INTERIM REPORT

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Evaluation of Docket Files of Terminated Licenses

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Division*

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William T. Crow Fuel Processing and Fabrication Branch Office of Nuclear Material Safety and Safeguards

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> > *Oak Ridge National Laboratory Oak Ridge, Tennessee 37830 operated by Union Carbide Corporation for the Department of Energy

> > > INTERIM REPORT

JHIS DOCUMENT CONTAINS POOR QUALITY PAGES

MONTHLY PROGRESS REPORT FOR JULY 1980

EVALUATION OF DOCKET FILES OF TERMINATED LICENSES (189 No. A9085-7)

PRINCIPAL SCIENTISTS: C. F. Holoway and H. W. Dickson

Objectives:

The technical objective of this project is to review terminated licenses in the Nuclear Regulatory Commission (NRC) Docket File System, extract pertinent data, create a computer file of these data and identify which previously licensed sites potentially could constitute residual radiological safety hazards.

Major Accomplishments:

During July, 69 dockets were group analyzed as shown in Table 1.

Table 1. Group analysis of docket files for month of July

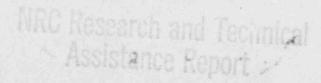
Category	Categorization before group analysis	Categorization after group analysis	
No	24	47	
Un	45	2	
OK		20	
Total	69	69	

The 49 dockets categorized as No or Uncertain after group analysis are tabulated in Attachment 1.

The number of Part 30 dockets screened by individual analysts to date is 5145, of which 3750 are computer retrievable.

The number of radionuclides on the list covered by licenses has increased by 12 this month to 179. The 12 additional radionuclides with their respective annual limits of intake (ALI) are listed in Attachment 2.

To ensure quality control, Evaluation Research Corporation (ERC) reviewed four randomly selected dockets from each of nine boxes of dockets which had been screened previously by ERC analysts and categorized as OK. The results are shown in Attachment 3. As another quality control check, it was determined that only two dockets out of 3423 had been mislabeled upon computer entry with a zero instead of the letter "O" in the category 1 OK. All other dockets had the proper category label.



A breakdown of the 229 group analyzed folders retrievable by the July 21. 1980 computer update is shown in Table 2 below.

Table 2. Computer records by group analyzed category

Category	No. of Records
2No	140
2Un	21
20k	68
1No	0
1Un	0
10k	0
Total	229

The likelihood of errors in the group analyzed computer records is much lower than before group analysis because of the additional editing.

At this halfway point (3750 of 7000 or more dockets on the computer), 161 dockets or 4.3% have been identified as questionable (No or Uncertain). If this percentage holds, about 300 questionable dockets out of 7000 Part 30 dockets could be expected. For comparison, there were 193 questionable out of 8275 Part 40 dockets or 2.3%. In an attempt to reduce the Uncertain category to a minimum, this category during group analysis was commonly converted to No when the group was also uncertain. Because of the conservative approach, it is likely 4.3% questionables will eventually prove to be somewhat high.

Many of the Part 30 dockets categorized as questionable are due to licenses for sealed strontium-90 sources used either as medical therapy applicators or as industrial measuring gauges, where final disposition of the sources could not be unequivocably confirmed from the docket contents. Evidence of safe disposal may be available from: (1) other NRC files or resources, (2) licensee records or searches, and/or (3) supplier records in the case of loan or rental, but these are beyond the scope of the ORNL project. Resistance of strontium-90 to crushing or shearing action in cabinets, desk drawers, etc. of forgotten sources no longer under license has been a matter of concern to the ORNL/ERC analysts. Some strontium-90 sources may be encased in stainless steel needles of wall thickness as thin as that of a sheet of paper (0.004 in. in the case of license no. 5-3010-2), or as thick as 0.375 in. Strontium containers which have not been properly disposed of could burst in incinerators or by other means contaminating the environment decades later (28-yr half-life).

General files containing inspection records on licenses not assigned specific dockets are listed in Attachment 4.

