	36.120	376.200	0.000	413.100	63.008	11.680	0.000	0.544	
Haddam	4.538360	105.030	198.600	0.000	8.070	248.000	7.092	0.000	2.031	
Ginna	2.407987	154.844	334.540	0.000	0.000	193.630	13.730	0.000	0.000	
Robinson-2	2.251851	721.200	663.700	0.000	0.000	23.990	39.810	0.000	0.000	
Pt. Beach 1&2	6.307331	251.478	0.000	0.000	0.000	946.207	0.000	0.000	0.000	
Surry 1&2	10.975433	2178.419	0.000	0.000	0.000	993.600	0.000	0.000	0.000	
Turkey Pt. 3&4	7.610779	1005.353	0.000	0.000	0.000	1131.841	0.000	0.000	0.000	
Indian Pt. 2	4.447401	184.000	990.000	0.000	0.000	6070.000	395.000	0.000	0.000	
Indian Pt. 3	1.436036	27.300	337.000	0.000	14.400	9.590	8.380	0.000	43.400	
Zion 1&2	9.853451	635.364	245.868	0.000	0.000	2164.324	5.270	0.000	0.000	
Prairie Is. 1&2	7.776126	9.060	90.010	0.000	0.000	320.800	43.040	0.000	0.000	
Kewaunee	3.824851	27.740	21.070	0.000	18.449	270.600	1.400	0.000	0.677	
Cook 1&2	12.348474	338.600	374.400	0.000	0.000	771.700	72.560	0.000	0.000	
Trojan	4.802041	122.910	164.240	0.000	0.000	18.202	3.542	0.000	0.000	
Beaver Valley	2.688163	82.200	212.200	0.000	0.000	379.900	3.590	0.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(West): contd.										
Salem 1&2	12.036311	360.000	1549.000	0.000	0.000	308.000	11.110	0.000	0.000	
Farley 1&2	10.511826	28.927	317.000	0.000	0.000	28.230	74.600	0.000	0.000	
No. Anna 1&2	6.445059	79.200	342.000	0.000	0.000	291.000	13.640	0.000	0.000	
Sequoyah 1&2	8.835270	55.590	0.000	0.000	302.740	113.651	0.000	0.000	114.214	
McGuire 1	4.302267	7.900	88.200	0.000	0.000	2.800	4.159	0.000	0.000	
Summer	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Total:	118.346342	6451.833	6440.534	0.000	789.100	14350.134	715.616	0.000	180.924	
1982 PWR total	181.594512	11079.831	8742.184	428.400	877.600	31132.188	1959.316	1850.000	500.943	
Year: 1981										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.469951	40.410	98.400	5.660	0.000	304.800	4.439	8.000	0.000	
Humboldt Bay	0.000000	0.000	84.300	0.000	0.000	0.000	0.546	0.000	0.000	
Dresden 1	0.000000	(Reported with Units 2 & 3)				(Reported with Units 2 & 3)				
LaCrosse	0.240712	4.820	0.000	0.000	0.000	61.080	0.000	0.000	0.000	
Total:	0.710663	45.230	182.700	5.660	0.000	365.880	4.985	8.000	0.000	
[db >200 MW(e)]:										
Brunswick 1&2	5.840041	1372.496	2928.904	0.000	0.000	7412.367	60.252	0.000	0.000	
Dresden 2&3	8.579753	418.700	719.800	0.000	0.000	4494.800	96.900	0.000	0.000	
FitzPatrick	4.779650	399.000	462.000	0.000	0.000	1605.000	20.010	0.000	0.000	
Millstone 1	2.518869	274.000	1687.000	0.000	0.000	1767.000	57.900	0.000	0.000	
Nine Mile Point	3.270340	237.100	294.000	0.000	0.000	1710.000	102.320	0.000	0.000	
Oyster Creek	2.628780	578.000	1204.000	0.000	0.000	283.000	138.100	0.000	0.000	
Pilgrim	3.443877	210.018	853.806	0.000	0.000	859.216	78.660	0.000	0.000	
Total:	31.061310	3489.314	8149.510	0.000	0.000	18131.383	554.142	0.000	0.000	
(f/d):										
Browns Ferry 1,2&3	18.141554	769.700	1166.810	0.000	288.970	4094.900	681.280	0.000	3.510	
Cooper	3.851048	150.900	348.000	0.000	0.000	440.000	2.820	0.000	0.000	
Arnold	2.219546	209.500	487.286	0.000	0.000	1041.071	25.833	0.000	0.000	
Hatch 1&2	7.234701	600.000	1755.000	0.000	336.000	4591.500	122.330	0.000	46.300	
Monticello	3.257758	139.800	414.000	0.000	0.000	423.000	19.380	0.000	0.000	
Peach Bottom 2&3	9.762901	2333.074	0.000	0.000	0.000	5332.000	0.000	0.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(f/d): contd.										
Quad-Cities 1&2	9.494437	1715.340	0.000	0.000	0.000	5160.630	0.000	0.000	0.000	
Vermont Yankee	3.568707	172.300	265.000	0.000	0.000	1022.000	8.030	0.000	0.000	
Total:	57.530652	6090.614	4436.096	0.000	624.970	22105.101	859.673	0.000	49.810	
1981 BWR total	89.302625	9625.158	12768.306	5.660	624.970	40602.364	1418.800	8.000	49.810	
Year: 1981										
Type: PWR										
(CE):										
Palisades	3.462628	133.200	720.300	0.370	0.000	102.306	22.858	15600.000	0.000	
Maine Yankee	5.211941	104.050	265.000	0.000	0.000	135.520	15.300	0.000	0.000	
Ft. Calhoun	2.149685	129.090	124.140	0.000	0.000	90.751	10.668	0.000	0.000	
ANO-1 (Unit 2)	4.323801									No data.
Calvert Cliffs 1&2	11.525622	52.900	291.600	155.900	0.000	94.000	2.396	2.171	0.000	
Millstone 2	6.091631	16.300	(Unit 1)	0.000	0.000	321.000	(Unit 1)	0.000	0.000	
St. Lucie 1	4.947488	18.940	231.000	0.000	0.000	290.300	6.120	0.000	0.000	
Total:	37.712797	454.480	1632.040	156.270	0.000	1033.877	57.342	15602.171	0.000	
(B&W):										
Oconee 1,2&3	13.823530	2480.000	0.000	0.000	0.000	11200.000	0.000	0.000	0.000	No breakdown.
TMI-1	0.000000	296.420	501.480	0.000	0.000	231.223	2.508	0.000	0.000	
TMI-2	0.000000	56.420	266.650	0.000	3.160	284.040	47.820	0.000	3.170	
ANO-1 (Unit 1)	4.900762	(Reported with Unit 2)				(Reported with Unit 2)				
Rancho Seco	2.630992	0.000	122.000	0.000	109.000	0.000	6.590	0.000	137.000	
Crystal River	4.083728	1013.000	255.000	0.000	0.000	1295.000	77.600	0.000	0.000	
Davis-Besse	4.363436	183.000	142.300	0.000	0.000	7.690	31.850	0.000	0.000	
Total:	29.802448	4028.840	1287.430	0.000	112.160	13017.953	166.368	0.000	140.170	
(West):										
Yankee Rowe	0.884983	55.000	175.890	4.404	73.037	3.650	8.201	1.819	54.150	
San Onofre 1	0.778789	1476.600	142.100	0.000	0.000	635.490	0.845	0.000	0.000	
Haddam	4.062844	139.790	277.410	0.000	20.320	634.000	11.699	0.000	15.620	
Ginna	3.322528	408.580	0.000	0.000	0.000	638.860	0.000	0.000	0.000	
Robinson-2	3.503799	250.070	652.350	0.000	0.000	4.990	13.820	0.000	0.000	
Pt. Beach 1&2	6.333967	177.330	0.000	0.000	0.000	487.000	0.000	0.000	0.000	
Surry 1&2	7.527539	2807.000	0.000	0.000	0.000	1366.000	0.000	0.000	0.000	
Turkey Pt. 3&4	5.416939	1246.870	0.000	0.000	0.000	116.540	0.000	0.000	0.000	
Indian Pt. 2	3.055332	348.000	1230.000	0.000	0.000	1650.000	55.500	0.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(West): contd.										
Indian Pt. 3	3.033247	49.300	268.000	0.000	0.000	57.500	6.500	0.000	0.000	
Zion 1&2	11.449260	1531.840	0.000	0.000	0.000	3440.530	0.000	0.000	0.000	
Prairie Is. 1&2	6.931603	20.728	182.320	0.000	93.870	43.600	12.700	0.000	0.096	
Kewaunee	3.769287	23.566	20.360	0.000	29.900	192.440	4.141	0.000	1.693	
Cook 1&2	13.166495	518.700	444.700	0.000	0.000	1286.300	142.280	0.000	0.000	
Trojan	6.423930	149.110	226.040	0.000	0.000	1040.728	3.698	0.000	0.000	
Beaver Valley	4.662360	106.500	106.100	0.000	0.000	87.300	5.677	0.000	0.000	
Salem 1&2	7.823366	234.000	702.000	0.000	0.000	1101.000	37.000	0.000	0.000	
Farley 1&2	5.536694	149.400	415.000	0.000	0.000	704.000	15.570	0.000	0.000	
No. Anna 1&2	10.290685	81.400	220.800	0.000	0.000	2520.000	102.650	0.000	0.000	
Sequoyah 1&2	2.527025	38.042	0.000	0.000	165.970	20.376	0.000	0.000	8.800	
McGuire 1	0.019056									
Total:	110.519728	9811.826	5063.070	4.404	383.097	16030.304	420.281	1.819	80.359	
1981 PWR total	178.034973	14295.146	7982.540	160.674	495.257	30082.134	643.991	15603.990	220.529	
Year: 1980										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.405450	12.000	30.000	0.000	0.000	30.100	0.870	0.000	0.000	
Humboldt Bay	0.000000	82.000	0.000	0.000	0.000	69.500	0.000	0.000	0.000	
Dresden 1	0.000000	(Reported with Units 1 & 2)				(Reported with Units 1 & 2)				
LaCrosse	0.214545	42.100	0.000	0.000	1.080	20.200	0.000	0.000	0.047	
Total:	0.619995	136.100	30.000	0.000	1.080	119.800	0.870	0.000	0.047	
[db >200 MW(e)]:										
Brunswick 1&2	5.804581	1200.000	5530.000	0.000	0.000	7390.000	160.000	0.000	0.000	
Dresden 2&3	8.910495	537.000	621.000	0.000	0.000	4420.000	40.900	0.000	0.000	
FitzPatrick	4.334505	348.000	387.000	0.000	15.100	842.000	44.500	0.000	0.001	
Millstone 1	3.390172	916.000	1390.000	0.000	0.000	2300.000	58.900	0.000	0.000	
Nine Mile Point	4.537788	737.000	68.300	8.500	0.000	1770.000	7.430	21400.000	0.000	
Oyster Creek	1.957645	711.000	1320.000	0.000	0.000	1160.000	162.000	0.000	0.000	
Pilgrim	3.044484	347.000	2590.000	0.000	0.000	1560.000	41.000	0.000	0.000	
Total:	31.979670	4796.000	11906.300	8.500	15.100	19442.000	514.730	21400.000	0.001	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(f/d):										
Browns Ferry 1,2&3	18.617237	774.000	1060.000	654.000	0.000	6010.000	447.000	3.530	0.000	
Cooper	3.788053	144.000	291.000	0.000	0.000	703.000	1.670	0.000	0.000	
Arnold	2.796975	735.000	620.000	0.000	0.000	700.000	16.000	0.000	0.000	
Hatch 1&2	8.435523	505.000	218.000	0.000	0.000	1040.000	3.850	0.000	0.000	
Monticello	3.453799	254.000	487.000	0.000	0.000	726.000	30.900	0.000	0.000	
Peach Bottom 1&2	11.577722	2640.000	0.000	0.000	0.000	6690.000	0.000	0.000	0.000	
Quad-Cities 1&2	7.056170	1670.000	0.000	0.000	0.000	4070.000	0.000	0.000	0.000	
Vermont Yankee	2.979214	171.000	313.000	0.000	0.000	895.000	24.800	0.000	0.000	
Total:	58.704693	6893.000	2989.000	654.000	0.000	20834.000	524.220	3.530	0.000	
1980 BWR total	91.304358	11825.100	14925.300	662.500	16.180	40395.800	1039.820	21403.530	0.048	
Year: 1980										
Type: PWR										
(CE):										
Palisades	2.379529	185.000	546.000	0.000	0.000	106.000	11.500	0.000	0.000	
Maine Yankee	4.404138	291.000	166.000	0.000	0.000	4790.000	0.930	0.000	0.000	
Ft. Calhoun	2.010662	175.000	231.000	0.000	0.000	1290.000	31.800	0.000	0.000	
ANO-1 (Unit 2)	3.647197									No data.
