

**APPENDIX A**

**SUMMARY OF CONTAMINATED  
SYSTEM MASSES IN REFERENCE BWR**



## APPENDIX A

### SUMMARY OF CONTAMINATED SYSTEM MASSES IN REFERENCE BWR

The contaminated system masses are based on information in EPA 1997a with certain modifications made during this review. Information sources and changes are summarized below:

- The Fuel Pool Cooling and Cleanup System in EPA 1997 (Table A5-2A) included stainless steel spent fuel racks and the fuel pool liner. Data on the spent fuel racks (276,360 kg) were developed from NRC 1994a (p. 3.34) but did not include 5,922 kg for turnbuckles to attach the racks to the pool walls (added here). Data on the pool liner (32,000 kg) were obtained from NRC 1980a (p. C-62).
- Data on Reactor Building HVAC Components (EPA 1997, Table A5-2A, 58,162 kg) were obtained from NRC 1994a (pp. 3.39-3.41), as were data for the Radwaste Building HVAC components (EPA 1997, Table A5-2B, 102,751 kg) and the Turbine Building HVAC components (EPA 1997, Table A5-2C, 85,246 kg). Table A5-2C contained 8,853 kg for the Standby Gas Treatment Sub-System. The mass of material has been eliminated in the present study, since it appears to duplicate the Standby Gas Treatment System included in Table C.5 of NRC 1994b.
- Data for the Main Steam System in EPA 1997, Table A5-2A did not include the main condenser weighing 1,570,000 kg (NRC 1980a, p. 70). This has been added here. In addition, that table incorrectly stated that the system contained two low pressure turbines rather than three. Turbine weights were corrected based on Table C.3-5 in NUREG/CR-0672, Vol. 2.
- EPA 1997 did not include the Sample Systems described in NRC 1994b, Table C.5. They have been added here (1,148 kg).
- Data in EPA 1997 on piping inventories (Table 5-2D) were obtained from NRC 1980b (Tables C.3-7, C.3-8, C.3-9, and C.3-10). However, the primary containment piping was overstated by 235,441 kg. This mass of carbon steel has been removed. The adjusted total quantity of piping included here from Table A5-2D is 2,528,303 kg, in very close agreement with the total of 2,528,900 kg noted in NRC 1994b (Table C.5). Aluminum piping was excluded; only carbon steel and stainless steel are included.
- Some of the reactor internals are presumed to be surface-contaminated rather than activated. A listing of these materials was obtained from NRC 1994b, Table E.4.

Table A5-2A. Reference BWR Contaminated Steel Inventories in the Reactor Building

**Containment Instrument Air System**

Number	Component	Mass (kg)	
		Each	Total
22	Instrument air accumulators	129	2,838
1	6" check valve	68	68
1	6" valve	82	82
222	Valves (¾ - 2" dia.)	NA	4,008
Total			6,996

**Control Rod Drive System**

Number	Component	Mass (kg)	
		Each	Total
460	CRD Blade	182	83,720
225	CRD Mechanism	218	49,050
185	Direction Control set	36	6,660
370	Scram valve	32	11,840
210	Scram accumulator	64	13,440
2	CRD Pump	1,816	3,632
2	Scram Discharge Volume	908	1,816
2	Pump Suction Filter	182	364
2	CRD drive water filter	45	90
2,660	Valves (¾ - 4" dia.) & components	NA	48,830
Total			219,442

**Equipment Drain Processing System**

Number	Component	Mass (kg)	
		Each	Total
1	Waste demineralizer	907	907
1	Waste collector filter	1,812	1,812
1	Waste filter hold pump	318	318
1	Waste collector tank & educator	10,229	10,229
1	Waste collector pump	284	284
1	Spent resin tank	657	657
1	Spent resin pump	102	102
1	Waste surge tank & educator	18,282	18,282
1	Waste surge pump	284	284
2	Waste sample tank & educator	6,960	13,920
2	Waste sample pump	230	462
199	Valves (1 - 8" dia.)	NA	5,374
Total			52,631

Table A5-2A. Reference BWR Steel Inventories in the Reactor Building (continued)

**Fuel Pool Cooling and Cleanup System**

Number	Component	Mass (kg)	
		Each	Total
15	Spent Fuel Racks	18,424	276,360
1	Fuel Pool Liner	32,000	32,000
2	FPCC pumps	527	1,054
2	FPCC demineralizer	1,566	3,132
2	Skimmer Surge Tank	5,354	10,708
2	FPCC Heat Exchanger	2,038	4,076
1	Supp. Pool Cleanup Pump	527	527
2	Resin Tank Agitator	36	72
1	Fuel Pool Precoat Pump	284	284
1	(Precoat) Dust Evacuator	104	104
2	FPCC hold pump	195	390
1	FPCC Precoat Tank	227	227
1	FPCC Resin Tank	227	227
165	Valves (1 - 10" dia.) & components	NA	8,038
64	Turnbuckles	92.	5,922
Total			343,121

**High Pressure Core Spray System**

Number	Component	Mass (kg)	
		Each	Total
2	24" Suction strainer	172	344
1	12 x 24" pump	27,410	27,410
1	1 x 2" pump	82	82
61	Valves (24 - ¾" dia.)	NA	18,459
Total			46,295

**HVAC Components System**

Number	Component	Mass (kg)	
		Each	Total
7	Containment Recirculation Fans	636	4,452
5	Containment Fan Coil Units	1,500	7,500
17	Emergency Fan Foil Units	955	16,235
NA	Ducts (750 linear meters)	NA	29,975
Total			58,162

Table A5-2A. Reference BWR Steel Inventories in the Reactor Building (continued)

**Low Pressure Core Spray System**

Number	Component	Mass (kg)	
		Each	Total
2	24" Suction Strainer	172	344
1	Vent Strainer	43	43
1	14 x 24" pump	9,625	9,625
1	Pump pit	182	182
1	1 x 2" pump	82	82
45	Valves (¾ - 24" dia.)	NA	10,523
Total			20,799

Table A5-2A. Reference BWR Steel Inventories in the Reactor Building (continued)

**Main Steam System**

Number	Component	Mass (kg)	
		Each	Total
1	HP Turbine	224,982	224,982
3	LP Turbine	371,130	1,113,390
2	RFW Turbine	18,160	36,320
1	Main Condenser	1,570,000	1,570,000
2	Steam Chest	55,565	111,130
1	Gland Steam Condenser	1,861	1,816
2	Ejector Condenser	1,816	3,632
1	Moisture Separator	908	908
1	Bypass Valve Assy.	5,266	5,266
2	Moisture Separator Reheater	208,386	416,772
2	Steam Evaporator	13,472	26,944
4	2" Strainer	43	172
2	4" Strainer	100	200
2	12 Stop Check	894	1,788
4	30" Flow Restrictor	1,362	5,448
18	8" AO SRV	921	16,578
36	10" Vacuum Breakers	408	14,724
18	24 x 12" Quenchers	749	13,482
1	72" MOV	51,900	51,900
6	Stop Valves	18,160	108,960
6	Interceptor Valves	4,540	27,240
8	30" MSIV	636	5,088
1	24" MOV	3,223	3,223
4	24" Relief Valve	4,190	16,760
2	20" Relief Valve	3,496	6,992
1	16" MOV	1,920	1,920
2	16" Check Valve	1,534	3,068
2	14" Check Valve	1,008	2,016
2	14" MOV	1,253	2,506
2	12" MOV	1,135	2,270
8	28" HOV Governor Valves	3,632	29,056
951	Valves (1 - 10" dia.)	NA	69,592
<b>Total</b>			<b>3,894,143</b>

Table A5-2A. Reference BWR Steel Inventories in the Reactor Building (continued)

**Main Steam Leakage Control System**

Number	Component	Mass (kg)	
		Each	Total
8	½" Valve	11	88
28	¾" Valve	14	392
2	1" Flow Element	17	34
14	1" Valve	23	322
4	1" Check Valve	17	68
4	1-½" Flow Element	21	84
20	1-½" MOV	23	460
2	1-½" Check Valve	21	42
2	MSLC Fan (3")	204	408
4	MSLC Heater	57	227
Total			2,125

**Miscellaneous Items from Partial Systems**

Number	Component	Mass (kg)	
		Each	Total
5	TIP Drive Unit	361	1,805
2	TIP Indexing Unit	9	72
5	TIP Ball Valve	23	115
5	Explosive Shear Valve	23	115
5	TIP Shield Pig	154	770
1 set	TIP Tubing	295	295
2	Hogger (mechanical vacuum pump)	3,171	6,342
1	Refueling Bridge	24,918	24,918
1	Reactor Service Platform	5,210	5,210
2	Refueling Mast	295	590
1	CRD Removal Turntable	2,492	2,492
1	CRD Removal Trolley	173	173
1	Incore Instrument Grapple	36	36
1	Fuel Support Piece Grapple	41	41
1	Control Blade Grapple	59	59
1	Spent Fuel Pool Work Table	445	445
2	Fuel Prep Machine	381	762
1	Channel Measurement Machine	422	422
185	Blade Guide	73	13,505
1	In Core Instrument Strongback	100	100
1	Manipulators, crows feet, etc.	136	136
20	In-vessel Manipulator Poles	14	280
9	Drywell Recirculation Fan	254	2,286
4	Stud Tensioner	1,044	4,176

Table A5-2A. Reference BWR Steel Inventories in the Reactor Building (continued)

Number	Component	Mass (kg)	
		Each	Total
1	RPV Head Strongback	2,134	2,134
1	Dryer/Separator Strongback	60	60
Total			67,339

**Reactor Building, Closed Cooling Water System**

Number	Component	Mass (kg)	
		Each	Total
3	RBCCW Heat Exchanger	7,460	22,380
2	RBCCW Pump	1,597	3,194
1	RBCCW Surge Tank	531	531
5	Drywell Cooler & Fans	745	3,725
1	14" MOV	449	449
3	12" valve	331	993
7	10" MOV	250	1,750
6	10" Valve	250	1,500
4	10" Check Valve	168	672
1	10" Flow Element	16	672
218	Valves (¾ - 8" dia.)	NA	6455
Total			42,321

**Reactor Building Equipment and Floor Drains System**

Number	Component	Mass (kg)	
		Each	Total
4	Drain Sump Pump	523	2,908
3	Drain Sump Pump	650	1,950
1	Equipment Drain Heat Exchanger	680	680
1	Drywell Equipment Drain HX	680	680
97	Valves (¾ - 6" dia.)	NA	3,725
Total			9,943

Note: system average contamination level: medium

Table A5-2A. Reference BWR Steel Inventories in the Reactor Building (continued)

**Reactor Core Isolation Cooling System**

Number	Component	Mass (kg)	
		Each	Total
1	Pelton Wheel Turbine/Pump	6,260	6,260
1	Barometric Condenser	553	553
1	Condenser Pump	679	679
1	Water Leg Pump	216	216
1	Vacuum Pump	453	453
1	Vacuum Tank	407	407
1	Steam Condensate Drip Pot	109	109
2	8" Suction Strainers	66	112
4	¾" Steam Trap	25	100
1	10" Exhaust Drip Chamber	309	309
1	Turbine Exhaust Sparer	241	241
284	Valves (¾ - 10" dia.)	NA	12,115
Total			21,554

**Reactor Coolant Cleanup System**

Number	Component	Mass (kg)	
		Each	Total
2	RWCU Pump	590	1,180
2	Clean Up Hold Pump	534	1,068
1	Clean Up Precoat Pump	454	454
1	Sludge Discharge Pump	284	284
1	Decant Pump	102	102
2	Non-regenerative HX	4,086	8,172
3	Regenerative HX	4,131	12,394
2	Filter Demineralizer	3,178	6,356
1	Batch Tank	227	227
2	Phase Separator Tank	2,043	4,086
1	Precoat Agitator	27	27
259	Valves (½ - 6" dia.)	NA	13,170
Total			47,520

Table A5-2A. Reference BWR Steel Inventories in the Reactor Building (continued)

**Residual Heat Removal System**

Number	Component	Mass (kg)	
		Each	Total
3	RHR Pump	7,792	23,376
1	Water Leg Pump	397	397
1	Drywell Upper Spray Ring Header	8,562	8,562
1	Drywell Lower Spray Ring Header	13,063	13,063
1	Wetwell Spray Ring Header	5,347	5,347
6	Suppression Pool Suction Strainers	195	1,171
2	RHR Heat Exchanger	29,190	58,380
3	24" MOV	7,150	21,450
2	20" MOV	4,086	8,172
1	20" Valve	4,086	4,086
11	18" MOV	4,603	50,633
8	18" Valve	4,603	36,828
5	18" Check	2,762	13,810
3	18" Flow Element	2,762	8,286
2	18" Restricting Orifice	2,762	5,524
4	16" MOV	2,724	10,896
4	14" MOV	1,544	6,176
2	14" Valve	1,544	3,088
3	14" Air Operated Check	971	2,913
2	14" Restricting Orifice	944	1,888
3	12" MOV	1,017	3,051
3	12" Valve	1,017	3,051
3	12" Air Operated Check	581	1,743
1	12" Restricting Orifice	549	549
2	10" Valve	731	1,462
1	10" Check Valve	399	399
324	Valves (¾ - 3" dia.)	NA	12,100
<b>Total</b>			<b>306,401</b>

**Miscellaneous Drains System**

Number	Component	Mass (kg)	
		Each	Total
1	Misc. Drain Tank #1	487	487
1	Misc. Drain Tank #2 w/ pumps	654	654
174	Valves (1" - 6" dia.)	NA	6,509
<b>Total</b>			<b>7,650</b>

Table A5-2B. Reference BWR Contaminated Steel Inventories in the Radwaste Building

**Chemical Waste Processing System**

Number	Component	Mass (kg)	
		Each	Total
2	Chemical Waste Tank	5,024	10,048
2	Detergent Drain Tank	1,834	3,668
2	Detergent Drain Pump	175	350
2	Concentrator Feed Pump	254	508
2	Chemical Waste Pump	478	956
1	Detergent Drain Filter	1,133	1,133
2	Chemical Addition Pump	257	454
2	Tank Agitators	36	72
2	Chemical Addition Pump	175	350
2	Distillate Tank	5,024	10,048
2	Distillate Tank Pump	230	460
1	Distillate Polishing Demineralizer	454	454
2	Decon Solution Concentrator	3,405	6,810
2	Decon Sol. Concentrator Tank	711	1,422
2	Decon Conc. Recycle Pump	843	1,686
2	Decon Concentrator Condenser	2,305	4,610
2	Decon Concentrator Pre Heater	3,143	6,286
1	Decon Concentrator Waste Pump	254	254
2	Chemical Waste Stream Mixer	111	222
2	Condensate Receiver Tank	950	1,900
2	Condensate Receiver Tank Pump	102	204
293	Valves (1" - 8" dia.)	NA	7,654
Total			59,549

Table A5-2B. Reference BWR Contaminated Steel Inventories in the Radwaste Building  
(continued)

**Condensate Demineralizers System**

Number	Component	Mass (kg)	
		Each	Total
6	Filter Demineralizers	5,300	31,800
6	Resin Trap (w/ basket)	953	5,718
6	Demin Hold Pump	159	954
1	Condensate Backwash Receiving Tank	6,912	6,912
1	Sludge Disc Mixing Pump	420	420
1	Condensate Decant Pump	420	420
1	Condensate Backwash Transfer Pump	420	420
2	Condensate Phase Separator Tank	3,178	6,356
363	Valves & Components (1 - 36")	NA	36,783
Total			89,783

**HVAC Components System**

Number	Component	Mass (kg)	
		Each	Total
11	Radwaste Air Handlers	1,327	14,597
3	Filter Units and Fans	11,123	33,369
NA	Ducts (1,980 linear meters)	NA	54,785
Total			102,751

**Radioactive Floor Drain Processing System**

Number	Component	Mass (kg)	
		Each	Total
1	Floor Drain Demineralizer	907	907
1	Floor Drain Sample Tank	6,960	6,960
1	Floor Drain Sample Pump	230	230
1	Floor Drain Filter Aid Pump	118	118
1	Floor Drain Filter Hold Pump	317	317
1	Floor Drain Filter	1,812	1,812
1	Floor Drain Collector Pump	284	284
1	Floor Drain Collector Tank	10,229	10,229
1	Waste Decant Pump	102	102
1	Waste Sludge Discharge Mixing Pump	288	288
1	Waste Sludge Phase Sep Tank	5,490	5,490
171	Valves (½ - 8" dia.)	NA	4,500
Total			31,237

Table A5-2B. Reference BWR Contaminated Steel Inventories in the Radwaste Building  
(continued)

**Rad Waste Building Drains System**

Number	Component	Mass (kg)	
		Each	Total
1	Chemical Drain Sump Pump	666	666
2	EDR Sump Pump	585	1,170
3	FDR Sump Pump	483	1,449
38	Valves & components (¾ - 3" dia.)	NA	612
Total			3,897

**Sample Systems**

Number	Component	Mass (kg)	
		Each	Total
4	Sample Racks	82	327
4	Fume Hoods with Sink	118	472
4	Constant Temperature Baths	64	254
3	Valves	NA	95
Total			1,148

**Standby Gas Treatment System**

Number	Component	Mass (kg)	
		Each	Total
42	2" Check Valve	25	1,050
2	18" Valves	2,225	4,450
14	18" Damper, MOV	563	7,882
2	18" Damper, AOV	563	1,126
2	SGT Filter Unit	8,898	17,796
8	¾" Valve	14	112
4	Blower	2,043	8,172
Total			40,588

Table A5-2C. Reference BWR Contaminated Steel Inventories in the Turbine Building

**Feed and Condensate System**

Number	Component	Mass (kg)	
		Each	Total
2	Turbine and Feed Pump	54,821	109,642
3	Condensate Booster Pump	12,006	36,018
3	Condensate Pump	21,883	65,649
1	Gland Exhaust Condenser	4,032	4,032
2	Air Ejector Condenser & Ejectors	6,614	13,228
1	Off Gas Condenser	897	897
2	#6 Feedwater Heater	73,394	146,788
2	#5 Feedwater Heater	68,863	137,726
3	#4 Feedwater Heater	35,338	106,014
3	#3 Feedwater Heater	50,288	150,864
3	#2 Feedwater Heater	51,194	153,582
3	#1 Feedwater Heater	62,974	188,922
2	Condensate Storage Tanks	50,475	100,950
2	Seal Steam Evaporator	13,451	26,902
2	Seal Steam Evaporator Blowdown Cooler	213	426
407	Valves (½ - 24" dia.)	NA	350,478
<b>Total</b>			<b>1,592,118</b>

**Extraction Steam System**

Number	Component	Mass (kg)	
		Each	Total
6	24" MOV	3,223	19,338
6	24" Stop Check	2,583	15,498
10	20" MOV	2,633	26,330
10	20" Stop Check	2,107	21,070
5	18" MOV	2,225	11,125
5	18" Stop Check	1,780	8,900
2	16" MOV	1,920	3,840
2	16" Stop Check	1,536	3,072
6	8" AOV	511	3,066
4	6" MOV	267	1,068
4	4" AOV	122	488
10	2" AOV	34	340
12	2" Restricting Orifice	25	300
85	Inst. root (typ ¾" globe)	15	1,275
<b>Total</b>			<b>115,710</b>

Table A5-2C. Reference BWR Contaminated Steel Inventories in the Turbine Building  
(continued)

**Heater Vents and Drains System**

Number	Component	Mass (kg)	
		Each	Total
2	Steam Evaporator Drain Tank	898	1,796
2	Heater Drain Tank	6,274	12,548
2	Moisture Separator Drain Tank	1,715	3,430
4	Reheater Drain Tank	1,134	4,536
4	Reheater Drain Tank	6,274	25,096
841	Valves & Components (1-½ - 20" dia.)	NA	151,369
Total			198,775

**HVAC Components System**

Number	Component	Mass (kg)	
		Each	Total
4	Exhaust Air Units	4,900	19,600
10	Air Handlers & Filter Units	829	8,290
NA	Ducts (1,000 linear meters)	NA	48,503
Total			76,393

Table A5-2C. Reference BWR Contaminated Steel Inventories in the Turbine Building  
(continued)

**Offgas (Augmented) System**

Number	Component	Mass (kg)	
		Each	Total
2	Catalytic Recombiner Vessel	453	906
2	Preheater Heat Exchanger	538	1,076
1	Offgas Condenser	897	897
1	Water separator	271	271
2	Lab Vacuum Pump	45	90
2	Lab Vacuum Pump	45	90
2	Water Separator	1,359	1,718
8	Charcoal Ads. Vessel	4,077	32,615
2	Cooler Condenser	906	1,812
2	Pre-filter Vessel	1,133	2,266
2	After-filter Vessel	1,133	2,266
4	Desiccant Dryers	622	2,488
2	Dryer Heater	3,625	7,250
2	Dryer Chiller	2,265	4,530
2	Regenerator Blower	636	1,272
9	6" Air Operated Valve	82	738
18	6" Valve	82	1,476
175	Valves (¾ - 4" dia.)	NA	2,722
<b>Total</b>			<b>64,483</b>

**Recirculation System**

Number	Component	Mass (kg)	
		Each	Total
2	Recirculation Pump w/motor	43,617	87,234
2	24" HOV	4,767	9,534
4	24" MOV	4,767	19,068
258	Valves (¾ - 2" dia.)	NA	4,700
<b>Total</b>			<b>120,536</b>

**Turbine Building Drains System**

Number	Component	Mass (kg)	
		Each	Total
4	Equipment Drain Sump Pump	586	2,344
4	Floor Drain Sump Pump	484	1,936
25	Small Valves (2 - 3" dia.)	NA	450
<b>Total</b>			<b>4,730</b>

Table A5-2D. Reference BWR Piping Inventories

**Reactor Building**

Piping Material	Outside Diameter (mm)						Total
	<60	73 - 254	305 - 406	457 - 610	660 - 762	914 - 1,829	
Carbon Steel							
Length (m)	2,323	3,922	505	952	55	—	
Mass (kg)	8,479	110,368	61,897	127,160	14,850	—	322,754
Stainless Steel							
Length (m)	6,169	500	54	—	—	—	
Mass (kg)	18,674	4,551	2,143	—	—	—	25,368
Total mass (kg)							348,122

**Primary Containment**

Piping Material	Outside Diameter (mm)						Total
	<60	73 - 254	305 - 406	457 - 610	660 - 762	914 - 1,829	
Carbon Steel							
Length (m)	263	1,084	211	1,239	374		
Mass (kg)	1,366	63,181	29,760	554,877	145,312		794,496
Stainless Steel							
Length (m)	3,850	110	64	55	—	—	
Mass (kg)	10,603	3,411	8,789	21,440	—	—	44,243
Total mass (kg)							838,739

**Turbine Building**

Piping Material	Outside Diameter (mm)						Total
	<60	73 - 254	305 - 406	457 - 610	660 - 762	914 - 1,829	
Carbon Steel							
Length (m)	3,336	2,632	1,647	1,832	465	559	
Mass (kg)	14,153	115,525	176,600	386,321	240,698	234,882	1,168,179
Stainless Steel							
Length (m)	—	38	103	—	—	—	
Mass (kg)	—	1,474	6,421	—	—	—	7,895
Total mass (kg)							1,176,074

Table A5-2D. Reference BWR Piping Inventories (continued)

**Radwaste and Control Buildings**

Piping Material	Outside Diameter (mm)						Total
	<60	73 - 254	305 - 406	457 - 610	660 - 762	914 - 1,829	
Carbon Steel							
Length (m)	3,087	3,337	338	12	—	99	
Mass (kg)	10,267	75,778	29,221	4,584	—	29,410	149,260
Stainless Steel							
Length (m)	1,150	1,026	55	—	—	—	
Mass (kg)	4,747	10,164	1,756	—	—	—	16,667
Total mass (kg)							165,927



**APPENDIX B**  
**SCREENING SEALED SOURCE FACILITIES**



## APPENDIX B

### SCREENING SEALED SOURCE FACILITIES

The 1996 document entitled *Technology, Safety, & Cost of Decommissioning a Reference Large Irradiator & Reference Sealed Sources*, NUREG/CR-6280, provides the information needed to assess the potential significance of this category of licensee. In summary, the report revealed the following regarding a reference large irradiator facility:

- As of 1996, there were 45 commercial large irradiators in United States and 9 shut-down or decommissioned facilities.
- The reference facility represents a composite of existing facilities.
- The facilities use radioactive materials or electronic machines (x-ray or accelerators) to produce very high radiation dose levels. Usually C-60 or Cs-137 is contained in sealed sources or capsules made of stainless steel. This study focuses on large commercial irradiators (Category IV - Panoramic, Wet-Source Storage Irradiators) with Co-60 capsules. (Wet-storage has been used for Cs-137 [CsCl] but results in leakage.) Dry-source irradiators are not discussed in this report.
- A panoramic, wet-source storage irradiator is a “controlled human access irradiator in which a sealed source is contained in a storage pool (usually containing water).” It is shielded when not in use.
- To irradiate the product, the sources are raised from the storage pool to the radiation room. Irradiation is mostly used to sterilize disposable medical/surgical products and supplies. The sources are also used for food irradiation, polymerization of plastics, and research.
- The reference facility is a warehouse-type building of ~30,000 ft<sup>2</sup> and divided into:
  - the warehouse and storage area for product before and after irradiation (75-85 percent of total area)
  - the irradiation cell (10-15 percent of total area), which includes massive shielding, usually of reinforced concrete, to limit the external radiation field to <0.25 mrem/hr, and a below-grade concrete structure containing a stainless-steel lined pool of water
  - the automated control system

- Radiation fields inside the room do not exceed 2 mrem/hr
- Reference storage pool is 16 ft long, 20 ft deep, and 6 ft wide

The report also revealed the following regarding decommissioning large irradiator facilities. Decommissioning is usually simple because there is no contamination. The monitoring and sampling of pool water allows early detection of a leak before it can escalate. The pool walls and pool liner prevent contamination from leaking out. In cases of Co-60 leakage into the storage pool and throughout the water treatment system, the water and pool walls can be decontaminated. The resins and filters used in this process are packaged and disposed of at an LLW site.<sup>1</sup>

Decommissioning scenarios discussed in the report include:

- No leaking irradiation sources (decontamination of the facility not required)
- One of the Co-60 source capsules has leaked into the storage pool (requires facility decontamination)

The source can then be transferred to the manufacturer or to another user or disposed of as low-level radioactive waste.

The report summarized the cost for decommissioning a reference large irradiator as follows (all in 1993 dollars):

- Return sources to supplier: \$231,000
- Removal of source capsules from a clean facility: \$32,280
- Detection and isolation of a leaking Co-60 source capsule in panoramic wet storage gamma irradiator: \$39,960
- Cleanup of contaminated facility: pool can be cleaned by demineralizing the pool water and reducing the activity: \$35,370

Pool contamination scenarios are described as follows:

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<sup>1</sup> Companies with pool contamination experience at irradiators with Co-60 source leaks include: International Neutronics, Inc., Dover, NJ; Isomedix, Parsippany, NJ; Radiation Technology, Inc., Rockaway, NJ.

- LOW - 30 pCi/ml - water treatment equipment of facility could remove contamination: \$75,651
- MEDIUM - 2,000 pCi/ml - requires portable water treatment equipment with greater capacity: \$92,026
- HIGH - 200,000 pCi/ml: \$118,871

Disposal scenarios and costs (in 1993 dollars) are described in Table B-1:

Table B-1. Disposal Scenarios and Costs for Decommissioning Reference Large Irradiator (in 1993 dollars)

Source Activity (MCi)	Cost for Return to Supplier (from Table 4.5)	Cost for Disposal at Barnwell, SC (Table 4.7)	Cost for Disposal at Richland, WA (Table 4.6)
0.5	\$78,788	\$740,418	\$330,546
1	\$127,680	\$1,218,897	\$595,416
2	\$231,040	\$2,413,475	\$1,166,513
4	\$434,520	\$4,799,389	\$2,305,465
6	\$638,000	\$7,185,304	\$3,444,418
8	\$844,720	\$9,574,459	\$4,586,610
10	\$1,048,200	\$11,960,373	\$5,725,563
12	\$1,251,680	\$14,346,288	\$6,864,515

Source: NUREG/CR-6280 1996

With regard to sealed sources, the report provides the following information:

- Sealed sources are used for a variety of purposes ranging from measuring the thickness of asphalt during road construction to irradiating specific cells in the human body for medical purposes greater than class C (GTCC). This report does not address Classes A, B, & C sealed sources but they should be similar in distribution.
- Any radioactive byproduct material is enclosed in a capsule designed to prevent leakage or escape of the byproduct material.
- More common sealed sources, which are used as reference sources in this report, include Fe-55, Ni-63, Cs-137, Am-241 and I-125.
- The total number of commercial sealed sources may be 2 million, with 129,000 licensees. (Licensees have ~5.5 sources each.)

The reference sealed sources discussed in the report are listed in Table B-2.

Table B-2. Types of Sealed Sources for Decommissioning Evaluated in NUREG/CR-6280

Source type	Reference device	Isotope
X-Ray	X-Ray Fluorescence	Fe-55
Low Intensity $\beta\gamma$	Gas chromatograph	Ni-63
High Intensity $\beta\gamma$	Thickness gauges	Cs-137
Neutron/ X-ray	Moisture gauges	Am-241
Medical Applications	Radioactive implants	I-125

The possible decommissioning outcomes addressed in the report are as follows:

- Transfer to another user or manufacturer
- Packaged for disposal at LLW site
- Packaged for storage while waiting for a disposal facility to open

For this study, decontaminating a device that has a leaked sealed source assumes that the device would contaminate only itself and the workbench on which the device was sitting. (The workbench was assumed to be 0.9 m high, 4.6 m long, 0.75 m wide.) The decontamination costs for these surfaces (washing, scrubbing, etc.) are estimated in the report to be \$2,800 to \$3,200 (in 1993 dollars).

Estimated overall costs (in 1993 dollars) for decommissioning a reference small sealed source appear in Table B-3.

Table B-3. Estimated Costs of Various Decommissioning Scenarios for Small Sealed Sources (in 1993 dollars)

Item	Ship to new user or manufacturer	Disposal at LLW site	Disposal at LLW site with decon	Storage	Storage with decon
X-Ray, Fe-55	\$2,700	\$4,700	\$7,500	\$2,700	\$6,000
Low Intensity $\beta\gamma$ , Ni-63	\$2,700	\$4,700	\$7,500	\$2,700	\$6,000
High Intensity $\beta\gamma$ , Cs-137	\$2,700	\$4,700	\$7,500	\$2,700	\$6,000
Neutron/ X-ray, Am-241	\$2,700	N/A	N/A	\$2,700	\$6,000
Medical Applications, I-125	\$2,700	N/A	N/A	\$1,900	\$5,000

On this basis, it can be assumed that sealed source licensees would be largely unaffected by the clearance alternatives, and thereby they are eliminated from further consideration.