Status of Project:

A preliminary screening has been made of 71 of the 101 boxes of Part 30 docket files, and the data analysis/computer input forms prepared. Fortynine boxes have been entered on the permanent file.

The project is running on schedule and completion of docket evaluation is anticipated by the end of calendar year 1980.

Manpower and Cost Summary:

Efforts	in Mar	Months		Cost	K\$	
July 1980	FY 1980	Total to date	July 1980	FY 1980	Total cost to date K\$	Additional cost to completion (est
1.4	12.2	67.1	23.5	170.8	458.8	\$98,500

Attachment 1.

ERC/ORNE

Group Docket Analysis

Date: July 11, 1980

lio.	Record No.	License No.	Licensee	Orig. Cat.	Group Cat.	Comments
233	2247	47-2611-01	Dr. Milton Lilly 1106 Virginia St. Charleston, WV	2Un	2No	Disposition of 100 mCi of Sr-90 in medical applicator unknown. Presently holds license #47-2611-03.
234	2248	32-0343-01	Liggett and Myers Tobacco Co. Durham, NC	2No	2No	Disposition of 411 sources of 20 mCi and 130 sources of 15 mCi Sr-90 unknown.
235	2255	29-0304-01	Lever Brothers Co. 45 River Rd. Edgewater, NJ	2Un	2No	U.S. Radium Corporation shipped 54 mCi of Sr-90 to Lever Bros. on 8/24/56 so they possessed over the 42 mCi allowed on the license. Disposition of the sources unknown. Presently holds license #29-0304-02.
239	2279	4-1625-01	Lane-Well Co. Los Angeles, CA	2No	2No	Diverse materials and diverse sites. Ac-227 very radiotoxic. Burial allowed at each site.
240	2280	4-0391-02	Landsverk Electro- meter Co. 641 Sonora Ave. Glendale, CA	2No	2Un	Potential external radiation hazard from 57 Ci Co-60 source.
241	2307	42-1254-01	Dr. Cyrus Klein 517 Pine St. Texarkana, TX	2Un	2No	Disposition of 40 mCi of Sr-90 contained in medical applicator unknown. Presently holds license #42-15989-01
242	2311	48-1251-02	Kimberly-Clark Corp. Neenah, WI	2Un	2No	Disposition of a 6 mCi and 20 mCi source of Sr-90 unknown Presently holds license # 48-1251-04.
244	2321	16-1364-02	Kentucky Baptist Hospital 810 Barrett Ave. Louisville, KY	2Un	2No	Disposition of a 50 mCi Sr-90 source contained in a medical applicator unknown.

LUC/ORTH

Group Nocket Analysis

Nate: July 11, 1980

tio.	Record No.	License No.	Licensee	Orig. Cat.	Group Cat.	Comments
245	2326	20-2196-01	Kendall Mills Walpole, MA	2No	2No	Disposition of 10 Sr-90 source of 60 mCi each unknown.
246	2333	21-4109-07	Henry Ford Hospital 2799 W. Grand Blvd. Detroit, MI		2No	Disposition of 50 mCi source in medical applicator unknown. Presently holds license #21-4109-08.
247	2334	21-4109-01	Henry Ford Hospital 2799 W. Grand Blvd. Detroit, MI	2Un	2No	Sr/Y-90 possessed in any form. Presently holds license #21-4109-08.
251	1538	3-0231-03	University of Arkansas Markham & Elm Sts. Little Rock, AR	21:0	2No	Disposition of Sr-90 in medical applicator unknown. Possible external hazard from 1100 Ci Co-60 source.
252	2375	9-1891-04	University of Florida Gainesville, FL	2No	2No	Wide variety of materials could be possessed and wastes buried.
253	2378	9-1891-07	University of Florida Gainesville, FL	2Un	2No	Possible external radiation hazard.
254	2382	9-1891-13	University of Florida Gainesville, FL	2No	2No	Possible external radiation hazard.

2Un

2Un

2No

2Un

2No

2Un

2Un

2No

possessed.

unknown.