Calvert Cliffs 1&2	10.955996	47.300	134.000	69.200	0.000	504.000	1.100	14300.000	0.000	
Millstone 2	4.881788	7.140	(Unit 1)	0.368	0.000	199.000	(Unit 1)	29.200	0.000	
St. Lucie 1	5.199590	27.800	284.000	0.000	0.000	739.000	7.470	0.000	0.000	
Total:	33.478900	733.240	1361.000	69.568	0.000	7628.000	52.800	14329.200	0.000	
(B&W):										
Oconee 1,2&3	14.213157	748.000	268.000	304.000	0.900	2880.000	11.700	19.400	0.135	No breakdown for July-Dec.
TMI-1	0.000000	17.700	444.000	0.000	0.000	228.000	1.910	0.000	0.000	
TMI-2	0.000000	173.000	574.000	0.000	19.500	89.300	27.000	0.000	9.910	
ANO-1 (Unit 1)	3.781602	(Reported with Unit 2)				(Reported with Unit 2)				
Rancho Seco	4.415236	282.000	103.000	0.000	75.000	52.800	26.800	0.000	32.500	
Crystal River	3.353930	548.000	379.000	0.000	0.000	1860.000	183.000	0.000	0.000	
Davis-Besse	2.093923	137.000	193.000	0.000	0.000	1.960	26.100	0.000	0.000	
Total:	27.857848	1905.700	1961.000	304.000	95.400	5112.060	276.510	19.400	42.545	
(West):										
Yankee Rowe	0.291967	64.600	142.000	0.000	0.000	92.900	2.780	0.000	0.000	
San Onofre 1	0.816676	712.000	0.000	0.000	0.000	435.000	0.000	0.000	0.000	No breakdown.
Haddam	3.562845	271.000	991.000	0.000	0.000	468.000	21.100	0.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(West): contd.										
Ginna	3.093997	400.000	0.000	0.000	0.000	460.000	0.000	0.000	0.000	No breakdown.
Robinson-2	3.211350	414.000	576.000	0.000	0.000	245.000	62.400	0.000	0.000	On-site flyash transfer: 3000 m^3, 0.0247 Ci.
Pt. Beach 1&2	6.065402	449.000	0.000	0.000	0.000	935.000	0.000	0.000	0.000	No breakdown.
Surry 1&2	4.714908	201.000	1810.000	0.000	0.000	70.600	636.000	0.000	0.000	
Turkey Pt. 3&4	8.241415	724.000	0.000	0.000	0.000	161.000	0.000	0.000	0.000	No breakdown.
Indian Pt. 2	4.264224	607.000	421.000	0.000	0.000	210.000	122.000	0.000	0.000	
Indian Pt. 3	3.070723	74.800	272.000	0.000	0.212	178.000	24.300	0.000	0.047	
Zion 1&2	11.793694	0.000	0.000	0.000	1640.000	0.000	0.000	0.000	2550.000	
Prairie Is. 1&2	6.575626	23.900	501.000	0.000	0.000	150.000	47.600	0.000	0.000	
Kewaunee	3.631892	76.200	26.500	0.000	0.000	1370.000	6.610	0.000	0.000	
Cook 1&2	13.153580	843.000	1260.000	0.000	0.000	906.000	130.000	0.000	0.000	
Trojan	6.073440	142.000	372.000	0.000	0.000	22.700	23.300	0.000	0.000	
Beaver Valley	0.290761	86.900	197.000	0.000	0.000	533.000	1.130	0.000	0.000	
Salem 1	5.684483	325.000	687.000	0.000	0.000	387.000	71.600	0.000	0.000	
Farley 1	4.603742	161.000	280.000	0.000	0.000	190.000	35.800	0.000	0.000	
No. Anna 1&2	5.981201	65.900	198.000	0.000	0.000	136.000	17.500	0.000	0.000	
Sequoyah 1	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Total:	95.121926	5641.300	7733.500	0.000	1640.212	6950.200	1202.120	0.000	2550.047	
1980 PWR total	156.458674	8280.240	11055.500	373.568	1735.612	19690.260	1531.430	14348.600	2592.592	
Year: 1979										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.113674	30.000	59.900	0.000	0.000	275.000	2.070	0.000	0.000	
Humboldt Bay	0.000000	90.600	0.000	0.000	0.000	3350.000	0.000	0.000	0.000	
Dresden 1	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
LaCrosse	0.200932	5.090	0.000	0.000	0.000	125.000	0.000	0.000	0.000	
Total:	0.314606	125.690	59.900	0.000	0.000	3750.000	2.070	0.000	0.000	
[db >200 MW(e)]:										
Brunswick 1&2	6.821472	955.000	2138.000	0.000	0.000	4230.000	56.800	0.000	0.000	
Dresden 2&3	8.415443	578.000	462.000	0.000	0.000	800.000	45.000	0.000	0.000	
FitzPatrick	2.964590	408.000	381.000	0.000	15.100	999.000	59.100	0.000	0.001	Type D actually 0.00035 Ci.
Millstone 1	4.221264	1033.000	1070.000	2.480	0.000	999.000	9.160	150.000	0.000	
Nine Mile Point	3.005389	199.400	297.500	0.000	0.000	1512.000	5.540	0.000	0.000	
Oyster Creek	4.563223	617.000	514.000	0.000	0.000	1312.000	28.940	0.000	0.000	
Pilgrim	4.844559	296.000	940.000	1791.270	0.000	2500.000	171.300	19530.000	0.000	
Total:	34.835940	4086.400	5802.500	1793.750	15.100	12352.000	375.840	19680.000	0.001	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(f/d):										
Browns Ferry 1,2&3	20.419638	699.000	510.000	222.000	757.000	3790.000	347.000	5.900	24.500	
Cooper	4.994938	171.400	392.670	1.250	0.000	93.100	3.800	0.031	0.000	
Arnold	2.898764	799.000	0.000	0.000	0.000	801.000	0.000	0.000	0.000	
Hatch 1&2	5.095012	554.000	423.000	0.640	0.000	263.000	6.870	0.036	0.000	
Monticello	4.399560	198.200	274.000	1.380	0.000	626.000	3.340	12500.000	0.000	
Peach Bottom 2&3	14.675087	2400.000	0.000	0.000	0.000	8030.000	0.000	0.000	0.000	
Quad-Cities 1&2	8.764028	782.000	0.000	0.000	0.000	4260.000	0.000	0.000	0.000	
Vermont Yankee	3.448842	105.300	165.200	0.000	0.000	948.000	50.570	0.000	0.000	
Total:	64.696869	5708.900	1764.870	225.270	757.000	18811.100	411.580	12505.967	24.500	
1979 BWR total	99.847415	9920.990	7627.270	2019.020	772.100	34913.100	789.490	32185.967	24.501	
Year: 1979										
Type: PWR										
(CE):										
Palisades	3.433264	217.100	466.000	0.500	0.000	106.100	14.880	271.000	0.000	
Maine Yankee	4.539015	101.900	260.700	0.840	0.000	540.680	1.253	2230.000	0.000	
Ft. Calhoun	3.666112	187.000	57.300	0.000	0.000	28.060	1.810	0.000	0.000	
ANO-1 (Unit 2)	0.000000									No data.
Calvert Cliffs 1&2	9.683209	41.100	306.000	84.900	0.000	294.500	5.719	623.020	0.000	
Millstone 2	4.363567	231.000	14.800	0.060	0.000	4.080	33.900	1740.000	0.000	
St. Lucie 1	4.885058	15.200	293.000	0.000	0.000	168.000	10.520	0.000	0.000	
Total:	30.570225	793.300	1397.800	86.300	0.000	1141.420	68.082	4864.020	0.000	
(B&W):										
Oconee 1,2&3	14.227994	1633.000	0.000	0.000	0.000	2585.000	0.000	0.000	0.000	
TMI-1	0.848038	6.800	744.000	0.000	0.000	0.016	26.220	0.000	0.000	
TMI-2	1.318113	(Reported with Unit 1)				(Reported with Unit 1)				
ANO-1 (Unit 1)	3.323490	(Reported with Unit 2)				(Reported with Unit 2)				
Rancho Seco	5.711999	0.000	193.000	0.000	8.090	0.000	14.020	0.000	0.000	
Crystal River	3.761775	740.000	495.000	0.000	0.000	1182.400	17.600	0.000	0.000	
Davis-Besse	3.129118	95.400	164.900	0.000	0.000	0.324	2.537	0.000	0.000	
Total:	32.320527	2475.200	1596.900	0.000	8.090	3767.740	60.377	0.000	0.000	
(West):										
Yankee Rowe	1.232264	137.900	89.700	0.000	8.210	2.730	8.890	0.000	151.346	
San Onofre 1	3.355531	83.500	0.000	0.000	0.000	92.400	0.000	0.000	0.000	
Haddam	4.116339	157.000	1136.000	0.000	0.000	210.900	93.810	0.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(West): contd.										