**APPENDIX C**  
**NRC MATERIALS LICENSEES**



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This appendix consists of four tables describing NRC materials licensees developed as EXCEL spreadsheets. Table C-1 (hospitals.xls) lists large licensed medical facilities including facility name, location, NRC license number, NRC program code, number of employees, SIC code and annual revenues. Table C-2 (nuclear.xls) provides similar data for nuclear pharmacies, Table C-3 (sealed.xls) for sealed source and radio-labeled compound manufacturers, and Table C-4 (R&d labs.xls) for research and development laboratories.



Table C-1. NRC-Licensed Hospitals

LIC. NO	APP. NAME	CITY	ST.	Prog. Code	Employees	Revenue	D&B SIC
22-04588-01	ABBOTT NORTHWESTERN HOSPITAL	MINNEAPOLIS	MN	02230	5167	\$0	8062
37-00432-02	ABINGTON MEMORIAL HOSPITAL	ABINGTON	PA	02120	4100	\$302,643,636	8062
34-18796-01	ADAMS COUNTY HOSPITAL	WEST UNION	OH	02120	304	\$882,230	8062
13-26133-01	ADAMS COUNTY MEMORIAL HOSPITAL	DECATUR	IN	02121	550	\$29,399,688	8062
34-03362-02	AKRON GENERAL MEDICAL CENTER	AKRON	OH	02120	2889	\$298,279,000	8062
22-15252-01	ALBERT LEA MEDICAL	ALBERT LEA	MN	02120	980	\$5,188,898	8062
52-24916-01	ALEJANDRO OTERO LOPEZ HOSPITAL	MANATI	PR	02120	0	\$0	9999
24-01381-01	ALEXIAN BROTHERS HOSPITAL	ST. LOUIS	MO	02120	770	\$0	8062
07-16199-01	ALFRED I.DUPONT HOSP. FOR CHILDREN	WILMINGTON	DE	03620	1800	\$0	8062
21-18659-01	ALLEGAN GENERAL HOSPITAL	ALLEGAN	MI	02120	284	\$22,879,394	8062
37-01317-04	ALLEGHENY GENERAL HOSPITAL	PITTSBURGH	PA	02230	0	\$0	9999
37-01317-01	ALLEGHENY GENERAL HOSPITAL	PITTSBURGH	PA	03610	0	\$0	9999
37-17688-01	ALLEGHENY UNIV. HOSPITALS-CANONSBUR	CANONSBURG	PA	02120	0	\$0	9999
37-18104-01	ALLEGHENY UNIVERSITY HOSPITAL	MONROEVILLE	PA	02120	0	\$0	5947
34-26730-01	ALLEN MEMORIAL HOSPITAL	OBERLIN	OH	02120	300	\$17,115,785	8062
34-14164-01	ALLIANCE COMMUNITY HOSPITAL	ALLIANCE	OH	02120	0	\$0	9999
21-17754-01	ALPENA GENERAL HOSPITAL	ALPENA	MI	02120	799	\$36,600,000	8062
37-11826-01	ALTOONA HOSPITAL	ALTOONA	PA	02230	1750	\$137,299,516	8062
13-17943-01	ANCILLA HEALTH CARE, INC.	MISHAWAKA	IN	02120	800	\$65,862,000	8062
48-15909-01	APPLETON MEDICAL CENTER	APPLETON	WI	02120	1230	\$57,000,000	8062
37-02569-01	ARMSTRONG COUNTY MEMORIAL HOSPITAL	KITTANNING	PA	02120	870	\$52,206,999	8062
24-15095-01	ARMY, DEPARTMENT OF THE	FT. LEONARD WOOD	MO	02120	0	\$0	8062
01-32063-01	ARMY, DEPARTMENT OF THE	FORT MCCLELLAN	AL	03610	250	\$0	8062
01-02861-05	ARMY, DEPARTMENT OF THE	FT. MCCLELLAN	AL	03610	250	\$0	8062
SUD-311	ARMY, DEPARTMENT OF THE	WEST POINT	NY	11300	400	\$0	8062
42-05255-07	ARMY, DEPARTMENT OF THE	EL PASO	TX	02110	0	\$0	8062
52-11810-02	ASHFORD PRESBYTERIAN COMM. HOSPITAL	SAN JUAN	PR	02120	546	\$32,788,571	8062
37-17331-01	ASHLAND REGIONAL MEDICAL CENTER	ASHLAND	PA	02120	276	\$18,848,949	8062
34-01386-01	ASHTABULA COUNTY MEDICAL CENTER	ASHTABULA	OH	02120	900	\$80,037,592	8062
29-08622-04	ATLANTIC CITY MEDICAL CENTER	ATLANTIC CITY	NJ	02120	2500	\$210,644,311	8062
29-03308-01	ATLANTIC HEALTH SYSTEM, OVERLOOK HSP	SUMMIT	NJ	02120	0	\$0	9999
24-15122-01	AUDRAIN MEDICAL CENTER	MEXICO	MO	02120	800	\$50,594,228	8062
45-03550-01	AUGUSTA MEDICAL CENTER	FISHERSVILLE	VA	02120	1350	\$102,055,807	8062
34-01312-01	AULTMAN HOSPITAL	CANTON	OH	02120	3027	\$184,347,024	8062
48-18654-01	AURORA MED. CTR. SHEBOYGAN CNTY/INC	SHEBOYGAN	WI	02120	800	\$36,700,000	8062
40-16571-01	AVERA MCKENNAN HOSPITAL	SIoux FALLS	SD	02120	2140	\$185,704,160	8062
40-18000-01	AVERA ST. LUKE'S	ABERDEEN	SD	02120	1059	\$75,157,612	8062
13-00951-03	BALL MEMORIAL HOSPITAL INCORPORATED	MUNCIE	IN	02230	2108	\$234,252,666	8062
11-27384-01	BANNOCK REGIONAL MEDICAL CENTER	POCATELLO	ID	02120	725	\$61,780,551	8062
35-13821-02	BAPTIST HEALTHCARE OF OKLAHOMA, INC.	ENID	OK	02120	300	\$0	8062
24-06806-01	BAPTIST MEDICAL CENTER	KANSAS CITY	MO	02120	1500	\$126,077,813	8062
21-16394-01	BARAGA COUNTY MEMORIAL HOSPITAL	L'ANSE	MI	02120	170	\$12,317,563	8062
34-01922-02	BARBERTON HEALTH SYSTEM, LLC	BARBERTON	OH	02120	1200	\$93,000,000	8062
29-17895-01	BARNERT HOSPITAL	PATERSON	NJ	02120	670	\$108,952,961	8062
24-26243-01	BARNES WEST COUNTY HOSPITAL	ST. LOUIS	MO	02120	300	\$31,167,031	8062
24-18968-01	BARNES-JEWISH ST. PETERS HOSPITAL	ST. PETERS	MO	02120	690	\$35,458,770	8062
37-19570-01	BARNES-KASSON HOSPITAL	SUSQUEHANNA	PA	02120	320	\$21,883,572	8062
34-15980-01	BARNESVILLE HOSPITAL ASSOC., INC.	BARNESVILLE	OH	02121	270	\$13,159,684	8062
25-29088-01	BARRETT MEMORIAL HOSPITAL	DILLON	MT	02120	150	\$9,345,941	8062
50-17686-01	BARTLETT MEMORIAL HOSPITAL	JUNEAU	AK	02121	0	\$0	9999
35-15500-01	BARTLETT MEMORIAL MEDICAL CTR.	SAPULPA	OK	02120	300	\$14,168,015	8062
24-18740-01	BATES COUNTY MEMORIAL HOSPITAL	BUTLER	MO	02220	200	\$9,379,865	8062
21-01354-04	BATTLE CREEK HEALTH SYSTEM	BATTLE CREEK	MI	02120	1882	\$124,787,000	8062
48-25971-01	BAY AREA MEDICAL CENTER	MARINETTE	WI	02120	570	\$48,365,521	8062
21-18585-01	BAY MEDICAL CENTER	BAY CITY	MI	02120	2000	\$125,690,000	8062
52-19112-01	BAYAMON FAMILY HOSPITAL CORP.	BAYAMON	PR	02120	0	\$0	9999
07-14850-01	BAYHEALTH MEDICAL CENTER,	DOVER	DE	02120	2000	\$166,399,425	8062
07-14900-01	BAYHEALTH MEDICAL CENTER,	MILFORD	DE	02120	0	\$0	8062
29-12253-01	BAYONNE HOSPITAL	BAYONNE	NJ	02230	10	\$0	8249
29-15175-01	BAYSHORE COMMUNITY HOSPITAL	HOLMDEL	NJ	02120	1000	\$77,194,147	8062
13-14823-01	BEDFORD REGIONAL MEDICAL CENTER	BEDFORD	IN	02120	390	\$9,001,099	8062
07-17792-01	BEEBE MEDICAL CENTER	LEWES	DE	02120	934	\$98,555,721	8062
21-02037-03	BELL MEMORIAL HOSPITAL	ISHPEMING	MI	02120	0	\$0	9999
52-25223-01	BELLA VISTA HOSPITAL	MAYAGUEZ	PR	02120	520	\$25,050,607	8062
34-14146-01	BELLEVUE HOSPITAL	BELLEVUE	OH	02120	350	\$24,915,195	8062
48-05006-03	BELLIN MEMORIAL HOSPITAL	GREEN BAY	WI	02120	1650	\$129,681,027	8062
48-11281-02	BELOIT MEMORIAL HOSPITAL	BELOIT	WI	02120	950	\$58,479,379	8062
25-12710-01	BENEFIS HEALTHCARE	GREAT FALLS	MT	02120	2000	\$129,473,583	8062
29-03217-01	BERGEN REGIONAL MEDICAL CENTER	PARAMUS	NJ	02120	1800	\$83,900,000	8062
34-24802-01	BERGER HOSPITAL	CIRCLEVILLE	OH	02120	5	\$0	8059
48-18864-01	BERLIN MEMORIAL HOSPITAL	BERLIN	WI	02120	700	\$40,922,857	8062

Table C-1. NRC-Licensed Hospitals

29-03047-01	BETH ISRAEL HOSPITAL	PASSAIC	NJ	02230	0	\$0	8099
34-10921-03	BETHESDA HOSPITAL	CINCINNATI	OH	02230	3000	\$215,304,000	8062
11-27459-01	BINGHAM MEMORIAL HOSPITAL	BLACKFOOT	ID	02121	260	\$15,105,610	8062
13-20449-01	BLACKFORD COUNTY HOSPITAL	HARTFORD CITY	IN	02121	0	\$0	9999
34-06295-02	BLANCHARD VALLEY HOSPITAL	FINDLAY	OH	02120	1250	\$93,547,059	8741
21-01424-03	BLODGETT MEMORIAL MEDICAL CENTER	GRAND RAPIDS	MI	02230	2270	\$185,566,905	8062
13-10408-02	BLOOMINGTON HOSPITAL	BLOOMINGTON	IN	02120	3800	\$158,627,560	8062
37-13181-01	BLOOMSBURG HOSPITAL (THE)	BLOOMSBURG	PA	02120	500	\$25,312,276	8062
47-19142-01	BLUEFIELD REGIONAL MEDICAL CENTER	BLUEFIELD	WV	02230	1040	\$70,372,866	8062
47-19142-02	BLUEFIELD REGIONAL MEDICAL CENTER	BLUEFIELD	WV	02300	1040	\$70,372,866	8062
45-04263-02	BON SECOURS	MECHANICSVILLE	VA	02120	700	\$0	8062
21-16425-01	BON SECOURS COTTAGE HEALTH SERVICE	GROSSE POINTE FARMS	MI	02120	500	\$0	8062
21-16868-01	BON SECOURS COTTAGE HEALTH SERVICES	GROSSE POINTE	MI	02120	1500	\$69,800,000	8062
45-00986-01	BON SECOURS-DEPAUL MEDICAL CENTER	NORFOLK	VA	02230	1400	\$79,934,000	8062
37-03387-02	BON SECOURS-HOLY FAMILY REGIONAL	ALTOONA	PA	02230	830	\$55,300,000	8741
45-18332-01	BON SECOURS-STUART CIRCLE HOSPITAL	RICHMOND	VA	02120	300	\$29,834,000	8062
24-01565-01	BOONE HOSPITAL CENTER	COLUMBIA	MO	02230	3000	\$0	8062
24-01565-02	BOONE HOSPITAL CENTER	COLUMBIA	MO	02300	3000	\$0	8062
21-12275-02	BORGESS MEDICAL CENTER	KALAMAZOO	MI	02110	2200	\$251,567,000	8062
24-16275-02	BOTHWELL REGIONAL HEALTH CENTER	SEDALIA	MO	02300	800	\$72,185,401	8062
24-16275-01	BOTHWELL REGIONAL HEALTH CENTER	SEDALIA	MO	02120	800	\$72,185,401	8062
21-08892-01	BOTSFORD GENERAL HOSPITAL	FARMINGTON HILLS	MI	02120	1937	\$178,887,054	8062
25-10994-04	BOZEMAN DEACONESS FOUNDATION	BOZEMAN	MT	02120	500	\$47,500,000	8062
37-00051-03	BRADFORD REGIONAL MEDICAL CENTER	BRADFORD	PA	02120	650	\$22,282,738	8062
06-17145-01	BRADLEY MEM. HOSPITAL & HEALTH CTR.	SOUTHINGTON	CT	02120	425	\$24,511,238	8062
37-01033-02	BRANDYWINE HOSPITAL	COATESVILLE	PA	02120	1300	\$66,006,326	8062
44-13760-01	BRATTLEBORO MEMORIAL HOSPITAL	BRATTLEBORO	VT	02120	400	\$25,673,930	8062
06-01060-01	BRIDGEPORT HOSPITAL	BRIDGEPORT	CT	02120	2050	\$197,451,000	8062
06-02057-01	BRISTOL HOSPITAL, INC.	BRISTOL	CT	02120	1200	\$78,973,618	8062
35-17414-01	BROKEN ARROW MED. CTR.	BROKEN ARROW	OK	02120	420	\$23,330,562	8062
21-13125-01	BRONSON METHODIST HOSPITAL	KALAMAZOO	MI	02120	2045	\$217,450,000	8062
40-19823-01	BROOKINGS HOSP. & BROOKVIEW MANOR	BROOKINGS	SD	02121	332	\$0	9431
34-18884-01	BROWN COUNTY GENERAL HOSPITAL	GEORGETOWN	OH	02120	292	\$22,127,395	8062
37-20624-01	BROWNSVILLE GENERAL HOSPITAL	BROWNSVILLE	PA	02120	300	\$20,093,247	8062
37-07722-04	BRYN MAWR HOSPITAL	BRYN MAWR	PA	02120	3353	\$157,300,000	8062
45-24824-01	BUCHANAN GENERAL HOSPITAL, INC.	GRUNDY	VA	02120	400	\$27,524,084	8062
34-15469-01	BUCYRUS COMMUNITY HOSPITAL	BUCYRUS	OH	02120	165	\$14,498,270	8062
29-16511-01	BURDETTE TOMLIN MEMORIAL HOSPITAL	CAPE MAY CRT. HOUSE	NJ	02120	950	\$76,269,682	8062
37-13548-01	BUTLER MEMORIAL HOSPITAL	BUTLER	PA	02121	1300	\$78,120,750	8062
21-00243-06	BUTTERWORTH HOSPITAL	GRAND RAPIDS	MI	02120	0	\$0	9999
47-00404-02	CABELL HUNTINGTON HOSPITAL	HUNTINGTON	WV	02120	1600	\$121,713,501	8062
48-17700-01	CALUMET MEDICAL CTR.	CHILTON	WI	02120	230	\$10,072,941	8062
22-18989-01	CAMBRIDGE MEDICAL CENTER	CAMBRIDGE	MN	02120	770	\$32,887,806	8062
47-09772-02	CAMDEN-CLARK MEMORIAL HOSPITAL	PARKERSBURG	WV	02120	1350	\$101,646,873	8062
24-32075-01	CAMERON COMMUNITY HOSPITAL	CAMERON	MO	02120	300	\$19,068,250	8062
49-18030-01	CAMPBELL COUNTY MEMORIAL HOSPITAL	GILLETTE	WY	02120	430	\$35,227,671	8062
29-01698-02	CAPITAL HEALTH SYSTEM AT MERCER	TRENTON	NJ	02120	1500	\$238,543,492	8062
24-12699-01	CAPITAL REGION MEDICAL CENTER	JEFFERSON CITY	MO	02120	1200	\$21,293,106	8062
45-17395-01	CAPITOL MEDICAL CENTER	RICHMOND	VA	02120	350	\$15,400,000	8062
37-02385-01	CARLISLE HOSPITAL	CARLISLE	PA	02300	1100	\$60,195,514	8062
37-02385-02	CARLISLE HOSPITAL	CARLISLE	PA	02120	1100	\$60,195,514	8062
21-26770-01	CARO COMMUNITY HOSPITAL	CARO	MI	02120	160	\$9,657,012	8062
21-16339-01	CARSON CITY HOSPITAL	CARSON CITY	MI	02120	460	\$29,781,681	8062
24-20234-02	CASS MEDICAL CENTER	HARRISONVILLE	MO	02120	218	\$17,922,371	8062
53-16929-01	CASTLE MEDICAL CTR.	KAILUA	HI	02120	1012	\$59,348,914	8062
13-01629-04	CAYLOR-NICKEL MEDICAL CENTER, INC.	BLUFFTON	IN	02300	575	\$28,576,471	8062
13-01629-03	CAYLOR-NICKEL MEDICAL CENTER, INC.	BLUFFTON	IN	02120	575	\$28,576,471	8062
45-02207-01	CENTRA HEALTH CORPORATION	LYNCHBURG	VA	02120	5000	\$235,200,000	8062
21-08966-01	CENTRAL MICHIGAN COMMUNITY HOSPITAL	MOUNT PLEASANT	MI	02120	519	\$37,518,318	8062
50-29075-01	CENTRAL PENINSULA GENERAL HOSPITAL	SOLDOTNA	AK	02121	0	\$0	9999
44-13353-01	CENTRAL VERMONT HOSPITAL	BERLIN	VT	02120	0	\$0	9999
37-13681-01	CENTRE COMMUNITY HOSPITAL	STATE COLLEGE	PA	02230	930	\$67,752,401	8062
52-25283-01	CENTRO CARDIOVASCULAR DE	SAN JUAN	PR	02120	300	\$41,500,000	8062
37-12771-01	CHAMBERSBURG HOSPITAL (THE)	CHAMBERSBURG	PA	02120	1700	\$104,681,840	8062
37-13798-01	CHARLES COLE MEMORIAL HOSPITAL	COUDERSPORT	PA	02120	587	\$39,439,349	8062
47-15473-02MD	CHARLESTON AREA MEDICAL CENTER	CHARLESTON	WV	02500	6000	\$392,303,000	8062
47-15473-01	CHARLESTON AREA MEDICAL CENTER	CHARLESTON	WV	02120	6000	\$392,303,000	8062
47-17745-01	CHARLESTON HOSPITAL	CHARLESTON	WV	02120	645	\$58,762,238	8062
21-32168-01	CHARLEVOIX AREA HOSPITAL	CHARLEVOIX	MI	02121	250	\$15,924,858	8062
06-08349-04	CHARLOTTE HUNGERFORD HOSPITAL	TORRINGTON	CT	02120	712	\$67,401,573	8062
21-20355-01	CHELSEA COMMUNITY HOSPITAL	CHELSEA	MI	02121	900	\$62,471,109	8062
45-16909-01	CHESAPEAKE GENERAL HOSPITAL	CHESAPEAKE	VA	02120	1700	\$134,990,054	8062

Table C-1. NRC-Licensed Hospitals

37-03390-03	CHESTER COUNTY HOSPITAL (THE)	WEST CHESTER	PA	02120	1000	\$88,454,442	8062
37-13919-01	CHESTNUT HILL HOSPITAL	PHILADELPHIA	PA	02120	1000	\$65,103,301	8062
34-03111-02	CHILDREN'S HOSPITAL	COLUMBUS	OH	02120	405	\$14,300,000	8741
34-09846-02	CHILDREN'S HOSPITAL MEDICAL	AKRON	OH	02120	1700	\$138,401,000	8069
21-03298-05	CHILDREN'S HOSPITAL OF MICHIGAN	DETROIT	MI	02120	2341	\$206,806,000	8069
45-23063-01	CHILDREN'S HOSPITAL OF THE	NORFOLK	VA	02121	1239	\$114,408,000	8069
48-03411-02	CHILDRENS HOSPITAL OF WISCONSIN	MILWAUKEE	WI	02120	2000	\$200,867,455	8069
34-13929-02	CHILDREN'S MEDICAL CENTER	DAYTON	OH	02120	1300	\$7,406,866	8069
24-15513-01	CHILDREN'S MERCY HOSPITAL	KANSAS CITY	MO	02120	2000	\$189,978,532	8069
08-03309-01	CHILDREN'S NATIONAL MEDICAL CENTER	WASHINGTON	DC	02110	2800	\$235,970,000	8741
29-17874-01	CHILTON MEMORIAL HOSPITAL	POMPTON PLAINS	NJ	02120	0	\$0	9999
45-15249-01	CHIPPENHAM AND JOHNSTON-WILLIS	RICHMOND	VA	02120	0	\$0	8062
21-20318-01	CHIPPEWA COUNTY WAR MEMORIAL HOSP.	SAULT STE. MARIE	MI	02120	450	\$30,947,924	8062
29-12664-01	CHRIST HOSPITAL	JERSEY CITY	NJ	02120	1100	\$108,450,387	8062
34-03831-02	CHRIST HOSPITAL (THE)	CINCINNATI	OH	02120	0	\$291,410,128	8062
24-13383-01	CHRISTIAN HOSPITAL NORTHEAST	ST. LOUIS	MO	02120	2452	\$206,636,215	8062
07-12153-02	CHRISTIANA CARE HEALTH SYSTEM	WILMINGTON	DE	02120	6500	\$567,133,494	8062
37-17502-01	CHS BERWICK HOSPITAL CORPORATION	BERWICK	PA	02120	800	\$30,585,788	8062
37-09016-01	CITIZENS GENERAL HOSPITAL	NEW KENSINGTON	PA	02120	800	\$39,652,384	8062
47-15501-01	CITY HOSPITAL	MARTINSBURG	WV	02121	800	\$53,688,168	8062
29-03163-03	CLARA MAASS MEDICAL CENTER	BELLEVILLE	NJ	02230	1649	\$105,127,000	8062
35-16298-01	CLAREMORE REGIONAL HOSPITAL, L.L.C.	CLAREMORE	OK	02120	426	\$19,000,000	8062
37-17215-01	CLARION HOSPITAL	CLARION	PA	02120	385	\$30,229,599	8062
13-12367-01	CLARK MEMORIAL HOSPITAL	JEFFERSONVILLE	IN	02120	1338	\$81,106,000	8062
37-12893-01	CLEARFIELD HOSPITAL	CLEARFIELD	PA	02120	700	\$42,780,926	8062
34-17397-01	CLERMONT MERCY HOSPITAL	BATAVIA	OH	02120	720	\$49,054,071	8062
34-00466-01	CLEVELAND CLINIC FOUNDATION	CLEVELAND	OH	02110	13000	\$1,146,856,000	8062
45-19406-01	CLINCH VALLEY MEDICAL CENTER	RICHLANDS	VA	02120	7	\$0	8069
52-19984-01	CLINICA DR PEREA, INC.	MAYAGUEZ	PR	02120	400	\$18,267,301	8062
13-26245-01	CLINTON CNTY HOSP. HLTH. SYSTEM,LLC	FRANKFORT	IN	02120	275	\$15,184,868	8062
34-18610-01	CLINTON MEMORIAL HOSPITAL	WILMINGTON	OH	02120	750	\$70,463,549	8062
34-18241-01	CLINTON MEMORIAL HOSPITAL	WILMINGTON	OH	02300	750	\$70,463,549	8062
45-17898-01	COLUMBIA ARLINGTON HEALTHCARE SYS.	RESTON	VA	02120	732	\$0	8062
45-01099-01	COLUMBIA ARLINGTON HOSPITAL	ARLINGTON	VA	02120	3000	\$140,700,000	8062
08-15994-01	COLUMBIA HOSP. FOR WOMEN MED. CTR.	WASHINGTON	DC	02120	700	\$48,722,386	8062
48-02417-01	COLUMBIA HOSPITAL	MILWAUKEE	WI	02120	1470	\$138,575,831	8062
45-17123-01	COLUMBIA PENTAGON CITY HOSPITAL	ARLINGTON	VA	02120	0	\$0	9999
45-21206-01	COLUMBIA PULASKI COMMUNITY HOSPITAL	PULASKI	VA	02120	450	\$27,683,097	8062
24-16281-01	COLUMBIA REGIONAL HOSPITAL	COLUMBIA	MO	02120	693	\$38,600,000	8062
47-11709-01	COLUMBIA ST. JOSEPH'S HEALTHCARE	PARKERSBURG	WV	02120	900	\$92,208,568	8062
45-03654-01	COLUMBIA/ALLEGHANY REGIONAL	LOW MOOR	VA	02120	450	\$23,000,000	8062
45-19745-01	COLUMBIA/HCA JOHN RANDOLPH, INC.	HOPEWELL	VA	02120	950	\$43,800,000	8062
45-15048-01	COLUMBIA/HCA RETREAT HOSPITAL	RICHMOND	VA	02120	320	\$31,783,592	8062
34-15682-01	COLUMBUS COMMUNITY HOSPITAL	COLUMBUS	OH	02121	600	\$31,207,048	8062
29-07213-03	COLUMBUS HOSPITAL	NEWARK	NJ	02120	900	\$66,242,000	8062
13-01631-05	COLUMBUS REGIONAL HOSPITAL	COLUMBUS	IN	02120	1400	\$118,241,322	8062
35-17144-01	COMANCHE COUNTY MEMORIAL HOSPITAL	LAWTON	OK	02120	1600	\$142,185,784	8062
34-15653-02	COMM. HOSP. OF WILLIAMS COUNTY, INC	BRYAN	OH	02121	0	\$0	9999
34-15389-01	COMM. HOSP. SPRINGFIELD & CLRK CNTY	SPRINGFIELD	OH	02120	0	\$0	9999
37-12808-02	COMMUNITY GEN. OSTEOPATHIC HOSPITAL	HARRISBURG	PA	02120	0	\$0	9999
21-16642-01	COMMUNITY HEALTH CTR. OF BRANCH CTY	COLDWATER	MI	02121	550	\$36,549,444	8062
34-04474-01	COMMUNITY HEALTH PARTNERS	LORAIN	OH	02120	950	\$0	8062
21-26648-01	COMMUNITY HOSPITAL	WATERVLIET	MI	02120	185	\$6,300,000	8062
13-15882-01	COMMUNITY HOSPITAL (THE)	MUNSTER	IN	02230	1200	\$160,525,849	8062
13-10205-01	COMMUNITY HOSPITAL OF ANDERSON	ANDERSON	IN	02120	950	\$21,126,644	8062
37-12495-01	COMMUNITY HOSPITAL OF LANCASTER	LANCASTER	PA	02120	606	\$40,495,768	8062
13-06009-01	COMMUNITY HOSPITALS OF INDIANA, INC	INDIANAPOLIS	IN	02230	5000	\$490,380,513	8062
29-09806-03	COMMUNITY MEDICAL CENTER	TOMS RIVER	NJ	02230	2500	\$237,060,274	8062
37-11507-01	COMMUNITY MEDICAL CENTER	SCRANTON	PA	02120	1178	\$105,818,000	8062
25-18361-01	COMMUNITY MEDICAL CENTER, INC.	MISSOULA	MT	02120	900	\$59,754,195	8062
45-19273-01	COMMUNITY MEMORIAL HEALTHCENTER	SOUTH HILL	VA	02120	750	\$40,361,695	8062
21-20250-01	COMMUNITY MEMORIAL HOSPITAL	CHEBOYGAN	MI	02120	450	\$23,929,042	8062
48-17740-01	COMMUNITY MEMORIAL HOSPITAL	MENOMONEE FALLS	WI	02120	1100	\$63,960,295	8062
22-03364-02	COMMUNITY MEMORIAL HOSPITAL	WINONA	MN	02120	3	\$82,000	5947
37-01873-01	CONEMAUGH VALLEY MEMORIAL HOSPITAL	JOHNSTOWN	PA	02120	2150	\$174,428,000	8062
06-13022-02	CONNECTICUT HEALTH CTR., UNIV. OF	FARMINGTON	CT	02110	940	\$110,945,720	8062
44-19196-01	COPLEY HOSPITAL	MORRISVILLE	VT	02120	266	\$23,714,969	8062
34-16739-01	COSHOCTON CTY. MEMORIAL HOSPITAL	COSHOCTON	OH	02121	480	\$38,735,084	8062
21-01492-02	COVENANT MEDICAL CENTER, INC.	SAGINAW	MI	02120	3700	\$284,648,000	8062
21-13562-01	CRITTENTON HOSPITAL	ROCHESTER	MI	02120	1123	\$113,069,114	8062
37-12240-01	CROZER-CHESTER MEDICAL CTR.	UPLAND	PA	02230	3300	\$338,600,247	8062
45-23040-01	CULPEPER MEMORIAL HOSPITAL	CULPEPER	VA	02120	580	\$33,187,756	8062