LKC, ORNL

No.

255

256

257

258

259

261

262

263

Record

No.

2386

2387

2390

2394

2418

2435

2439

2450

Group Docket Analysis

Licensee

University of

University of

University of

Gainesville, FL

Dr. L.M. Flanary

Ellis Fischel State 2Un

580 W. 20th St. Houston, TX

Cancer Hospital

Nuclear Systems

University of

Dr. Jorge Buxton

9 East 91st ST.

New York, NY

Buffalo, NY

Buffalo

Div. of Budd Co. 2950 Roberts Ave. Philadelphia, PA

Columbia, MO

Gainesville, FL

Gainesville, FL

Florida

Florida

Florida

License

No.

9-1891-18

9-2901-01

9-0901-04

42-4488-01

24-0481-01

37-0611-03

31-5510-03

31-6001-01

July 11, 1980 Date: Orig. Group Comments Cat. Cat. Possible external radiation hazard. 2No Possessed large amounts of any form of Sr-90. Wastes 2No may be buried. Disposition of 200 mCi Sr-90 in 2 medical applicators 2No and a Cs-137 source unknown. Disposition of 50 mCi Sr-90 in a medical applicator 2No unknown. Possible external radiation hazard from 1500 Ci Co-60 2No source. Presently hold license #24-0481-06. 2No Large amounts of materials could be possessed. 100 mCi of any radionuclide (At. No. 3-83) could be 2No possessed. Appeared that small amounts were actually

Disposition of 50 mCi Sr-90 in medical applicator

0

ERC/ORML

Group Docket Analysis

Date: July 11, 1980

No.	Record No.	License No.	Licensee	Orig. Cat.	Group Cat.	Conments
264	2455	37-0602-01	Carnegie Inst. of Technology Pittsburgh, PA	2Un	2No	Could possess large amounts of by-product material.
265	2465	14-2869-05	Cerro Gordo County Medical Soc. St. Joseph Mercy Hos. Mason City, IA	2Un	2No	Disposition of 50 mCi Sr-90 in medical applicator unknown.
266	2477	21-0644-02	Chrysler Corp. 12843 Greenfield Rd Detroit, MI	2No	2No	Disposition of a 100 mCi and a 10 mCi Sr-90 source unknown. Presently hclds license #21-0644-03.
267	2505	9-0367-05	Florida State University Tallahassee, FL	2Un	2No	An accumulation of various byproducts which includes transuranics.
269	2519	21-4109-09	Edsel B. Ford Inst. for Medical Res. Detroit, MI	2Un	2No	Possession of Sr-90 in any form and on-site burial. Presently holds license #21-4109-16.
272	2539	20-3683-01	Foxboro Co. Foxboro, MA	2No	2No	Large amounts of Sr-90 possessed (1000 mCi). Presently holds license #20-3683-01.
273	2542	1-2288-01	H.W. Frank 520 Chestnut St. Gadsden, AL	2Un	2No	Disposition of a 25 mCi Sr-90 source in a medical applicator unknown.

LRC/ORNL

Group Docket Analysis

Date: ___ July 11, 1980

No.	Record No.	License No.	Licensee	Orig. Cat.	Group Cat.	Comments
274	2543	3-0066-01	Dr. C.H. Frank 322 E. 5th St. Texarkana, AR	2Un	2No	Disposit on of 40 mCi Sr-90 in a medical applicator unknown.
279	2585	42-2473-01	Dr. Edwin Garrett 1010 Louisiana St. Houston, TX	2Un	2No	Disprison of 50 mCi Sr-90 in medical applicator unknown.
280	2593	31-6261-01	Dr. Gordon Cole 780 Park Ave. New York, NY	2Un	2No	Disprition of 50 mCi Sr-90 in medical applicato. unknown.
281	2597	10-4148-01	Dr. William Coles Suite 5. 710 Peachtree St.NE Atlanta, GA	2Un	2No	Disposition of 50 mCi Sr-90 in medical applicator unknown.
282	2599	5-1883-01	University of Colorado Boulder, CO	2No	2No	Large amounts of Sr-90 possessed.
285	2606	31-1276-03	Columbia University 116th St and Broadway New York, NY	2No	2No	Could hold large quantities of any B.P. 3-83.
287	2631	35-7402-02	Continental Oil Co. Ponca City, OK	2No	2No	500 mCi of Sr-90 could be possessed. Licensees were disposing of considerable amounts of isotope bearing wastes but not maintaining records of kinds and amounts Presently hold license #35-7402-11.
		 		-		