Ginna	2.960510	308.000	0.000	0.000	0.000	153.300	0.000	0.000	0.000	
Robinson-2	4.005007	456.000	378.000	0.000	0.000	71.200	15.970	0.000	0.000	
Pt. Beach 1&2	6.762874	20.980	116.400	0.000	132.000	1216.000	2.988	0.000	1.480	
Surry 1&2	2.866701	2740.000	0.000	0.000	0.000	344.500	0.000	0.000	0.000	
Turkey Pt. 3&4	6.720208	920.000	0.000	0.000	0.000	248.100	0.000	0.000	0.000	
Indian Pt. 2	4.804928	450.000	718.000	0.000	0.000	2120.000	35.200	0.000	0.000	
Indian Pt. 3	4.794627	12.000	210.000	0.000	2.600	130.000	6.400	0.000	27.000	
Zion 1&2	10.297164	597.000	0.000	0.000	0.000	2690.000	0.000	0.000	0.000	
Prairie Is. 1&2	7.103864	4.110	15.800	0.000	0.000	87.100	1.200	0.000	0.000	
Kewaunee	3.439289	9.750	21.650	15.850	123.090	280.000	14.140	3.744	56.500	
Cook 1&2	11.613550	682.000	405.000	0.000	0.000	287.150	50.000	0.000	0.000	
Trojan	5.266720	66.200	571.100	0.000	0.000	318.730	11.490	0.000	0.000	
Beaver Valley	1.778375	56.700	187.500	0.000	0.000	240.500	54.400	0.000	0.000	
Salem 1	2.042610	259.300	427.000	0.000	0.000	60.400	67.100	0.000	0.000	
Farley 1	1.688182	600.000	510.000	0.000	0.000	189.000	43.000	0.000	0.000	
No. Anna 1	4.188866	76.340	219.000	0.000	0.000	33.300	25.600	0.000	0.000	
Total:	89.037609	7636.780	5005.150	15.850	265.900	8775.310	430.188	3.744	236.326	
1979 PWR total	151.928361	10905.280	7999.850	102.150	273.990	13684.470	558.647	4867.764	236.326	
Year: 1978										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.401051	5.040	26.000	0.000	0.000	25.400	0.172	0.000	0.000	
Humboldt Bay	0.000000	0.000	177.700	0.000	0.000	0.000	0.791	0.000	0.000	
Dresden 1	0.760120	(Reported with Units 2 & 3)				(Reported with Units 2 & 3)				
LaCrosse	0.175060	7.820	30.200	0.000	0.000	60.900	0.889	0.000	0.000	
Total:	1.336231	12.860	233.900	0.000	0.000	86.300	1.852	0.000	0.000	
[db >200 MW(e)]:										
Brunswick 1&2	9.917238	1261.000	747.000	16.690	0.000	1348.000	37.700	755.000	0.000	
Dresden 2&3	9.539496	1044.000	780.000	0.000	0.000	1850.000	27.700	0.000	0.000	
FitzPatrick	4.197330	593.000	277.000	10.800	0.000	308.600	9.960	3190.500	0.000	
Millstone 1	4.654924	719.000	1239.000	43.300	0.000	326.000	4.860	81200.000	0.000	
Nine Mile Point	4.467453	219.700	59.700	106.000	0.000	1824.000	4.050	20600.000	0.000	
Oyster Creek	3.645682	659.000	885.000	0.000	0.000	1044.000	109.100	0.000	0.000	
Pilgrim	4.376666	340.000	1627.000	5.400	0.000	5850.000	210.800	43180.000	0.000	
Total:	40.798789	4835.700	5614.700	182.190	0.000	12550.600	404.170	148925.500	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(f/d):										
Browns Ferry 1,2&3	16.919515	321.000	2060.000	0.000	520.000	1160.000	166.000	0.000	0.640	
Cooper	4.886602	258.000	71.000	0.000	0.000	382.000	6.439	0.000	0.000	
Arnold	1.227559	1095.000	0.000	0.000	0.000	1857.000	0.000	0.000	0.000	
Hatch 1&2	4.277317	441.000	296.000	13.150	0.000	208.600	18.980	10672.000	0.000	
Monticello	3.856270	221.100	235.100	8.410	8.480	648.000	7.380	62800.000	1.350	
Peach Bottom 2&3	13.767454	1957.000	0.000	0.000	0.000	4970.000	0.000	0.000	0.000	
Quad-Cities 1&2	9.210937	1343.000	0.000	0.000	0.000	3270.000	0.000	0.000	0.000	
Vermont Yankee	3.240697	112.700	85.300	1.700	199.000	328.000	9.210	53600.000	0.756	
Total:	57.386351	5748.800	2747.400	23.260	727.480	12823.600	208.009	127072.000	2.746	
1978 BWR total	99.521371	10597.360	8596.000	205.450	727.480	25460.500	614.031	275997.500	2.746	
Year: 1978										
Type: PWR										
(CE):										
Palisades	2.624144	371.000	335.000	10.800	0.000	191.100	15.430	3190.500	0.000	
Maine Yankee	5.354925	203.800	376.000	1.250	0.000	25.500	16.180	4000.000	0.000	
Ft. Calhoun	2.849437	419.000	164.600	0.000	0.000	102.100	4.040	0.000	0.000	
ANO-1 (Unit 2)	0.000000									No data.
Calvert Cliffs 1&2	9.902798	80.900	155.300	367.000	0.000	1055.000	59.269	2.184	0.000	
Millstone 2	4.507270	76.500	78.200	0.000	0.000	7.289	9.720	0.000	0.000	
St. Lucie 1	5.009659	22.000	98.000	0.200	0.000	100.000	32.000	12300.000	0.000	
Total:	30.248233	1173.200	1207.100	379.250	0.000	1480.989	136.639	19492.684	0.000	
(B&W):										
Oconee 1,2&3	15.905102	1582.000	0.000	0.000	0.000	5932.000	0.000	0.000	0.000	
TMI-1	5.681986	261.000	128.100	0.000	0.000	229.000	5.130	0.000	0.000	
TMI-2	0.018716	(Reported with Unit 1)				(Reported with Unit 1)				
ANO-1 (Unit 1)	5.249808	(Reported with Unit 2)				(Reported with Unit 2)				
Rancho Seco	4.984082	9.060	42.400	0.000	77.400	876.000	2.720	0.000	392.000	
Crystal River	2.602970	490.000	192.700	4.580	0.000	1017.000	276.700	25900.000	0.000	
Davis-Besse	2.611642	261.000	78.800	0.000	0.000	1.356	1.948	0.000	0.000	
Total:	37.054306	2603.060	442.000	4.580	77.400	8055.356	286.498	25900.000	392.000	
(West):										
Yankee Rowe	1.193379	116.300	132.300	0.000	11.000	5.005	4.452	0.000	0.291	
San Onofre 1	2.680367	0.000	0.000	0.000	792.180	0.000	0.000	0.000	7.170	
Haddam	4.708002	53.590	175.500	0.000	0.000	142.200	1.771	0.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(West): contd.										
Ginna	3.218744	59.600	0.000	0.000	0.000	627.000	0.000	0.000	0.000	
Robinson-2	3.980106	468.000	242.100	0.000	112.000	217.500	22.820	0.000	0.000	
Pt. Beach 1&2	7.653473	17.900	143.400	0.000	0.000	1474.000	33.600	0.000	0.000	
Surry 1&2	10.076122	603.000	0.000	0.000	0.000	506.000	0.000	0.000	0.000	
Turkey Pt. 3&4	8.294197	1753.000	0.000	0.000	0.000	1719.000	0.000	0.000	0.000	
Indian Pt. 2	4.372847	638.000	7790.000	1.130	0.000	2280.000	140.000	6.100	0.000	
Indian Pt. 3	5.457431	5.540	581.300	0.000	7.000	4.219	7.695	0.000	53.000	
Zion 1&2	13.502097	1626.000	0.000	0.000	0.000	1862.000	0.000	0.000	0.000	
Prairie Is. 1&2	7.735153	4.810	190.000	0.000	0.000	130.000	23.000	0.000	0.000	
Kewaunee	3.890461	46.900	23.310	0.000	9.600	1450.000	6.110	0.000	47.950	
Cook 1&2	9.409769	938.000	337.000	0.000	0.000	203.800	21.250	0.000	0.000	
Trojan	1.705755	20.560	205.300	0.000	0.000	445.730	2.440	0.000	0.000	
Beaver Valley	2.481484	179.400	260.000	0.000	0.000	223.800	1.342	0.000	0.000	
Salem 1	4.528762	116.500	110.900	0.000	0.000	3.143	162.427	0.000	0.000	
Farley 1	5.919896	178.000	91.000	0.000	0.000	3.517	2.200	0.000	0.000	
No. Anna 1	3.664580	0.000	21.400	0.000	0.000	0.000	3.590	0.000	0.000	
Total:	104.472625	6825.100	10303.510	1.130	931.780	11296.914	432.697	6.100	108.411	
1978 PWR total	171.775164	10601.360	11952.610	384.960	1009.180	20833.259	855.834	45398.784	500.411	
Year: 1977										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.360990	35.830	36.330	0.000	0.000	964.500	3.110	0.000	0.000	
Humboldt Bay	0.000000	0.000	377.300	0.000	0.000	0.000	19.970	0.000	0.000	
Dresden 1	0.646523	(Reported with Units 1 & 2)				(Reported with Units 1 & 2)				
LaCrosse	0.092263	0.043	0.000	0.065	0.000	573.900	0.000	14032.000	0.000	8360 lb resin; 1118 lb core components.
Total:	1.099776	35.873	413.630	0.065	0.000	1538.400	23.080	14032.000	0.000	
[db >200 MW(e)]:										
Brunswick 1&2	4.952386	1819.000	630.000	11.0	0.000	2595.000	20.010	620.000	0.000	
Dresden 2&3	8.724312	804.000	1449.000	0.000	0.000	4499.000	6818.250	0.000	0.000	Exponent error in Feb. dry waste volume?
FitzPatrick	3.893358	658.000	559.300	12.700	0.000	1411.000	42.160	4720.000	0.000	
Millstone 1	4.820211	1090.000	680.000	0.000	0.000	3022.400	7.600	0.000	0.000	No July-Dec; calc. Types A&B on basis of NUREG-0521.
Nine Mile Point	2.956859	355.510	303.000	6.220	0.000	1573.500	13.260	23530.000	0.000	
Oyster Creek	3.249242	799.000	944.000	7.080	0.000	221.000	51.910	137000.000	0.000	No July-Dec. data given.
Pilgrim	2.652111	301.740	99.230	0.800	182.000	3527.900	70.910	1980.000	129.500	
Total:	31.248479	5827.250	4664.530	26.800	182.000	16849.800	7024.100	167850.000	129.500	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(f/d):										
Browns Ferry 1,2&3	17.119186	627.040	563.900	11.300	523.780	1106.700	567.020	9918.000	1.800	Estimated dry vol. of 787 boxes @ 23.5 ft^3 each.
Cooper	4.540103	156.200	127.400	9.350	0.000	281.000	4.072	3469.000	0.000	
Arnold	2.897827	545.340	0.000	0.000	0.000	498.220	0.000	0.000	0.000	No breakdown.
Hatch 1	3.715703	291.700	246.900	0.240	0.000	365.900	5.840	10.000	0.000	
Monticello	3.570664	183.700	385.000	4.360	0.000	1014.000	19.930	28100.000	0.000	
Peach Bottom 2&3	8.839368	2524.500	0.000	0.000	0.000	1823.600	0.000	0.000	0.000	No breakdown.
Quad-Cities 1&2	7.896594	1374.900	0.000	0.000	0.000	8221.460	0.000	0.000	0.000	No breakdown.