Table C-1. NRC-Licensed Hospitals

13-16622-01	CULVER UNION HOSPITAL	CRAWFORDSVILLE	IN	02121	350	\$30,216,025	8062
34-11155-01	CUYAHOGA FALLS GENERAL HOSPITAL	CUYAHOGA FALLS	OH	02120	825	\$55,399,373	8062
08-04289-06	D.C. GENERAL HOSPITAL	WASHINGTON	DC	02120	0	\$0	8062
06-08544-01	DANBURY HOSPITAL	DANBURY	CT	02120	1620	\$212,275,259	8062
45-15154-03	DANVILLE REGIONAL MEDICAL CENTER	DANVILLE	VA	02230	1400	\$101,550,000	8062
13-16138-01	DAVISS COUNTY HOSPITAL	WASHINGTON	IN	02121	340	\$25,938,979	8062
47-24864-01	DAVIS MEMORIAL HOSPITAL	ELKINS	WV	02120	620	\$51,989,508	8062
06-10957-01	DAY KIMBALL HOSPITAL	PUTNAM	CT	02120	1100	\$50,900,000	8062
25-01051-01	DEACONESS BILLINGS CLINIC HEALTH	BILLINGS	MT	02120	2000	\$93,400,000	8062
35-21106-01	DEACONESS HOSPITAL	OKLAHOMA CITY	OK	02120	1200	\$149,017,944	8062
13-00142-02	DEACONESS HOSPITAL	EVANSVILLE	IN	02120	2600	\$167,664,630	8062
34-03509-02	DEACONESS HOSPITAL	CINCINNATI	OH	02120	1848	\$79,743,225	8062
34-17967-01	DEACONESS HOSPITAL OF CLEVELAND	CLEVELAND	OH	02120	940	\$108,000,000	8062
13-17327-01	DEARBORN COUNTY HOSPITAL	LAWRENCEBURG	IN	02120	500	\$35,054,704	8062
13-18992-01	DECATUR CNTY. MEMORIAL HOSPITAL	GREENSBURG	IN	02120	270	\$20,880,495	8062
34-15654-01	DEFIANCE HOSPITAL, INC.	DEFIANCE	OH	02121	360	\$30,986,263	8062
13-18506-01	DEKALB MEMORIAL HOSPITAL, INC.	AUBURN	IN	02120	30	\$520,000	8051
37-07854-01	DELAWARE COUNTY MEMORIAL HOSPITAL	DREXEL HILL	PA	02120	885	\$101,376,547	8062
37-17643-01	DELAWARE VALLEY MEDICAL CENTER	LANGHORNE	PA	02120	0	\$0	9999
21-01190-05	DETROIT MACOMB HOSPITAL CENTER CORP	WARREN	MI	02120	1800	\$0	8062
21-04082-01	DETROIT OSTEOPATHIC HOSPITAL	SOUTHFIELD	MI	02120	2044	\$95,500,000	8062
24-18627-01	DEXTER MEMORIAL HOSPITAL	DEXTER	MO	02121	190	\$6,800,000	8062
21-18889-01	DICKINSON CTY. MEMORIAL HOSPITAL	IRON MOUNTAIN	MI	02120	700	\$46,198,316	8062
37-16101-02	DIVINE PROVIDENCE HOSPITAL	WILLIAMSPORT	PA	02230	800	\$53,920,336	8062
34-05488-02	DOCTORS HOSPITAL	COLUMBUS	OH	02300	0	\$0	9999
34-05488-01	DOCTORS HOSPITAL	COLUMBUS	OH	02120	0	\$0	9999
21-14844-01	DOCTORS HOSPITAL OF JACKSON	JACKSON	MI	02120	234	\$19,290,133	8062
34-18980-01	DOCTORS HOSPITAL OF NELSONVILLE	NELSONVILLE	OH	02120	239	\$5,200,000	8051
24-16714-01	DOCTOR'S REGIONAL MEDICAL CENTER	POPLAR BLUFF	MO	02121	655	\$35,077,169	8062
48-26123-01	DOOR COUNTY MEMORIAL HOSPITAL	STURGEON BAY	WI	02120	440	\$7,937,000	8062
22-16766-01	DOUGLAS COUNTY HOSPITAL	ALEXANDRIA	MN	02120	470	\$0	8062
37-13232-01	DOYLESTOWN HOSPITAL	DOYLESTOWN	PA	02120	1321	\$109,642,259	8062
37-19568-01	DUBOIS REGIONAL MEDICAL CENTER	DUBOIS	PA	02120	1200	\$73,575,179	8093
13-18703-01	DUKES MEMORIAL HOSPITAL	PERU	IN	02121	350	\$25,398,080	8062
35-17756-01	DUNCAN REGIONAL HOSPITAL, INC.	DUNCAN	OK	02120	550	\$38,461,856	8062
13-17076-01	DUNN MEMORIAL HOSPITAL	BEDFORD	IN	02121	485	\$26,804,868	8062
34-15661-01	EAST LIVERPOOL CITY HOSPITAL	EAST LIVERPOOL	OH	02121	700	\$49,240,134	8062
34-20036-01	EAST OHIO REGIONAL HOSPITAL	MARTINS FERRY	OH	02120	606	\$3,805,761	8062
29-12224-01	EAST ORANGE GENERAL HOSPITAL	EAST ORANGE	NJ	02120	960	\$57,253,000	8062
35-16700-01	EASTERN OKLAHOMA MEDICAL CENTER, INC	POTEAU	OK	02120	313	\$4,329,636	8062
37-09938-01	EASTON HOSPITAL	EASTON	PA	02120	4	\$0	8399
35-16494-01	EDMOND REGIONAL MEDICAL CENTER, LLC	EDMOND	OK	02120	99	\$0	8062
21-01430-01	EDWARD W. SPARROW HOSPITAL	LANSING	MI	02230	3000	\$332,943,039	8062
29-01600-02	ELIZABETH GENERAL MEDICAL CTR.-WEST	ELIZABETH	NJ	02230	1800	\$123,648,041	8062
35-23461-01	ELK VIEW GENERAL HOSPITAL	HOBART	OK	02120	230	\$2,300,000	8062
13-18879-01	ELKHART GENERAL HOSPITAL	ELKHART	IN	02230	1424	\$145,982,005	8062
37-23451-01	ELLWOOD CITY HOSPITAL	ELLWOOD CITY	PA	02120	368	\$25,672,841	8062
48-13463-01	ELMBROOK MEMORIAL HOSPITAL	BROOKFIELD	WI	02120	4	\$130,000	5947
34-04307-02	EMH REGIONAL MEDICAL CENTER	ELYRIA	OH	02120	0	\$0	9999
21-03194-01	EMMA L. BIXBY MEDICAL CENTER	ADRIAN	MI	02120	750	\$46,236,383	8062
29-08519-01	ENGLEWOOD HOSPITAL & MEDICAL CENTER	ENGLEWOOD	NJ	02230	0	\$0	9999
37-17125-01	EPHRATA COMMUNITY HOSPITAL	EPHRATA	PA	02120	1200	\$57,379,658	8062
37-03420-01	EPISCOPAL HOSPITAL	PHILADELPHIA	PA	02120	945	\$0	8062
37-05433-01	EVANGELICAL COMMUNITY HOSPITAL	LEWISBURG	PA	02120	762	\$57,774,829	8062
45-24876-01	FAIR OAKS HOSPITAL	FAIRFAX	VA	02120	0	\$0	9999
50-13648-01	FAIRBANKS MEMORIAL HOSPITAL	FAIRBANKS	AK	02120	25	\$0	8322
45-17128-01	FAIRFAX HOSPITAL	FALLS CHURCH	VA	02230	10	\$700,000	8011
34-01833-01	FAIRFIELD MEDICAL CENTER	LANCASTER	OH	02120	1300	\$105,844,934	8062
22-26382-01	FAIRMONT COMMUNITY HOSPITAL	FAIRMONT	MN	02121	360	\$29,138,983	8062
47-17929-01	FAIRMONT GENERAL HOSPITAL, INC.	FAIRMONT	WV	02120	752	\$48,505,162	8062
22-16550-01	FAIRVIEW RED WING HOSPITAL	RED WING	MN	02120	1	\$28,000	5947
22-24306-01	FAIRVIEW RIDGES HOSPITAL	BURNSVILLE	MN	02120	800	\$0	8062
22-03251-01	FAIRVIEW UNIVERSITY MEDICAL CENTER	MINNEAPOLIS	MN	02120	6000	\$0	8221
22-00015-02	FAIRVIEW-SOUTHDALE HOSPITAL	MINNEAPOLIS	MN	02120	12	\$0	8062
35-23180-01	FARMERS UNION HOSPITAL ASSOCIATION	ELK CITY	OK	02120	385	\$24,027,990	8062
45-19484-01	FAUQUIER HOSPITAL	WARRENTON	VA	02121	700	\$53,558,501	8062
13-16518-01	FAYETTE MEMORIAL HOSPITAL	CONNERSVILLE	IN	02120	664	\$36,669,754	8062
34-11908-02	FIRELANDS COMMUNITY HOSPITAL	SANDUSKY	OH	02120	703	\$32,100,000	8062
34-06662-01	FISHER-TITUS MEDICAL CENTER	NORWALK	OH	02120	650	\$48,312,638	8062
34-15184-01	FLOWER HOSPITAL	SYLVANIA	OH	02120	1372	\$46,100,000	8062
13-12371-01	FLOYD MEMORIAL HOSPITAL	NEW ALBANY	IN	02120	1000	\$80,817,000	8062
34-02091-03	FORT HAMILTON-HUGHES HOSPITAL	HAMILTON	OH	02120	1286	\$72,956,000	8062

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34-18808-01	FOSTORIA COMMUNITY HOSPITAL	FOSTORIA	OH	02120	254	\$18,481,303	8062
25-16906-01	FRANCES MAHON DEACONESS HOSPITAL	GLASGOW	MT	02121	200	\$12,507,084	8062
48-00810-02	FRANCISCAN SKEMP MEDICAL CNTR., INC	LA CROSSE	WI	02120	3300	\$47,444,212	8062
37-12486-01	FRANKFORD HOSPITAL	PHILADELPHIA	PA	02120	1000	\$0	8062
37-04871-01	FRANKLIN SQUARE HOSPITAL	PHILADELPHIA	PA	02120	0	\$0	9999
24-26789-01	FREEMAN NEOSHO HOSPITAL	NEOSHO	MO	02120	250	\$32,306,821	8062
37-17080-01	FRICK HOSPITAL & COMMUNITY HLTH CTR	MT. PLEASANT	PA	02120	750	\$41,741,281	8062
48-04193-01	FROEDTERT MEMORIAL LUTHERAN HOSP.	MILWAUKEE	WI	02110	2500	\$324,495,000	8062
48-04193-03	FROEDTERT MEMORIAL LUTHERAN HOSP.	MILWAUKEE	WI	02300	2500	\$324,495,000	8062
48-16838-01	FT. ATKINSON MEMORIAL HOSPITAL	FORT ATKINSON	WI	02120	625	\$51,579,908	8062
34-16919-01	FULTON COUNTY HEALTH CENTER	WAUSEON	OH	02120	652	\$30,431,898	8062
53-15737-01	G. N. WILCOX MEMORIAL HOSPITAL	LIHUE	HI	02120	653	\$83,449,613	8062
34-09133-01	GALION COMMUNITY HOSPITAL	GALION	OH	02120	244	\$2,190,068	8062
21-04072-01	GARDEN CITY OSTEOPATHIC HOSPITAL	GARDEN CITY	MI	02120	1200	\$112,967,812	8062
37-01421-01	GEISINGER MEDICAL CENTER	DANVILLE	PA	02110	3459	\$216,191,297	8062
29-01040-03	GENERAL HOSPITAL CENTER AT PASSAIC	PASSAIC	NJ	02120	0	\$0	8011
21-26740-01	GENESYS REGIONAL MEDICAL CENTER	GRAND BLANC	MI	02120	2800	\$292,573,000	8062
08-01709-04	GEORGETOWN UNIVERSITY MEDICAL CTR.	WASHINGTON	DC	02110	3	\$190,000	7389
21-32068-01	GERBER MEMORIAL HEALTH SERVICES	FREMONT	MI	02121	500	\$26,889,346	8062
37-01553-01	GERMANTOWN HOSPITAL AND	PHILADELPHIA	PA	02120	550	\$24,900,000	8062
37-16826-01	GETTYSBURG HOSPITAL	GETTYSBURG	PA	02120	650	\$42,685,637	8062
13-18524-01	GIBSON GENERAL HOSPITAL	PRINCETON	IN	02121	260	\$24,365,343	8062
44-13976-01	GIFFORD MEDICAL CENTER	RANDOLPH	VT	02121	337	\$18,344,274	8062
25-17265-01	GLENDAVE MEDICAL CENTER	GLENDAVE	MT	02120	313	\$9,215,046	8062
37-17818-01	GNADEN HUETTEN MEMORIAL HOSPITAL	LEHIGHTON	PA	02120	600	\$32,014,438	8062
24-16597-01	GOLDEN VALLEY MEMORIAL HOSPITAL	CLINTON	MO	02120	480	\$27,408,207	8062
13-01787-04	GOOD SAMARITAN HOSPITAL	VINCENNES	IN	02300	1600	\$8,543,224	8062
13-01787-01	GOOD SAMARITAN HOSPITAL	VINCENNES	IN	02120	1600	\$8,543,224	8062
34-00991-02	GOOD SAMARITAN HOSPITAL	CINCINNATI	OH	02120	0	\$0	9999
34-01311-01	GOOD SAMARITAN HOSPITAL & HEALTH CT	DAYTON	OH	02120	2200	\$180,337,000	8062
37-15567-01	GOOD SAMARITAN HOSPITAL (THE)	LEBANON	PA	02120	1050	\$82,538,000	8062
37-15480-01	GOOD SAMARITAN REGIONAL MED. CENTER	POTTSVILLE	PA	02120	750	\$61,227,761	8062
13-18845-01	GOSHEN GENERAL HOSPITAL	GOSHEN	IN	02120	736	\$52,917,099	8062
35-13539-01	GRADY MEMORIAL HOSPITAL	CHICKASHA	OK	02120	420	\$24,811,855	8062
34-16830-01	GRADY MEMORIAL HOSPITAL	DELAWARE	OH	02121	350	\$15,400,000	8062
47-21467-01	GRAFTON CITY HOSPITAL	GRAFTON	WV	02121	249	\$10,710,024	8062
24-32027-01	GRAND RIVER HEALTH SYSTEM CORP.	CHILLICOTHE	MO	02121	280	\$10,269,996	8062
37-13187-02	GRAND VIEW HOSPITAL	SELLERSVILLE	PA	02120	83	\$1,829,912	7389
34-06904-01	GRANDVIEW HOSPITAL	DAYTON	OH	02120	120	\$0	5812
34-03424-02	GRANT/RIVERSIDE METHODIST HOSPITALS	COLUMBUS	OH	02120	2	\$0	8071
34-03424-03	GRANT/RIVERSIDE METHODIST HOSPITALS	COLUMBUS	OH	02300	2	\$0	8071
21-03429-04	GRATIOT COMMUNITY HOSPITAL	ALMA	MI	02120	900	\$54,714,492	8062
21-10578-02	GREATER DETROIT HOSPITAL & MEDICAL	DETROIT	MI	02120	268	\$18,000,000	8062
08-11182-01	GREATER SOUTHEAST COMMUNITY HOSP.	WASHINGTON	DC	02120	1892	\$131,352,000	8062
47-17199-01	GREENBRIER BALLEY MEDICAL, LLC	RONCEVERTE	WV	02120	351	\$15,500,000	8062
37-15121-01	GREENE COUNTY MEMORIAL HOSPITAL	WAYNESBURG	PA	02120	294	\$24,613,053	8062
34-17975-01	GREENE MEMORIAL HOSPITAL, INC.	XENIA	OH	02120	630	\$48,809,922	8062
45-19128-01	GREENSVILLE MEMORIAL HOSPITAL	EMPORIA	VA	02121	430	\$23,545,665	8062
29-14859-01	GREENVILLE HOSPITAL	GERSEY CITY	NJ	02120	290	\$19,642,387	8062
06-09522-01	GREENWICH HOSPITAL ASSOCIATION	GREENWICH	CT	02120	1300	\$112,218,817	8062
06-13905-01	GRIFFIN HOSPITAL	DERBY	CT	02120	662	\$64,016,356	8062
11-27337-01	GRITMAN MEDICAL CENTER	MOSCOW	ID	02121	320	\$19,280,900	8062
06-28798-01	GROVE HILL MEDICAL CENTER, P.C.	NEW BRITAIN	CT	02201	425	\$47,148,216	8093
56-18134-01	GUAM MEMORIAL HOSPITAL AUTHORITY	OKA TAMUNING	GU	02120	0	\$0	9999
37-01893-01	GUTHRIE HEALTHCARE SYSTEM &	SAYRE	PA	02230	2825	\$202,319,000	8062
34-11202-02	H. B. MAGRUDER MEMORIAL HOSPITAL	PORT CLINTON	OH	02120	250	\$15,731,812	8062
29-02641-03	HACKENSACK MEDICAL CENTER	HACKENSACK	NJ	02230	0	\$0	5812
29-02641-04	HACKENSACK MEDICAL CENTER	HACKENSACK	NJ	02300	0	\$0	5812
29-16585-01	HACKETTSTOWN COMMUNITY HOSPITAL	HACKETTSTOWN	NJ	02120	520	\$37,142,548	8062
21-04125-01	HACKLEY HOSPITAL	MUSKEGON	MI	02120	1277	\$105,679,298	8062
08-16752-01	HADLEY MEMORIAL HOSPITAL	WASHINGTON	DC	02120	0	\$0	9999
45-18401-01	HALIFAX REGIONAL HOSPITAL	SOUTH BOSTON	VA	02120	591	\$46,441,909	8062
37-00444-02	HAMOT MEDICAL CENTER	ERIE	PA	02120	1300	\$147,741,270	8062
13-16730-01	HANCOCK MEMORIAL HOSPITAL	GREENFIELD	IN	02120	532	\$52,799,272	8062
24-18988-01	HANNIBAL REGIONAL HOSPITAL	HANNIBAL	MO	02121	650	\$45,558,533	8062
37-16335-01	HANOVER GENERAL HOSPITAL	HANOVER	PA	02120	0	\$0	9999
34-16032-01	HARDIN MEMORIAL HOSPITAL	KENTON	OH	02120	312	\$13,600,000	8062
21-04127-02	HARPER HOSPITAL	DETROIT	MI	02230	2446	\$467,643,000	8062
21-04127-06	HARPER HOSPITAL DIVISION	DETROIT	MI	02300	2446	\$467,643,000	8062
13-23555-01	HARRISON COUNTY HOSPITAL	CORYDON	IN	02120	330	\$17,078,536	8062
06-00253-04	HARTFORD HOSPITAL	HARTFORD	CT	02120	5000	\$433,337,940	8062
48-18037-01	HARTFORD MEMORIAL HOSPITAL, INC.	HARTFORD	WI	02120	354	\$23,066,940	8062

Table C-1. NRC-Licensed Hospitals

21-26050-01	HAYES GREEN BEACH MEMORIAL HOSPITAL	CHARLOTTE	MI	02120	265	\$18,119,403	8062
37-27899-01	HAZLETON GENERAL HOSPITAL	HAZLETON	PA	02120	600	\$18,125,320	8062
37-15217-01	HAZLETON-ST. JOSEPH MEDICAL CENTER	HAZLETON	PA	02120	600	\$36,217,667	8062
35-12091-01	HCA HEALTH SERVICES OF OKLAHOMA,INC	OKLAHOMA CITY	OK	02230	1200	\$0	8062
22-01448-01	HEALTHEAST - ST. JOSEPH'S HOSPITAL	ST. PAUL	MN	02120	1164	\$111,125,425	8062
22-24441-01	HEALTHEAST ST. JOHN'S HOSPITAL	MAPLEWOOD	MN	02120	713	\$397,451,000	8062
45-16618-01	HEALTHSOUTH MEDICAL CENTER	RICHMOND	VA	02120	550	\$43,836,679	8062
24-18287-01	HEARTLAND REGINAL MEDICAL CENTER	ST. JOSEPH	MO	02120	2737	\$190,816,795	8062
21-32004-01	HELEN NEWBERRY JOY HOSPITAL	NEWBERRY	MI	02121	200	\$12,186,681	8062
13-17082-01	HENDRICKS COMMUNITY HOSPITAL	DANVILLE	IN	02120	970	\$65,240,842	8062
22-11070-01	HENNEPIN COUNTY MEDICAL CENTER	MINNEAPOLIS	MN	02110	3075	\$0	8062
45-16231-01	HENRICO DOCTORS HOSPITAL	RICHMOND	VA	02230	1300	\$60,300,000	8062
45-16231-02	HENRICO DOCTORS' HOSPITAL	RICHMOND	VA	03800	1300	\$60,300,000	8062
13-17958-01	HENRY COUNTY MEMORIAL HOSPITAL	NEW CASTLE	IN	02120	660	\$40,850,058	8062
21-04109-16	HENRY FORD HOSPITAL	DETROIT	MI	02110	0	\$0	8062
21-04109-08	HENRY FORD HOSPITAL	DETROIT	MI	02300	0	\$0	8062
21-12930-01	HENRY FORD WYANDOTTE HOSPITAL	WYANDOTTE	MI	02120	1700	\$136,902,000	8062
47-17746-01	HERBERT J. THOMAS MEMORIAL HOSPITAL	SOUTH CHARLESTON	WV	02120	1000	\$89,206,891	8062
21-24368-01	HERRICK MEMORIAL HOSPITAL	TECUMSEH	MI	02120	0	\$0	8011
48-26745-01	HESS MEMORIAL HOSPITAL	MAUSTON	WI	02120	390	\$22,813,670	8062
35-13435-01	HILLCREST HEALTH CENTER, INC.	OKLAHOMA CITY	OK	02120	875	\$46,457,000	8062
35-09206-03	HILLCREST MEDICAL CENTER	TULSA	OK	02120	2126	\$225,365,000	8062
21-24813-01	HILLSDALE COMMUNITY HEALTH CENTER	HILLSDALE	MI	02121	280	\$27,116,521	8062
53-03506-01	HILO MEDICAL CENTER	HILO	HI	02120	800	\$0	9431
34-13394-02	HM HEALTH SERVICES	WARREN	OH	02120	1100	\$50,900,000	8062
34-26449-01	HOCKING VALLEY COMMUNITY HOSPITAL	LOGAN	OH	02121	275	\$18,335,679	8062
21-18502-01	HOLLAND COMMUNITY HOSPITAL	HOLLAND	MI	02120	1163	\$74,013,452	8062
48-10251-01	HOLY FAMILY MEMORIAL MEDICAL CENTER	MANITOWOC	WI	02120	1250	\$81,612,162	8062
29-03382-01	HOLY NAME HOSPITAL	TEANECK	NJ	02230	1800	\$138,417,000	8062
37-05089-01	HOLY REDEEMER HOSPITAL AND MEDICAL	MEADOWBROOK	PA	02120	1600	\$85,656,666	8062
25-23109-01	HOLY ROSARY HEALTH CENTER	MILES CITY	MT	02121	360	\$15,900,000	8062
37-16554-01	HOLY SPIRIT HOSPITAL	CAMP HILL	PA	02120	1621	\$95,419,724	8062
34-06002-01	HOLZER MEDICAL CENTER	GALLIPOLIS	OH	02120	1000	\$57,493,439	8062
52-08827-02	HOSPITAL AUXILIO MUTUO	HATO REY	PR	02120	0	\$0	9999
29-03038-01	HOSPITAL CENTER AT ORANGE	ORANGE	NJ	02120	701	\$65,460,690	8062
29-03038-02	HOSPITAL CENTER AT ORANGE	ORANGE	NJ	02300	701	\$65,460,690	8062
52-10270-01	HOSPITAL DAMAS	PONCE	PR	02120	0	\$0	9999
52-19873-01	HOSPITAL DE LA CONCEPCION	SAN GERMAN	PR	02120	350	\$15,400,000	8062
52-25255-01	HOSPITAL DR. PILA	PONCE	PR	02120	638	\$38,438,184	8062
52-23044-01	HOSPITAL HERMANOS MELENDEZ	BAYAMON	PR	02120	640	\$39,533,732	8062
52-25019-01	HOSPITAL INTERAMERICANO MEDICINIA	CAGUAS	PR	02120	1161	\$100,398,052	8062
52-16033-01	HOSPITAL METROPOLITANO	SAN JUAN	PR	02120	320	\$20,000,000	8062
06-00200-03	HOSPITAL OF ST. RAPHAEL	NEW HAVEN	CT	02230	3426	\$268,720,220	8062
52-11832-02	HOSPITAL ONCOLOGICO	PONCE	PR	02230	145	\$5,815,022	8069
52-11832-01	HOSPITAL ONCOLOGICO	PONCE	PR	02300	145	\$5,815,022	8069
52-13598-01	HOSPITAL RAMON DE BETANCES	MAYAGUEZ	PR	02300	0	\$0	9999
52-13598-03	HOSPITAL RAMON E. BETANCES	MAYAGUEZ	PR	02120	0	\$0	9999
52-25232-01	HOSPITAL SAN CRISTOBAL	PONCE	PR	02120	602	\$62,070,950	8062
52-21325-01	HOSPITAL SAN PABLO	BAYAMON	PR	02120	0	\$0	9999
49-26949-01	HOT SPRINGS COUNTY MEMORIAL HOSP.	THERMOPOLIS	WY	02120	125	\$6,484,493	8062
13-13028-02	HOWARD COMMUNITY HOSPITAL	KOKOMO	IN	02120	850	\$51,206,455	8062
08-03075-07	HOWARD UNIVERSITY HOSPITAL	WASHINGTON	DC	02120	2716	\$0	8062
48-18643-01	HOWARD YOUNG MEDICAL CENTER	WOODRUFF	WI	02121	600	\$42,670,538	8062
29-05084-02	HUNTERDON MEDICAL CENTER	FLEMINGTON	NJ	02120	1300	\$91,049,142	8062
13-26480-01	HUNTINGTON MEMORIAL HOSPITAL, INC.	HUNTINGTON	IN	02121	360	\$17,349,174	8062
21-00338-02	HURLEY MEDICAL CENTER	FLINT	MI	02230	2884	\$135,200,000	8062
21-17093-01	HURON MEMORIAL HOSPITAL	BAD AXE	MI	02120	274	\$21,602,125	8062
40-15697-01	HURON REGIONAL MEDICAL CENTER	HURON	SD	02121	400	\$21,344,374	8062
21-24652-01	HURON VALLEY - SINAI HOSPITAL	COMMERCE	MI	02121	620	\$87,771,000	8062
21-03001-01	HUTZEL HOSPITAL	DETROIT	MI	02120	1884	\$155,553,000	8062
52-13471-01	I. GONZALEZ MARTINEZ ONCOLOGIC HOSP	HATO REY	PR	02120	12	\$1,500,000	5541
49-27532-01	IHC EVANSTON REGIONAL MEDICAL CTR.	EVANSTON	WY	02120	125	\$0	8062
22-17557-02	IMMANUEL-ST. JOSEPH'S HOSPITAL	MANKATO	MN	02120	10	\$265,112	8093
37-13666-01	INDIANA HOSPITAL	INDIANA	PA	02120	900	\$260,000	7389
45-09358-02	INOVA ALEXANDRIA HOSPITAL	ALEXANDRIA	VA	02230	1750	\$126,638,000	8062
35-11022-01	INTEGRIS BAPTIST MEDICAL CENTER	OKLAHOMA CITY	OK	02120	3	\$87,000	8661
35-17654-01	INTEGRIS CLINTON REGIONAL HOSPITAL	CLINTON	OK	02120	210	\$8,800,000	8062
35-23159-01	INTEGRIS HEALTH	BETHANY	OK	02120	50	\$3,325,916	8062
35-13127-01	INTEGRIS SOUTHWEST MEDICAL CENTER	OKLAHOMA CITY	OK	02120	3030	\$130,812,444	8062
21-18586-01	IRON COUNTY COMM. HOSPITALS, INC.	OKLAHOMA CITY	MI	02120	300	\$17,160,582	8062
29-07987-02	IRVINGTON GENERAL HOSPITAL	IRVINGTON	NJ	02120	525	\$45,062,000	8062
22-16543-01	ITASCA MEDICAL CENTER	GRAND RAPIDS	MN	02121	380	\$12,414,058	8062