co

Group FRC/ORNL Date: July 11, 1980 Docket Analysis Record License Orig. Group Sec. Licensee Comments Cat. No. No. Cat. Possible external radiation hazard. 2Un 2No 2636 29-3638-02 Cooper Alloy Corp. 288 Presently hold license #29-3638-01. Bloy St. and Ramsey Ave. Hillside, NJ Could possess large amounts of B.P. 3-83. Cornell University 2Un 2No 31-1547-01 289 2644 Presently hold licenses #31-1547-06 and 07. Ithaca, NY Letter indicates transfer to other licensees but 2No 2No 37-2416-03 Curtiss-Wright 290 2656 these not identified. Corp. Quehanna, PA Cumulative problems Large variety of radionuclides. Curtiss-Wright Corp 2No 2No 291 2658 37-2416-01 rather than individual isotopes. Quehanna, PA Disposition of 20 mCi Sr-90 sealed source unknown. Hampton Mfg. Co. 2Un 2Un 292 2668 31-1745-01 111 Cedar St. New Rochelle, NY Could possess large amounts of B.P. 3-83. Harvard College 2No 2No 293 2704 20-3717-11 25 Shattuck St. Boston, MA Large quantities of materials possessed. 2No 2No University of 294 2715 53-0017-01 Presently hold licenses #53-0017-09 and -23. Hawaii Honolulu, HI

'0

ERC/URNL Group
Ducket Analysis

No.	Record No.	License No.	Licensee	Orig. Cat.	Group Cat.	Conments
295	2718	34-2463-01	Or. Rupert Havill 1350 E. Market St. Warren, OH	2Un	2No	Disposition of 50 mCi Sr-90 in medical applicator unknown.
296	2727	4-3101-01	Dr. Gerhard Hencky Brookside Hospital San Pablo, CA	2Un	2No	Disposition of 50 mCi Sr-90 in medical applicator unknown.
298	2768	34-0255-03	Industrial Nucleo- nics Corp. 1205 Chesapeake Ave Columbus, OH	2No	2No	150 Ci of Sr-90 possessed in manufacturing gauging devices. Presently hold license #34-0255-03.
299	2770	10-0779-02	Drs. Holmes and Brown 1467 Harper St. Augusta, GA	2Un	2No	Disposition of 25 mCi of Sr-90 in medical applicator unknown. Lost radium needles and Co-60 needle.
300	2771	10-0779-01	Holmes and Brown 1467 Harper St. Augusta, GA	2No	2No	Possible external radiation hazard from 500 Ci Co-60 source.

Attachment 2.

ISOTOPE	CRITICAL ORGAN(S)	HALF-LIFE(YRS)	ALI(MBq)	PERMISSIBLE	AMTS AFTER	TIME t (y	rs) (MBq)
				t=0	t=5	t=10	t=20
******	******	******	*******	******	*****	******	******
Mo-93	3.5(3)	Ъ	0.27	27	27	27	27
Cd-113	14.6	b	0.27	27	34	43	70
Pb-209	4(-4)	b	0.27	27	>3.7(7)		
Ru-97	7.9(-3)	CI(LLI)	89	3293	>3.7(7)		
As-74	4.9(-2)	Lung	11	1.1(3)	>3.7(7)		
Sn-119	b	0.80	0.27	27	2.1(3)	1.6(5)	>3.7(7)
Pt-195	b	1.1(-2)	0.27	27	>3.7(7)		
Eu/Rh-105	GI(LLI)	4.1(-3)	30	3.0(3)	>3.7(7)		
Ce-143	GI(LLI)	3.8(-3)	12	1.2(3)	>3.7(7)		
Te-127	GI(LLI)	1.1(-3)	60	6.0(3)	>3.7(7)		
Gd-159	GI(LLI)	2.1(-3)	24	2.4(3)	>3.7(7)		
1-130	Ъ	1.4(-3)	0.27	27	>3.7(7)		