Vermont Yankee	3.537675	133.400	122.200	3.400	0.000	236.700	12.590	80100.000	0.000	
Total:	52.118120	5836.780	1445.400	28.650	523.780	13547.580	609.452	121597.000	1.800	
1977 BWR total	84.466375	11699.903	6523.560	55.515	705.780	31935.780	7656.632	303479.000	131.300	
Year: 1977										
Type: PWR										
(CE):										
Palisades	5.084688	343.200	99.400	0.000	0.000	81.980	5.170	0.000	0.000	
Maine Yankee	5.144534	68.300	113.200	1.980	0.000	82.500	5.060	29100.000	0.000	
Ft. Calhoun	2.922685	446.713	150.642	0.000	0.000	618.447	27.522	0.000	0.000	
Calvert Cliffs 1&2	9.423220	15.360	271.120	22.650	0.000	1.940	0.900	95.460	0.000	No July-Dec.; calc. on basis of NUREG-0521.
Millstone 2	4.345543	93.500	(Unit 1)	0.000	0.000	58.030	(Unit 1)	0.000	0.000	
St. Lucie 1	5.343602	42.726	287.939	6.000	47.600	394.410	13.250	2861.700	0.162	
Total:	32.264272	1009.799	922.301	30.630	47.600	1237.307	51.902	32057.160	0.162	
(B&W):										
Oconee 1,2&3	13.047861	1073.222	0.000	0.000	0.000	7366.700	0.000	0.000	0.000	No Jan.-June; agrees with NUREG-0521.
ANO-1 (Unit 1)	5.103118	317.000	0.000	0.000	0.000	1260.000	0.000	0.000	0.000	As reported in NUREG-0521.
Rancho Seco	5.873314	0.420	39.600	0.210	10.400	1.100	1150.000	1.730	58.900	Began shipping stored resin in August 1976.
Crystal River	4.037719	433.000	15.000	0.000	0.000	3.157	0.320	0.000	0.000	
Davis-Besse	0.413323	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Startup 11/20/77.
TMI-1	5.466696	152.800	65.400	0.000	0.000	46.100	1.210	0.000	0.000	Agrees with NUREG-0521.
Total:	33.942031	1976.442	120.000	0.210	10.400	8677.057	1151.530	1.730	58.900	
(West):										
Yankee Rowe	1.025170	95.371	189.861	0.000	0.000	4.668	2.125	0.000	0.000	
San Onofre 1	2.338921	368.000	0.000	0.000	0.000	60.200	0.000	0.000	0.000	As reported in NUREG-0521.
Haddam	4.013292	226.900	1433.000	18.500	0.000	754.900	47.020	39.000	0.000	
Ginna	3.028488	203.285	146.134	0.000	0.000	689.558	0.212	0.000	0.000	Reported Type B waste is fuel racks.
Robinson-2	4.130398	175.700	83.620	0.000	0.000	1239.500	2.238	0.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(West): contd.										
Pt. Beach 1&2	7.309147	8.496	185.342	0.000	0.000	551.930	15.980	0.000	0.000	
Surry 1&2	9.481214	793.000	0.000	0.000	0.000	610.000	0.000	0.000	0.000	No Jan.-June; as reported in NUREG-0521.
Turkey Pt. 3&4	8.145050	1070.000	0.000	0.000	0.000	426.000	0.000	0.000	0.000	No breakdown; all "packed" waste shipped.
Indian Pt. 2&3	10.731052	654.000	403.000	0.000	0.000	1375.000	72.700	0.000	0.000	
Zion 1&2	11.308933	1973.280	0.000	0.000	0.000	224.800	0.000	0.000	0.000	No breakdown.
Prairie Is. 1&2	7.596820	13.030	630.416	0.000	0.000	200.071	45.800	0.000	0.000	
Kewaunee	3.546423	19.090	12.312	0.000	2.330	317.830	2.636	0.000	45.800	Type D: filters; Type B contains scrap.
Cook 1	4.785779	403.879	280.116	0.000	0.000	40.297	42.509	0.000	0.000	
Trojan	6.520335	34.400	67.000	0.000	0.000	71.510	11.580	0.000	0.000	
Beaver Valley	2.870342	127.000	140.200	0.000	0.000	1.494	6.689	0.000	0.000	
Salem 1	2.052968	425.000	0.000	0.000	0.000	2.200	0.000	0.000	0.000	No July-Dec.; as reported in NUREG-0521.
Farley 1	0.395930									Startup in late 1977.
Total:	89.280262	6590.431	3571.001	18.500	2.330	6569.958	249.489	39.000	45.800	
1977 PWR total	155.486565	9576.672	4613.302	49.340	60.330	16484.322	1452.921	32097.890	104.862	
Year: 1976										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.244492	0.000	28.800	0.000	0.000	0.000	3.690	0.000	0.000	
Humboldt Bay	0.198018	1.850	83.000	0.000	0.000	0.330	3.760	0.000	0.000	
Dresden 1	0.953014	(Reported with Units 2 & 3)				(Reported with Units 2 & 3)				
LaCrosse	0.176009	4.250	31.150	0.000	0.000	37.500	3.000	0.000	0.000	
Total:	1.571533	6.100	142.950	0.000	0.000	37.830	10.450	0.000	0.000	
[db >200 MW(e)]:										
Brunswick 1&2	2.486535	1230.760	553.580	0.440	1.000	620.410	19.760	0.150	5.300	
Dresden 2&3	8.411424	2186.000	4900.000	0.000	0.000	4267.800	34.600	0.000	0.000	
FitzPatrick	4.156298	483.000	135.900	0.000	0.000	335.400	5.830	0.000	0.000	
Millstone 1	3.757178	559.000	291.000	0.000	0.000	1672.000	18.800	0.000	0.000	
Nine Mile Point	4.112827	403.700	134.500	0.000	0.000	2505.000	4.540	0.000	0.000	
Oyster Creek	3.860347	6.797	1193.118	0.000	0.000	961.100	319.720	0.000	0.000	
Pilgrim	2.415511	494.650	405.500	12.030	0.000	4701.300	727.800	31456.850	0.000	
Total:	29.200120	5363.907	7613.598	12.470	1.000	15063.010	1131.050	31457.000	5.300	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(f/d):										
Browns Ferry 1,2&3	2.868353	320.310	931.083	0.000	1175.273	60.940	41.350	0.000	0.600	Type D: 1766 boxes assumed to be 23.5 ft^3 each.
Cooper	3.642530	227.500	73.900	0.000	0.000	319.200	1.252	0.000	0.000	
Arnold	2.489343	595.054	0.000	0.000	0.000	187.280	0.000	0.000	0.000	No breakdown.
Hatch 1	4.133765	316.000	95.100	0.832	0.000	287.000	2.103	1.245	0.000	
Monticello	3.986380	242.741	42.300	0.000	0.000	3786.250	1.900	0.000	0.000	No Jan.-June breakdown; Type B July-Dec. only.
Peach Bottom 2&3	11.637278	1197.961	0.000	0.000	0.000	1159.900	0.000	0.000	0.000	No breakdown.
Quad-Cities 1&2	7.721746	1004.250	0.000	0.000	0.000	2350.950	0.000	0.000	0.000	No breakdown.
Vermont Yankee	3.260016	110.000	127.600	0.000	0.000	16.240	13.030	0.000	0.000	
Total:	39.739411	4013.816	1269.983	0.832	1175.273	8167.760	59.635	1.245	0.600	
1976 BWR total	70.511064	9383.823	9026.531	13.302	1176.273	23268.600	1201.135	31458.245	5.900	
Year: 1976										
Type: PWR										
(CE):										
Palisades	2.847033	530.643	148.938	0.708	0.000	47.374	5.846	43.200	0.000	
Maine Yankee	5.928868	88.400	91.800	3.820	0.000	499.480	4.318	0.040	0.000	
Ft. Calhoun	2.195406	402.970	168.560	185.960	0.000	74.033	23.771	29.542	0.000	
Calvert Cliffs 1&2	6.303941	118.000	0.000	0.000	0.000	122.000	0.000	0.000	0.000	No breakdown; see ORNL/NUREG-43, from NUREG-0521?
Millstone 2	4.543170	279.900	(Unit 1)	0.000	0.000	1.798	(Unit 1)	0.000	0.000	Type B shipped with Unit 1: 757.9 m^3, 7.60 Ci.
St.Lucie 1	0.098975	24.360	62.030	0.320	0.000	0.979	0.615	155.000	0.000	Type C was shipped to Battelle-Columbus.
Total:	21.917393	1444.273	471.328	190.808	0.000	745.664	34.550	227.782	0.000	
(B&W):										
Oconee 1,2&3	12.994215	2225.432	0.000	0.000	0.000	782.695	0.000	0.000	0.000	No breakdown.
TMI-1	4.344286	272.900	133.100	0.000	0.000	128.200	56.800	0.000	0.000	Calc. ratios for Jan.-June from NUREG-0521 totals.
ANO-1 (Unit 1)	3.887946	11.212	78.165	0.000	33.730					Type B: fuel rack, filter; D: dirt, no curie data.
Rancho Seco	2.205091	3.730	93.800	1.680	12.100	1.730	4.710	7.300	14.000	Shipped 96,000 gal liquid containing 16.4 Ci.
Total:	23.431538	2513.274	305.065	1.680	45.830	912.625	61.510	7.300	14.000	
(West):										
Yankee Rowe	1.251966	143.530	212.300	58.710	7.893	1.713	22.865	9.505	1.690	Type D: decontamination solution.
San Onofre 1	2.476476	144.350	0.000	0.000	0.000	698.000	0.000	0.000	0.000	No breakdown.
Haddam	4.029688	147.820	618.290	0.000	0.000	744.997	0.349	0.000	0.000	
Ginna	2.060941	97.830	0.000	0.000	0.000	280.204	0.000	0.000	0.000	No breakdown.
Robinson-2	4.874089	177.000	139.100	0.000	0.000	60.400	2.470	0.000	0.000	
Pt. Beach 1&2	7.141827	191.274	0.000	0.000	1.665	302.843	0.000	0.000	1.250	Type A contains 84.962 m^3, 235 Ci of resin.
Surry 1&2	7.740206	699.000	0.000	0.000	0.000	617.000	0.000	0.000	0.000	No July-Dec.; use EPA-520/3-77-012; no breakdown.

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(West): contd.										
Turkey Pt. 3&4	8.096636	1440.000	0.000	0.000	0.000	477.000	0.000	0.000	0.000	No breakdown; Docket-50250-795, 1976 corrections.
Indian Pt. 2&3	4.159980	574.000	345.000	0.000	0.000	895.000	50.000	0.000	0.000	
Zion 1&2	9.445959	1886.113	164.840	0.000	0.000	67.972	0.183	0.000	0.000	Type A: cemented drums; B: wooden boxes.
Prairie Is. 1&2	5.929538	82.583	69.385	0.425	0.000	44.580	5.700	15.000	0.000	
Kewaunee	3.382565	213.390	282.800	90.212	7.210	1.735	12.570	10.430	24.600	Type D: contaminated filters.
Cook 1	6.804954	120.558	72.465	0.000	0.000	4.637	22.280	0.000	0.000	
Trojan	1.898051	8.540	35.150	0.000	0.000	4.000	0.318	0.000	0.000	
Beaver Valley	0.303152	25.000	18.000	0.000	0.000	0.002	0.041	0.000	0.000	
Total:	69.596028	5950.988	1957.330	149.347	16.768	4200.083	116.776	34.935	27.540	
1976 PWR total	114.944959	9908.535	2733.723	341.835	62.598	5858.372	212.836	270.017	41.540	
Year: 1975										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.290563	37.380	31.850	0.000	4.250	1006.000	0.218	0.000	10.846	Assume Type A: wet; B: dry; D: filt.; no Dec. data.