Table C-1. NRC-Licensed Hospitals

49-15978-01	IVINSON MEMORIAL HOSPITAL	LARAMIE	WY	02120	425	\$29,463,051	8062
37-03552-02	J. C. BLAIR MEMORIAL HOSPITAL	HUNTINGDON	PA	02120	500	\$28,296,054	8062
35-19227-01	JACKSON COUNTY MEMORIAL HOSPITAL	ALTUS	OK	02120	633	\$39,379,267	8062
13-05605-01	JACKSON CTY. SCHNECK MEMORIAL HOSP.	SEYMOUR	IN	02120	526	\$41,536,895	8062
47-17058-01	JACKSON GENERAL HOSPITAL	RIPLEY	WV	02121	320	\$21,874,190	8062
37-01146-03	JAMESON MEMORIAL HOSPITAL	NEW CASTLE	PA	02120	1063	\$59,795,680	8062
35-01164-02	JANE PHILLIPS EPISC. MEM. MED. CTR.	BARTLESVILLE	OK	02120	1102	\$63,412,298	8062
13-26527-01	JASPER COUNTY HOSPITAL	RENSELAEER	IN	02121	350	\$17,528,277	8062
13-20329-01	JAY COUNTY HOSPITAL	PORTLAND	IN	02121	200	\$14,211,553	8062
37-15471-01	JEANNETTE DISTRICT MEMORIAL HOSP.	JEANNETTE	PA	02120	725	\$36,266,560	8062
37-18404-01	JEFFERSON HOSPITAL	PITTSBURGH	PA	02120	1900	\$0	8062
24-18315-01	JEFFERSON MEMORIAL HOSPITAL	CRYSTAL CITY	MO	02120	1600	\$81,095,177	8062
37-28195-01	JEFFERSON METHODIST HEART CENTER.	PHILADELPHIA	PA	02201	0	\$0	9999
29-01663-01	JERSEY CITY MEDICAL CENTER	JERSEY CITY	NJ	02120	1900	\$88,700,000	8062
37-17164-01	JERSEY SHORE HOSPITAL	JERSEY SHORE	PA	02120	275	\$12,676,000	8062
29-02234-02	JERSEY SHORE MEDICAL CENTER	NEPTUNE	NJ	02120	3	\$0	8721
34-00855-07	JEWISH HOSP OF CINCINNATI, INC. (THE)	CINCINNATI	OH	02120	250	\$10,700,000	8062
29-12611-01	JOHN F. KENNEDY MEDICAL CENTER	EDISON	NJ	02230	4	\$1,830,007	8399
37-17817-01	JOHN F. KENNEDY MEMORIAL HOSPITAL	PHILADELPHIA	PA	02120	550	\$24,900,000	8062
13-14817-01	JOHNSON CTY. MEMORIAL HOSPITAL	FRANKLIN	IN	02120	600	\$49,913,949	8062
06-16624-01	JOHNSON MEMORIAL HOSPITAL	STAFFORD SPRINGS	CT	02120	750	\$38,027,029	8062
45-25240-01	JOHNSTON MEMORIAL HOSPITAL	ABINGDON	VA	02120	517	\$52,397,648	8062
34-18896-01	JOINT TOWNSHIP DISTRICT MEM HOSP.	ST. MARY'S	OH	02120	440	\$34,476,736	8062
53-05379-01	KAISER FOUNDATION HOSPITAL	HONOLULU	HI	02120	25	\$0	8071
34-26092-01	KAISER PERMANENTE MEDICAL CENTER	PARMA	OH	02120	725	\$0	8062
25-15463-01	KALISPELL REGIONAL HOSPITAL	KALISPELL	MT	02120	0	\$0	9999
13-26621-01	KENDRICK MEMORIAL HOSPITAL	MOORESVILLE	IN	02120	320	\$25,921,720	8062
29-17925-01	KENNEDY MEML. HOSP. UNIV.MED CTR.	CHERRY HILL	NJ	02120	0	\$0	9999
29-15459-01	KENNEDY MEMORIAL HOSPITALS	TURNERSVILLE	NJ	02120	0	\$0	9999
29-12167-01	KENNEDY MEMORIAL HOSPITALS	STRATFORD	NJ	02120	0	\$0	8071
48-00056-02	KENOSHA HOSPITAL & MEDICAL CTR.	KENOSHA	WI	02120	950	\$93,157,084	8062
50-19913-01	KETCHIKAN GENERAL HOSPITAL	KETCHIKAN	AK	02120	12	\$160,000	8351
34-13857-01	KETTERING ADVENTIST HEALTH CARE	KETTERING	OH	02120	10	\$2,907,872	8741
21-20242-01	KEWEENAW MEMORIAL MEDICAL CENTER	LAURIUM	MI	02120	350	\$19,682,408	8062
29-14017-01	KIMBALL MEDICAL CENTER	LAKEWOOD	NJ	02120	1385	\$139,254,132	8062
13-18692-01	KING'S DAUGHTERS HOSPITAL	MADISON	IN	02120	875	\$49,102,893	8062
34-18120-01	KNOX COMMUNITY HOSPITAL	MT. VERNON	OH	02120	453	\$39,920,588	8062
11-27307-01	KOOTENAI MEDICAL CENTER	COEUR D'ALENE	ID	02120	1400	\$85,664,913	8062
53-17797-01	KUAKINI MEDICAL CTR.	HONOLULU	HI	02120	1178	\$0	8062
13-09788-01	LAFAYETTE HOME HOSPITAL	LAFAYETTE	IN	02120	1200	\$97,716,250	8062
24-26183-01	LAFAYETTE REGIONAL HEALTH CENTER	LEXINGTON	MO	02120	190	\$28,000,000	8062
34-11232-02	LAKE HOSPITAL SYSTEMS - WEST	WILLOUGHBY	OH	02120	1000	\$0	8062
24-18678-01	LAKE OF THE OZARKS GENERAL HOSPITAL	OSAGE BEACH	MO	02121	0	\$0	9999
22-17994-01	LAKE REGION HOSPITAL & NURSING HOME	FERGUS FALLS	MN	02120	610	\$34,875,173	8062
21-26716-01	LAKE VIEW COMMUNITY HOSPITAL	PAW PAW	MI	02121	357	\$30,579,740	8062
21-04177-01	LAKELAND MEDICAL CENTER ST. JOSEPH	ST. JOSEPH	MI	02120	3050	\$173,799,581	8062
48-18679-01	LAKELAND MEDICAL CENTER, INC.	ELKHORN	WI	02120	0	\$0	9999
22-26244-01	LAKEVIEW MEMORIAL HOSPITAL	STILLWATER	MN	02120	500	\$35,952,000	8062
34-01197-01	LAKEWOOD HOSPITAL	LAKEWOOD	OH	02120	1195	\$106,522,000	8062
37-11866-01	LANCASTER GENERAL HOSPITAL	LANCASTER	PA	02230	2575	\$250,915,702	8062
48-17481-01	LANGLADE MEMORIAL HOSPITAL	ANTIGO	WI	02120	380	\$22,480,841	8062
37-07905-04	LANKENAU HOSPITAL	WYNNWOOD	PA	02120	1531	\$0	8062
21-11553-01	LAPEER REGIONAL HOSPITAL	LAPEER	MI	02120	950	\$43,800,000	8062
13-15151-01	LAPORTE HOSPITAL & HLTH. SERVICES	LAPORTE	IN	02120	1	\$0	9431
37-09463-01	LATROBE AREA HOSPITAL	LATROBE	PA	02230	1500	\$108,268,845	8062
06-09261-01	LAWRENCE & MEMORIAL HOSPITAL	NEW LONDON	CT	02120	1800	\$157,317,844	8062
34-16241-01	LAWRENCE COUNTY MEDICAL CTR.	IRONTON	OH	02120	522	\$36,120,206	8062
37-28311-02	LEBANON VALLEY CANCER CENTER	LEBANON	PA	02200	0	\$0	9999
45-23009-01	LEE COUNTY COMMUNITY HOSPITAL	PENNINGTON GAP	VA	02121	424	\$30,766,871	8062
24-24660-01	LEE'S SUMMIT HOSPITAL	LEE'S SUMMIT	MO	02120	295	\$12,800,000	8062
37-01548-01	LEHIGH VALLEY HOSPITAL	ALLENTOWN	PA	02230	0	\$0	8621
24-01143-06	LESTER E. COX MEDICAL CENTER	SPRINGFIELD	MO	02230	4200	\$427,281,741	8062
45-09207-01	LEWIS-GALE MEDICAL CENTER, LLC	SALEM	VA	02230	0	\$0	8062
37-05453-03	LEWISTOWN HOSPITAL	LEWISTOWN	PA	02120	900	\$46,712,727	8062
24-16178-01	LIBERTY HOSPITAL	LIBERTY	MO	02120	1100	\$76,717,464	8062
34-17013-01	LICKING MEMORIAL HOSPITAL	NEWARK	OH	02120	908	\$69,304,888	8062
34-05422-01	LIMA MEMORIAL HOSPITAL	LIMA	OH	02120	1315	\$90,867,574	8062
24-18689-01	LINCOLN CTY. MEMORIAL HOSPITAL	TROY	MO	02120	220	\$15,404,817	8062
25-27450-01	LIVINGSTON MEMORIAL HOSPITAL	LIVINGSTON	MT	02121	249	\$12,491,245	8062
21-12424-01	LIVONIA MEDICAL CENTER	LIVONIA	MI	02201	0	\$0	9999
37-14802-01	LOCK HAVEN HOSPITAL	LOCK HAVEN	PA	02120	410	\$24,310,153	8062
47-19919-01	LOGAN GENERAL HOSPITAL	LOGAN	WV	02120	806	\$73,787,514	8062

Table C-1. NRC-Licensed Hospitals

45-23002-01	LONESOME PINE HOSPITAL	BIG STONE GAP	VA	02121	0	\$0	9999
45-16806-01	LOUDOUN HOSPITAL CENTER	LEESBURG	VA	02120	60	\$75,805,000	8062
45-18195-01	LOUISE OBICI MEMORIAL HOSPITAL	SUFFOLK	VA	02120	1130	\$67,812,835	8062
37-27825-01	LOWER ANTHRACITE COMMUNITY HOSPITAL	COAL TOWNSHIP	PA	02120	0	\$0	9999
24-16652-01	LUCY LEE HOSPITAL	POPLAR BLUFF	MO	02120	1000	\$66,678,336	8062
48-02122-05	LUTHER HOSPITAL	EAU CLAIRE	WI	02120	1260	\$87,833,961	8062
24-04010-01	LUTHERAN MEDICAL CENTER	ST. LOUIS	MO	02120	775	\$0	8062
34-16885-01	MADISON COUNTY HOSPITAL	LONDON	OH	02121	0	\$0	9999
34-20360-01	MADISON MEDICAL CENTER INCORPORATED	LONDON	OH	02121	0	\$0	9999
11-27358-01	MADISON MEMORIAL HOSPITAL	REXBURG	ID	02121	370	\$22,039,289	8062
11-27082-01	MAGIC VALLEY REG. MEDICAL CENTER	TWIN FALLS	ID	02120	775	\$4,151,591	8062
13-14877-01	MAJOR HOSPITAL	SHELBYVILLE	IN	02120	360	\$3,791,952	8062
47-25151-01	MAN APPALACHIAN REGIONAL HOSPITAL	MAN	WV	02121	160	\$0	8062
06-03413-01	MANCHESTER MEMORIAL HOSPITAL	MANCHESTER	CT	02120	1038	\$105,131,747	8062
13-26494-01	MARGARET MARY COMMUNITY HOSPITAL	BATESVILLE	IN	02121	450	\$25,291,231	8062
37-19497-01	MARIAN COMMUNITY HOSPITAL	CARBONDALE	PA	02120	450	\$26,537,476	8062
34-12541-01	MARIETTA MEMORIAL HOSPITAL	MARIETTA	OH	02120	950	\$57,873,373	8062
13-17956-01	MARION GENERAL HOSPITAL	MARION	IN	02120	1100	\$81,061,641	8062
34-10802-02	MARION GENERAL HOSPITAL	MARION	OH	02120	1250	\$72,403,759	8062
34-10802-03	MARION GENERAL HOSPITAL	MARION	OH	02300	1250	\$72,403,759	8062
21-17360-01	MARLETTE COMMUNITY HOSPITAL	MARLETTE	MI	02120	475	\$20,498,456	8062
21-05432-04	MARQUETTE GENERAL HOSPITAL	MARQUETTE	MI	02120	2200	\$167,752,835	8062
45-23003-01	MARTHA JEFFERSON HOSPITAL	CHARLOTTESVILLE	VA	02120	1200	\$89,347,000	8062
45-15520-01	MARY IMMACULATE HOSPITAL	NEWPORT NEWS	VA	02121	825	\$59,263,000	8062
34-17339-01	MARY RUTAN HOSPITAL	BELLEFONTAINE	OH	02121	500	\$39,187,441	8062
45-00935-02	MARY WASHINGTON HOSPITAL	FREDERICKSBURG	VA	02120	1500	\$98,113,585	8062
34-05382-01	MARYMOUNT HOSPITAL	GARFIELD HEIGHTS	OH	02120	1	\$0	5947
45-10831-02	MARYVIEW MEDICAL CENTER	PORTSMOUTH	VA	02120	1383	\$135,604,000	8062
34-07455-01	MASSILLON COMMUNITY HOSPITAL	MASSILLON	OH	02120	3	\$264,701	5947
34-13381-01	MASSILLON HLTH. SYS., LLC D/B/A	MASSILLON	OH	02120	650	\$70,000,000	8062
53-13519-01	MAUI MEMORIAL HOSPITAL	WAILUKI, MAUI	HI	02120	480	\$0	9431
22-00519-03	MAYO FOUNDATION	ROCHESTER	MN	02110	40	\$0	5942
35-17723-01	MCALESTER REGIONAL HEALTH CENTER	MCALESTER	OK	02120	650	\$45,738,376	8062
13-26371-01	MCCRAY MEMORIAL HOSPITAL	KENDALLVILLE	IN	02121	300	\$20,487,275	8062
34-18728-01	MCCULLOUGH HYDE HOSPITAL	OXFORD	OH	02120	400	\$37,002,700	8062
35-17177-01	MCCURTAIN MEMORIAL HOSPITAL	IDABEL	OK	02121	335	\$19,584,454	8062
21-24938-01	MCKENZIE MEMORIAL HOSPITAL	SANDUSKY	MI	02121	175	\$10,205,909	8062
21-04171-04	MCLAREN REGIONAL MEDICAL CENTER	FLINT	MI	02230	2250	\$105,200,000	8062
37-02847-01	MEADVILLE MEDICAL CENTER	MEADVILLE	PA	02120	959	\$63,888,590	8062
21-18566-01	MECOSTA COUNTY GENERAL HOSPITAL	BIG RAPIDS	MI	02120	310	\$24,803,396	8062
37-11562-01	MED. CTR. BEAVER, PA., INC. (THE)	BEAVER	PA	02230	0	\$0	9999
34-02007-01	MEDCENTRAL HEALTH SYSTEM	MANSFIELD	OH	02120	2141	\$122,849,715	8062
34-02007-02	MEDCENTRAL HEALTH SYSTEM	MANSFIELD	OH	02300	2141	\$122,849,715	8062
48-15939-01	MEDICAL ASSOCIATES HEALTH CENTERS	MENOMONEE FALLS	WI	02120	0	\$0	9999
29-06750-01	MEDICAL CENTER AT PRINCETON (THE)	PRINCETON	NJ	02120	2100	\$152,945,731	8062
24-18818-01	MEDICAL CENTER OF INDEPENDENCE	INDEPENDENCE	MO	02120	0	\$0	9999
35-17598-01	MEDICAL CENTER OF SOUTHEASTERN OKLA	DURANT	OK	02120	420	\$30,000,000	8062
13-23665-01	MEDICAL CENTER OF SOUTHERN INDIANA	CHARLESTOWN	IN	02121	289	\$5,022,044	8062
29-20690-01	MEDICAL CTR. OF OCEAN COUNTY, INC.	POINT PLEASANT	NJ	02120	0	\$0	9999
37-30213-01	MEDICAL PROVIDER'S CAPITAL NETWORK	ALLENTOWN	PA	02220	6	\$1,100,000	6799
34-16411-01	MEDINA GENERAL HOSPITAL	MEDINA	OH	02120	0	\$0	9999
07-28606-01	MEDLAB CLINICAL TESTING, INC.	WILMINGTON	DE	02410	0	\$0	9999
21-11475-01	MEMORIAL HEALTHCARE CENTER	OWOSSO	MI	02120	1000	\$67,773,033	8062
29-17610-01	MEMORIAL HOSP. OF BURLINGTON COUNTY	MOUNT HOLLY	NJ	02120	1450	\$147,840,000	8062
13-18881-01	MEMORIAL HOSPITAL	SOUTH BEND	IN	02230	0	\$0	9999
37-14987-01	MEMORIAL HOSPITAL	TOWANDA	PA	02120	320	\$20,514,981	8062
37-11144-01	MEMORIAL HOSPITAL	YORK	PA	02120	691	\$46,468,573	8062
13-17841-01	MEMORIAL HOSPITAL	LOGANSPOUT	IN	02121	507	\$29,231,335	8062
34-17809-01	MEMORIAL HOSPITAL	FREMONT	OH	02120	436	\$37,353,537	8062
13-09274-03	MEMORIAL HOSPITAL & HEALTH CARE CTR	JASPER	IN	02121	821	\$52,068,772	8062
48-15519-01	MEMORIAL HOSPITAL AT OCONOMOWOC	OCONOMOWOC	WI	02120	604	\$44,427,535	8062
48-18803-01	MEMORIAL HOSPITAL OF BURLINGTON	BURLINGTON	WI	02120	0	\$0	9999
49-01380-01	MEMORIAL HOSPITAL OF LARAMIE COUNTY	CHEYENNE	WY	02120	900	\$82,116,682	8062
45-13692-01	MEMORIAL HOSPITAL OF MARTINSVILLE	MARTINSVILLE	VA	02120	23	\$0	8062
29-07758-01	MEMORIAL HOSPITAL OF SALEM COUNTY	SALEM	NJ	02120	1	\$59,000	8611
49-10982-02	MEMORIAL HOSPITAL OF SHERIDAN CTY.	SHERIDAN	WY	02120	410	\$23,731,977	8062
49-17940-01	MEMORIAL HOSPITAL OF SWEETWATER CTY	ROCK SPRINGS	WY	02120	370	\$16,300,000	8062
35-23125-01	MEMORIAL HOSPITAL OF TEXAS COUNTY	GUYMON	OK	02120	200	\$15,029,623	8062
34-17386-01	MEMORIAL HOSPITAL OF UNION CTY.	MARYSVILLE	OH	02121	580	\$41,022,551	8062
29-17064-01	MEMORIAL MED. CTR. AT SOUTH AMBOY	SOUTH AMBOY	NJ	02120	0	\$0	9999
21-16737-01	MEMORIAL MEDICAL CENTER OF WEST MI	LUDINGTON	MI	02120	450	\$29,686,996	8062
48-16593-01	MEMORIAL MEDICAL CENTER, INC.	ASHLAND	WI	02120	650	\$28,355,465	8062

Table C-1. NRC-Licensed Hospitals

52-25058-01	MENNONITE GENERAL HOSPITAL	AIBONITO	PR	02120	1172	\$54,610,643	8062
34-18954-01	MERCER COUNTY JOINT TOWNSHIP	COLDWATER	OH	02121	412	\$23,016,568	8062
37-00993-05	MERCY FITZGERALD HOSPITAL	DARBY	PA	02230	100	\$0	8062
35-07018-02	MERCY HEALTH CENTER	OKLAHOMA CITY	OK	02120	1780	\$136,765,000	8062
21-10717-01	MERCY HEALTH SERVICE NORTH-CADILLAC	CADILLAC	MI	02120	0	\$0	9999
21-16489-01	MERCY HEALTH SERVICES	GRAYLING	MI	02120	300	\$0	8062
21-24614-01	MERCY HEALTH SERVICES	ANN ARBOR	MI	02410	0	\$0	9999
35-00957-02	MERCY HEALTH SYSTEMS OKLAHOMA	ARDMORE	OK	02120	700	\$116,489,237	8062
34-00852-02	MERCY HEALTH SYSTEM-WESTERN OHIO	SPRINGFIELD	OH	02120	100	\$0	5999
48-02411-01	MERCY HOSPITAL	JANESVILLE	WI	02120	2168	\$187,147,596	8741
34-04492-02	MERCY HOSPITAL	TIFFIN	OH	02120	30	\$0	8742
37-00897-01	MERCY HOSPITAL	WILKES-BARRE	PA	02120	683	\$58,509,368	8062
37-01321-02	MERCY HOSPITAL	PITTSBURGH	PA	02230	2500	\$117,000,000	8062
21-15638-01	MERCY HOSPITAL	PORT HURON	MI	02120	800	\$0	8062
34-13663-01	MERCY HOSPITAL	HAMILTON	OH	02120	1241	\$57,500,000	8062
37-01374-03	MERCY HOSPITAL	SCRANTON	PA	02230	1476	\$108,315,375	8062
21-12899-01	MERCY HOSPITAL	DETROIT	MI	02121	1100	\$0	8062
21-02187-01	MERCY HOSPITAL	MUSKEGON	MI	02120	2500	\$0	8062
34-15046-01	MERCY HOSPITAL ANDERSON	CINCINNATI	OH	02120	823	\$0	8062
11-27089-01	MERCY MEDICAL CENTER	NAMPA	ID	02120	650	\$60,659,000	8062
34-01954-01	MERCY MEDICAL CENTER	CANTON	OH	02120	0	\$0	9999
34-00852-03	MERCY MEDICAL CENTER	SPRINGFIELD	OH	02300	0	\$0	9999
48-07957-01	MERCY MEDICAL CENTER	OSHKOSH	WI	02120	1400	\$95,278,000	8062
21-18816-01	MERCY MEMORIAL HOSPITAL	MONROE	MI	02120	902	\$78,441,058	8062
37-13509-01	MERCY SUBURBAN HOSPITAL	NORRISTOWN	PA	02120	820	\$50,853,471	8062
34-17932-01	MERIDIA EUCLID HOSPITAL	EUCLID	OH	02120	0	\$0	9999
34-09739-01	MERIDIA HILLCREST HOSPITAL	MAYFIELD HEIGHTS	OH	02120	3	\$90,000	5947
34-01505-01	MERIDIA HURON HOSPITAL	CLEVELAND	OH	02120	0	\$0	9999
34-12165-01	MERIDIA SOUTH POINTE HOSPITAL	CLEVELAND	OH	02120	0	\$0	9999
48-00395-02	MERITER HOSPITAL INC.	MADISON	WI	02120	2214	\$177,441,311	8062
13-02063-01	METHODIST HOSPITAL	INDIANAPOLIS	IN	02110	11700	\$1,256,025,198	8062
37-07942-01	METHODIST HOSPITAL DIVISION	PHILADELPHIA	PA	02120	0	\$0	8062
13-16558-01	METHODIST HOSPITAL OF GARY, INC.	GARY	IN	02120	0	\$0	8062
37-11258-01	METRO HEALTH CENTER	ERIE	PA	02120	230	\$18,117,879	8062
34-03749-10	METROHEALTH MEDICAL CENTER	CLEVELAND	OH	02110	0	\$0	9999
21-12829-01	METROPOLITAN HOSPITAL	GRAND RAPIDS	MI	02120	940	\$100,379,181	8062
34-00341-06	MIAMI VALLEY HOSPITAL	DAYTON	OH	02230	3700	\$325,370,000	8062
21-04073-01	MICHIGAN CAPITAL MEDICAL CENTER	LANSING	MI	02120	3000	\$222,643,270	8062
35-13058-01	MIDAMERICA HEALTHCARE, INC.	SHAWNEE	OK	02120	430	\$32,190,022	8062
06-00649-03	MIDDLESEX HOSPITAL	MIDDLETOWN	CT	02120	1257	\$135,576,000	8062
34-08279-02	MIDDLETOWN REGIONAL HOSPITAL	MIDDLETOWN	OH	02120	30	\$900,000	8093
21-01549-02	MIDMICHIGAN MEDICAL CENTER	MIDLAND	MI	02230	0	\$0	9999
21-15940-02	MIDMICHIGAN REGIONAL MEDICAL	CLARE	MI	02120	0	\$0	9999
37-20548-01	MID-VALLEY HOSPITAL	PECKVILLE	PA	02120	160	\$8,716,358	8062
35-14990-01	MIDWEST CITY REGIONAL HOSPITAL	MIDWEST CITY	OK	02120	1	\$337,559	5947
06-13611-01	MILFORD HOSPITAL	MILFORD	CT	02120	500	\$46,694,697	8062
37-13499-01	MILLCREEK COMMUNITY HOSPITAL	ERIE	PA	02120	315	\$21,959,892	8062
22-16390-01	MILLER-DWAN MEDICAL CENTER, INC.	DULUTH	MN	02120	834	\$52,203,673	8062
37-13831-01	MILTON S. HERSHEY MEDICAL CTR.	HERSHEY	PA	02110	5100	\$0	8062
24-18040-01	MINERAL AREA REGIONAL MEDICAL CENTER	FARMINGTON	MO	02120	515	\$33,577,743	8062
37-28388-01	MINERS HOSP. OF NORTHERN CAMBRIA	SPANGLER	PA	02120	0	\$0	9999
37-17522-01	MINERS MEMORIAL MEDICAL CENTER	COALDALE	PA	02120	370	\$27,339,913	8062
11-29085-01	MINIDOKA MEMORIAL HOSPITAL	RUPERT	ID	02120	240	\$11,481,524	8062
35-27552-01	MISSION HILL MEMORIAL HOSPITAL	SHAWNEE	OK	02121	20	\$650,000	6519
24-11128-02	MISSOURI BAPTIST MEDICAL CENTER	ST. LOUIS	MO	02120	73	\$1,800,000	8082
24-12876-02	MISSOURI DELTA MEDICAL CENTER	SIKESTON	MO	02120	700	\$42,520,355	8062
24-18695-01	MOBERLY REGIONAL MEDICAL CENTER	MOBERLY	MO	02120	210	\$8,800,000	8062
40-17711-01	MOBRIDGE REGIONAL HOSPITAL	MOBRIDGE	SD	02121	130	\$7,455,803	8062
29-08113-03	MONMOUTH MEDICAL CENTER	LONG BRANCH	NJ	02230	0	\$0	8741
37-06575-03	MONONGAHELA VALLEY HOSPITAL, INC.	MONONGAHELA	PA	02120	1000	\$78,140,023	8062
47-16259-01	MONONGALIA GENERAL HOSPITAL	MORGANTOWN	WV	02120	1100	\$81,392,832	8062
48-16485-01	MONROE CLINIC (THE)	MONROE	WI	02120	917	\$62,980,991	8062
37-14870-01	MONSOUR MEDICAL CENTER	JEANNETTE	PA	02120	358	\$20,872,813	8062
29-17623-01	MONTCLAIR COMMUNITY HOSPITAL	MONTCLAIR	NJ	02120	0	\$0	9999
37-12110-02	MONTGOMERY HOSPITAL	NORRISTOWN	PA	02120	1400	\$104,217,000	8062
45-19057-01	MONTGOMERY REGIONAL HOSPITAL	BLACKSBURG	VA	02120	500	\$44,498,710	8062
13-17449-01	MORGAN COUNTY MEMORIAL HOSPITAL	MARTINSVILLE	IN	02121	390	\$23,279,587	8062
29-05139-03	MORRISTOWN MEMORIAL HOSPITAL	MORRISTOWN	NJ	02230	0	\$0	9999
37-15456-01	MOSES TAYLOR HOSPITAL	SCRANTON	PA	02120	791	\$68,305,942	8062
34-00774-04	MOUNT CARMEL HEALTH SYSTEM	COLUMBUS	OH	02120	0	\$0	8062
45-17187-01	MOUNT VERNON HOSPITAL	ALEXANDRIA	VA	02120	715	\$0	8062
29-03297-02	MOUNTAINSIDE HOSPITAL	MONTCLAIR	NJ	02230	1800	\$0	8062

Table C-1. NRC-Licensed Hospitals

21-04080-01	MT. CLEMENS GENERAL HOSPITAL	MT CLEMENS	MI	02120	1300	\$165,134,981	8062
34-00746-02	MT. SINAI MEDICAL CENTER	CLEVELAND	OH	02120	0	\$0	9999
34-00746-03	MT. SINAI MEDICAL CENTER	CLEVELAND	OH	02300	0	\$0	9999
29-02575-03	MUHLENBERG HOSPITAL	PLAINFIELD	NJ	02300	0	\$0	9999
37-15128-01	MUHLENBERG HOSPITAL CENTER	BETHLEHEM	PA	02120	0	\$0	9999
29-02575-01	MUHLENBERG REGIONAL MEDICAL CENTER	PLAINFIELD	NJ	02120	1650	\$76,900,000	8062
21-08317-01	MUNSON MEDICAL CENTER	TRAVERSE CITY	MI	02120	2900	\$195,903,753	8062
35-13157-01	MUSKOGEE REGIONAL MEDICAL CENTER	MUSKOGEE	OK	02120	1003	\$81,732,770	8062
35-13157-02	MUSKOGEE REGIONAL MEDICAL CTR.	MUSKOGEE	OK	02300	1003	\$81,732,770	8062
24-24859-01	NAHC OF MISSOURI INCORPORATED	WENTZVILLE	MO	02120	250	\$10,700,000	8062
07-17618-01	NANTICOKE MEMORIAL HOSPITAL	SEAFORD	DE	02120	0	\$0	9999
37-20518-01	NASON HOSPITAL	ROARING SPRING	PA	02120	240	\$14,728,755	8062
37-09995-01	NAZARETH HOSPITAL	PHILADELPHIA	PA	02120	1280	\$67,911,126	8062
06-02388-01	NEW BRITAIN GENERAL HOSPITAL	NEW BRITAIN	CT	02120	3000	\$164,423,152	8062
06-17892-01	NEW MILFORD HOSPITAL	NEW MILFORD	CT	02120	402	\$43,765,405	8062
29-00102-07	NEWARK BETH ISRAEL MEDICAL CTR.	NEWARK	NJ	02230	3000	\$221,592,000	8062
29-03438-01	NEWCOMB MEDICAL CTR.	VINELAND	NJ	02120	0	\$0	9999
29-12745-01	NEWTON MEMORIAL HOSPITAL	NEWTON	NJ	02120	677	\$65,810,371	8062
45-12768-01	NORFOLK COMMUNITY HOSPITAL	NORFOLK	VA	02120	0	\$0	9999
35-14145-01	NORMAN REGIONAL HOSPITAL	NORMAN	OK	02120	1370	\$120,628,239	8062
24-32010-01	NORMANDY COMMUNITY HOSPITAL	ST. LOUIS	MO	02120	0	\$0	9999
22-24742-01	NORTH COUNTRY HOSPITAL	BEMIDJI	MN	02121	800	\$48,636,425	8062
44-19518-01	NORTH COUNTRY HOSPITAL & HEALTH CTR	NEWPORT	VT	02120	350	\$25,392,285	8062
53-29099-01	NORTH HAWAII COMMUNITY HOSPITAL	KAMUELA	HI	02120	0	\$0	9999
24-18628-01	NORTH KANSAS CITY HOSPITAL	NORTH KANSAS CITY	MO	02120	7	\$246,000	5947
22-05792-01	NORTH MEMORIAL MEDICAL CENTER	ROBBINSDALE	MN	02120	0	\$0	9999
21-06217-02	NORTH OAKLAND MEDICAL CENTERS	PONTIAC	MI	02120	1400	\$109,118,826	8062
21-13963-01	NORTH OTTAWA COMMUNITY HOSPITAL	GRAND HAVEN	MI	02120	510	\$31,779,332	8062
37-06784-01	NORTH PENN HOSPITAL	LANSDALE	PA	02120	730	\$43,394,845	8062
37-19800-01	NORTH PHILADELPHIA HEALTH SYSTEM	PHILADELPHIA	PA	02120	588	\$0	8062
24-17210-01	NORTHEAST REGIONAL MEDICAL CENTER	KIRKSVILLE	MO	03620	0	\$0	9999
24-05245-01	NORTHEAST REGIONAL MEDICAL CENTER	KIRKSVILLE	MO	02120	0	\$0	9999
44-16262-01	NORTHEASTERN VT REGIONAL HOSPITAL	ST. JOHNSBURY	VT	02120	300	\$23,560,383	8062
21-16732-01	NORTHERN MICHIGAN HOSPITALS	PETOSKEY	MI	02120	1000	\$89,637,458	8062
21-20149-01	NORTHWAY MEDICAL CENTER	SOUTHFIELD	MI	02201	0	\$0	9999
48-16749-01	NORTHWEST GENERAL HOSPITAL	MILWAUKEE	WI	02120	325	\$12,804,938	8062
37-10599-01	NORTHWEST MEDICAL CENTER	FRANKLIN	PA	02230	1000	\$61,441,536	8062
22-10236-01	NORTHWEST MEDICAL CTR.	THIEF RIVER FALLS	MN	02120	450	\$27,334,463	8062
45-23057-01	NORTON COMMUNITY HOSPITAL	NORTON	VA	02121	343	\$26,461,056	8062
06-06941-01	NORWALK HOSPITAL	NORWALK	CT	02120	23	\$0	5912
35-10669-02	NOTAMI HOSPITALS OF OKLAHOMA, INC.	LAWTON	OK	02120	0	\$0	9999
21-11494-01	OAKLAND GENERAL HOSPITAL	MADISON HEIGHTS	MI	02120	4	\$5,665,000	6512
21-17068-01	OAKLAWN HOSPITAL	MARSHALL	MI	02121	450	\$33,598,306	8062
21-11457-02	OAKWOOD HOSPITAL - ANNAPOLIS CENTER	WAYNE	MI	02120	0	\$0	8011
21-17789-01	OAKWOOD HOSPITAL - HERITAGE CENTER	TAYLOR	MI	02120	0	\$0	9999
21-04515-01	OAKWOOD HOSPITAL AND MEDICAL CENTER	DEARBORN	MI	02230	4000	\$187,900,000	8062
21-15147-01	OAKWOOD HOSPITAL BEYER CENTER	YPSILANTI	MI	02120	600	\$0	8062
21-16656-01	OAKWOOD HOSPITALS-SEAWAY CENTER	TRENTON	MI	02121	378	\$0	8062
34-26164-01	O'BLENESS MEMORIAL HOSPITAL	ATHENS	OH	02121	368	\$28,724,125	8062
37-06621-01	OHIO VALLEY GENERAL HOSPITAL	MCKEES ROCKS	PA	02120	454	\$40,266,453	8062
47-17282-01	OHIO VALLEY MEDICAL CENTER	WHEELING	WV	02120	1275	\$71,618,352	8062
35-16189-01	OHM MEDICAL CENTER, INC.	OKMULGEE	OK	02120	220	\$15,274,549	8062
21-20487-01	ONTONAGON MEMORIAL HOSPITAL	ONTONAGON	MI	02120	140	\$6,590,117	8062
21-24363-01	OTSEGO MEMORIAL HOSPITAL	GAYLORD	MI	02120	0	\$0	9999
29-06431-01	OUR LADY OF LOURDES MEDICAL CENTER	CAMDEN	NJ	02120	2250	\$162,761,000	8062
24-18733-01	OZARKS MEDICAL CENTER	WEST PLAINS	MO	02120	1000	\$55,458,237	8062
29-13453-01	PALISADES MEDICAL CENTER OF NEW NY	NORTH BERGEN	NJ	02120	57	\$640,000	8351
37-15960-01	PALMERTON HOSPITAL	PALMERTON	PA	02120	320	\$19,976,870	8062
37-16435-01	PAOLI MEMORIAL HOSPITAL	PAOLI	PA	02120	535	\$0	8062
24-16616-01	PARKLAND HEALTH CENTER	FARMINGTON	MO	02120	350	\$15,400,000	8062
24-18020-01	PARKLANE MEDICAL CENTER	KANSAS CITY	MO	02120	0	\$0	9999
13-01284-02	PARKVIEW MEMORIAL HOSPITAL	FORT WAYNE	IN	02230	4165	\$259,657,288	8062
34-08051-01	PARMA COMMUNITY GENERAL HOSPITAL	PARMA	OH	02120	1667	\$97,420,340	8062
29-07470-03	PASCACK VALLEY HOSPITAL	WESTWOOD	NJ	02120	3	\$100,000	8699
29-07470-04	PASCACK VALLEY HOSPITAL	WESTWOOD	NJ	02300	3	\$100,000	8699
52-15139-01	PAVIA HOSPITAL	SANTURCE	PR	02120	760	\$34,800,000	8062
24-17486-01	PEMISCOT MEMORIAL HEALTH SYSTEMS	HAYTI	MO	02121	750	\$23,920,325	8062
21-18667-01	PENNOCK HOSPITAL	HASTINGS	MI	02120	525	\$31,624,712	8062
37-06864-06	PENNSYLVANIA HOSPITAL	PHILADELPHIA	PA	02120	125	\$0	8322
13-26526-01	PERRY COUNTY MEMORIAL HOSPITAL	TELL CITY	IN	02120	0	\$0	9999
24-17037-02	PERRY CTY. MEMORIAL HOSPITAL	PERRYVILLE	MO	02121	0	\$0	8062
24-18295-01	PHELPS COUNTY REGIONAL MED. CNTR.	ROLLA	MO	02120	831	\$54,992,235	8062