Permissible original amount at t = 0, after t years have elapsed.

 $b_{\rm Since\ MPC\ (DAC)}$ values were not available for these nuclides, the MPC (or DAC) for unknown nuclide mixtures was used.

Attachment 3.

Box No.	Analysts	License	Categorization
43	BCR	41-135-1	ок
		29-3399-1	OK
		24-513-9	ок
		24-3782-1	ок
22	n.on	21 (20)	07
33	BCR	31-6201-1 42-5649-1	OK
		14-3923-1	OK OK
		18-4799-1	OK
12	JSE	9-1891-16	OK
		9-367-9	OK
		31-1776-1	OK
		12-3795-1	OK
32	JSE	8-604-5	ок
		31-5510-1	ОК
		21-243-3	OK
		42-5277-1	ОК
85	LEB	9-1891-5	ОК
	000	42-5893-1	ok
		32-4724-1	OK
		41-5827-1	ок
15	BCR	20-2591-2	ок
13	DCK	31-5904-1	OK
		48-4987-1	OK
		31-586-1	OK
15B	Lon	12-4930-1	Or
138	LEB	20-3717-8	OK OK
		3-201-1	OK
		1-605-1	OK
20	nan	10 /00/ 1	O.F.
38	BCR	12-4804-1 35-6537-1	OK
		46-1497-1	OK OK
		22-3540-1	OK
116	BCR	24-995-4	OK
		4-11-3	OK
		41-2614-1	OK
		12-88-2	OK

Attachment 4.

Licenses Found in General Files, But Not Having Separate Folders

License No.	Company	Box. No.
43-1316-01 43-1316-03	U.S. Dept. of the Army Dugway Proving Ground Dugway, Utah	64
	1959 General File	
45-0953-01	U.S. Dept. of the Army	64
45-0953-02	Corps of Engineers Engineer R and D labs	
	Fort Belvair, VA	
	1958 General File	
46-2645-01	U.S. Dept. of the Army	64
46-2645-03	Madigan Army Hospital	
	Radioisotope Clinic Dept. of Medicine	
	Tacoma, Washington	
05-1399-04	U.S. Geological Survey	64
03-1377-04	Water Resources Div.	
	General Hydrology Branch	
	Denver Federal Center	
	Denver, Colorado 1956 General File	
10-0287-03	Department of the Navy	64
10-0287-03	Marine Corps Supply Center	
	Electronics Section	
	Repair Division	
	Albany, Georgia	
08-0482-03	U.S. Food and Drug Administration	64
	Washington, D.C.	
	1959 General File	
10-0512-03	U.S. Public Health Service	64
	Communicable Disease Center	
	Chatham County, GA	
	1959 General File	
10-0512-4	U.S. Public Health Service	64
	Communicable Disease Center	
	Savannah River, GA	
	1958 General File	
31-0081-03	U.S. Public Health Service Hospital	64
31-0081-05	Staten Island, NY	
	1957 General File	