Humboldt Bay	0.384160	37.300	89.300	0.000	0.000	2.890	40.200	0.000	0.000	
Dresden 1	0.702398	(Reported with Units 2 & 3)				(Reported with Units 2 & 3)				
LaCrosse	0.264170	5.126	31.153	0.000	0.000	280.000	3.000	0.000	0.000	Type A: resin; B: dry; (New Orleans questionnaire).
Total:	1.641291	79.806	152.303	0.000	4.250	1288.890	43.418	0.000	10.846	
[db >200 MW(e)]:										
Brunswick 2	0.670651	334.000	56.500	0.280	20.700	47.430	0.326	0.001	0.001	
Dresden 2&3	5.168063	2648.000	3289.000	0.000	0.000	835.000	6366.262	0.000	0.000	
FitzPatrick	1.518560	490.003	20.419	0.000	0.000	131.400	0.700	0.000	0.000	
Millstone 1	3.896991	834.220	944.910	0.000	0.000	2579.106	0.900	0.000	0.000	
Nine Mile Point	3.044948	308.400	137.900	0.000	42.400	3245.000	5.740	0.000	1.930	Type D: liquid.
Oyster Creek	3.148815	18.079	971.934	0.000	0.000	2139.248	672.645	0.000	0.000	Type A: resin; Type B: solid waste.
Pilgrim	2.587257	272.322	173.377	0.000	6.117	3720.806	70.439	0.000	3.678	HEPAs included in Type B: 8.496 m^3, <7.246 Ci.
Total:	20.035285	4905.024	5594.040	0.280	69.217	12697.990	7117.012	0.001	5.609	
(f/d):										
Browns Ferry 1&2	1.929151	361.660	638.832	0.000	0.000	1253.820	94.438	0.000	0.000	
Cooper	3.363140	217.600	72.000	0.000	0.000	265.700	0.648	0.000	0.000	
Arnold	1.865786	261.281	0.000	0.000	0.000	81.017	0.000	0.000	0.000	No breakdown.
Hatch 1	2.900000	392.000	191.300	0.208	0.000	270.200	1.095	1400.000	0.000	
Monticello	2.881402	381.002	0.000	0.000	0.000	5429.160	0.000	0.000	0.000	No breakdown.
Peach Bottom 2&3	10.364795	582.135	0.000	0.000	0.000	217.171	0.000	0.000	0.000	No breakdown.

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(f/d): contd.										
Quad-Cities 1&2	6.761750	1383.410	0.000	0.000	0.000	2373.570	0.000	0.000	0.000	No breakdown.
Vermont Yankee	3.561212	148.100	160.400	0.000	0.000	18.460	4.060	0.000	0.000	
Total:	33.627236	3727.188	1062.532	0.208	0.000	9909.098	100.241	1400.000	0.000	
1975 BWR total	55.303812	8712.018	6808.875	0.488	73.467	23895.978	7260.671	1400.001	16.455	
Year: 1975 Type: PWR (CE):										
Palisades	2.427832	435.315	28.151	0.000	24.271	219.654	0.411	0.000	0.308	Type D may contain some B: 23.314 m^3, <0.308 Ci.
Maine Yankee	4.502472	145.440	85.166	0.000	0.000	1467.375	10.906	0.000	0.000	
Ft. Calhoun	2.080778	536.960	0.000	0.000	0.000	56.100	0.000	0.000	0.000	No breakdown.
Calvert Cliffs 1	3.593018									No waste shipped Jan.-June; no July-Dec. data.
Millstone 2	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Low-power testing; 1st critical 10/17/75.
Total:	12.604100	1117.715	113.317	0.000	24.271	1743.129	11.317	0.000	0.308	
(B&W):										
Oconee 1,2&3	15.307100	1415.561	0.000	0.000	0.000	1680.621	0.000	0.000	3.000	Jan.-June, also shipped 1E+04 gal liquid.
TMI-1	5.541523	352.096	0.000	0.000	0.000	363.695	0.000	0.000	0.000	No breakdown.
ANO-1 (Unit 1)	4.898481	0.000				0.000				Stored resins on-site; no evaporator conc.
Rancho Seco	1.326506	0.011	0.000	0.000	0.000	0.115	0.000	0.000	0.000	Also shipped 9.8E+04 gal (16.617 Ci) liquid.
Total:	27.073610	1767.668	0.000	0.000	0.000	2044.431	0.000	0.000	3.000	
(West):										
Yankee Rowe	1.193422	84.000	154.100	0.000	24.800	2.100	0.340	0.000	0.890	Type D: decon. soln., incinerator ash, soil.
San Onofre 1	3.245108	79.609	0.000	0.000	0.000	25.900	0.000	0.000	0.000	No breakdown.
Haddam	4.125715	19.000	605.000	0.000		1309.000	15.400	0.000		Type D: 1 TV camera reading 0.01 mr/h @ 1 m.
Ginna	3.041203	457.661	0.000	0.000	0.000	137.530	0.000	0.000	0.000	No breakdown.
Robinson-2	4.170774	202.800	153.000	0.000	0.000	418.400	51.900	0.000	0.000	
Pt. Beach 1&2	6.666368	18.833	223.319	0.000	165.398	8104.900	121.848	0.000	0.032	Type D: fuel racks.
Surry 1&2	8.911425	9044.900	0.000	0.000	0.000	2641.800	0.000	0.000	0.000	No breakdown; also shipped 153.7 m^3, ? Ci liquid.
Turkey Pt. 3&4	8.366480	936.723	0.000	0.000	0.000	107.318	0.000	0.000	0.000	No breakdown;1/1/76 49.54 m^3,3.62 Ci stored on-site
Indian Pt. 1&2	4.645959	426.000	196.200	0.000	0.000	1996.000	7.020	0.000	0.000	
Zion 1&2	9.738351	1498.017	0.000	0.000	0.000	15.914	0.000	0.000	0.000	No breakdown.
Prairie Is. 1&2	6.870424	150.099	0.000	0.000	0.000	34.654	0.000	0.000	0.000	No breakdown.
Kewaunee	3.340154	5.740	10.200	0.000	0.000	0.608	1.510	0.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(West): contd.										
Cook 1	1.975362	95.190	76.480	0.000	0.000	0.593	0.044	0.000	0.000	
Trojan	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	First critical 12/15/75.
Total:	66.290745	13018.572	1418.299	0.000	190.198	14794.717	198.062	0.000	0.922	
1975 PWR total	105.968455	15903.955	1531.616	0.000	214.469	18582.277	209.379	0.000	4.230	
Year: 1974										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.340000	7.751	31.640	0.000	0.000	94.160	0.349	0.000	0.000	Mostly filters.
Humboldt Bay	0.380000	5.824	44.958	0.000	0.000	31.990	0.390	0.000	0.000	Assume volume of boxes @ 4.5 ft^3.
Dresden 1	0.350000	(Reported with Units 2 & 3)				(Reported with Units 2 & 3)				
LaCrosse	0.330000	10.705	31.011	0.000	0.000	468.000	2.890	0.000	0.000	
Total:	1.400000	24.280	107.609	0.000	0.000	594.150	3.629	0.000	0.000	
[db >200 MW(e)]:										
Dresden 2&3	6.600000	1824.000	1159.000	0.210	0.000	679.000	76.000	4300.000	0.000	Mostly resin and contaminated equipment.
FitzPatrick	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	First critical on 11/17/74.
Millstone 1	3.600000	521.940	311.810	0.000	422.150	255.110	1.716	0.000	0.107	Type D: torus baffles.
Nine Mile Point	3.300000	284.940	166.600	0.000	0.000	2725.200	7.780	0.000	0.000	Type A reported: resin, evap. conc., filt. sludge.
Oyster Creek	3.700000	11.187	99.546	0.000	0.000	933.500	635.380	0.000	0.000	
Pilgrim	2.000000	211.211	194.844	0.000	0.000	1411.860	63.160	0.000	0.000	Volumes reported; curies estimated from totals.
Total:	19.200000	2853.278	1931.800	0.210	422.150	6004.670	784.036	4300.000	0.107	
(f/d):										
Browns Ferry 1&2	5.200000	344.265	81.389	0.000	35.000	77.257	6.514	0.000	0.010	Type D: dry noncompactible waste in boxes.
Cooper	1.800000	373.760	5.330	0.000	0.000	17.189	0.001	0.000	0.000	First critical 2/21/74.
Arnold	1.400000	321.065	0.000	0.000	0.000	61.420	0.000	0.000	0.000	No breakdown; first critical 3/23/74.
Hatch 1	0.070000	115.000	12.800	0.000	0.000	8.300	0.030	0.000	0.000	Type C: irradiated U-235, 4E-09 Ci, volume unknown.
Monticello	2.900000	267.601	0.000	0.000	0.000	2476.800	0.000	0.000	0.000	No breakdown.
Peach Bottom 2&3	3.870000	397.437	0.000	0.000	0.000	57.955	0.000	0.000	0.000	No breakdown; includes DAW and used filters.
Quad Cities 1&2	8.100000	560.988	0.000	0.000	0.000	734.960	0.000	0.000	0.000	No breakdown.
Vermont Yankee	2.500000									
Total:	25.840000	2380.116	99.519	0.000	35.000	3433.881	6.545	0.000	0.010	
1974 BWR total	46.440000	5257.674	2138.928	0.210	457.150	10032.701	794.210	4300.000	0.117	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
Year: 1974										
Type: PWR										
(CE):										
Palisades	0.078000	158.309	231.112	0.227	2.832	23.491	4.441	4946.000	1.190	Type D: used filters.
Maine Yankee	3.600000	158.606	0.000	0.000	0.000	530.435	0.000	0.000	0.000	No breakdown.
Ft. Calhoun	2.400000	322.571	0.000	0.000	0.000	10.048	0.000	0.000	0.000	No breakdown.
Calvert Cliffs 1	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No data; first critical 10/7/74.
Total:	6.078000	639.486	231.112	0.227	2.832	563.974	4.441	4946.000	1.190	
(B&W):										
Oconee 1,2&3	1.540000	571.198	0.000	0.000	0.000	218.255	0.000	0.000	0.000	No breakdown; 89,000 gal liquid, 10.455 Ci.
TMI-1	2.100000	200.054	0.000	0.000	0.000	6.053	0.000	0.000	0.000	No breakdown; first critical 6/5/74.
ANO-1 (Unit 1)	0.570000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Only stored resin; first critical 8/6/74.
Rancho Seco	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Four liquid shipments, 0.1523 Ci total.
Total:	4.210000	771.252	0.000	0.000	0.000	224.308	0.000	0.000	0.000	
(West):										
Yankee Rowe	0.910000	217.729	0.000	0.000	0.000	127.990	0.000	0.000	0.000	No breakdown.
San Onofre 1	3.100000	68.300	0.000	0.000	0.000	230.000	0.000	0.000	0.000	No breakdown; data from EPA-520/3-77-012.
Haddam	4.400000	70.416	103.663	0.000	30.360	929.950	9.319	0.000	2.325	Type D: wood crates, boxes, lumber.