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37-19105-02	PHILIPSBURG AREA HOSPITAL	PHILIPSBURG	PA	02120	263	\$12,933,992	8062
37-10237-01	PHOENIXVILLE HOSPITAL OF THE	PHOENIXVILLE	PA	02120	789	\$48,500,000	8062
34-17835-01	PHS MT. SINAI MEDICAL CENTER EAST	RICHMOND HEIGHTS	OH	02120	310	\$1,748,930	8062
34-21409-01	PIKE COMMUNITY HOSPITAL	WAVERLY	OH	02121	200	\$11,967,826	8062
24-18095-01	PIKE COUNTY MEMORIAL HOSPITAL	LOUISIANA	MO	02120	150	\$8,351,889	8062
37-00358-04	PINNACLE HEALTH SYSTEM HOSPITALS	HARRISBURG	PA	02120	0	\$0	8741
47-17286-01	PLEASANT VALLEY HOSPITAL	POINT PLEASANT	WV	02121	637	\$43,093,212	8062
11-27072-01	POCATELLO REGIONAL MED. CTR.	POCATELLO	ID	02120	510	\$0	8062
37-05811-02	POCONO MEDICAL CENTER	EAST STROUDSBURG	PA	02120	1057	\$75,693,000	8062
52-11534-01	PONCE DISTRICT HOSPITAL	PONCE	PR	02120	0	\$0	9211
21-04081-03	PONTIAC OSTEOPATHIC HOSPITAL	PONTIAC	MI	02120	13	\$390,000	8093
21-20137-01	PORT HURON HOSPITAL	PORT HURON	MI	02120	1220	\$80,533,604	8062
21-18525-01	PORTAGE HOSPITAL	HANCOCK	MI	02120	475	\$26,936,853	8062
44-19050-01	PORTER MEDICAL CENTER, INC.	MIDDLEBURY	VT	02120	500	\$39,313,163	8741
13-17073-01	PORTER MEMORIAL HOSPITAL	VALPARAISO	IN	02120	1600	\$48,639,025	8062
45-15367-01	POTOMAC HOSPITAL	WOODBRIDGE	VA	02120	959	\$91,588,537	8062
47-21163-01	POTOMAC VALLEY HOSPITAL	KEYSER	WV	02120	185	\$13,738,159	8062
37-03906-01	POTTSTOWN MEMORIAL MEDICAL CTR.	POTTSTOWN	PA	02120	1100	\$86,871,000	8062
37-00266-03	POTTSVILLE HOSPITAL & WARNE CLINIC	POTTSVILLE	PA	02120	710	\$48,023,375	8062
49-23163-01	POWELL HOSPITAL DISTRICT	POWELL	WY	02120	200	\$1,038,372	6512
40-16775-01	PRAIRIE LAKES HEALTH CARE SYS., INC	WATERTOWN	SD	02120	500	\$30,368,561	8062
47-16720-01	PRESTON MEMORIAL HOSPITAL	KINGWOOD	WV	02120	250	\$12,280,620	8062
45-19485-01	PRINCE WILLIAM HOSPITAL	MANASSAS	VA	02120	600	\$77,316,287	8062
47-16307-01	PRINCETON COMMUNITY HOSPITAL	PRINCETON	WV	02120	1000	\$90,770,921	8062
08-01728-01	PROVIDENCE HOSPITAL	WASHINGTON	DC	02120	2100	\$143,213,000	8062
34-01654-02	PROVIDENCE HOSPITAL	SANDUSKY	OH	02120	750	\$42,231,314	8062
21-02802-03	PROVIDENCE HOSPITAL	SOUTHFIELD	MI	02120	3100	\$346,304,000	8062
21-26632-01	PROVIDENCE HOSPITAL	SOUTHFIELD	MI	02230	3100	\$346,304,000	8062
50-17838-01	PROVIDENCE HOSPITAL	ANCHORAGE	AK	02120	3000	\$0	8062
37-18286-01	PUNXSUTAWNEY AREA HOSPITAL	PUNXSUTAWNEY	PA	02120	300	\$19,398,284	8062
13-26028-02	PUTNAM COUNTY HOSPITAL	GREENCASTLE	IN	02220	270	\$16,831,193	8062
47-23070-01	PUTNAM GENERAL HOSPITAL	HURRICANE	WV	02120	330	\$26,410,455	8062
40-15633-01	QUEEN OF PEACE HOSPITAL	MITCHELL	SD	02120	660	\$38,940,204	8062
53-16533-02	QUEEN'S MEDICAL CTR.	HONOLULU	HI	02230	2	\$0	8062
29-12109-01	RAHWAY HOSPITAL	RAHWAY	NJ	02120	935	\$77,631,919	8062
47-18046-01	RALEIGH GENERAL HOSPITAL	BECKLEY	WV	02120	1312	\$140,000,000	8062
40-00238-04	RAPID CITY REGIONAL HOSPITAL, INC.	RAPID CITY	SD	02120	2733	\$195,337,000	8062
45-17606-01	RAPPAHANNOCK GENERAL HOSPITAL	KILMARNOCK	VA	02120	450	\$26,045,625	8062
29-11935-01	RARITAN BAY MEDICAL CENTER	PERTH AMBOY	NJ	02120	1725	\$154,389,269	8062
48-32144-01	RAWSON MEDICAL CENTER	FRANKLIN	WI	02120	0	\$0	9999
24-18279-01	RAY COUNTY MEMORIAL HOSPITAL	RICHMOND	MO	02120	210	\$11,000,358	8062
37-00485-04	READING HOSPITAL & MEDICAL CENTER	WEST READING	PA	02120	3600	\$273,544,696	8062
21-32023-01	REED CITY HOSPITAL	REED CITY	MI	02121	300	\$16,980,282	8062
22-02003-04	REGIONS HOSPITAL	ST. PAUL	MN	02120	3000	\$228,730,000	8062
13-03284-02	REID HOSPITAL & HEALTH	RICHMOND	IN	02120	1400	\$102,084,941	8062
13-03284-03	REID HOSPITAL & HEALTH CARE SERVCS	RICHMOND	IN	02300	1400	\$102,084,941	8062
24-24405-01	RESEARCH BELTON HOSPITAL	BELTON	MO	02120	150	\$0	8062
24-18625-01	RESEARCH MEDICAL CENTER	KANSAS CITY	MO	02230	2400	\$112,300,000	8062
47-08019-01	REYNOLDS MEMORIAL HOSPITAL, INC.	GLEN DALE	WV	02120	4	\$0	7991
22-09562-01	RICE MEMORIAL HOSPITAL	WILLMAR	MN	02120	765	\$52,940,592	8062
37-15068-01	RIDDLE MEMORIAL HOSPITAL	MEDIA	PA	02120	1260	\$75,558,748	8062
22-17053-01	RIDGEVIEW MEDICAL CENTER	WACONIA	MN	02120	1000	\$45,200,000	8062
52-24937-01	RIO PIEDRAS SONO-NUCLEAR CENTER	RIO PIEDRAS	PR	02200	3	\$190,000	5943
48-32054-01	RIPON MEDICAL CENTER	RIPON	WI	02121	150	\$11,630,824	8062
21-26213-01	RIVER DISTRICT HOSPITAL	EAST CHINA	MI	02120	400	\$26,598,000	8062
48-26686-01	RIVERSIDE MEDICAL CENTER	WAUPACA	WI	02120	290	\$19,358,670	8062
34-13234-01	RIVERSIDE MERCY HOSPITAL	TOLEDO	OH	02120	912	\$60,239,213	8062
34-01055-01	RIVERSIDE METHODIST HOSPITALS	COLUMBUS	OH	02230	35	\$0	8062
45-09001-01	RIVERSIDE REGIONAL MEDICAL CENTER	NEWPORT NEWS	VA	02230	3500	\$190,259,000	8062
45-18488-01	RIVERSIDE TAPPAHANNOCK HOSPITAL	TAPPAHANNOCK	VA	02120	225	\$9,500,000	8062
45-23447-01	RIVERSIDE WALTER REED HOSPITAL	GLOUCESTER	VA	02120	274	\$0	8062
49-21004-01	RIVERTON MEMORIAL HOSPITAL, LLC	RIVERTON	WY	02120	0	\$0	8062
48-26537-01	RIVERVIEW CLINIC-DEAN MEDICAL CTR.	JANESVILLE	WI	02200	0	\$0	9999
48-12878-01	RIVERVIEW HOSPITAL	WISCONSIN RAPIDS	WI	02120	600	\$39,697,793	8062
13-16286-01	RIVERVIEW HOSPITAL	NOBLESVILLE	IN	02120	950	\$10,843,314	8062
29-09701-01	RIVERVIEW MEDICAL CENTER	RED BANK	NJ	02120	28	\$0	8351
29-09701-02	RIVERVIEW MEDICAL CTR.	RED BANK	NJ	02300	28	\$0	8351
47-17046-01	ROANE GENERAL HOSPITAL	SPENCER	WV	02121	220	\$11,488,873	8062
29-10173-02	ROBERT WOOD JOHNSON UNIV. HOSPITAL	NEW BRUNSWICK	NJ	02120	3100	\$383,353,000	8062
29-16145-01	ROBERT WOOD JOHNSON UNIV. HOSPITAL	HAMILTON	NJ	02120	0	\$0	9999
34-09621-01	ROBINSON MEMORIAL HOSPITAL	RAVENNA	OH	02120	974	\$95,216,000	8062
45-05594-01	ROCKINGHAM MEMORIAL HOSPITAL	HARRISONBURG	VA	02120	1465	\$104,440,800	8062

Table C-1. NRC-Licensed Hospitals

06-13001-02	ROCKVILLE GENERAL HOSPITAL	VERNON	CT	02120	600	\$49,327,802	8062
37-13952-01	ROXBOROUGH MEMORIAL HOSPITAL	PHILADELPHIA	PA	02120	604	\$40,214,448	8062
55-17986-01	ROY LESTER SCHNEIDER HOSPITAL	ST. THOMAS	VI	02121	600	\$17,500,000	8062
13-32145-01	RUSH MEMORIAL HOSPITAL	RUSHVILLE	IN	02120	200	\$10,313,218	8062
45-19940-01	RUSSELL CTY. MEDICAL CTR., INC.	LEBANON	VA	02121	3	\$150,000	6512
44-14121-01	RUTLAND REGIONAL MEDICAL CENTER	RUTLAND	VT	02120	30	\$1,800,000	8011
52-21026-01	RYDER MEMORIAL HOSPITAL	HUMACAO	PR	02120	1250	\$43,862,503	8062
37-00554-03	SACRED HEART HOSPITAL	ALLENTOWN	PA	02230	1058	\$81,717,789	8062
40-01683-01	SACRED HEART HOSPITAL	YANKTON	SD	02120	900	\$41,400,000	8062
48-03116-01	SACRED HEART HOSPITAL	EAU CLAIRE	WI	02120	800	\$103,000,000	8062
35-07163-01	SAINT FRANCIS HOSPITAL	TULSA	OK	02120	4000	\$319,574,768	8062
13-18880-01	SAINT JOSEPH'S HOSPITAL OF MARSHALL	PLYMOUTH	IN	02120	295	\$21,893,000	8062
21-01078-01	SAINT MARY'S HEALTH SERVICES	GRAND RAPIDS	MI	02230	0	\$0	9999
34-14016-02	SALEM COMMUNITY HOSPITAL	SALEM	OH	02120	569	\$60,975,497	8062
24-18891-01	SALEM MEMORIAL DISTRICT HOSPITAL	SALEM	MO	02220	170	\$11,377,298	8062
21-16317-01	SALINE COMMUNITY HOSPITAL	SALINE	MI	02120	0	\$0	8062
34-18591-01	SAMARITAN HOSPITAL	ASHLAND	OH	02120	650	\$38,256,962	8062
52-25379-01	SAN JORGE CHILDREN'S HOSPITAL	SANTURCE	PR	02120	400	\$17,800,000	8062
52-06121-02	SAN JUAN CITY HOSPITAL	SAN JUAN	PR	02120	0	\$0	8062
21-16542-03	SCHOOLCRAFT MEMORIAL HOSPITAL	MANISTIQUE	MI	02121	162	\$14,289,957	8062
13-26500-01	SCOTT MEMORIAL HOSPITAL	SCOTTSBURG	IN	02120	150	\$11,617,345	8062
34-24358-01	SELBY GENERAL HOSPITAL	MARIETTA	OH	02120	213	\$15,830,570	8062
45-09087-01	SENTARA HAMPTON GENERAL HOSPITAL	HAMPTON	VA	02120	2000	\$549,290,000	8062
45-00131-02	SENTARA SOUTHSIDE HOSPITALS	NORFOLK	VA	02230	0	\$0	8071
37-11079-01	SEWICKLEY VALLEY HOSPITAL	SEWICKLEY	PA	02120	1400	\$0	8741
37-02523-01	SHADYSIDE HOSPITAL	PITTSBURGH	PA	02230	0	\$0	9999
06-08020-02	SHARON HOSPITAL	SHARON	CT	02120	450	\$29,033,034	8062
37-01626-04	SHARON REGIONAL HEALTH SYSTEM	SHARON	PA	02120	1200	\$87,663,019	8062
48-32078-01	SHAWANO MEDICAL CENTER	SHAWANO	WI	02220	300	\$18,452,305	8062
45-11519-02	SHENANDOAH COUNTY MEMORIAL	WOODSTOCK	VA	02120	0	\$0	9999
45-06082-01	SHORE HEALTH SERVICES, INC.	NASSAWADOX	VA	02120	3	\$210,000	6411
29-11642-01	SHORE MEMORIAL HOSPITAL	SOMERS POINT	NJ	02120	1600	\$104,834,331	8062
08-07398-03	SIBLEY MEMORIAL HOSPITAL	WASHINGTON	DC	02120	1400	\$65,000,000	8062
25-19824-01	SIDNEY HEALTH CENTER	SIDNEY	MT	02120	300	\$19,498,221	8062
21-00299-06	SINAI HOSPITAL	DETROIT	MI	02300	3092	\$361,392,000	8062
21-00299-04	SINAI HOSPITAL	DETROIT	MI	02230	3092	\$361,392,000	8062
48-03280-01	SINAI SAMARITAN MEDICAL CENTER	MILWAUKEE	WI	02120	0	\$0	9999
40-12378-01	SIOUX VALLEY HOSPITAL ASSOC.	SIOUX FALLS	SD	02120	3500	\$324,533,000	8062
37-16602-01	SOLDIERS & SAILORS MEMORIAL HOSPITAL	WELLSBORO	PA	02120	375	\$23,929,985	8062
37-02218-02	SOMERSET HOSPITAL	SOMERSET	PA	02120	562	\$40,532,007	8062
29-03089-01	SOMERSET MEDICAL CENTER	SOMERVILLE	NJ	02120	1700	\$119,957,926	8062
21-26266-01	SOUTH HAVEN COMMUNITY HOSPITAL	SOUTH HAVEN	MI	02220	220	\$19,453,029	8062
29-13911-01	SOUTH JERSEY HOSPITAL	MILLVILLE	NJ	02120	375	\$0	8062
29-16384-01	SOUTH JERSEY HOSPITAL - ELMER	ELMER	NJ	02120	291	\$0	8062
45-18103-01	SOUTHAMPTON MEMORIAL HOSPITAL	FRANKLIN	VA	02120	440	\$1,580,204	8062
35-27620-01	SOUTHCREST HOSPITAL	TULSA	OK	02120	0	\$0	9999
24-00128-03	SOUTHEAST MISSOURI HOSPITAL	CAPE GIRARDEAU	MO	02120	1400	\$152,000,000	8062
34-16588-01	SOUTHEASTERN OHIO REGIONAL MEDICAL	CAMBRIDGE	OH	02120	8	\$320,000	8099
37-17886-01	SOUTHERN CHESTER CTY. MEDICAL CTR.	WEST GROVE	PA	02120	400	\$27,355,967	8062
29-17736-01	SOUTHERN OCEAN COUNTY HOSPITAL	MANAHAWKIN	NJ	02120	0	\$0	9999
34-15938-02	SOUTHERN OHIO MEDICAL CENTER	PORTSMOUTH	OH	02120	1100	\$0	8062
45-19782-01	SOUTHSIDE COMMUNITY HOSPITAL	FARMVILLE	VA	02120	465	\$20,800,000	8062
45-00317-02	SOUTHSIDE REGIONAL MEDICAL CENTER	PETERSBURG	VA	02120	1400	\$105,194,263	8062
34-18514-01	SOUTHWEST GENERAL HEALTH CENTER	MIDDLEBURG HEIGHTS	OH	02120	2980	\$131,372,000	8062
44-11345-02	CENTER	BENNINGTON	VT	02120	650	\$46,389,963	8062
44-19107-01	SPRINGFIELD HOSPITAL	SPRINGFIELD	VT	02120	330	\$30,537,209	8062
48-02419-03	ST. AGNES HOSPITAL	FOND DU LAC	WI	02120	1500	\$105,845,708	8062
37-13651-01	ST. AGNES MEDICAL CENTER	PHILADELPHIA	PA	02120	840	\$60,712,617	8062
11-27306-01	ST. ALPHONSUS REG. MEDICAL CENTER	BOISE	ID	02120	2300	\$99,400,000	8062
35-01428-03	ST. ANTHONY HOSPITAL	OKLAHOMA CITY	OK	02120	1500	\$139,047,160	8062
13-15933-01	ST. ANTHONY MEDICAL CENTER, INC.	CROWN POINT	IN	02120	1400	\$65,000,000	8699
13-13144-02	ST. ANTHONY MEMORIAL HEALTH CNTR.	MICHIGAN CITY	IN	02120	0	\$0	8062
24-01041-04	ST. ANTHONY'S MEDICAL CENTER	ST. LOUIS	MO	02120	172	\$6,600,000	8062
29-01608-03	ST. BARNABAS MEDICAL CENTER	LIVINGSTON	NJ	02230	2600	\$0	8062
11-27324-01	ST. BENEDICTS FAMILY MEDICAL CENTER	JEROME	ID	02121	180	\$12,030,779	8062
13-01148-01	ST. CATHERINE HOSPITAL	EAST CHICAGO	IN	02120	2525	\$118,200,000	8062
48-01670-01	ST. CATHERINE'S HOSPITAL	KENOSHA	WI	02120	900	\$41,400,000	8062
34-15072-01	ST. CHARLES HOSPITAL	OREGON	OH	02120	0	\$0	9999
37-15221-01	ST. CLAIR MEMORIAL HOSPITAL	PITTSBURGH	PA	02120	1192	\$105,650,000	8062
29-13746-02	ST. CLARE'S HOSPITAL DOVER	DOVER	NJ	02230	3	\$0	8011
29-20527-01	ST. CLARE'S HOSPITAL SUSSEX	SUSSEX	NJ	02120	300	\$0	8062
29-10245-02	ST. CLARE'S HOSPITAL/DENVILLE	DENVILLE	NJ	02120	6	\$330,000	8071

Table C-1. NRC-Licensed Hospitals

22-10258-01	ST. CLOUD HOSPITAL	ST. CLOUD	MN	02120	2000	\$183,425,714	8062
29-04333-01	ST. ELIZABETH HOSPITAL	ELIZABETH	NJ	02120	1285	\$96,034,036	8062
48-10219-01	ST. ELIZABETH HOSPITAL	APPLETON	WI	02120	1398	\$64,900,000	8062
13-08615-04	ST. ELIZABETH MEDICAL CENTER	LAFAYETTE	IN	02230	1100	\$0	8062
37-16245-01	ST. FRANCIS CENTRAL HOSPITAL	PITTSBURGH	PA	02120	0	\$0	9999
21-16481-01	ST. FRANCIS HOSPITAL	ESCANABA	MI	02120	0	\$0	8062
24-26415-01	ST. FRANCIS HOSPITAL	MARYVILLE	MO	02121	300	\$0	8062
48-03374-02	ST. FRANCIS HOSPITAL	MILWAUKEE	WI	02120	1600	\$114,362,849	8062
13-02128-03	ST. FRANCIS HOSPITAL & HEALTH CNTR.	BEECH GROVE	IN	02230	3500	\$0	8011
06-00854-03	ST. FRANCIS HOSPITAL & MEDICAL CTR.	HARTFORD	CT	02230	3300	\$328,567,638	8062
37-30484-01	ST. FRANCIS HOSPITAL CRANBERRY	CRANBERRY TOWNSHIP	PA	02120	0	\$0	9999
37-07739-01	ST. FRANCIS HOSPITAL OF NEW CASTLE	NEW CASTLE	PA	02120	668	\$39,216,994	8062
07-16862-01	ST. FRANCIS HOSPITAL, INC.	WILMINGTON	DE	02120	1200	\$100,480,960	8062
29-00232-08	ST. FRANCIS MEDICAL CENTER	TRENTON	NJ	02120	1150	\$822,605	8062
24-00158-03	ST. FRANCIS MEDICAL CENTER	CAPE GIRARDEAU	MO	02220	1130	\$52,300,000	8062
37-01072-01	ST. FRANCIS MEDICAL CENTER	PITTSBURGH	PA	02120	2800	\$169,706,851	8062
22-20034-01	ST. FRANCIS MEDICAL CTR.	BRECKENRIDGE	MN	02120	166	\$0	8062
53-11966-01	ST. FRANCIS MEDICAL CTR.	HONOLULU	HI	02120	1400	\$148,036,111	8062
53-29004-01	ST. FRANCIS MEDICAL CTR. - WEST	EWA BEACH	HI	02120	581	\$54,880,000	8062
22-15538-01	ST. FRANCIS REGIONAL MEDICAL CENTER	SHAKOPPE	MN	02120	472	\$32,086,338	8062
22-18838-01	ST. GABRIEL'S HOSPITAL	LITTLE FALLS	MN	02121	325	\$17,509,945	8062
25-13173-02	ST. JAMES COMMUNITY HOSPITAL	BUTTE	MT	02120	461	\$20,700,000	8062
29-12997-01	ST. JAMES HOSPITAL	NEWARK	NJ	02120	525	\$0	8062
21-03210-01	ST. JOHN HOSPITAL & MEDICAL CENTER	DETROIT	MI	02120	3646	\$432,269,000	8062
35-00376-02	ST. JOHN MEDICAL CENTER	TULSA	OK	02120	5000	\$346,641,000	8062
21-13973-01	ST. JOHN NORTHEAST COMMUNITY	DETROIT	MI	02120	765	\$45,453,234	8062
34-01334-02	ST. JOHN WEST SHORE HOSPITAL	WESTLAKE	OH	02120	2	\$68,000	5947
13-17793-01	ST. JOHN'S HEALTH SYSTEM	ANDERSON	IN	02120	0	\$0	9999
24-00794-03	ST. JOHN'S MERCY MEDICAL CENTER	ST. LOUIS	MO	02120	4700	\$300,169,000	8062
24-00866-02	ST. JOHN'S REGIONAL HEALTH CENTER	SPRINGFIELD	MO	02120	4400	\$272,775,836	8062
24-01090-03	ST. JOHN'S REGIONAL MEDICAL CENTER	JOPLIN	MO	02120	21	\$0	8351
24-02704-01	ST. JOSEPH HEALTH CENTER	KANSAS CITY	MO	02120	1550	\$130,895,749	8062
24-15159-01	ST. JOSEPH HEALTH CENTER	ST. CHARLES	MO	02120	0	\$0	9999
21-11850-01	ST. JOSEPH HOSPITAL	MOUNT CLEMENS	MI	02120	50	\$0	7374
24-11858-01	ST. JOSEPH HOSPITAL	KIRKWOOD	MO	02120	1178	\$54,500,000	8062
13-11385-01	ST. JOSEPH HOSPITAL & HEALTH CENTER	KOKOMO	IN	02120	900	\$58,608,778	8062
06-06922-02	ST. JOSEPH MEDICAL CENTER	STAMFORD	CT	02120	625	\$28,400,000	8062
13-00418-02	ST. JOSEPH MEDICAL CENTER	FORT WAYNE	IN	02120	9	\$0	8093
21-11651-01	ST. JOSEPH MERCY HOSPITAL	PONTIAC	MI	02120	0	\$0	8011
37-02763-01	ST. JOSEPH REGIONAL HEALTH NETWORK	READING	PA	02120	2200	\$102,800,000	8062
11-27371-01	ST. JOSEPH REGIONAL MEDICAL CENTER	LEWISTON	ID	02120	0	\$0	9999
35-14046-02	ST. JOSEPH REGIONAL MEDICAL CENTER	PONCA CITY	OK	02120	0	\$0	8211
48-16117-01	ST. JOSEPH'S COMM.HOSP.OF WEST BEND	WEST BEND	WI	02120	540	\$34,332,758	8062
29-10191-02	ST. JOSEPH'S HOSP. & MEDICAL CTR.	PATERSON	NJ	02230	4566	\$301,626,000	8062
48-16772-01	ST. JOSEPH'S HOSPITAL	CHIPPEWA FALLS	WI	02121	650	\$32,241,614	8062
48-00537-03	ST. JOSEPH'S HOSPITAL	MILWAUKEE	WI	02120	2597	\$168,260,897	8062
13-02650-02	ST. JOSEPH'S MEDICAL CENTER	SOUTH BEND	IN	02120	680	\$20,000,000	8741
22-16966-01	ST. JOSEPH'S MEDICAL CENTER	BRAINERD	MN	02120	2	\$177,725	7299
52-16061-01	ST. LUKE'S EPISCOPAL HOSPITAL	PONCE	PR	02120	602	\$62,070,950	8062
34-17056-01	ST. LUKE'S HOSPITAL	MAUMEE	OH	02120	1325	\$93,493,961	8062
37-07939-01	ST. LUKE'S HOSPITAL	BETHLEHEM	PA	02230	1	\$89,000	8011
22-01717-01	ST. LUKE'S HOSPITAL	DULUTH	MN	02120	50	\$0	8322
24-01570-03	ST. LUKE'S HOSPITAL	CHESTERFIELD	MO	02230	3	\$150,000	6512
24-00889-01	ST. LUKE'S HOSPITAL OF KANSAS CITY	KANSAS CITY	MO	02110	3111	\$277,397,210	8062
37-12915-01	ST. LUKES HOSPITAL-AlLENTOWN CAMPUS	ALLENTOWN	PA	02120	580	\$0	8062
34-00398-10	ST. LUKE'S MEDICAL CENTER	CLEVELAND	OH	02300	1100	\$0	8062
34-00398-08	ST. LUKE'S MEDICAL CENTER	CLEVELAND	OH	02120	1100	\$0	8062
48-01338-01	ST. LUKE'S MEDICAL CENTER	MILWAUKEE	WI	02230	4000	\$187,900,000	8062
24-18631-02	ST. LUKE'S NORTHLAND HOSPITAL	KANSAS CITY	MO	02120	300	\$0	8062
47-23517-01	ST. LUKE'S PRINCETON, LLC	BLUEFIELD	WV	02121	190	\$0	8062
37-08336-02	ST. LUKE'S QUAKERTOWN HOSPITAL	QUAKERTOWN	PA	02120	45	\$4,100,000	8011
11-27312-01	ST. LUKES REGIONAL MEDICAL CENTER	BOISE	ID	02120	2800	\$215,626,000	8062
48-08325-01	ST. LUKE'S SOUTH SHORE	CUDAHY	WI	02121	700	\$0	8062
37-15400-01	ST. MARY HOSPITAL	LANGHORNE	PA	02120	0	\$0	8082
13-03459-03	ST. MARY MEDICAL CTR. - HOBART	HOBART	IN	02120	700	\$68,321,621	8062
24-08960-02	ST. MARY'S HEALTH CENTER	ST. LOUIS	MO	02230	2400	\$0	8062
24-17477-01	ST. MARY'S HEALTH CENTER	JEFFERSON CITY	MO	02120	0	\$0	8062
40-07328-03	ST. MARY'S HEALTHCARE CTR.OF PIERRE	PIERRE	SD	02120	450	\$20,960,924	8062
29-02114-03	ST. MARY'S HOSPITAL	PASSAIC	NJ	02120	900	\$60,370,407	8062
45-11367-02	ST. MARY'S HOSPITAL	RICHMOND	VA	02120	1745	\$172,661,000	8062
48-01828-01	ST. MARY'S HOSPITAL	MILWAUKEE	WI	02120	2100	\$138,567,000	8062
48-05470-01	ST. MARY'S HOSPITAL	RHINELANDER	WI	02120	50	\$0	8049