Attachment 4. (continued) 64 41-6782-01 Dept. of Fealth, Education and Welfare Memphis, IN 19(1 General File 87 29-5630-1 Central X-Ray, Inc. Perth Amboy, NJ 87 35-5495-1 Central X-Ray, Inc. Yale, Oklahoma 87 21-8682-1 Brown, Garland R. Saginaw, MI 1964 Coneral File 68 32-1134-1 Veterans Administration Hospital Durham, NC 1959 General File 68 32-1134-1 Veterans Administration Hospi al 32-1134-2 Durham, NC 1957 General File 32-1134-3 68 Veterans Administration Hospital 34-799-2 Cincinnati, OH 1956-58 General Files 68 Veterans Administration Hospital 35-526-2 35-526-3 Oklahoma City, OK 1958 General File 68 No license, Veterans Administration Hospital but an overexposure Pittsburgh, PA 1957 General File is mentioned 68 41-104-4 Veterans Administration Hospital 41-104-5 Nashville, TN 1957-58 General Files 68 42-220-4 Veterans Administration Hospital Dallas, TX 1957 General File 68 26-138-6 Veterans Administration Hospital 26-138-7 Omaha, NE 1957-59 General Files 68 Veterans Administration Hospital 31-2755-1 Albany, NY 31-2755-2 1958 General File 68 Veterans Administration Hospital 31-845-1

Syracuse, NY 1957 General File

Attachment 4. (continued) 68 17-1322-1 Veterans Administration Hospital 17-1322-2 New Orleans, LA 1957 General File 17-1322-4 68 Veterans Administration Hospital 21-159-1 Ann Arbor, MI 1957 General File 68 Veterans Administration Hospital 24-496-5 Kansas City, MO 24-496-5 1958 General File 68 Victoreen Instrument Co. 34-486-3 Cleveland, OH 1958 General File 71 12-0626-02 Western Electric Co., Inc. Chicago, IL 1957-59 Genera' Files 71 Western Reserve University 34-0738-03 Cleveland, OH 34-0738-04 71 Westinghouse Electric Corp. 19-0428-03 Baltimore, MD 71 Westinghouse Electric Corp. C-3586 East Pittsburgh, PA SNM-47 71 North Carolina Pulp Co. 32-3053-01 Plymouth, NC 67 Universal Oil Products Co. 12-269-2 Des Plaines, IL 67 Utah State University 43-2935-1 College of Agriculture 43-2935-2 43-2935-3 Logan, Utah 67 Veterans Administration Hospital 1-3042-1 Tuskegee, AL 67 Veterans Administration Hospital 4-6892-Long Beach, CA 72 Woonsocket Rubber & Plastic Products Co. 38-2140-1 Woonsocket, RI 72 42-5560-1 X-Ray Services, Inc. Fort Worth, TX 86 Bethlehem Steel Co. 20-1971-1 Quincy, MA

1959 General File

	Attachment 4. (continued)	
04-2863-03 04-2863-04 04-2863-05 04-2863-07 04-2863-08 40-3584 C-4481 C-4434	Aerojet-General Corp. Sacramento, CA 1960-62 General Files	84
04-0647-01	Aerojet General Nucleonics Walnut Creek, CA 1959-62 General Files	84
41-1355-01	ARO, Inc. Technical Services Civ. Metallugrical Section Tullahoma, TN 1958 General File	84
29-2085-01	Air Reduction Co., Inc. Air Reduction Sales Co. Div. Rare Gas Purification Dept. Jersey City, NJ 1958 General File	84
04-1617-01	Airesearch Manufacturing Co. Production Dept. Los Angeles, CA 1959-61 General Files	84
C-4018	Allied Research Associates, Inc. Physics Dept. Boston, MA 1960-63 General Files	84
20-2693-02	Allied Research Associates, Inc. Boston, MA 1958 General File	84
04-1757-01	U.S. Navy U.S. Naval Ordnance Test Station China Lake, CA 1959 General File	84
17-1214-01 17-1214-02 17-1214-04 16-853-1 16-853-4 16-853-5	Tulane University New Orleans, LA 1957 General File	60
17-0833-06F60 17-833-7K60	Tulane University School of Medicine New Orleans, LA 1959 General File	60