Ginna	2.100000	275.234	0.000	0.000	0.000	613.624	0.000	0.000	0.000	No breakdown.
Robinson-2	4.800000	352.290	0.000	0.000	0.000	196.534	0.000	0.000	0.000	Also 8802 gal liquid, 3.96 Ci (0.196 Ci H-3).
Point Beach 1&2	6.700000	132.293	0.000	0.000	0.000	2121.072	0.000	0.000	0.000	Resin: 8.27 m^3, 2079.6 Ci; rest is evap conc.& DAW.
Surry 1&2	5.900000	1192.297	0.000	0.000	0.000	50.600	0.000	0.000	0.000	Also 54.9 m^3 liquid; curies included in total.
Turkey Pt. 3&4	7.900000	448.955	0.000	0.000	0.000	44.743	0.000	0.000	0.000	No breakdown; assume none on-site 12/31/74.
Indian Pt. 1&2	4.500000	445.709	0.000	0.000	0.000	61.905	0.000	0.000	0.000	No breakdown.
Zion 1&2	4.700000	1615.174	0.000	0.000	0.000	4.653	0.000	0.000	0.000	No breakdown; all drums cemented.
Prairie Is. 1&2	1.401900	135.316	0.000	0.000	0.000	7.610	0.000	0.000	0.000	No breakdown.
Kewaunee	1.600000	159.000	0.000	0.000	0.000	530.000	0.000	0.000	0.000	No shipments Jan.-June; from EPA-520/3-77-012.
Total:	48.011900	5112.713	103.663	0.000	30.360	4918.681	9.319	0.000	2.325	
1974 PWR total	58.299900	6523.451	334.775	0.227	33.192	5706.963	13.760	4946.000	3.515	
Year: 1973										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.420000	4.780	0.000	20.000	0.000	55.900	0.000	11983.000	0.000	20 shipmt, assume 1 m^3 ea(core comp);1 cask;8 drum.
Humboldt Bay	0.420000	42.880	38.360	0.000	0.000	10.750	0.610	0.000	0.000	Most Type B curies reported with Type A.
Dresden 1	0.560000	(Reported with Units 2 & 3)				(Reported with Units 2 & 3)				
LaCrosse	0.198000	8.500	245.681	0.000	0.000	39.532	3.000	0.000	0.000	
Total:	1.598000	56.160	284.041	20.000	0.000	106.182	3.610	11983.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
[db >200 MW(e)]:										
Dresden 2&3	8.700000	8.118	2201.687	21.000	0.000	15.970	133.965	28018.700	0.000	21 shipments, assume 1 m^3 each (core comp.).
Millstone 1	1.880000	278.097	166.520	0.000	0.000	2854.184	0.134	0.000	0.000	Type A includes 0.624 m^3, 206.4 Ci resin.
Nine Mile Point	3.500000	297.508	247.465	0.000	0.000	985.396	20.014	0.000	0.000	Type A: filter sludge, resin, evap. conc.
Oyster Creek	3.600000	440.884	0.000	0.000	0.000	1051.291	0.000	0.000	0.000	Type A includes Types B and D (noncompactible).
Pilgrim	4.100000	160.464	56.689	0.000	0.000	433.400	132.610	0.000	0.000	Curie distribution is estimated based on totals.
Total:	21.780000	1185.071	2672.361	21.000	0.000	5340.241	286.723	28018.700	0.000	
(f/d):										
Browns Ferry 1	0.400000	78.080	0.000	0.000	0.000	8.336	0.000	0.000	0.000	All resin; high level: 8.81 m^3, 8.34 Ci.
Monticello	3.300000	210.637	0.000	0.000	0.000	393.077	0.000	0.000	0.000	No breakdown.
Peach Bottom 2	0.000000	30.190	0.000	0.000	0.000	0.346	0.000	0.000	0.000	No breakdown; mostly resin, some trash.
Quad Cities 1&2	10.100000	1008.024	0.000	0.000	0.000	293.350	0.000	0.000	0.000	No breakdown.
Vermont Yankee	1.800000	186.604	0.000	0.000	0.000	23.485	0.000	0.000	0.000	No breakdown.
Total:	15.600000	1513.535	0.000	0.000	0.000	718.594	0.000	0.000	0.000	
1973 BWR total	38.978000	2754.766	2956.402	41.000	0.000	6165.017	290.333	40001.700	0.000	
Year: 1973										
Type: PWR										
(CE):										
Palisades	2.400000	43.428	20.816	0.000	0.000	37.300	0.500	0.000	0.000	Jan.-June Type A: 2 filter shipments (3 drums ea ?).
Maine Yankee	3.400000	66.978	0.000	0.000	0.000	3.237	0.000	0.000	0.000	No breakdown.
Ft. Calhoun	0.602000	0.000	90.626	0.000	0.000	0.040	0.000	0.000	0.000	First critical 8/3/73.
Total:	6.402000	110.406	111.442	0.000	0.000	40.577	0.500	0.000	0.000	
(B&W):										
Oconee 1&2	2.350000	263.636	0.000	0.000	0.000	32.340	0.000	0.000	0.000	No breakdown; also 117,200 gal, 3.63 Ci liquid.
Indian Pt.1	0.000000	(Reported with Unit 2)				(Reported with Unit 2)				
Total:	2.350000	263.636	0.000	0.000	0.000	32.340	0.000	0.000	0.000	
(West):										
Yankee Rowe	1.050000	176.400	0.000		0.000	3.396	0.000	100390.000	0.000	No breakdown; Type C: 4 shipments; no volume data.
San Onofre 1	2.300000	112.715	0.000	0.000	0.000	381.000	0.000	0.000	0.000	No breakdown.
Haddam	2.425000	9.913	149.125	0.000	0.000	224.113	346.892	0.000	0.000	Type B curies seem factor of 100 high?
Ginna	3.400000	198.329	0.000	0.000	0.000	599.100	0.000	0.000	0.000	No breakdown.
Robinson-2	3.800000	319.499	0.000	0.000	0.000	96.751	0.000	0.000	0.000	No breakdown.
Point Beach 1&2	5.690000	17.077	277.958	0.000	0.000	1740.900	88.920	0.000	0.000	Type A: resin.
Surry 1&2	7.300000	0.000	364.550	0.000	0.000	0.000	1.594	0.000	0.000	No breakdown; assume low curies indicate all Type B.

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(West): contd.										
Turkey Pt. 3&4	4.700000	213.417	19.982	0.000	0.000	3.980	0.003	0.000	0.000	Type A&B distrib. estimated from vol and Ci data.
Indian Pt. 1&2	0.350000	309.787	100.736	0.000	0.000	201.907	6.120	0.000	0.000	Type A in Type B? Unit 2 1st critical 5/22/73.
Zion 1&2	0.710000	0.000	416.483	0.000	0.000	0.000	0.160	0.000	0.000	Jan.-June, no shipments; 1st critical 6/19/73.
Prairie Is. 1	0.019600	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	First critical 12/1/73; no waste shipped.
Total:	31.744600	1357.137	1328.834	0.000	0.000	3251.147	443.689	100390.000	0.000	
1973 PWR total	40.496600	1731.179	1440.276	0.000	0.000	3324.064	444.189	100390.000	0.000	
Year: 1972										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.343661	385.160	22.065	4.368	28.000	1027.000	0.217	20107.400	1.250	Type C: 22 shipments (assume 1 drum each).
Humboldt Bay	0.363134	20.270	36.703	0.000	0.000	5.440	0.100	0.000	0.000	Also shipped liquids: 1.893 m^3, 0.9 Ci.
Dresden 1	0.561979	0.000	586.973	0.000	0.000	0.000	4.196	0.000	0.000	Reported as DAW.
LaCrosse	0.239656	2.832	22.090	0.000	0.000		0.050	0.000	0.000	No curies reported; assume LSA waste is <0.05 Ci.
Total:	1.508430	408.262	667.831	4.368	28.000	1032.440	4.563	20107.400	1.250	
[db >200 MW(e)]:										
Dresden 2&3	8.158855	1005.154	0.000	0.000	0.000	119.350	0.000	0.000	0.000	Reported as DAW but includes solidified resin, etc.
Millstone 1	3.165787	191.846	69.409	0.000	0.000	432.359	0.229	0.000	0.000	No evaporator concentrates shipped in 1972.
Nine Mile Point	3.242306	427.556	0.000	0.000	0.000	264.880	0.000	0.000	0.000	No breakdown; type A includes ~40 m^3 Type B (FSAR).
Oyster Creek	4.355834	313.395	122.402	0.000	0.000	1296.475	4.182	0.000	0.000	Also shipped liquids: 84,228 gal, 23.804 Ci.
Pilgrim	0.851396	55.470	12.145	0.000	0.000	19.432	0.065	0.000	0.000	Curie estimated on total; 1st critical 6/16/72.
Total:	19.774178	1993.421	203.956	0.000	0.000	2132.496	4.476	0.000	0.000	
(f/d):										
Monticello	3.558620	177.788	0.000	0.000	0.000	88.227	0.000	0.000	0.000	No breakdown.
Quad Cities 1&2	2.661638	1074.732	0.000	0.000	0.000	9.325	0.000	0.000	0.000	No breakdown; 1st critical (Unit 2) 4/26/72.
Vermont Yankee	0.442990	126.253	0.000	0.000	0.000	18.044	0.000	0.000	0.000	No breakdown; 1st critical 3/24/72.
Total:	6.663248	1378.773	0.000	0.000	0.000	115.596	0.000	0.000	0.000	
1972 BWR total	27.945856	3780.456	871.787	4.368	28.000	3280.532	9.039	20107.400	1.250	
Year: 1972										
Type: PWR										
(CE):										
Palisades	1.764822	9.629	0.000	0.000	0.000	1.850	0.000	0.000	0.000	Type A: CVCS filters; 22.656 m^3, 0.6 Ci stored.
Maine Yankee	0.431767	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	First critical 10/23/72.
Total:	2.196589	9.629	0.000	0.000	0.000	1.850	0.000	0.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(B&W):										
Indian Pt. 1	1.062000	190.671	0.000	0.000	0.000	156.665	0.000	0.000	0.000	MW(e)h calculated based on previous years' values.
Total:	1.062000	190.671	0.000	0.000	0.000	156.665	0.000	0.000	0.000	
(West):										
Yankee Rowe	0.644484	220.584	1.223	0.000	0.000	1.892	0.415	0.000	0.000	
San Onofre 1	2.818719	45.422	71.368	0.000	0.000	79.591	0.080	0.000	0.000	Type A resin: 5.66 m^3, 72 Ci; Type B Ci estimated.
Haddam	4.300320	51.081	137.378	0.000	0.000	4765.836	2.773	0.000	0.000	Type A resin: 42.339 m^3, 4752.5 Ci.
Ginna	2.431989	366.457	0.000	0.000	0.000	1412.060	0.000	0.000	0.000	No breakdown; June 26 & 27 shipments counted twice?
Robinson-2	4.828594	70.153	0.000	0.000	0.000	2.979	0.000	0.000	0.000	Some Ci omitted; liquids ship.: 247.2 m^3, 20.2 Ci.