Table C-1. NRC-Licensed Hospitals

45-23001-01	ST. MARY'S HOSPITAL	NORTON	VA	02120	466	\$27,458,258	8062
06-00679-01	ST. MARY'S HOSPITAL	WATERBURY	CT	02120	1520	\$35,356,000	8062
47-09576-01	ST. MARY'S HOSPITAL	HUNTINGTON	WV	02120	0	\$0	9999
21-14849-01	ST. MARY'S HOSPITAL	LIVONIA	MI	02120	0	\$0	9999
47-09576-02	ST. MARY'S HOSPITAL	HUNTINGTON	WV	02300	0	\$0	9999
48-00919-03	ST. MARY'S HOSPITAL MEDICAL CENTER	MADISON	WI	02120	1400	\$0	8062
48-12786-01	ST. MARY'S HOSPITAL MEDICAL CENTER	GREEN BAY	WI	02120	571	\$44,928,766	8062
24-20274-01	ST. MARY'S HOSPITAL OF BLUE SPRINGS	BLUE SPRINGS	MO	02120	550	\$41,892,237	8062
35-17087-01	ST. MARY'S HOSPITAL OF ENID	ENID	OK	02120	650	\$0	8062
48-17367-01	ST. MARY'S HOSPITAL OF SUPERIOR	SUPERIOR	WI	02120	231	\$392,023,000	8062
48-17393-01	ST. MARY'S HOSPITAL OZAUKEE	MEQUON	WI	02120	825	\$59,783,000	8062
13-03226-03	ST. MARY'S MEDICAL CENTER	EVANSVILLE	IN	02300	4300	\$0	8062
13-03226-04	ST. MARY'S MEDICAL CENTER	EVANSVILLE	IN	02120	4300	\$0	8062
22-02396-03	ST. MARY'S MEDICAL CENTER	DULUTH	MN	02120	1626	\$392,023,000	8062
48-01165-01	ST. MARY'S MEDICAL CTR., INC.	RACINE	WI	02120	1120	\$51,800,000	8062
22-13487-01	ST. MARY'S REGIONAL HEALTH CENTER	DETROIT LAKES	MN	02121	350	\$392,023,000	8062
37-13551-02	ST. MARY'S REGIONAL MEDICAL CENTER	ST. MARYS	PA	02120	3	\$150,000	8399
34-05582-01	ST. MICHAEL HOSPITAL	CLEVELAND	OH	02120	435	\$0	8062
48-02435-01	ST. MICHAEL HOSPITAL	MILWAUKEE	WI	02120	1027	\$0	8062
48-12272-01	ST. MICHAEL'S HOSPITAL	STEVENS POINT	WI	02121	655	\$61,555,000	8062
29-06759-01	ST. MICHAEL'S MEDICAL CTR.	NEWARK	NJ	02120	0	\$0	9999
48-17547-01	ST. NICHOLAS HOSPITAL	SHEBOYGAN	WI	02120	450	\$50,000,000	8062
22-04178-02	ST. OLAF HOSPITAL	AUSTIN	MN	02120	3	\$0	5947
25-16773-02	ST. PATRICK HOSPITAL	MISSOULA	MT	02120	1240	\$105,775,231	8062
25-12453-02	ST. PETER'S COMMUNITY HOSPITAL	HELENA	MT	02120	700	\$53,433,090	8062
29-07566-01	ST. PETER'S MEDICAL CENTER	NEW BRUNSWICK	NJ	02120	2600	\$217,345,518	8062
34-12100-03	ST. RITA'S MEDICAL CENTER	LIMA	OH	02120	2000	\$157,890,119	8062
34-01856-01	ST. VINCENT CHARITY HOSPITAL	CLEVELAND	OH	02230	0	\$0	8062
37-05125-01	ST. VINCENT HEALTH CENTER	ERIE	PA	02230	2300	\$151,554,346	8062
13-00133-02	ST. VINCENT HOSP. & HLTH. CARE CNTR	INDIANAPOLIS	IN	02230	5075	\$465,515,000	8062
48-03220-03	ST. VINCENT HOSPITAL	GREEN BAY	WI	02120	2190	\$127,340,030	8062
25-07553-01	ST. VINCENT HOSPITAL & HEALTH CTR.	BILLINGS	MT	02120	6	\$190,000	8699
34-01216-03	ST. VINCENT MERCY MEDICAL CENTER	TOLEDO	OH	02120	3400	\$172,986,382	8062
06-00843-03	ST. VINCENT'S MEDICAL CENTER	BRIDGEPORT	CT	02230	0	\$0	8062
06-06697-02	STAMFORD HOSPITAL	STAMFORD	CT	02120	50	\$0	8069
21-21265-01	STANDISH COMMUNITY HOSPITAL	STANDISH	MI	02121	270	\$9,418,715	8062
35-16149-01	STILLWATER MEDICAL CENTER	STILLWATER	OK	02120	600	\$44,623,393	8062
45-25136-01	STONEWALL JACKSON HOSPITAL	LEXINGTON	VA	02120	374	\$18,607,867	8062
47-18080-01	STONEWALL JACKSON MEMORIAL HOSPITAL	WESTON	WV	02120	270	\$21,401,730	8062
53-18126-01	STRAUB CLINIC & HOSPITAL, INC.	HONOLULU	HI	02120	0	\$0	9999
21-16475-01	STURGIS HOSPITAL	STURGIS	MI	02120	158	\$0	8062
37-15350-01	SUBURBAN GENERAL HOSPITAL	PITTSBURGH	PA	02120	607	\$479,032	8062
34-03329-02	SUMMA HEALTH SYSTEMS	AKRON	OH	02230	3600	\$338,641,000	8062
37-11272-02	SUNBURY COMMUNITY HOSPITAL	SUNBURY	PA	02120	455	\$22,600,498	8062
35-15626-01	TAHLEQUAH CITY HOSPITAL	TAHLEQUAH	OK	02121	317	\$19,608,864	8062
21-18979-01	TAWAS ST. JOSEPH HOSPITAL	TAWAS CITY	MI	02120	450	\$30,063,266	8741
52-15086-01	TEACHERS HOSPITAL	SAN JUAN	PR	02120	0	\$0	9999
37-11704-01	TEMPLE EAST, INC.	PHILADELPHIA	PA	02120	0	\$0	9999
37-06572-02	TEMPLE LOWER BUCKS HOSPITAL, INC.	BRISTOL	PA	02120	770	\$72,336,616	8062
37-18263-01	TENET HEALTH SYSTEM	WARMINSTER	PA	02120	15	\$0	8062
37-12141-01	TENET HEALTH SYSTEM CITY AVE. L.L.C	PHILADELPHIA	PA	02120	600	\$0	8062
37-06855-01	TENET HEALTH SYSTEM CITY AVE., LLC	PHILADELPHIA	PA	02120	500	\$0	8062
37-04172-01	TENET HEALTH SYSTEM ELKINS PARK LLC	ELKINS PARK	PA	02120	700	\$0	8062
37-00467-36	TENET HEALTH SYSTEM HAHNEMANN L.L.C	PHILADELPHIA	PA	02120	600	\$0	8062
13-09649-02	TERRE HAUTE REGIONAL HOSPITAL	TERRE HAUTE	IN	02120	800	\$68,478,892	8062
13-09649-01	TERRE HAUTE REGIONAL HOSPITAL	TERRE HAUTE	IN	02300	800	\$68,478,892	8062
49-18276-01	TETON COUNTY HOSPITAL DISTRICT	JACKSON	WY	02120	450	\$33,106,001	8062
48-09494-01	THEDA CLARK REGIONAL MEDICAL CENTER	NEENAH	WI	02120	2	\$250,000	5947
21-26599-01	THREE RIVERS AREA HOSPITAL	THREE RIVERS	MI	02220	440	\$14,200,000	8062
13-01719-02	TIPTON CNTY. MEMORIAL HOSPITAL	TIPTON	IN	02121	350	\$21,598,706	8062
37-19766-01	TITUSVILLE HOSPITAL	TITUSVILLE	PA	02120	4	\$240,000	8011
37-28359-01	TNET HEALTH SYSTEM GRADUATE, LLC	PHILADELPHIA	PA	02120	1500	\$69,800,000	8062
34-01710-05	TOLEDO HOSPITAL	TOLEDO	OH	02120	5484	\$324,894,000	8062
21-13987-01	TRILLIUM HOSPITAL	ALBION	MI	02121	250	\$10,700,000	8062
34-06578-02	TRINITY HEALTH SYSTEMS/TRINITY WEST	STEUBENVILLE	OH	02120	625	\$0	8062
24-00624-02	TRINITY LUTHERAN HOSPITAL	KANSAS CITY	MO	02120	978	\$55,600,000	8062
47-25414-01	TRI-STATE MEDICAL CENTER	HUNTINGTON	WV	02121	0	\$0	9999
24-25816-01	TRUMAN MEDICAL CENTER	KANSAS CITY	MO	02120	2666	\$208,687,000	8062
34-02400-02	TRUMBULL MEMORIAL HOSPITAL	WARREN	OH	02120	0	\$0	9999
45-18398-01	TWIN COUNTY REGIONAL HEALTHCARE, INC	GALAX	VA	02120	625	\$40,485,934	8062
11-27085-01	TWIN FALLS CLINIC & HOSPITAL	TWIN FALLS	ID	02120	275	\$24,076,950	8062
24-17628-01	TWIN RIVERS REGIONAL MEDICAL CTR.	KENNETT	MO	02121	400	\$0	8062

Table C-1. NRC-Licensed Hospitals

37-17222-01	TYLER MEMORIAL HOSPITAL	TUNKHANNOCK	PA	02120	245	\$17,262,923	8062
29-18346-01	UNDERWOOD-MEMORIAL HOSPITAL	WOODBURY	NJ	02120	1500	\$93,265,912	8062
13-16457-01	UNION HOSPITAL	TERRE HAUTE	IN	02120	1960	\$237,257,096	8062
29-10313-01	UNION HOSPITAL	UNION	NJ	02120	1284	\$67,594,000	8062
34-15388-01	UNION HOSPITAL ASSOC.	DOVER	OH	02120	634	\$44,503,093	8062
37-05371-02	UNIONTOWN HOSPITAL (THE)	UNIONTOWN	PA	02120	900	\$73,318,612	8062
21-32103-01	UNITED COMMUNITY HOSPITAL	DETROIT	MI	02121	60	\$4,100,000	8011
37-17066-01	UNITED COMMUNITY HOSPITAL	GROVE CITY	PA	02120	340	\$26,742,555	8062
22-01914-02	UNITED HOSPITAL	ST. PAUL	MN	02120	0	\$0	8062
47-01458-01	UNITED HOSPITAL CENTER	CLARKSBURG	WV	02230	1400	\$125,269,761	8062
47-01458-02	UNITED HOSPITAL CENTER	CLARKSBURG	WV	02300	1400	\$125,269,761	8062
22-12614-01	UNITY HOSPITAL	FRIDLEY	MN	02120	1300	\$0	8062
37-02476-01	UNIV. OF PITTS. MED CTR BEAVER VALL	ALIQUIPPA	PA	02120	0	\$0	9999
34-17783-01	UNIVERSITY HOSPITAL	BEDFORD	OH	02121	425	\$18,900,000	8062
34-09457-02	UNIVERSITY HOSPITALS HEALTH SYSTEM	CHARDON	OH	02120	300	\$0	8062
34-05469-01	UNIVERSITY HOSPITALS OF CLEVELAND	CLEVELAND	OH	02110	4700	\$846,044,000	8062
22-02403-01	UNIVERSITY MEDICAL CENTER - MESABI	HIBBING	MN	02120	675	\$45,614,085	8062
37-14013-01	UNIVERSITY OF PITTSBURGH MED. CTR-	PITTSBURGH	PA	02120	1245	\$42,500,000	8741
37-14014-01	UNIVERSITY OF PITTSBURGH MED. CTR.-	PITTSBURGH	PA	02230	0	\$0	9999
37-06185-01	UNIVERSITY OF PITTSBURGH MEDICAL	BRADDOCK	PA	02120	600	\$37,333,834	8062
37-17379-01	UPMC BEDFORD MEMORIAL	EVERETT	PA	02120	325	\$19,598,185	8062
37-06064-02	UPMC HORIZON	GREENVILLE	PA	02120	1256	\$69,848,358	8062
37-05501-02	UPMC LEE	JOHNSTOWN	PA	02120	1250	\$76,358,744	8062
37-00896-03	UPMC MCKEESPORT	MCKEESPORT	PA	02120	1429	\$69,672,838	8062
37-11887-02	UPMC PASSAVANT	PITTSBURGH	PA	02120	1357	\$93,934,205	8062
34-06123-01	UPPER VALLEY MEDICAL CENTER	TROY	OH	02120	1120	\$0	8062
20-10184-01	V. A. EDITH NOURSE ROGERS MEM. VET.	BEDFORD	MA	01100	1400	\$0	8062
12-01087-09	V. A. EDWARD HINES JR. HOSPITAL	HINES	IL	02300	3000	\$0	8062
12-01087-07	V. A. EDWARD HINES JR., MEDICAL CTR	HINES	IL	02110	0	\$0	9999
04-00181-04	V. A. GTR LOS ANGELES HEALTHCRE SYS	LOS ANGELES	CA	02110	200	\$9,000,000	8062
24-15235-03	V. A. HARRY S TRUMAN MEMORIAL	COLUMBIA	MO	02110	1000	\$0	8062
48-01183-01	V. A. HOSPITAL	MADISON	WI	02110	0	\$0	9999
39-09703-01	V. A. HOSPITAL	COLUMBIA	SC	02120	1500	\$0	9451
01-00643-02	V. A. MEDICAL CENTER	BIRMINGHAM	AL	03610	1250	\$0	9451
34-26267-01	V. A. MEDICAL CENTER	CHILLICOTHE	OH	02120	1200	\$0	8062
41-19792-01	V. A. MEDICAL CENTER	MOUNTAIN HOME	TN	02120	0	\$0	9999
21-00159-04	V. A. MEDICAL CENTER	ANN ARBOR	MI	02110	1750	\$0	8062
21-12916-01	V. A. MEDICAL CENTER	IRON MOUNTAIN	MI	02120	390	\$0	9451
09-25328-01	V. A. MEDICAL CENTER	WEST PALM BEACH	FL	02120	0	\$0	8062
31-02892-03	V. A. MEDICAL CENTER	BROOKLYN	NY	02230	1500	\$69,800,000	8062
52-04359-01	V. A. MEDICAL CENTER	SAN JUAN	PR	02120	2080	\$0	8062
47-03630-02	V. A. MEDICAL CENTER	HUNTINGTON	WV	02120	0	\$0	9999
34-00203-03	V. A. MEDICAL CENTER	CLEVELAND	OH	02110	5	\$0	9451
32-05830-01	V. A. MEDICAL CENTER	ASHEVILLE	NC	02120	1068	\$0	8062
45-09669-02	V. A. MEDICAL CENTER	SALEM	VA	02120	1500	\$0	9451
48-02130-02	V. A. MEDICAL CENTER	MILWAUKEE	WI	02120	0	\$0	8062
41-00119-08	V. A. MEDICAL CENTER	MEMPHIS	TN	03610	1200	\$0	8062
41-00104-04	V. A. MEDICAL CENTER	NASHVILLE	TN	03610	25	\$0	9451
47-15696-01	V. A. MEDICAL CENTER	BECKLEY	WV	02120	0	\$0	9999
37-13483-01	V. A. MEDICAL CENTER	WILKES-BARRE	PA	02120	1500	\$0	8062
12-16473-01	V. A. MEDICAL CENTER	DANVILLE	IL	02120	0	\$0	9451
23-08786-01	V. A. MEDICAL CENTER	JACKSON	MS	02120	78	\$2,300,000	8062
24-00144-05	V. A. MEDICAL CENTER	ST. LOUIS	MO	02230	0	\$0	9999
24-00496-06	V. A. MEDICAL CENTER	KANSAS CITY	MO	02120	1500	\$0	8062
09-04233-03	V. A. MEDICAL CENTER	BAY PINES	FL	02120	2200	\$0	8062
16-08896-04	V. A. MEDICAL CENTER	LEXINGTON	KY	02110	0	\$0	8062
09-12467-02	V. A. MEDICAL CENTER	GAINESVILLE	FL	02110	1557	\$0	8062
09-00239-06	V. A. MEDICAL CENTER	MIAMI	FL	02230	2800	\$0	8062
32-01134-01	V. A. MEDICAL CENTER	DURHAM	NC	02110	1400	\$0	8062
34-05015-01	V. A. MEDICAL CENTER	DAYTON	OH	02120	2100	\$0	8062
45-09413-06	V. A. MEDICAL CENTER	RICHMOND	VA	03610	3	\$190,000	7389
41-16374-01	V. A. MEDICAL CENTER	MURFREESBORO	TN	02120	25	\$0	9451
21-04234-01	V. A. MEDICAL CENTER	DETROIT	MI	02110	0	\$0	9999
10-08389-03	V. A. MEDICAL CENTER	AUGUSTA	GA	03610	0	\$0	9999
01-03042-02	V. A. MEDICAL CENTER	TUSKEGEE	AL	02121	0	\$0	9999
47-15402-01	V. A. MEDICAL CENTER	CLARKSBURG	WV	02121	0	\$0	9999
12-10057-04	V. A. MEDICAL CENTER	NORTH CHICAGO	IL	02120	45	\$0	9451
45-07569-01	V. A. MEDICAL CENTER	HAMPTON	VA	02120	0	\$0	9999
47-00714-02	V. A. MEDICAL CENTER	MARTINSBURG	WV	02120	5	\$280,000	1499
14-00822-01	V. A. MEDICAL CENTER	IOWA CITY	IA	02110	1306	\$0	8062
23-12255-02	V. A. MEDICAL CENTER	BILOXI	MS	02120	0	\$0	9999
10-01169-01	V. A. MEDICAL CENTER	DECATUR	GA	02120	2000	\$0	8062

Table C-I. NRC-Licensed Hospitals

16-03121-02	V. A. MEDICAL CENTER	LOUISVILLE	KY	03611	0	\$0	9999
09-25129-01	V. A. MEDICAL CENTER	LAKE CITY	FL	02120	0	\$0	9451
39-12130-02	V. A. MEDICAL CENTER	CHARLESTON	SC	03610	0	\$0	9999
13-11983-01	V. A. MEDICAL CENTER	FORT WAYNE	IN	02121	400	\$0	8062
28-27885-01	V. A. MEDICAL CTR.	MANCHESTER	NH	02120	0	\$0	8069
04-00689-07	V. A. MEDICAL CTR.	LONG BEACH	CA	03610	32	\$0	8062
21-25987-01	V. A. MEDICAL CTR.	BATTLE CREEK	MI	02120	1500	\$0	8062
04-00421-05	V. A. MEDICAL CTR.	SAN FRANCISCO	CA	02110	2000	\$0	8062
31-00845-01	V. A. MEDICAL CTR.	SYRACUSE	NY	02120	6	\$1,100,000	5912
02-12726-01	V. A. MEDICAL CTR.	PRESCOTT	AZ	02121	0	\$0	9999
04-15030-01	V. A. MEDICAL CTR.	SAN DIEGO	CA	02110	0	\$0	9999
02-06186-01	V. A. MEDICAL CTR.	TUCSON	AZ	03610	1033	\$0	9451
20-00671-02	V. A. MEDICAL CTR.	BOSTON	MA	02110	0	\$0	9999
36-01395-01	V. A. MEDICAL CTR.	PORTLAND	OR	02120	2500	\$0	8062
20-08551-01	V. A. MEDICAL CTR.	WEST ROXBURY	MA	02110	1050	\$0	8062
27-15192-01	V. A. MEDICAL CTR.	RENO	NV	02120	633	\$0	8062
04-01935-03	V. A. MEDICAL CTR.	FRESNO	CA	02120	3500	\$164,300,000	8062
07-09495-01	V. A. MEDICAL CTR.	WILMINGTON	DE	02120	0	\$0	9999
04-00916-04	V. A. MEDICAL CTR.	SEPULVEDA	CA	02110	0	\$0	4225
12-01403-01	V. A. WEST SIDE MEDICAL CENTER	CHICAGO	IL	02120	2000	\$0	8062
42-15881-01	V. A., DEPARTMENT OF	SAN ANTONIO	TX	03610	0	\$0	9999
40-16087-01	V. A., DEPARTMENT OF	HOT SPRINGS	SD	02120	0	\$0	9999
31-00636-07	V. A., DEPARTMENT OF	BRONX	NY	02120	0	\$0	9999
10-09569-01	V. A., DEPARTMENT OF	DUBLIN	GA	02121	0	\$0	9999
26-00138-10	V. A., DEPARTMENT OF	OMAHA	NE	02110	0	\$0	9999
12-02642-06	V. A., DEPARTMENT OF	CHICAGO	IL	02110	0	\$0	9999
15-08114-01	V. A., DEPARTMENT OF	LEAVENWORTH	KS	02120	0	\$0	9431
03-01082-01	V. A., DEPARTMENT OF	LITTLE ROCK	AR	02110	0	\$0	9999
27-23287-02	V. A., DEPARTMENT OF	LAS VEGAS	NV	02120	0	\$0	9999
18-07561-01	V. A., DEPARTMENT OF	TOGUS	ME	02120	3	\$140,000	8249
44-05123-01	V. A., DEPARTMENT OF	WHITE RIVER JCT	VT	03610	0	\$0	9999
32-15483-01	V. A., DEPARTMENT OF	SALISBURY	NC	02120	0	\$0	9999
04-17862-01	V. A., DEPARTMENT OF	LOMA LINDA	CA	03610	0	\$0	9999
17-09273-01	V. A., DEPARTMENT OF	ALEXANDRIA	LA	02120	1015	\$0	9451
31-02755-05	V. A., DEPARTMENT OF	ALBANY	NY	02110	1	\$0	9451
26-16293-01	V. A., DEPARTMENT OF	LINCOLN	NE	02120	320	\$0	8062
37-01230-03	V. A., DEPARTMENT OF	PITTSBURGH	PA	02120	0	\$0	9999
31-13511-04	V. A., DEPARTMENT OF	NORTHPORT	NY	02120	1800	\$0	8062
35-13184-01	V. A., DEPARTMENT OF	MUSKOGEE	OK	02120	0	\$0	9999
19-01058-01	V. A., DEPARTMENT OF	BALTIMORE	MD	02120	1200	\$0	8062
31-11399-01	V. A., DEPARTMENT OF	CASTLE POINT	NY	02121	0	\$0	9999
31-00032-04	V. A., DEPARTMENT OF	NEW YORK	NY	02110	0	\$0	9999
32-13654-01	V. A., DEPARTMENT OF	FAYETTEVILLE	NC	02120	9	\$0	9221
21-25815-01	V. A., DEPARTMENT OF	SAGINAW	MI	02121	0	\$0	9999
37-00062-07	V. A., DEPARTMENT OF	PHILADELPHIA	PA	02110	0	\$0	9999
31-13511-05	V. A., DEPARTMENT OF	NORTHPORT	NY	02300	0	\$0	9999
43-03299-01	V. A., DEPARTMENT OF	SALT LAKE CITY	UT	03610	1500	\$0	9451
08-00942-05	V. A., DEPARTMENT OF	WASHINGTON	DC	01100	0	\$0	9999
02-10072-01	V. A., DEPARTMENT OF	PHOENIX	AZ	02120	3	\$210,000	5411
38-04946-01	V. A., DEPARTMENT OF	PROVIDENCE	RI	02120	50	\$0	8071
06-00092-05	V. A., DEPARTMENT OF	WEST HAVEN	CT	02110	0	\$0	9999
42-00220-06	V. A., DEPARTMENT OF	DALLAS	TX	02110	0	\$0	9999
04-02956-02	V. A., DEPARTMENT OF	MARTINEZ	CA	02120	0	\$0	9999
42-10739-03	V. A., DEPARTMENT OF	TEMPLE	TX	02120	0	\$0	9999
17-12273-01	V. A., DEPARTMENT OF	SHREVEPORT	LA	02120	900	\$0	8062
46-00990-01	V. A., DEPARTMENT OF	SEATTLE	WA	03610	0	\$0	9999
14-03523-02	V. A., DEPARTMENT OF	DES MOINES	IA	02120	0	\$0	9999
36-21137-01	V. A., DEPARTMENT OF	ROSEBURG	OR	02120	613	\$0	8062
13-00694-03	V. A., DEPARTMENT OF	INDIANAPOLIS	IN	02110	0	\$0	9999
40-16336-01	V. A., DEPARTMENT OF	SIoux FALLS	SD	02120	0	\$0	9999
42-17691-01	V. A., DEPARTMENT OF	KERRVILLE	TX	02120	0	\$0	9999
05-01401-02	V. A., DEPARTMENT OF	DENVER	CO	03610	0	\$0	8069
42-00220-08	V. A., DEPARTMENT OF	DALLAS	TX	02300	0	\$0	9999
42-08655-01	V. A., DEPARTMENT OF	BIG SPRING	TX	02121	0	\$0	9999
15-15618-01	V. A., DEPARTMENT OF	WICHITA	KS	02410	0	\$0	9999
30-01747-02	V. A., DEPARTMENT OF	ALBUQUERQUE	NM	02110	0	\$0	9999
42-00084-06	V. A., DEPARTMENT OF	HOUSTON	TX	02110	3500	\$0	8062
35-00526-04	V. A., DEPARTMENT OF	OKLAHOMA CITY	OK	02110	0	\$0	8092
17-01322-07	V. A., DEPARTMENT OF	NEW ORLEANS	LA	02120	75	\$0	8062
11-18311-01	V. A., DEPARTMENT OF	BOISE	ID	03610	0	\$0	9999
29-04481-01	V. A., DEPARTMENT OF	EAST ORANGE	NJ	02110	2000	\$0	8062
33-15145-03	V. A., DEPARTMENT OF	FARGO	ND	02120	0	\$0	9999

Table C-1. NRC-Licensed Hospitals

04-23242-01	V. A., DEPARTMENT OF	PALO ALTO	CA	02110	3500	\$0	8062
34-00799-03	V. A., DEPARTMENT OF	CINCINNATI	OH	02120	0	\$0	9999
50-29059-01	VALLEY HOSPITAL	PALMER	AK	02121	460	\$20,600,000	8062
29-03845-01	VALLEY HOSPITAL (THE)	RIDGEWOOD	NJ	02230	2900	\$225,085,537	8062
35-14042-01	VALLEY VIEW REGIONAL HOSPITAL	ADA	OK	02120	700	\$47,475,375	8062
34-17025-01	VAN WERT COUNTY HOSPITAL	VAN WERT	OH	02121	354	\$27,127,473	8062
21-03835-01	VENCOR HOSPITAL - METRO DETROIT	DETROIT	MI	02120	549	\$0	8062
45-16222-01	VENCOR HOSPITAL-ARLINGTON	ARLINGTON	VA	02120	0	\$0	8062
06-05686-02	VETERANS MEMORIAL MEDICAL CENTER	MERIDEN	CT	02120	0	\$0	9999
45-11035-01	VIRGINIA BEACH GENERAL HOSPITAL	VIRGINIA BEACH	VA	02120	0	\$0	9999
21-00258-06	W. A. FOOTE MEMORIAL HOSPITAL	JACKSON	MI	02120	0	\$0	8062
13-18570-01	WABASH COUNTY HOSPITAL	WABASH	IN	02121	0	\$0	9999
35-21462-02	WAGONER COMMUNITY HOSPITAL, L.L.C.	WAGONER	OK	02121	160	\$0	8062
53-17839-01	WAHIAWA GENERAL HOSPITAL	WAHIAWA	HI	02120	500	\$22,500,000	8062
37-17863-01	WARREN GENERAL HOSPITAL	WARREN	PA	02120	504	\$34,066,945	8062
29-01101-03	WARREN HOSPITAL	PHILLIPSBURG	NJ	02120	806	\$0	8062
45-19566-01	WARREN MEMORIAL HOSPITAL	FRONT ROYAL	VA	02121	290	\$22,218,005	8062
13-26497-01	WASHINGTON COUNTY MEMORIAL HOSPITAL	SALEM	IN	02120	0	\$0	9999
37-10363-01	WASHINGTON HOSPITAL	WASHINGTON	PA	02120	1470	\$135,885,409	8062
08-03604-03	WASHINGTON HOSPITAL CENTER	WASHINGTON	DC	02110	5637	\$87,200,000	8062
06-02406-01	WATERBURY HOSPITAL HEALTH CENTER	WATERBURY	CT	02120	1450	\$145,524,390	8062
48-18578-01	WATERTOWN MEMORIAL HOSPITAL	WATERTOWN	WI	02120	470	\$31,379,416	8062
48-06239-01	WAUKESHA MEMORIAL HOSPITAL, INC.	WAUKESHA	WI	02120	2071	\$177,728,061	8062
48-24379-01	WAUPUN MEMORIAL HOSPITAL	WAUPUN	WI	02121	250	\$13,324,655	8062
48-01032-01	WAUSAU HOSPITAL CENTER	WAUSAU	WI	02120	1313	\$128,607,000	8062
37-17755-01	WAYNE COUNTY MEMORIAL HOSPITAL	HONESDALE	PA	02120	0	\$0	9999
29-18334-01	WAYNE GENERAL HOSPITAL	WAYNE	NJ	02120	1000	\$62,354,000	8062
34-18797-01	WAYNE HOSPITAL	GREENVILLE	OH	02120	371	\$33,738,748	8062
37-18445-01	WAYNESBORO HOSPITAL	WAYNESBORO	PA	02120	450	\$29,466,339	8062
47-17567-01	WEIRTON MEDICAL CENTER	WEIRTON	WV	02120	800	\$81,523,483	8062
13-01674-01	WELBORN MEMORIAL BAPTIST	EVANSVILLE	IN	02120	24	\$2,000,000	8399
48-13249-02	WEST ALLIS MEMORIAL HOSPITAL	WEST ALLIS	WI	02120	1400	\$75,830,693	8062
21-18892-01	WEST BRANCH REGIONAL MEDICAL CENTER	WEST BRANCH	MI	02120	350	\$22,457,940	8062
29-08532-01	WEST HUDSON HOSPITAL	KEARNY	NJ	02120	600	\$27,200,000	8062
29-01862-02	WEST JERSEY HEALTH SYSTEM	CAMDEN	NJ	02120	4100	\$269,302,000	8062
49-18230-01	WEST PARK HOSPITAL	CODY	WY	02120	375	\$28,239,477	8062
37-02136-01	WEST PENN HOSPITAL	PITTSBURGH	PA	02110	10	\$0	8062
21-16277-01	WEST SHORE HOSPITAL	MANISTEE	MI	02121	120	\$1,500,000	8641
11-27087-01	WEST VALLEY MEDICAL CENTER, INC.	CALDWELL	ID	02120	455	\$34,802,858	8062
47-17725-02	WEST VIRGINIA APPALACHIAN REGIONAL	BECKLEY	WV	02121	450	\$0	8062
47-23066-02	WEST VIRGINIA UNIVERSITY HOSPITALS	MORGANTOWN	WV	02230	73	\$0	8733
34-01026-01	WESTERN RESERVE CARE SYSTEM	YOUNGSTOWN	OH	02120	6	\$230,000	5947
37-02894-02	WESTMORELAND REGIONAL HOSPITAL	GREENSBURG	PA	02120	1700	\$109,427,725	8062
13-18543-01	WESTVIEW OSTEOPATHIC MEDICAL HOSP.	INDIANAPOLIS	IN	02121	270	\$32,850,597	8062
47-18320-01	WETZEL COUNTY HOSPITAL	NEW MARTINSVILLE	WV	02121	225	\$15,525,172	8062
47-05322-02	WHEELING HOSPITAL, INC.	WHEELING	WV	02230	1503	\$131,893,717	8062
13-20352-01	WHITE COUNTY MEMORIAL HOSPITAL	MONTICELLO	IN	02121	200	\$12,560,329	8062
13-17129-01	WHITLEY MEMORIAL HOSPITAL, INC.	COLUMBIA CITY	IN	02121	340	\$21,761,830	8062
29-11982-01	WILLIAM B. KESSLER MEMORIAL HOSP.	HAMMONTON	NJ	02120	1	\$500,000	8399
21-01333-01	WILLIAM BEAUMONT HOSPITAL	ROYAL OAK	MI	02110	9400	\$881,798,000	8062
06-11734-02	WILLIAM W. BACKUS HOSPITAL (THE)	NORWICH	CT	02120	0	\$0	9999
45-16209-02	WILLIAMSBURG COMMUNITY HOSPITAL	WILLIAMSBURG	VA	02120	1150	\$65,692,003	8062
47-25358-01	WILLIAMSON MEMORIAL HOSPITAL	WILLIAMSON	WV	02121	230	\$28,810,787	8062
37-04185-01	WILLIAMSPORT HOSPITAL	WILLIAMSPORT	PA	02120	1	\$140,000	8049
37-00783-04	WILLS EYE HOSPITAL	PHILADELPHIA	PA	02120	600	\$82,574,000	8069
34-13100-02	WILSON MEMORIAL HOSPITAL	SIDNEY	OH	02120	600	\$46,534,386	8062
37-10284-02	WINDBER HOSPITAL	WINDBER	PA	02120	0	\$0	9999
06-15203-01	WINDHAM COMMUNITY MEMORIAL HOSPITAL	WILLIMANTIC	CT	02120	632	\$52,293,124	8062
13-16404-01	WINONA MEMORIAL HOSPITAL	INDIANAPOLIS	IN	02120	550	\$0	8062
13-23331-01	WITHAM MEMORIAL HOSPITAL	LEBANON	IN	02121	330	\$24,249,292	8062
13-24433-01	WOMEN'S HOSPITAL (THE)	INDIANAPOLIS	IN	02120	480	\$0	8062
34-15236-01	WOOD COUNTY HOSPITAL	BOWLING GREEN	OH	02121	500	\$34,132,636	8062
11-27355-01	WOOD RIVER MEDICAL CENTER	SUN VALLEY	ID	02121	240	\$17,904,745	8062
13-20338-01	WOODLAWN HOSPITAL	ROCHESTER	IN	02121	269	\$19,920,020	8062
35-21269-01	WOODWARD HOSPITAL & HEALTH CENTER	WOODWARD	OK	02120	255	\$21,086,486	8062
34-15549-01	WOOSTER COMMUNITY HOSPITAL	WOOSTER	OH	02120	2	\$0	5947
37-16170-01	WVHCS-HOSPITAL	WILKES-BARRE	PA	02230	2555	\$202,109,000	8062
49-00152-02	WYOMING MEDICAL CENTER	CASPER	WY	02120	1033	\$108,220,662	8062
45-16635-01	WYTHE COUNTY COMMUNITY HOSPITAL	WYTHEVILLE	VA	02121	0	\$0	9999
06-00819-03	YALE-NEW HAVEN HOSPITAL	NEW HAVEN	CT	02110	5969	\$457,936,000	8062
37-07161-01	YORK HOSPITAL	YORK	PA	02230	3700	\$275,324,000	8062
34-05384-01	YOUNGSTOWN OSTEOPATHIC HOSPITAL	YOUNGSTOWN	OH	02121	450	\$78,700,000	6732