	Attachment 4. (continued)	
17-1214-01	Tulane University	60
	New Orleans, LA 1960 General File	
34-1098-1 34-1098-2	Toledo Clinic Toledo, OH	60
37 2030 2	1957 General File	
34-1710-01	Toledo Hospital	60
	Toledo, OH 1957-59 General Files	
15-1206-02	Topeka Clinical Radioactive Isotope Service	60
	Topeka, KS 1957-59 General Files	
42-73-02	Tracer Lab Inc.	60
	Richmond, CA 1958 General File	
4-911-2	Tracer Lab Inc.	60
	Richmond, CA 1960 General File	
(011 2	사이 첫 경영이 가장 보다 보다 그 그리고 있다.	
4-911-3 4-911-1	Tracer Lab Inc. Richmond, CA	60
4-911-2	1962 General File	
20-1382-02A61	Tracer Lab Inc.	60
	Waltham, MA 1959 General File	
4-1005-2	Dr. Frank Stampfli	60
	Eden Hospital Castro Valley, CA	
20-1382-10	Tracer Lab, Inc.	60
20-1382-12 20-1382-13	Waltham, MA 1960 General File	
D-278 SNM-17		
22-3575-01	L Berg	60
	Mingapolis, MN 1958 G neral File	
22-1376-02	Twin City Testing & Engineering Lab	60
	St. Paul, MN 1957 General File	
15-2150-02	Taylor Forge & Pipe Works of Kansas, Inc.	58
	Paola, KS 1959 General File	
	Twin City Testing & Engineering Lab St. Paul, MN 1957 General File Taylor Forge & Pipe Works of Kansas, Inc. Paola, KS	

13-0696-02	S. G. Taylor Chain Company Hammond, IN	58
	1957-58 General Files	
20-277-03	Technical Operations	58
	Arlington, MA	
	1957 General File	
C-4071	TEMCO Electronics & Missiles Co.	58
	Dallas, TX	
	1960 General File	
41-4108-01160	Tennessee Eastman Co.	58
	Kingsport, TN	
	1959 General File	
41-3706-20160	University of Tennessee	58
41-8706-23E61	Memphis, TN	
41-8706-22861	1959 General File	
41-0087-05H60 41-8706-07A64		
41-0087-04060		
41-0087-15060		
41-87-03		
41-8702-09	University of Tennessee	58
41-8706-11	Memphis, TN	
	1958 General File	
45-1568-01	University of Tennessee	58
41-8706-09	Memphis, TN	
41-8706-07	1957 General File	
41-0087-02	University of Tennessee	58
	Memphis, TN	
	1967-57 General Files	
42-0553-3	Shell Oil Co., Shell Refinery	55
	Deer Park, TX 1958 General File	
	1938 General File	
48-0736-01	A.O. Smith Corp.	55
	Milwaukee, WI	
	1957 General File	
29-0505-02	Socony Mobil Oil Co., Inc.	55
29-0505-03	Paulsboro, NJ	
29-0505-04	1958 General File	
29-0505-05		

29-0505-02 29-0505-03 29-0505-04 29-0505-05 29-0505-06 29-0505-07 29-0505-08	Socony Mobil Oil Co., Inc. Paulsboro, NJ 1959 General File	55
42-881-04	Magnolia Petroleum Co. (AKA Socony Mobil Oil Co., Inc.) Dallas, TX 1958 General File	55
42-881-5	Magnolia Petroleum Co. (AKA Socony Mobil Oil Co., Inc.) Hull, TX 1959 General File	55
19-1826-02 C-3654 JNM-9	United States Army U.S. Army Chemical Center Maryland	63
45-0131-02 45-1890-01	U.S. Army Corps of Engineers Norfolk General Hospital Vicksburg, MS 1957 General File	63
29-0047-02	U.S. Army Picatinny Arsenal Dover, NJ 1959 General File	63
42-0090-3 42-0090-4	Schlumberger Well Surveying Corp. Houston, TX	54
42-29-2 42-29-3	Schonfeld, Murray D. Dallas, TX	54

INTERNAL DISTRIBUTION

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7-8. DOE Technical Information (DOE-TIC)

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