Point Beach 1&2	3.106407	193.342	0.000	0.000	0.000	213.440	0.000	0.000	0.000	No breakdown; Type A includes 3.54 m^3, 40 Ci resin.
Surry 1	0.000000	160.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	EPA-520/3-77-006 (Ci=1.91E-4); 1st critical 7/1/72.
Turkey Pt. 3	0.085954	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	First critical 10/20/72.
Total:	18.216467	1107.039	209.969	0.000	0.000	6475.798	3.268	0.000	0.000	
1972 PWR total	21.475056	1307.339	209.969	0.000	0.000	6634.313	3.268	0.000	0.000	
Year: 1971										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.368854	23.938	0.000	0.000	0.000	0.300	0.000	0.000	0.000	Also shipped liquid: 4800 gal, 2.0 Ci.
Humboldt Bay	0.511505	1.041	66.271	0.000	0.000	3.700	0.100	0.000	0.000	Curie values are estimates based on total.
Dresden 1	0.602597	0.000	433.634	0.000	0.000	0.000	1.560	0.000	0.000	
LaCrosse	0.195540	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Resin stored in tank; Type B packaged and stored.
Total:	1.678496	24.979	499.905	0.000	0.000	4.000	1.660	0.000	0.000	
[db >200 MW(e)]:										
Dresden 2&3	3.874462	401.416	358.110	2.498	0.000	38.527	5.311	8.492	0.000	No breakdown; types based on each shipment Ci/m^3.
Millstone 1	3.579597	208.136	0.000	0.000	0.000	95.470	0.000	0.000	0.000	
Nine Mile Point	2.937369	365.619	0.000	0.000	0.000	201.210	0.000	0.000	0.000	No breakdown; Type A includes ~40 m^3 Type B (FSAR).
Oyster Creek	3.825350	291.831	15.846	0.000	0.000	5.023	0.376	0.000	0.000	July-Dec.: outage for poison curtain removal.
Total:	14.216778	1267.002	373.956	2.498	0.000	340.230	5.687	8.492	0.000	
(f/d):										
Monticello	1.368318	309.090	0.000	0.000	0.000	17.612	0.000	0.000	0.000	No breakdown.
Quad Cities 1	0.000000	59.741	0.000	0.000	0.000	0.027	0.000	0.000	0.000	No breakdown; 1st critical (Unit 1) 10/18/71.
Total:	1.368318	368.831	0.000	0.000	0.000	17.639	0.000	0.000	0.000	
1971 BWR total	17.263592	1660.812	873.861	2.498	0.000	361.869	7.347	8.492	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
Year: 1971										
Type: PWR										
(CE):										
Palisades	0.000155	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.028 m^3, 0.003 Ci stored; 1st critical 5/24/71.
Total:	0.000155	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
(B&W):										
Indian Pt. 1	1.150810	29.350	0.000	0.000	0.000	2.149	0.000	0.000	0.000	No curie data given for 2/10/71 shipment.
Total:	1.150810	29.350	0.000	0.000	0.000	2.149	0.000	0.000	0.000	
(West):										
Yankee Rowe	1.426960	95.960	31.209	0.000	0.000	2.948	0.031	0.000	0.000	
San Onofre 1	3.296681	10.616	12.234	0.000	0.000	1.186	0.005	0.000	0.000	July-Dec.: Type B curies are estimated.
Haddam	4.187377	45.431	59.006	0.000	0.000	272.225	1.710	0.000	0.000	Type A: resin; filters: 30.86 m^3, 272.168 Ci.
Ginna	2.718157	701.795	0.000	0.000	0.000	47.316	0.000	0.000	0.000	No breakdown; mostly sorbed liquids & evap. conc.
Robinson-2	2.390436	24.221	0.000	0.000	0.000	0.003	0.000	0.000	0.000	Some Ci omitted; liquid shipment: 1058 m^3, 43 Ci.
Point Beach 1	3.262412	76.494	0.000	0.000	0.000	3.504	0.000	0.000	0.000	No breakdown.
Total:	17.282023	954.517	102.449	0.000	0.000	327.182	1.746	0.000	0.000	
1971 PWR total	18.432988	983.867	102.449	0.000	0.000	329.331	1.746	0.000	0.000	
Year: 1970										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.434669	0.000	0.208	8.000	0.000	0.000	112.600	16120.000	0.000	Type C assume 1 m^3/ship. July-Dec. no Type B volume.
Humboldt Bay	0.416323	5.204	35.047	0.000	0.000	9.356	0.014	0.000	0.000	Curie estimated; error in units for 3/5/70 shipment?
Dresden 1	1.360458	0.000	272.515	0.000	0.000	0.000	2.560	0.000	0.000	
LaCrosse	0.122017	0.000	18.942	0.000	0.000	0.000	2.890	0.000	0.000	Compacted waste and resin in concrete.
Total:	2.333467	5.204	326.712	8.000	0.000	9.356	118.064	16120.000	0.000	
[db >200 MW(e)]:										
Dresden 2	1.153794	275.316	97.395	0.000	0.000	8.899	0.644	0.000	0.000	Jan.-June no shpmts; type A 126.57 m^3 pkgd & stored.
Millstone 1	0.061984	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No shipments; 167 drums, 34.69 m^3, 1.1 Ci stored.
Nine Mile Point	1.857134	86.944	0.000	0.000	0.000	3.695	0.000	0.000	0.000	No breakdown; Type A includes ~40 m^3 Type B (FSAR).
Oyster Creek	3.454203	218.069	0.000	0.000	0.000	2.974	0.000	0.000	0.000	No breakdown.
Total:	6.527115	580.329	97.395	0.000	0.000	15.568	0.644	0.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(f/d):										
Monticello	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	First critical 12/10/70.
Total:	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
1970 BWR total	8.860582	585.533	424.107	8.000	0.000	24.924	118.708	16120.000	0.000	
Year: 1970										
Type: PWR										
(B&W):										
Indian Pt. 1	0.274120	27.269	0.000	0.000	0.000	6.452	0.000	0.000	0.000	No curie data given for 10/8/71 shipment.
Total:	0.274120	27.269	0.000	0.000	0.000	6.452	0.000	0.000	0.000	
(West):										
Yankee Rowe	1.202193	108.074	0.850	0.000	0.000	5.956	0.013	0.000	0.000	
San Onofre 1	3.047433	40.633	0.632	0.000	0.000	10.464	0.005	0.000	0.000	Type A resin: 2.1 m^3, 2 Ci; B: lumber (Ci est.).
Haddam	3.537721	58.577	0.000	0.000	0.000	316.535	0.000	0.000	0.000	Mostly spent resins and filter cartridges.
Ginna	2.188558	51.420	0.000	0.000	0.000	4.640	0.000	0.000	0.000	No breakdown.
Robinson-2	0.003335	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No shipments; 1st critical 9/20/70.
Point Beach 1	0.192302	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No shipments; 1st critical 11/2/70.
Total:	10.171542	259.704	1.482	0.000	0.000	337.595	0.018	0.000	0.000	
1970 PWR total	10.445662	286.973	1.482	0.000	0.000	344.047	0.018	0.000	0.000	
Year: 1969										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.418655	6.230	17.900	0.000	0.000	61.100	0.257	0.000	0.000	
Humboldt Bay	0.374219	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Mat'l sent to GE is not radwaste at this point.
Dresden 1	0.825452	0.000	77.400	19.513	0.000	0.000	1.563	280.000	0.000	
LaCrosse	0.068004	6.514	11.668	0.000	0.000	0.980	0.330	0.000	0.000	
Total:	1.686330	12.744	106.968	19.513	0.000	62.080	2.150	280.000	0.000	
[db >200 MW(e)]:										
Nine Mile Point	0.063505	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No shipments; 1st critical 9/5/69.
Oyster Creek	0.334333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Stored: 30.39 m^3, 0.378 Ci; 1st critical 5/3/69.
Total:	0.397838	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
1969 BWR total	2.084168	12.744	106.968	19.513	0.000	62.080	2.150	280.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
Year: 1969										
Type: PWR										
(B&W):										
Indian Pt. 1	1.771959	0.000	26.852	0.000	0.000	0.000	0.785	0.000	0.000	
Total:	1.771959	0.000	26.852	0.000	0.000	0.000	0.785	0.000	0.000	
(West):										
Yankee Rowe	1.136486	6.797	123.853	5.828	0.000	150.050	2.046	11.284	0.000	Type A: resin, C: HLW, 14 drums per single cask.
San Onofre 1	2.615276	19.983	0.000	0.000	0.000	4.053	0.000	0.000	0.000	No breakdown.
Haddam	3.639185	83.263	0.000	0.000	0.000	51.418	0.000	0.000	0.000	Assume 0.62 m^3, 48.4 Ci is resin, filter cartridge.
Ginna	0.030118	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No shipments; 1st critical 11/9/69.
Total:	7.421065	110.043	123.853	5.828	0.000	205.521	2.046	11.284	0.000	
1969 PWR total	9.193024	110.043	150.705	5.828	0.000	205.521	2.831	11.284	0.000	
Year: 1968										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.428124	32.710	31.848	0.000		1745.920	0.400	0.000	0.140	Type A mostly resin, some evap. conc., D: equip.
Humboldt Bay	0.449753		0.000		0.000	1.911	0.000	56.200	0.000	No volumes reported.
Dresden 1	0.915930	0.000	219.395	1.699	0.000	0.000	1.840	207.000	0.000	
LaCrosse	0.000000	0.000	15.577	0.000	0.000	0.000	0.100	0.000	0.000	Operating license issued 7/12/68.
Total:	1.793807	32.710	266.820	1.699	0.000	1747.831	2.340	263.200	0.140	
1968 BWR total	1.793807	32.710	266.820	1.699	0.000	1747.831	2.340	263.200	0.140	
Year: 1968										
Type: PWR										
(B&W):										
Indian Pt. 1	1.348483	0.000	27.685	3.955	0.000	0.000	0.409	21.229	0.000	Type C: 13 Ci in lead pig of unknown volume.
Total:	1.348483	0.000	27.685	3.955	0.000	0.000	0.409	21.229	0.000	
(West):										
Yankee Rowe	1.210950	4.047	103.037		0.000	13.241	1.350	600.000	0.000	Type A: resin; no volume given for Type C cask.
San Onofre 1	1.289070	10.824	0.382	0.208	4.078	1.453	0.010	6.000	0.002	Type B: boxed HEPAs (vol, Ci assumed), D: lumber.
Haddam	2.995392	11.657	0.000	0.000	0.000	0.144	0.000	0.000	0.000	
Total:	5.495412	26.528	103.419	0.208	4.078	14.838	1.360	606.000	0.002	
1968 PWR total	6.843895	26.528	131.104	4.163	4.078	14.838	1.769	627.229	0.002	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
Year: 1967										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.470732	0.000		5.075	0.000	0.000	0.001	2950.150	0.000	Type B: clothes in plastic bag, 2.5E-04 Ci.
Humboldt Bay	0.333080		0.000	0.000	0.000	1.418	0.000	0.000	0.000	No volume reported.
Dresden 1	0.807028	116.398	232.341	0.000	0.000	12.000	1.346	0.000	0.000	
LaCrosse	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No shipments; low-power tests 7/67 to 8/67.