Table C-1. NRC-Licensed Hospitals

29-07868-01	ZURBRUGG MEMORIAL HOSPITAL	WILLINGBORO	NJ	02120	0	\$0	9999
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Table C-2. NRC-Licensed Nuclear Pharmacies

LIC NO	APP NAME	CITY	ST	Prog. Code	SIC	Employees	Revenue
50-29096-01MD	ALASKA RADIOLOGICAL PHARMACY LTD.	ANCHORAGE	AK	02500	8011	3	\$1,000,000
52-25361-01MD	ASHFORD PHARMALOGIC CORP.	RIO PIEDRAS	PR	02500	2834	7	\$0
21-26597-01MD	CAPITAL PHARMACY INCORPORATED	LANSING	MI	02500	2834	0	\$0
52-25440-01MD	CARIBBEAN NUCLEAR PHARMACEUTICALS	PONCE	PR	02500	2834	0	\$0
45-25407-01MD	CENTRAL PHARMACY SERVICES, INC.	RICHMOND	VA	02500	2834	8	\$0
47-15473-02MD	CHARLESTON AREA MEDICAL CENTER	CHARLESTON	WV	02500	8062	6000	\$392,303,000
45-25221-01MD	EASTERN ISOTOPES, INC.	ASHBURN	VA	02500	2834	30	\$100,000
34-26334-01	GAMMA-MED	NORTH JACKSON	OH	02500	2834	10	\$1,600,000
45-25339-01MD	GEODAX TECHNOLOGY, INC.	ROANOKE	VA	02500	2834	11	\$0
40-27598-01	GREAT WESTERN RADIOPHARMACEUTICS	SIOUX FALLS	SD	02500	2834	0	\$0
48-26585-01MD	HEARTLAND DIAGNOSTIC SERVICES, INC.	MADISON	WI	02500	2834	10	\$1,300,000
24-04206-01MD	MALLINCKRODT INC.	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-15MD	MALLINCKRODT INC.	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-17MD	MALLINCKRODT INC.	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-19MD	MALLINCKRODT INC.	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-16MD	MALLINCKRODT INC.	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-07MD	MALLINCKRODT MEDICAL INCORPORATED	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-10MD	MALLINCKRODT MEDICAL INCORPORATED	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-11MD	MALLINCKRODT MEDICAL INCORPORATED	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-08MD	MALLINCKRODT MEDICAL, INC.	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-12MD	MALLINCKRODT MEDICAL, INC.	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-13MD	MALLINCKRODT MEDICAL, INC.	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-18MD	MALLINCKRODT MEDICAL, INC.	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-20MD	MALLINCKRODT MEDICAL, INC.	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-21MD	MALLINCKRODT MEDICAL, INC.	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-17450-02MD	MALLINCKRODT MEDICAL, INC.	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
24-04206-14MD	MALLINCKRODT, INC.	MARYLAND HEIGHTS	MO	02500	2834	242	\$0
21-24828-01MD	MEDI-PHYSICS INCORPORATED	LIVONIA	MI	02500	2834	0	\$0
48-26240-01MD	MEDI-PHYSICS INCORPORATED	WEST MILWAUKEE	WI	02500	2834	0	\$0
21-26707-01MD	MEDI-PHYSICS INCORPORATED	KENTWOOD	MI	02500	2834	20	\$0
34-26239-01MD	MEDI-PHYSICS, INC.	CINCINNATI	OH	02500	2834	12	\$0
37-27830-02MD	MEDI-PHYSICS, INC.	BENSALEM	PA	02500	2834	25	\$0
29-28341-02MD	MEDI-PHYSICS, INC.	LIVINGSTON	NJ	02500	8011	18	\$0
24-26241-01	MID-AMERICA ISOTOPES INC.	ASHLAND	MO	02500	2834	15	\$2,100,000
37-28520-02MD	NORTHWEST REGIONAL DIAGNOSTICS	ERIE	PA	02500	8011	0	\$0
11-27398-01MD	NUCLEAR PHARMACY OF IDAHO, INC.	BOISE	ID	02500	2834	0	\$0
34-32046-01MD	OHIO VALLEY NUCLIDES	AKRON	OH	02500	2834	4	\$120,000
35-03176-04MD	OKLAHOMA, UNIVERSITY OF	OKLAHOMA CITY	OK	02500	8221	40	\$160,000
53-16991-01MD	PACIFIC RADIOPHARMACY LTD.	HONOLULU	HI	02500	2834	15	\$3,000,000
44-30124-01MD	PHARMALOGIC LTD.	WILLISTON	VT	02500	2834	11	\$1,700,000
37-30219-01MD	PHARMALOGIC OF PENN LTD.	SAYRE	PA	02500	2834	9	\$1,730,625
47-25375-01MD	PHARMALOGIC, W.V., LTD.	BRIDGEPORT	WV	02500	2834	10	\$2,100,000
13-26472-01MD	PREMIER PHARMACY SERVICES, P.C.	INDIANAPOLIS	IN	02500	2834	0	\$0
47-25322-01MD	PRINCETON DIAGNOSTIC ISOTOPES, INC.	PRINCETON	WV	02500	2834	2	\$160,000
45-25349-01MD	RADIOLOGY SERVICES OF HAMPTON	CHESAPEAKE	VA	02500	8011	15	\$513,062
13-26246-01MD	RADIOPHARMACY INCORPORATED	EVANSVILLE	IN	02500	2834	15	\$1,100,000
13-26367-01	SPECTRUM PHARMACY INCORPORATED	MISHAWAKA	IN	02500	2834	18	\$2,700,000
13-32053-01MD	SPECTRUM PHARMACY, INC. OF FT.WAYNE	FT. WAYNE	IN	02500	2834	0	\$0
52-16345-02MD	SYNCOR DE PUERTO RICO, INC.	CAROLINA	PR	02500	3841	10	\$3,000,000
04-26507-01MD	SYNCOR INTERNATIONAL CORPORATION	WOODLAND HILLS	CA	02500	2834	2900	\$520,309,000
47-26233-01MD	TRI-STATES NUCLEAR PHARMACY	HUNTINGTON	WV	02500	2834	7	\$0
35-27517-01MD	TULSA CORDIS PHARMACY	TULSA	OK	02500	2834	10	\$730,000

Table C-3. NRC-Licensed Sealed Source Manufacturers

LIC. NO.	APP. NAME	CITY	STATE CODE	PRI	PGM. CODE	SIC	NumEmployees	Revenue
34-00255-03	ABB INDUSTRIAL SYSTEMS INCORPORATED	COLUMBUS	OH		03211	3829	3	\$0
34-26659-01	ADVANCED LIGHTING TECHNOLOGIES, INC	OLON	OH		03214	3641	1731	\$188,484,000
STB-1575	ADVANCED LIGHTING TECHNOLOGIES, INC	OLON	OH		03214	3641	1731	\$188,484,000
29-30360-01	ALFACELL CORPORATION	BLOOMFIELD	NJ		03214	8733	14	\$168,372
31-23859-01	ALFRED DUNHILL (NORTH AMERICA) LTD.	NEW YORK	NY		03214	9999	90	\$40,000,000
24-21362-01	AMERICAN RADIOLABELED CHEMICALS	ST. LOUIS	MO		03214	2899	25	\$4,510,952
22-13838-01	BECKMAN COULTER, INC.	CHASKA	MN		03214	8071	9	\$0
52-21502-01	BECTON DICKINSON CARIBE, LTD.	CAYEY	PR		03214	3821	190	\$0
55-23732-02	BELAIR QUARTZ, INC.	ST. CROIX	VI		03214	3873	50	\$4,500,000
45-19757-01	BEST INDUSTRIES, INC.	SPRINGFIELD	VA		03212	2834	42	\$3,900,000
45-19757-02MD	BEST INDUSTRIES, INC.	SPRINGFIELD	VA		02513	2834	42	\$3,900,000
34-06558-05	BICRON, A DIVISION OF SAINT-GOBAIN	OLON	OH		03214	3679	180	\$0
37-14179-03	CAPINTEC INC.	PITTSBURGH	PA		03214	3829	38	\$0
37-19413-01	CENTOCOR, INC.	MALVERN	PA		03212	2834	1200	\$338,140,000
35-19956-01	CHICAGO MINIATURE LAMP, INC.	WYNNWOOD	OK		03214	3641	180	\$0
45-25364-01	COMMONWEALTH BIOTECHNOLOGIES, INC	RICHMOND	VA		03214	8731	40	\$2,565,132
24-26366-01	CP CLARE CORPORATION	HEIGHTS	MO		03214	9999	0	\$0
37-30062-01	DEFENSE LOGISTICS AGENCY	CUMBERLAND	PA		03211	9711	2100	\$0
48-26355-01	DIAGNOSTECH INTERNATIONAL, INC.	OSCEOLA	WI		03214	2834	5	\$709,219
34-01260-11	DIAGNOSTIC HYBRIDS INC.	ATHENS	OH		03214	3841	27	\$1,173,939
29-17621-01	DRG INTERNATIONAL, INC.	MOUNTAINSIDE	NJ		03214	5047	95	\$1,163,621
20-00320-19	DU PONT PHARMACEUTICALS CO.	NORTH BILLERICA	MA		03214	8071	65	\$0
29-00139-02	E. R. SQUIBB & SONS, INC.	NEW BRUNSWICK	NJ		03211	2834	1500	\$0
29-08636-02	EMR PHOTOELECTRIC	JUNCTION	NJ		03214	3533	80	\$0
STB-1574	EYE LIGHTING INT'L NORTH AMER. INC.	MENTOR	OH		03214	3641	155	\$10,200,000
SNM-1957	FRONTIER TECHNOLOGY CORPORATION	XENIA	OH		03212	9999	0	\$0
37-30487-01	FUJIREBIO DIAGNOSTICS	MALVERN	PA		03214	5047	70	\$27,000,000
34-18156-01	GE/REUTER-STOKES, INC.	TWINSBURG	OH		03214	3829	100	\$8,100,000
21-21068-01	GENERAL DYNAMICS	HEIGHTS	MI		03214	9999	0	\$0
34-00054-05	GENERAL ELECTRIC LIGHTING	CLEVELAND	OH		03214	3646	1200	\$0
35-00502-03	HALLIBURTON ENERGY SERVICES, INC.	DUNCAN	OK		03214	1389	1	\$0
37-24841-02	HARRIS SEMICONDUCTOR	MOUNTAINTOP	PA		03214	3674	700	\$0
29-23795-01	HEUER TIME & ELECTRONICS CORP.	SPRINGFIELD	NJ		03214	3873	0	\$0
07-28762-01	HEWLETT-PACKARD CO.	WILMINGTON	DE		03214	3826	680	\$0
22-16719-01	INCSTAR CORPORATION	STILLWATER	MN		03214	9999	0	\$0
24-26445-01	LINCO RESEARCH INCORPORATED	ST. CHARLES	MO		03214	2836	3	\$160,000
24-04206-01	MALLINCKRODT MEDICAL INCORPORATED	HEIGHTS	MO		03211	3841	242	\$0
24-04206-04MA	MALLINCKRODT MEDICAL INCORPORATED	HEIGHTS	MO		02511	2834	242	\$0
24-04206-05MD	MALLINCKRODT MEDICAL INCORPORATED	HEIGHTS	MO		02511	2834	242	\$0
54-28275-02MD	MDS NORDION INC.	KANATA, ONTARIO	CN		02513	9999	0	\$0
35-27502-02MD	MILLS BIOPHARMACEUTICALS INC.	OKLAHOMA CITY	OK		02511	2834	20	\$260,000
29-23857-01	MONT BLANC, INC.	BLOOMSBURY	NJ		03214	3873	0	\$0
29-30178-01	NORTH AMERICAN WATCH CORP.	LYNDHURST	NJ		03214	3873	0	\$0
37-02401-01	NUCLEAR RESEARCH CORPORATION	WARRINGTON	PA		03214	3829	0	\$0
29-04236-01	NUCLEAR RESEARCH CORPORATION	DOVER	NJ		03211	3829	0	\$0
29-15360-01MD	NYCOMED AMERSHAM IMAGING	SOUTH PLAINFIELD	NJ		02513	2834	50	\$0
34-00639-01	OHMART/VEGA CORPORATION	CINCINNATI	OH		03212	3829	0	\$0
34-18214-01	OVERHOFF TECHNOLOGY CORPORATION	MILFORD	OH		03213	3829	8	\$950,000
06-15099-01	PACKARD BIOSCIENCE COMPANY	MERIDEN	CT		03214	3829	1440	\$264,892,000
21-00182-03	PHARMACIA & UPJOHN COMPANY	KALAMAZOO	MI		03211	2834	6000	\$0
34-16907-02	QUAL-X INCORPORATED	POWELL	OH		03214	8734	7	\$500,000
29-19080-01	SEIKO CORPORATION OF AMERICA	MAHWAH	NJ		03214	5094	4	\$0
24-24451-01	SEILER INSTRUMENT & MANUF. CO. INC.	ST. LOUIS	MO		03214	3827	85	\$21,713,795
24-16607-02	SIGMA CHEMICAL COMPANY	ST. LOUIS	MO		03214	2836	1500	\$90,800,000
37-03572-06	SMH (US) INC.	LANCASTER	PA		03214	9999	0	\$0
06-28699-01	SWISS ARMY BRANDS, INC.	SHELTON	CT		03214	5072	226	\$129,452,000
54-28315-01	THERATRONICS INTERNATIONAL LIMITED	KANATA, ONTARIO	CN		03214	9999	0	\$0
21-19874-01	TRIJICON INCORPORATED	WIXOM	MI		03213	3827	55	\$9,490,999
45-25215-02MD	TRI-MED SPECIALTIES, INC.	CHARLOTTEVILLE	VA		02511	8071	3	\$130,000
55-14065-03	UNITIME INDUSTRIES, INC.	ST. CROIX	VI		03214	9999	0	\$0
29-12747-01	WIEN LABORATORIES, INC.	FLANDERS	NJ		03214	2835	5	\$410,000
52-19336-01	WITTNAUER WORLDWIDE, L.P.	CAYEY	PR		03214	3873	82	\$26,000,000
SMC-1520	ZIRCOA INCORPORATED	OLON	OH		03214	3339	140	\$20,257,134

Table C-4. NRC-Licensed Research and Development Laboratories

LIC NO	APP. NAME	CITY	ST	Prog.Code	SIC	Employees	Revenue
37-30182-01	3-DIMENSIONAL PHARMACEUTICALS, INC.	EXTON	PA	03620	2834	95	\$4,345,164
21-26519-01	AASTROM BIOSCIENCES	ANN ARBOR	MI	03620	8731	35	\$881,000
06-00217-06	ABB COMBUSTION ENGINEERING INC.	WINDSOR	CT	03610	8711	0	\$0
37-13586-02	ACAD. OF NAT. SCI. OF PHILA.	PHILADELPHIA	PA	03620	8412	270	\$28,884,943
37-30369-01	ADOLOR CORPORATION	MALVERN	PA	03620	8731	35	\$1,200,000
34-32021-01	ADVANCED GAUGING TECHNOLOGIES, LLC.	WESTERVILLE	OH	03620	7699	3	\$120,000
48-26800-01	AGRACETUS, A BUSINESS UNIT MONSANTO	MIDDLETON	WI	03620	8731	85	\$0
19-00915-03	AGRICULTURE, DEPARTMENT OF	BELTSVILLE	MD	03613	9199	100	\$0
42-23539-01AF	AIR FORCE, DEPARTMENT OF THE	BOLLING AFB	DC	03613	9711	250	\$0
34-03279-03	AKRON, UNIVERSITY OF	AKRON	OH	03612	8221	6	\$130,000
50-19346-01	ALASKA, UNIVERSITY OF	ANCHORAGE	AK	03620	8221	0	\$0
50-02430-07	ALASKA, UNIVERSITY OF FAIRBANKS	FAIRBANKS	AK	01110	8221	5	\$0
50-23211-01	ALASKA, UNIVERSITY OF, SOUTHEAST	JUNEAU	AK	03620	8221	350	\$0
06-28799-01	ALEXION PHARMACEUTICALS, INC.	NEW HAVEN	CT	03620	8731	90	\$18,754,000
07-16199-01	ALFRED I. DUPONT HOSP. FOR CHILDREN	WILMINGTON	DE	03620	8062	1800	\$0
37-14909-01	ALLEGHENY COLLEGE	MEADVILLE	PA	03620	8221	420	\$45,283,617
37-01317-01	ALLEGHENY GENERAL HOSPITAL	PITTSBURGH	PA	03610	8062	0	\$0
29-30159-01	ALLEX NEUROSCIENCE, INC.	CRANBURY	NJ	03620	8731	26	\$2,100,000
SUB-971	ALLIANT TECHSYSTEMS INCORPORATED	NEW BRIGHTON	MN	03620	9199	413	\$0
29-00040-10	ALLIED-SIGNAL INC.	MORRISTOWN	NJ	03610	3724	70400	\$23,735,000,000
21-18972-02	ALMA COLLEGE	ALMA	MI	03620	8221	279	\$14,500,000
29-28447-01	ALTEON, INC.	RAMSEY	NJ	03620	8731	47	\$1,434,661
48-32017-01	ALVERNO COLLEGE	MILWAUKEE	WI	03620	8221	0	\$0
22-26528-01	ALZA CORPORATION	MINNEAPOLIS	MN	03620	8733	60	\$0
29-07694-01	AMERICAN CYANAMID COMPANY	PRINCETON	NJ	03610	2834	900	\$0
37-15434-01	AMERICAN RED CROSS BLOOD SERVICES	PHILADELPHIA	PA	03620	8041	700	\$31,100,000
45-25425-01	AMERICAN TYPE CULTURE COLLECTION	MANASSAS	VA	03620	8733	250	\$24,476,966
08-08371-05	AMERICAN UNIVERSITY (THE)	WASHINGTON	DC	03620	8221	2000	\$206,602,000
29-30431-01	AMERSHAM PHARMACIA BIOTECH, INC.	PISCATAWAY	NJ	03620	2834	1700	\$245,400,000
24-13365-01	ANALYTICAL BIO-CHEMISTRY LABS., INC	COLUMBIA	MO	03620	8731	0	\$0
21-11654-03	ANDREWS UNIVERSITY	BERRIEN SPRINGS	MI	03620	8221	2140	\$67,539,796
06-08166-02	ARCH CHEMICALS INC.	CHESHIRE	CT	03620	8731	80	\$0
01-00126-16	ARMY, DEPARTMENT OF THE	REDSTONE ARSENAL	AL	03612	9711	0	\$0
01-02861-05	ARMY, DEPARTMENT OF THE	FT. MCCLELLAN	AL	03610	8062	250	\$0
01-32063-01	ARMY, DEPARTMENT OF THE	FORT MCCLELLAN	AL	03610	8062	250	\$0
19-00294-19	ARMY, DEPARTMENT OF THE	ABERDEEN PROVING GR	MD	03610	9711	80	\$0
19-12056-02	ARMY, DEPARTMENT OF THE	ABERDEEN PROV. GRD.	MD	03610	9711	80	\$0
20-00315-02	ARMY, DEPARTMENT OF THE	NATICK	MA	03610	9711	0	\$0
29-00047-02	ARMY, DEPARTMENT OF THE	PICATINNY ARSENAL	NJ	03610	9711	0	\$0
29-01022-06	ARMY, DEPARTMENT OF THE	FT. MONMOUTH	NJ	03610	9711	0	\$0
30-12350-01	ARMY, DEPARTMENT OF THE	WHITE SANDS	NM	03610	9711	0	\$0
43-01316-09	ARMY, DEPARTMENT OF THE	DUGWAY	UT	03620	9711	0	\$0

Table C-4. NRC-Licensed Research and Development Laboratories

LIC NO	APP NAME	CITY	ST	Prog.Code	SIC	Employees	Revenue
45-25134-01	ARMY, DEPARTMENT OF THE	CHARLOTTESVILLE	VA	03610	9711	0	\$0
23-01544-10	ARMY, DEPARTMENT OF THE	VICKSBURG	MS	03620	9711	1400	\$0
19-10306-01	ARMY, DEPARTMENT OF THE	ABERDEEN PRO. GR.	MD	03610	9711	0	\$0
28-07946-07	ARMY, DEPARTMENT OF THE	HANOVER	NH	03620	9711	300	\$0
19-00294-24	ARMY, DEPARTMENT OF THE	ABERDEEN PROV. GRND	MD	03610	9711	80	\$0
19-09880-01	ARMY, DEPARTMENT OF THE	ABERDEEN PROV. GRD.	MD	03610	9711	0	\$0
19-11831-03	ARMY, DEPARTMENT OF THE	FREDERICK	MD	03611	9711	0	\$0
42-01368-04	ARMY, DEPARTMENT OF THE	FT. SAM HOUSTON	TX	01100	9711	5	\$611,640
37-30283-01	ATTOCHROM/BIOTRACES, INC.	BETHLEHEM	PA	03620	8731	0	\$0
40-06921-03	AUGUSTANA COLLEGE	SIoux FALLS	SD	03620	8221	400	\$27,624,931
48-26698-01	AVIGENE SERVICES INCORPORATED	MADISON	WI	03620	8731	1	\$52,000
13-06231-01	BALL STATE UNIVERSITY	MUNCIE	IN	01110	8221	6400	\$280,877,676
34-26752-01	BAYER CORPORATION	OBERLIN	OH	03620	3841	350	\$0
13-02249-01	BAYER CORPORATION	ELKHART	IN	03620	2833	1500	\$0
06-13053-04	BAYER CORPORATION	WEST HAVEN	CT	03610	2834	1500	\$0
37-30091-02	BEARSDEN BIO, INC.	ASTON	PA	03620	8731	0	\$0
29-00170-03	BELL LABORATORIES	MURRAY HILL	NJ	03610	8732	0	\$0
22-07944-02	BEMIDJI STATE UNIVERSITY	BEMIDJI	MN	01120	8221	600	\$31,800,000
44-28743-01	BENNINGTON COLLEGE	BENNINGTON	VT	03620	8221	265	\$13,700,000
22-17865-02	BETHEL COLLEGE	ST. PAUL	MN	03620	8221	600	\$51,875,267
37-01861-05	BETHLEHEM STEEL CORPORATION	BETHLEHEM	PA	03620	3312	15500	\$3,914,800,000
29-23308-01	BIOMATRIX, INC.	RIDGEFIELD	NJ	03620	2836	350	\$79,700,000
24-32029-01	BIOMERIEUX VITEK INC.	ST. LOUIS	MO	03620	8731	0	\$0
48-00673-04	BIO-TECHNICAL RESOURCES	MANITOWOC	WI	03620	8731	0	\$0
45-25449-01	BIOTRACES, INC.	HERNDON	VA	03620	3841	12	\$800,000
40-27513-01	BLACK HILLS STATE UNIVERSITY	SPEARFISH	SD	03620	8221	350	\$26,763,888
29-18430-01	BOC GROUP, INC. (THE)	MURRAY HILL	NJ	03620	8733	1100	\$0
06-19183-01	BOEHRINGER INGELHEIM PHARM., INC.	RIDGEFIELD	CT	03610	2834	1337	\$170,800,000
11-27388-01	BOISE STATE UNIVERSITY	BOISE	ID	03620	8221	1879	\$215,452,315
48-32123-01	BONE CARE INTERNATIONAL, INC.	MADISON	WI	03620	2834	30	\$39,425
34-12291-07	BOWLING GREEN STATE UNIVERSITY	BOWLING GREEN	OH	03620	8221	22	\$0
29-30262-01	BRACCO RESEARCH USA INC.	PRINCETON	NJ	03620	8731	33	\$3,700,000
06-27843-02	BRISTOL-MYERS SQUIBB COMPANY	WALLINGFORD	CT	03620	8731	950	\$0
37-02999-02	BRYN MAWR COLLEGE	BRYN MAWR	PA	03620	8221	770	\$68,811,000
37-01526-06	BUCKNELL UNIVERSITY	LEWISBURG	PA	03620	8221	985	\$105,533,000
13-01865-02	BUTLER UNIVERSITY	INDIANAPOLIS	IN	03620	8221	720	\$75,584,000
04-23279-01	CALIFORNIA, REGENTS OF THE UNIV. OF	IRVINE	CA	03620	8221	30	\$0
21-08721-01	CALVIN COLLEGE	GRAND RAPIDS	MI	03620	8221	600	\$96,795,836
22-12068-01	CARLETON COLLEGE	NORTHFIELD	MN	03620	8221	650	\$167,804,358
37-00602-03	CARNEGIE-MELLON UNIVERSITY	PITTSBURGH	PA	01100	8221	3400	\$431,439,000
25-07093-01	CARROLL COLLEGE	HELENA	MT	03620	8221	200	\$24,538,892
48-13327-03	CARROLL COLLEGE	WAUKESHA	WI	03620	8221	240	\$27,825,846