Total:	1.610840	116.398	232.341	5.075	0.000	13.418	1.347	2950.150	0.000	
1967 BWR total	1.610840	116.398	232.341	5.075	0.000	13.418	1.347	2950.150	0.000	
Year: 1967										
Type: PWR										
(B&W):										
Indian Pt. 1	1.515466	0.000	29.766	0.000	0.000	0.000	0.636	0.000	0.000	Type B assumed to be rubbish; 0.035 Ci max/drum.
Total:	1.515466	0.000	29.766	0.000	0.000	0.000	0.636	0.000	0.000	
(West):										
Yankee Rowe	1.265780	0.000	172.145	5.828	0.000	0.000	4.762	37001.546	0.000	Type C: no volume given for 2 casks.
San Onofre 1	0.367404	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No shipments; 1st critical 6/14/67.
Haddam	0.524079	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	First critical 6/24/67.
Total:	2.157263	0.000	172.145	5.828	0.000	0.000	4.762	37001.546	0.000	
1967 PWR total	3.672729	0.000	201.911	5.828	0.000	0.000	5.398	37001.546	0.000	
Year: 1966										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.376674	3.710	0.000	3.286	0.000	1.900	0.000	1617.000	0.000	
Humboldt Bay	0.156429	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Mat'l sent to GE not radwaste at this point.
Dresden 1	1.407352	29.510	27.470	0.000	0.000	173.000	0.409	0.000	0.000	
Total:	1.940455	33.220	27.470	3.286	0.000	174.900	0.409	1617.000	0.000	
1966 BWR total	1.940455	33.220	27.470	3.286	0.000	174.900	0.409	1617.000	0.000	
Year: 1966										
Type: PWR										
(B&W):										
Indian Pt. 1	1.641247	0.000	56.410	0.000	0.000	0.000	0.513	0.000	0.000	Type B assumed to be rubbish; 0.035 Ci max/drum.
Total:	1.641247	0.000	56.410	0.000	0.000	0.000	0.513	0.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
(West):										
Yankee Rowe	1.288009	71.189	22.897	0.416	0.000	5.846	0.329	486.000	0.000	Type C; 4 casks volumes not given.
Total:	1.288009	71.189	22.897	0.416	0.000	5.846	0.329	486.000	0.000	
1966 PWR total	2.929256	71.189	79.307	0.416	0.000	5.846	0.842	486.000	0.000	
Year: 1965										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.219094	21.750	44.537	0.000	0.000	377.500	0.219	0.000	0.000	
Humboldt Bay	0.258173		0.000	0.000	0.000	1.037	0.000	0.000	0.000	No volumes given.
Dresden 1	0.962388	0.000	94.279	5.523	0.000	0.000	0.578	40.000	0.000	
Total:	1.439655	21.750	138.816	5.523	0.000	378.537	0.797	40.000	0.000	
1965 BWR total	1.439655	21.750	138.816	5.523	0.000	378.537	0.797	40.000	0.000	
Year: 1965										
Type: PWR										
(B&W):										
Indian Pt. 1	0.899988	0.000	42.464	0.000	0.000	0.000	1.167	0.000	0.000	Type B: rubbish.
Total:	0.899988	0.000	42.464	0.000	0.000	0.000	1.167	0.000	0.000	
(West):										
Yankee Rowe	0.960974	173.212			0.000	365.815	0.001	1140.000	0.000	A: resin & filt, 358.9 Ci, B: polybag, C: NRL cask.
Total:	0.960974	173.212	0.000	0.000	0.000	365.815	0.001	1140.000	0.000	
1965 PWR total	1.860962	173.212	42.464	0.000	0.000	365.815	1.168	1140.000	0.000	
Year: 1964										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.096243	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Core loaded 5/64; 3 shipments to GE not radwaste.
Humboldt Bay	0.364215	0.000			0.000	0.000	0.881	926.766	0.000	No volumes given.
Dresden 1	0.980071	0.000	54.347	0.000	0.000	0.000	0.443	0.000	0.000	
Total:	1.440529	0.000	54.347	0.000	0.000	0.000	1.324	926.766	0.000	
1964 BWR total	1.440529	0.000	54.347	0.000	0.000	0.000	1.324	926.766	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
Year: 1964										
Type: PWR										
(B&W):										
Indian Pt. 1	0.562673	0.000	23.105	0.000	0.000	0.000	0.466	0.000	0.000	Type B: rubbish.
Total:	0.562673	0.000	23.105	0.000	0.000	0.000	0.466	0.000	0.000	
(West):										
Yankee Rowe	1.175666	102.413	0.000	24.208	2.914	94.988	0.000	60000.050	0.242	Type C: to ORNL, assume 1 m^3/ship, D: gas stripper.
Total:	1.175666	102.413	0.000	24.208	2.914	94.988	0.000	60000.050	0.242	
1964 PWR total	1.738339	102.413	23.105	24.208	2.914	94.988	0.466	60000.050	0.242	
Year: 1963										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.084837	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Low-power demonstration and start R&D program.
Humboldt Bay	0.168920	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	First critical 2/16/63.
Dresden 1	0.935285	0.000	28.377	0.000	0.000	0.000	0.193	0.000	0.000	Shipped 140.78 m^3, 0.88 Ci to ORNL Isotope sales.
Total:	1.189042	0.000	28.377	0.000	0.000	0.000	0.193	0.000	0.000	
1963 BWR total	1.189042	0.000	28.377	0.000	0.000	0.000	0.193	0.000	0.000	
Year: 1963										
Type: PWR										
(B&W):										
Indian Pt. 1	0.882747	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No waste shipments.
Total:	0.882747	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No waste shipments.
(West):										
Yankee Rowe	0.937072	104.286	0.382	5.412	27.220	3.272	0.001	11.100	1.600	Type C: 23 control rods to ORNL, D: decon. sludge.
Total:	0.937072	104.286	0.382	5.412	27.220	3.272	0.001	11.100	1.600	
1963 PWR total	1.819819	104.286	0.382	5.412	27.220	3.272	0.001	11.100	1.600	
Year: 1962										
Type: BWR										
[db <200 MW(e)]:										
Big Rock Point	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	First critical 9/27/62.
Dresden 1	1.198366	0.000	0.000	12.178	0.000	0.000	0.000	560.000	0.000	Shipped 82.979 m^3, 1.027 Ci to ORNL Isotope sales.
Total:	1.198366	0.000	0.000	12.178	0.000	0.000	0.000	560.000	0.000	
1962 BWR total	1.198366	0.000	0.000	12.178	0.000	0.000	0.000	560.000	0.000	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
Year: 1962										
Type: PWR										
(B&W):										
Indian Pt.1	0.151188	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	First critical 8/2/62.
Total:	0.151188	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
(West):										
Yankee Rowe	0.686900	107.617	0.000	0.000	0.000	1.480	0.000	0.000	0.000	Also 82 drums, 1.0206 Ci were stored.
Total:	0.686900	107.617	0.000	0.000	0.000	1.480	0.000	0.000	0.000	
1962 PWR total	0.838088	107.617	0.000	0.000	0.000	1.480	0.000	0.000	0.000	
Year: 1961										
Type: BWR										
[db <200 MW(e)]:										
Dresden 1	0.521873	0.000	130.616	0.000	17.693	0.000	1.891	0.000	61.100	Type D: misc. waste from plant modifications.
Total:	0.521873	0.000	130.616	0.000	17.693	0.000	1.891	0.000	61.100	
1961 BWR total	0.521873	0.000	130.616	0.000	17.693	0.000	1.891	0.000	61.100	
Year: 1961										
Type: PWR										
(West):										
Yankee Rowe	0.850128	14.571	0.000	0.000	0.000	0.107	0.000	0.000	0.000	Type A: evap. conc.; Type B: incinerator ash.
Total:	0.850128	14.571	0.000	0.000	0.000	0.107	0.000	0.000	0.000	
1961 PWR total	0.850128	14.571	0.000	0.000	0.000	0.107	0.000	0.000	0.000	
Year: 1960										
Type: BWR										
[db <200 MW(e)]:										
Dresden 1	0.252038	0.000	0.000	0.000	31.153	0.000	0.000	0.000	0.750	Type D: gravel, timber, pipe, filter, baled waste.
Total:	0.252038	0.000	0.000	0.000	31.153	0.000	0.000	0.000	0.750	
1960 BWR total	0.252038	0.000	0.000	0.000	31.153	0.000	0.000	0.000	0.750	

Reactor name	Net electricity generated [MW(e)-h x 10^6]	Volume (m^3) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Activity (Ci) for waste type A (Wet)	B (Dry)	C (Core component)	D (Other)	Remarks[a,b]
Year: 1960										
Type: PWR										
(West):										
Yankee Rowe	0.033687	2.082	0.000	0.000	0.000	0.150	0.000	0.000	0.000	Liquid (2.7 m^3, 9.1E-06 Ci); 1st critical 8/8/60.
Total:	0.033687	2.082	0.000	0.000	0.000	0.150	0.000	0.000	0.000	
1960 PWR total	0.033687	2.082	0.000	0.000	0.000	0.150	0.000	0.000	0.000	
Year: 1959										
Type: BWR										
[db <200 MW(e)]:										
Dresden 1	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	No shipments; 1st critical 10/15/59.
Total:	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
1959 BWR total	0.000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

[a]Acronyms used in this data base are defined as follows: db — deep bed condensate polishing system; f/d — filter demineralizer condensate polishing system; CE — Combustion Engineering, Inc.; B&W — Babcock and Wilcox Co.; West — Westinghouse Electric Corporation; DAW — dry active waste; LSA - low specific activity; FSAR — final safety analysis report; CVCS — chemical and volume control system; HEPA — high efficiency particulate air filter; NRL — Naval Research Laboratory; GE — General Electric Company; and ORNL — Oak Ridge National Laboratory.

[b]Documents referenced in this data base are as follows: (1) Conference of Radiation Control Program Directors, Inc., The 1984 State-By-State Assessment of Low-Level Radioactive Wastes Shipped to Commercial Disposal, DOE/LLW-50T, EG&G Idaho, Inc., Idaho Falls, Idaho (December 1985); (2) Conference of Radiation Control Program Directors, Inc., The 1984 State-By-State Assessment of Low-Level Radioactive Wastes Shipped to Commercial Disposal, DOE/LLW-27T, EG&G Idaho, Inc., Idaho Falls, Idaho (December 1983); (3) T. R. Decker, Radioactive Materials Released from Nuclear Power Plants Annual Report 1977, NUREG-0521, U.S. Nuclear Regulatory Commission, Office of Management and Program Analysis, January 1979; (4) J. W. Phillips and J. Gruhlke, Summary of Radioactivity Released in Effluents from Nuclear Power Plants from 1973-1976, EPA-520/3-77-012, U.S. Environmental Protection Agency, Office of Radiation Programs, December 1977; (5) Florida Power and Light Co., Turkey Point Plant Units 3 and 4, Docket-50250-795, U.S. Nuclear Regulatory Commission, Washington, DC (Aug. 26, 1977); and (6) A. H. Kibbey, H. W. Godbee, and E. L. Compere, A Review of Solid Radioactive Waste Practices in Light-Water-Cooled Nuclear Reactor Power Plants, NUREG/CR-0144 [ORNL/NUREG-43] (Rev. 1 of ORNL-4924), Oak Ridge National Laboratory, October 1978.

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