Table C-4. NRC-Licensed Research and Development Laboratories

LIC NO	APP NAME	CITY	ST	Prog.Code	SIC	Employees	Revenue
34-00738-04	CASE WESTERN RESERVE UNIVERSITY	CLEVELAND	OH	01100	8221	4561	\$439,844,000
21-24683-01	CAYMAN CHEMICAL COMPANY, INC.	ANN ARBOR	MI	03620	2834	55	\$5,341,396
37-00497-15	CBS CORPORATION	PITTSBURGH	PA	03612	2819	1000	\$0
29-28056-01	CELGENE CORPORATION	WARREN	NJ	03620	8731	104	\$26,209,624
29-30418-01	CELL & MOLECULAR TECHNOLOGIES, INC.	PHILLIPSBURG	NJ	03620	8731	20	\$2,900,000
37-30433-01	CELL PATHWAYS, INC.	HORSHAM	PA	03620	8731	57	\$1
21-01432-02	CENTRAL MICHIGAN UNIVERSITY	MT. PLEASANT	MI	03620	8221	25	\$0
37-30095-01	CENTRE ANALYTICAL LABORATORIES, INC	STATE COLLEGE	PA	03620	8734	58	\$7,913,220
37-28173-01	CEPHALON, INC.	WEST CHESTER	PA	03620	8731	295	\$44,919,000
29-30350-01	CHRYSALIS DNX TRANSGENIC SCIENCES	PRINCETON	NJ	03620	8731	0	\$0
37-28218-01	CHRYSALIS PRECLINICAL SERVICES -	OLYPHANT	PA	03620	8731	310	\$8,000,000
29-23508-01	CISTRON TECHNOLOGY, INC.	PINE BROOK	NJ	03620	8071	8	\$336,752
06-11703-02	CLAIROL, INC.	STAMFORD	CT	03620	8731	2	\$0
37-13295-02	CLARION UNIVERSITY OF PENNSYLVANIA	CLARION	PA	03620	8221	860	\$69,202,000
34-09208-04	CLEVELAND STATE UNIVERSITY	CLEVELAND	OH	03620	8221	2600	\$170,413,036
29-00033-07	COLGATE PALMOLIVE COMPANY	PISCATAWAY	NJ	03610	8731	800	\$0
29-15765-02	COLLEGE OF NEW JERSEY (THE)	EWING	NJ	03620	8221	1075	\$145,524,000
31-28713-01	COLUMBIA UNIVERSITY	NEW YORK	NY	03620	8221	0	\$0
39-19399-02	COMMERCE, DEPARTMENT OF	CHARLESTON	SC	03620	9199	9	\$0
21-16544-01	COMMERCE, DEPARTMENT OF	ANN ARBOR	MI	03620	9199	0	\$0
46-06377-04	COMMERCE, DEPARTMENT OF	SEATTLE	WA	03620	9199	3	\$590,000
04-29022-01	COMMERCE, DEPARTMENT OF	LA JOLLA	CA	03620	9199	130	\$200,000
32-00426-02	COMMERCE, DEPARTMENT OF	BEAUFORT	NC	03620	9199	0	\$0
24-18780-01	COMMUNITY BLOOD CENTER OF GREATER	KANSAS CITY	MO	03620	8099	310	\$20,143,787
37-18212-01	COMMUNITY COLLEGE OF ALLEGHENY CTY	PITTSBURGH	PA	01120	8221	0	\$0
37-17938-01	CONNAUGHT LABORATORIES, INC.	SWIFTWATER	PA	03620	2836	970	\$387,578,000
06-03754-01	CONNECTICUT AGRICULTURAL EXPERIMENT	NEW HAVEN	CT	03620	8733	0	\$0
06-09241-01	CONNECTICUT COLLEGE	NEW LONDON	CT	01120	8221	655	\$68,629,444
06-01450-47	CONNECTICUT, UNIVERSITY OF	STORRS	CT	01100	8221	30	\$0
35-07402-11	CONOCO, INC.	PONCA CITY	OK	03611	2911	2000	\$0
49-21194-01	CORE LAB., INC.	CASPER	WY	03620	8731	0	\$0
29-11811-01	CORIELL INSTITUTE FOR MEDICAL RES.	CAMDEN	NJ	03620	8733	73	\$10,962,731
48-11805-02	COVANCE LABORATORIES INCORPORATED	MADISON	WI	03620	8731	750	\$0
45-03253-02	COVANCE LABORATORIES, INC.	VIENNA	VA	03620	8731	1679	\$126,600,000
29-30108-01	CPG, INC.	LINCOLN PARK	NJ	03620	3231	20	\$1,600,000
06-27924-01	CUNO, INCORPORATED	MERIDEN	CT	03620	3589	1625	\$220,584,000
24-00513-40	CURATORS OF THE UNIVERSITY OF MO	ROLLA	MO	03610	8221	0	\$0
24-00513-37	CURATORS OF THE UNIVERSITY OF MO	KANSAS CITY	MO	01100	8221	0	\$0
24-00513-38	CURATORS OF THE UNIVERSITY OF MO	ST. LOUIS	MO	03620	8221	0	\$0
24-00513-39	CURATORS OF THE UNIVERSITY OF MO	COLUMBIA	MO	03610	8221	3	\$0
29-21169-01	CYTOGEN CORPORATION	PRINCETON	NJ	03612	8731	45	\$0
07-30325-01	DADE INTERNATIONAL INC.	NEWARK	DE	03610	9999	0	\$0

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LIC NO	APP NAME	CITY	ST	Prog.Code	SIC	Employees	Revenue
34-26556-01	DATAHEM LABORATORIES	CINCINNATI	OH	03620	8734	23	\$0
34-07958-05	DAYTON, UNIVERSITY OF	DAYTON	OH	01120	8221	2600	\$219,460,694
25-26990-02	DEACONESS RESEARCH INSTITUTE	BILLINGS	MT	03620	8731	0	\$0
01-25316-01	DEFENSE, DEPARTMENT OF	REDSTONE ARSENAL	AL	03620	9199	0	\$0
06-28624-01	DEKALB GENETICS CORPORATION	MYSTIC	CT	03620	8731	0	\$0
07-11871-05	DELAWARE STATE UNIVERSITY	DOVER	DE	03620	8221	600	\$75,807,503
07-23516-01	DELAWARE TECH. & COMMUNITY COLLEGE	NEWARK	DE	03620	8221	480	\$0
07-01579-19	DELAWARE, UNIVERSITY OF	NEWARK	DE	01100	8221	0	\$0
34-09885-01	DELPHI AUTOMOTIVE SYSTEMS, LLC	MORAINES	OH	03620	3585	445	\$0
34-06325-04	DENISON UNIVERSITY	GRANVILLE	OH	03620	8221	459	\$57,304,230
13-26020-01	DEPAUW UNIVERSITY	GREENCASTLE	IN	01110	8221	528	\$129,773,912
22-18199-01	DETECTOR ELECTRONICS CORPORATION	MINNEAPOLIS	MN	03620	3669	242	\$21,200,000
21-20230-01	DETROIT INST. OF ARTS	DETROIT	MI	03620	8412	270	\$0
21-00241-09	DETROIT, UNIVERSITY OF MERCY	DETROIT	MI	03620	8221	1125	\$93,322,926
29-30389-01	DGI BIOTECHNOLOGIES, LLC	EDISON	NJ	03620	8734	16	\$960,000
06-30469-01	DIAGNOSTIC ONCOLOGY CRO, INC.	SEYMOUR	CT	03620	8011	11	\$1,632,953
06-23655-01	DIANON SYSTEMS, INC.	STRATFORD	CT	03620	8071	681	\$76,097,031
37-09726-02	DICKINSON COLLEGE	CARLISLE	PA	03620	8221	580	\$65,208,362
08-16631-02	DISTRICT OF COLUMBIA, UNIV. OF THE	WASHINGTON	DC	03620	8221	0	\$0
21-00265-06	DOW CHEMICAL COMPANY	MIDLAND	MI	03610	8734	200	\$0
21-08362-08	DOW CORNING CORPORATION	AUBURN	MI	03620	2821	1	\$0
29-30054-01	DPC CIRRUS A SUBSIDIARY OF	RANDOLPH	NJ	03620	3826	300	\$40,000,000
37-04594-11	DREXEL UNIVERSITY	PHILADELPHIA	PA	01100	8221	14	\$0
07-00455-40	DU PONT PHARMACEUTICALS CO.	WILMINGTON	DE	03610	8731	0	\$0
37-02451-04	DUQUESNE UNIVERSITY	PITTSBURGH	PA	01110	8221	8	\$0
07-00455-02	E. I. DU PONT DE NEMOURS & CO., INC	WILMINGTON	DE	03610	8732	0	\$0
07-13441-02	E. I. DU PONT DE NEMOURS & CO., INC	NEWARK	DE	03610	8732	800	\$0
06-20971-01	EASTERN CONNECTICUT STATE UNIV.	WILLIMANTIC	CT	03620	8221	17	\$370,000
21-06885-01	EASTERN MICHIGAN UNIVERSITY	YPSILANTI	MI	03611	8221	25	\$0
25-12923-01	EASTERN MONTANA COLLEGE	BILLINGS	MT	03620	8221	2	\$38,000
37-20949-01	ECOGEN, INC.	LANGHORNE	PA	03620	8731	1	\$180,000
37-02226-02	ELF ATOCHEM NORTH AMERICA, INC.	KING OF PRUSSIA	PA	03620	8731	300	\$0
13-01133-02	ELI LILLY & COMPANY	INDIANAPOLIS	IN	03611	2834	0	\$0
29-28575-01	ENVIROGEN, INC.	LAWRENCEVILLE	NJ	03620	9999	185	\$24,049,968
09-10672-03	ENVIRONMENTAL PROTECTION AGENCY	GULF BREEZE	FL	03620	8733	79	\$0
36-12343-02	ENVIRONMENTAL PROTECTION AGENCY	CORVALLIS	OR	03620	9199	79	\$0
34-12736-02	ENVIRONMENTAL PROTECTION AGENCY	CINCINNATI	OH	03611	8733	79	\$0
38-11957-01	ENVIRONMENTAL PROTECTION AGENCY	NARRAGANSETT	RI	03610	9199	79	\$0
12-10243-01	ENVIRONMENTAL PROTECTION AGENCY	CHICAGO	IL	03620	9199	0	\$0
01-07317-01	ENVIRONMENTAL PROTECTION AGENCY	MONTGOMERY	AL	03620	9199	80	\$0
22-13390-01	ENVIRONMENTAL PROTECTION AGENCY	DULUTH	MN	03620	9199	0	\$0
05-14892-01	ENVIRONMENTAL PROTECTION AGENCY	DENVER	CO	03612	9199	90	\$0

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LIC_NO	APP_NAME	CITY	ST	Prog.Code	SIC	Employees	Revenue
10-10146-01	ENVIRONMENTAL PROTECTION AGENCY	ATHENS	GA	03620	9199	0	\$0
32-14048-04	ENVIRONMENTAL PROTECTION AGENCY	RESEARCH TRI. PK.	NC	03610	9199	0	\$0
35-11581-02	ENVIRONMENTAL PROTECTION AGENCY	ADA	OK	03620	8733	79	\$0
27-05861-02	ENVIRONMENTAL PROTECTION AGENCY	LAS VEGAS	NV	03610	9199	79	\$0
29-30031-01	ENZON, INC.	PISCATAWAY R.	NJ	03620	2834	85	\$13,158,207
48-26709-01	EPICENTRE TECHNOLOGIES INCORPORATED	MADISON	WI	03620	7389	0	\$0
29-30471-01	EPIGENESIS PHARMACEUTICALS, INC.	PRINCETON	NJ	03620	8733	8	\$590,000
21-32115-01	ESPERION THERAPEUTICS INCORPORATED	ANN ARBOR	MI	03620	8731	38	\$2,600,000
34-32072-01	ETHICON ENDO SURGERY INCORPORATED	CINCINNATI	OH	03620	3842	4000	\$0
29-02786-06	ETHICON, INC.	SOMERVILLE	NJ	03620	3842	4000	\$305,600,000
13-09810-01	EVANSVILLE, UNIVERSITY OF	EVANSVILLE	IN	03620	8221	500	\$59,711,000
29-19396-01	EXXON BIOMEDICAL SCIENCES, INC.	EAST MILLSTONE	NJ	03620	8733	250	\$0
29-05260-13	EXXON RESEARCH & ENGINEERING CO.	ANNANDALE	NJ	03620	8731	150	\$0
06-09667-03	FAIRFIELD UNIVERSITY	FAIRFIELD	CT	03620	8221	883	\$93,601,811
21-15237-01	FERRIS STATE UNIVERSITY	BIG RAPIDS	MI	01100	8221	1200	\$154,561,949
29-01035-01	FMC CORPORATION	PRINCETON	NJ	03620	8731	700	\$0
12-26452-01	FOOD AND DRUG ADMINISTRATION	SUMMIT-ARGO	IL	03620	9199	0	\$0
37-11185-04	FRANKLIN & MARSHALL COLLEGE	LANCASTER	PA	03620	8221	450	\$64,211,000
13-13530-01	FT. WAYNE STATE DEVELOPMENTAL CTR.	FORT WAYNE	IN	03620	9431	1120	\$0
21-26088-01	GELMAN SCIENCES	ANN ARBOR	MI	03620	3821	610	\$85,000,000
06-27947-01	GENAISSANCE PHARMACEUTICALS, INC.	NEW HAVEN	CT	03620	2834	84	\$2,000,000
48-00337-05	GENERAL ELECTRIC CO. MED. SYSTEMS	MILWAUKEE	WI	03620	3845	5	\$0
34-00054-04	GENERAL ELECTRIC LIGHTING	CLEVELAND	OH	03620	3646	1200	\$0
21-00016-04	GENERAL MOTORS CORPORATION	WARREN	MI	03610	8732	5000	\$0
37-30211-01	GENISPHERE INC.	BALA CYNWYD	PA	03620	8071	0	\$0
24-26778-01	GENOME SYSTEMS INCORPORATED	ST. LOUIS	MO	03620	8731	200	\$16,500,000
22-26217-01	GENTRA SYSTEMS INCORPORATED	PLYMOUTH	MN	03620	2835	28	\$1,800,000
45-13147-01	GEORGE MASON UNIVERSITY	FAIRFAX	VA	01120	8221	4500	\$304,391,234
08-03114-05	GEORGETOWN UNIVERSITY	WASHINGTON	DC	01100	8221	0	\$0
48-26802-01	GERIGENE MEDICAL CORPORATION	MADISON	WI	03620	8733	7	\$0
SNM-245	GETTYSBURG COLLEGE	GETTYSBURG	PA	03620	8221	850	\$74,020,178
29-30516-01	GIBRALTAR LABORATORIES, INC.	FAIRFIELD	NJ	03620	8734	40	\$4,000,000
34-26264-01	GLIATECH, INC.	CLEVELAND	OH	03620	2834	55	\$27,952,487
24-26225-01	GOLD BIOTECHNOLOGY, INC.	ST. LOUIS	MO	03620	2836	5	\$500,000
22-05304-03	GUSTAVUS ADOLPHUS COLLEGE	ST. PETER	MN	03620	8221	600	\$66,448,671
45-09657-02	HAMPTON INSTITUTE (UNIVERSITY)	HAMPTON	VA	03620	8221	2	\$110,000
37-02286-05	HAVERFORD COLLEGE	HAVERFORD	PA	03620	8221	450	\$45,838,000
53-00515-01	HAWAII AGRICULTURE RESEARCH CENTER	AIEA	HI	03620	8733	0	\$0
53-00017-23	HAWAII, UNIVERSITY OF	HONOLULU	HI	01100	8221	0	\$0
03-15093-01	HEALTH & HUMAN SERVICES, DEPT. OF	JEFFERSON	AR	03610	9199	0	\$0
20-08361-01	HEALTH & HUMAN SERVICES, DEPT. OF	WINCHESTER	MA	03610	9199	0	\$0
47-15279-01	HEALTH & HUMAN SERVICES, DEPT. OF	MORGANTOWN	WV	03620	9199	0	\$0

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LIC NO	APP. NAME	CITY	ST	Prog.Code	SIC	Employees	Revenue
19-07538-01	HEALTH & HUMAN SERVICES, DEPT. OF	ROCKVILLE	MD	03620	9199	50	\$0
10-06772-01	HEALTH & HUMAN SERVICES, DEPT. OF	ATLANTA	GA	03610	9199	930	\$0
08-00482-03	HEALTH & HUMAN SERVICES, DEPT. OF	WASHINGTON	DC	03610	9199	73	\$0
22-09761-02	HEALTH & HUMAN SERVICES, DEPT. OF	MINNEAPOLIS	MN	03620	9199	0	\$0
19-07538-05	HEALTH & HUMAN SERVICES, DEPT. OF	ROCKVILLE	MD	03620	9199	50	\$0
34-07167-03	HEALTH & HUMAN SERVICES, DEPT. OF	CINCINNATI	OH	03620	9199	30	\$0
19-09760-02	HEALTH & HUMAN SERVICES, DEPT. OF	BALTIMORE	MD	03620	9199	0	\$0
25-01203-01	HEALTH & HUMAN SERVICES, DEPT. OF	HAMILTON	MT	03610	9199	3	\$0
32-12358-01	HEALTH & HUMAN SERVICES, DEPT. OF	RESEARCH TRIANGLE P	NC	03610	9199	2	\$0
17-14996-01	HEALTH & HUMAN SERVICES, DEPT. OF	BATON ROUGE	LA	03620	9199	118	\$0
01-15770-01	HEALTH & HUMAN SERVICES, DEPT. OF	DAUPHIN ISLAND	AL	03620	9199	0	\$0
34-11039-03	HENKEL CORPORATION-CHEMICALS GROUP	CINCINNATI	OH	03620	8999	10	\$0
34-24468-01	HIPPLE CANCER RESEARCH CENTER	DAYTON	OH	03620	8733	12	\$1,778,005
34-26756-01	HITACHI MEDICAL CORP. OF AMERICA	TWINSBURG	OH	03620	5047	220	\$180,000,000
29-15354-01	HOECHST MARION ROUSSEL, INC	BRIDGEWATER	NJ	03611	9999	0	\$0
29-00018-02	HOFFMANN-LA ROCHE, INC.	NUTLEY	NJ	03610	2834	5000	\$2,600,000,000
21-13583-01	HOPE COLLEGE	HOLLAND	MI	03620	8221	600	\$73,693,701
08-00386-19	HOWARD UNIVERSITY	WASHINGTON	DC	01100	8221	0	\$0
22-26786-01	HUGHES INSTITUTE	ROSEVILLE	MN	03620	8733	50	\$0
29-14800-01	HUNTINGDON LIFE SCIENCES, INC.	EAST MILLSTONE	NJ	03620	8733	206	\$0
11-27380-01	IDAHO STATE UNIVERSITY	POCATELLO	ID	01100	8221	47	\$0
11-27382-01	IDAHO, UNIVERSITY OF	MOSCOW	ID	01100	8221	4	\$180,000
37-20963-01	IMMUNICON CORP.	HUNTINGDON VALLEY	PA	03620	8731	0	\$0
29-30097-01	IMMUNOMEDICS, INC.	MORRIS PLAINS	NJ	03612	8731	115	\$7,559,432
13-26430-01	INDIANA CROP IMPROVEMENT ASSN.	LAFAYETTE	IN	03620	8734	21	\$1,937,074
13-09639-05	INDIANA STATE UNIVERSITY	TERRE HAUTE	IN	03611	8221	1700	\$177,182,783
13-00108-05	INDIANA UNIVERSITY	BLOOMINGTON	IN	01110	8221	3	\$120,000
37-13088-01	INDIANA UNIVERSITY OF PENNSYLVANIA	INDIANA	PA	03620	8221	1565	\$161,309,000
13-26387-01	INDIANA UNIVERSITY OF SOUTH BEND	SOUTH BEND	IN	03620	8221	8	\$0
13-18384-01	INDIANA UNIVERSITY SCHOOL MEDICINE	GARY	IN	03620	8221	20	\$0
13-15734-01	INDIANA UNIVERSITY SCHOOL OF MEDIC.	EVANSVILLE	IN	03620	8221	1722	\$69,022,889
13-26370-01	INDIANA UNIVERSITY-PURDUE UNIVERSIT	COLUMBUS	IN	03620	8221	250	\$0
48-26589-01	INFIGEN, INC.	DEFORREST	WI	03620	8733	35	\$2,100,000
45-25404-01	INSMED PHARMACEUTICALS, INC.	RICHMOND	VA	03620	8732	25	\$1,300,000
06-30480-01	INST. FOR PHARMACEUTICAL DISCOVERY	BRANFORD	CT	03620	8731	0	\$0
29-30181-01	INTERCARDIA RESEARCH LABORTORIES	CRANBURY	NJ	03620	8731	15	\$1,200,000
29-19964-01	INTERFERON SCIENCES, INC.	NEW BRUNSWICK	NJ	03620	2835	35	\$2,329,222
50-29001-01	INTERIOR, DEPARTMENT OF THE	ANCHORAGE	AK	03620	9199	0	\$0
21-26652-01	INTERIOR, DEPARTMENT OF THE	MILLERSBURG	MI	03620	9199	0	\$0
19-09381-01	INTERIOR, DEPARTMENT OF THE	LAUREL	MD	03620	9199	0	\$0
04-06674-07	INTERIOR, DEPARTMENT OF THE	MENLO PARK	CA	03610	9199	0	\$0
24-12728-01	INTERIOR, DEPARTMENT OF THE	COLUMBIA	MO	03620	9199	0	\$0

Table C-4. NRC-Licensed Research and Development Laboratories

LIC NO	APP NAME	CITY	ST	Prog Code	SIC	Employees	Revenue
46-23637-01	INTERIOR, DEPARTMENT OF THE	SEATTLE	WA	03620	9199	0	\$0
39-25372-01	INTERIOR, DEPARTMENT OF THE	COLUMBIA	SC	03620	9199	0	\$0
09-25420-01	INTERIOR, DEPARTMENT OF THE	GAINESVILLE	FL	03620	9199	0	\$0
37-01712-11	INTERIOR, DEPARTMENT OF THE	PITTSBURGH	PA	03620	9199	0	\$0
05-02678-02	INTERIOR, DEPARTMENT OF THE	DENVER	CO	03620	9199	0	\$0
05-01399-08	INTERIOR, DEPARTMENT OF THE	DENVER	CO	03610	9199	0	\$0
48-09484-01	INTERIOR, DEPARTMENT OF THE	LA CROSSE	WI	03620	9199	1	\$81,000
45-10414-01	JAMES MADISON UNIVERSITY	HARRISONBURG	VA	01120	8221	1700	\$198,968,665
06-02354-02	JOHN B. PIERCE LABORATORY, INC.	NEW HAVEN	CT	03620	8732	55	\$4,200,761
34-07198-03	JOHN CARROLL UNIVERSITY	CLEVELAND	OH	03620	8221	654	\$67,051,910
29-17001-02	JOHNSON & JOHNSON CONSUMER	SKILLMAN	NJ	03620	3842	0	\$191,000,000
37-06520-01	JUNIATA COLLEGE	HUNTINGDON	PA	03620	8221	0	\$0
08-00480-06	JUSTICE, DEPARTMENT OF	WASHINGTON	DC	03620	9199	97712	\$0
21-13658-01	KALAMAZOO COLLEGE	KALAMAZOO	MI	03620	8221	0	\$0
29-17018-03	KEAN COLLEGE OF NEW JERSEY	UNION	NJ	03620	8221	0	\$0
48-26710-01	KENDRICK LABORATORIES, INC.	MADISON	WI	03620	8071	8	\$443,894
34-00124-05	KENT STATE UNIVERSITY	KENT	OH	03620	8221	5466	\$329,793,000
34-14109-01	KENYON COLLEGE	GAMBIER	OH	03620	8221	450	\$64,914,437
37-30363-01	KIMERAGEN, INC.	NEWTOWN	PA	03620	8731	39	\$1,000,000
37-28499-01	KING'S COLLEGE	WILKES-BARRE	PA	03620	8221	350	\$32,387,776
06-21254-01	KODAK SCIENTIFIC IMAGING SYSTEMS	NEW HAVEN	CT	03620	2835	33	\$0
29-01788-03	L-3 COMMUNICATIONS CORP.	CAMDEN	NJ	03620	3669	1300	\$0
29-15380-01	LABORATORY CORP. OF AMERICA HOLDINGS	RARITAN	NJ	03620	8071	800	\$0
37-14359-02	LAFAYETTE COLLEGE	EASTON	PA	03620	8221	650	\$73,638,879
48-23313-01	LAKESHORE TECHNICAL COLLEGE	CLEVELAND	WI	03620	8221	0	\$0
35-16722-01	LANGSTON UNIVERSITY	LANGSTON	OK	03620	8221	350	\$36,131,922
48-11358-01	LAWRENCE UNIVERSITY	APPLETON	WI	03620	8221	375	\$41,883,527
37-07710-02	LEBANON VALLEY COLLEGE	ANNVILLE	PA	03620	8221	226	\$34,906,708
29-01442-01	LEDoux & COMPANY	TEANECK	NJ	03620	8734	67	\$3,800,000
37-07912-02	LEHIGH UNIVERSITY	BETHLEHEM	PA	01100	8221	13	\$0
24-16097-01	LINCOLN UNIVERSITY OF MO	JEFFERSON CITY	MO	03620	8221	300	\$37,019,431
37-10424-02	LINCOLN UNIVERSITY OF THE	LINCOLN UNIVERSITY	PA	03620	8221	0	\$0
29-19918-01	LIPOSOME COMPANY INC. (THE)	PRINCETON	NJ	03620	8731	280	\$92,470,000
10-01425-16	LOCKHEED MARTIN AERONAUTICAL SYS.	MARIETTA	GA	03611	3761	9500	\$669,100,000
37-02006-05	LOCKHEED MARTIN CORPORATION	PHILADELPHIA	PA	03620	3761	0	\$0
44-28485-01	LYNDON STATE COLLEGE	LYNDONVILLE	VT	03620	8221	200	\$9,400,000
22-08477-01	MACALESTER COLLEGE	ST. PAUL	MN	03620	8221	550	\$60,775,000
37-28581-01	MAGAININ PHARMACEUTICALS INC.	PLYMOUTH MEETING	PA	03620	8731	55	\$4,600,000
18-01475-16	MAINE, UNIVERSITY OF	ORONO	ME	03620	8221	24	\$2,452,988
24-17450-01	MALLINCKRODT INC.	ST. LOUIS	MO	03610	3841	13098	\$2,581,200,000
13-00267-04	MANCHESTER COLLEGE	NORTH MANCHESTER	IN	03620	8221	200	\$27,956,285
22-05944-03	MANKATO STATE UNIVERSITY	MANKATO	MN	03620	8221	0	\$120,000

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LIC NO	APP NAME	CITY	ST	Prog.Code	SIC	Employees	Revenue
13-08888-01	MARIAN COLLEGE	INDIANAPOLIS	IN	03620	8221	300	\$15,848,877
48-02931-06	MARQUETTE UNIVERSITY	MILWAUKEE	WI	01100	8221	0	\$0
47-05972-02	MARSHALL UNIVERSITY	HUNTINGTON	WV	01110	8221	1632	\$178,050,188
45-16818-01	MARY WASHINGTON COLLEGE	FREDERICKSBURG	VA	03620	8221	500	\$49,550,881
45-25143-01	MARYMOUNT UNIVERSITY	ARLINGTON	VA	03620	8221	551	\$41,552,412
34-03043-03	MCDERMOTT TECHNOLOGY INCORPORATED	ALLIANCE	OH	03610	1629	193	\$0
24-02261-03	MCDONALD DOUGLAS CORPORATION	ST. LOUIS	MO	03610	3721	63873	\$4,683,000,000
25-26973-01	MCLAUGHLIN RESEARCH INSTITUTE	GREAT FALLS	MT	03620	8733	38	\$1,743,299
29-30119-01	MEDAREX, INC.	ANNANDALE	NJ	03620	8731	93	\$7,027,000
45-15877-01	MEDICAL COLLEGE OF HAMPTON ROADS	NORFOLK	VA	01100	8221	1400	\$0
29-00117-06	MERCK & CO., INC.	RAHWAY	NJ	03610	2834	6000	\$0
37-01531-07	MERCK & CO., INC.	WEST POINT	PA	03610	2834	5300	\$0
45-03302-01	MERCK & CO., INC.	ELKTON	VA	03620	2833	766	\$0
29-30483-01	MERIAL LIMITED	ISELIN	NJ	03620	8734	230	\$0
34-03643-01	MERRILL PHARMACEUTICALS, INC.	CINCINNATI	OH	03611	2834	600	\$75,800,000
37-30462-01	MESSAGE PHARMACEUTICALS, INC.	MALVERN	PA	03620	7389	27	\$538,872
48-26711-01	METABOLIC ANALYSIS LABS, INC.	MADISON	WI	03620	8731	10	\$500,000
34-01329-07	MIAMI UNIVERSITY	OXFORD	OH	01100	8221	3200	\$313,500,440
21-24836-01	MICHIGAN BIOTECHNOLOGY INST.	LANSING	MI	03620	8733	48	\$5,771,103
21-00021-29	MICHIGAN STATE UNIVERSITY	EAST LANSING	MI	01100	8221	60	\$0
21-00278-02	MICHIGAN TECHNOLOGICAL UNIVERSITY	HOUGHTON	MI	03620	8221	1350	\$157,513,000
21-05199-03	MICHIGAN, STATE OF	LANSING	MI	03620	9199	0	\$0
06-20749-01	MICROGENESYS, INC.	MERIDEN	CT	03620	8731	0	\$0
24-32093-01	MIDAMERICA NEUROSCIENCE RSRCH.FOUN.	KANSAS	MO	03620	8731	0	\$0
44-08056-03	MIDDLEBURY COLLEGE	MIDDLEBURY	VT	03620	8221	1000	\$122,090,000
13-20477-01	MIDWEST BIO-PRODUCTS, INC.	COVINGTON	IN	03620	2869	5	\$370,000
24-02564-02	MIDWEST RESEARCH INSTITUTE	KANSAS CITY	MO	03620	8732	901	\$243,237,818
48-06406-02	MILLER BREWING COMPANY	MILWAUKEE	WI	03620	2082	9800	\$4,000,000,000
37-13225-01	MILLERSVILLE UNIVERSITY	MILLERSVILLE	PA	03620	8221	1039	\$80,798,000
35-27502-01	MILLS BIOPHARMACEUTICALS INC.	OKLAHOMA CITY	OK	03620	2834	20	\$260,000
22-00057-07	MINNESOTA MINING & MFG. COMPANY	ST. PAUL	MN	03611	2819	40	\$0
22-04589-01	MINNESOTA, DEPARTMENT OF HEALTH	ST. PAUL	MN	03620	9199	0	\$0
24-12366-01	MISSOURI ANALYTICAL LABS., INC.	ST. LOUIS	MO	03620	8071	25	\$1,400,000
24-10291-02	MISSOURI STATE HIGHWAY PATROL	JEFFERSON CITY	MO	03620	9221	0	\$0
29-00505-02	MOBIL TECHNOLOGY COMPANY	PAULSBORO	NJ	03620	2911	750	\$0
06-30503-01	MOLECULAR STAGING, INC.	GUILFORD	CT	03620	8734	36	\$7,751,254
24-01113-03	MONSANTO COMPANY	ST. LOUIS	MO	03611	8732	0	\$0
25-15640-01	MONTANA COLLEGE OF MINERAL SCIENCE	BUTTE	MT	01120	8221	0	\$0
25-00326-06	MONTANA STATE UNIVERSITY	BOZEMAN	MT	01100	8221	1	\$0
25-15963-01	MONTANA, STATE OF	HELENA	MT	03620	9199	0	\$0
25-01706-03	MONTANA, UNIVERSITY OF	MISSOULA	MT	01100	8221	3	\$140,000
SNM-1862	MONTCLAIR STATE UNIVERSITY	UPPER MONCLAIR	NJ	03620	8221	1824	\$136,832,349

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LIC NO	APP NAME	CITY	ST	Prog.Code	SIC	Employees	Revenue
22-03581-02	MOORHEAD STATE UNIVERSITY	MOORHEAD	MN	03620	8221	750	\$60,686,371
37-28415-01	MORAVIAN COLLEGE	BETHLEHEM	PA	03620	8221	450	\$32,619,000
21-11315-02	MPI RESEARCH, L.L.C.	MATTAWAN	MI	03611	8731	260	\$16,000,000
37-30408-01	MPM TECHNOLOGIES, INC.	STATE COLLEGE	PA	03620	8731	11	\$0
01-06571-10	NATIONAL AERONAUTICS & SPACE ADM.	HUNTSVILLE	AL	03620	8711	3000	\$0
19-05748-02	NATIONAL AERONAUTICS & SPACE ADM.	GREENBELT	MD	03610	9199	737	\$0
42-09388-01	NATIONAL AERONAUTICS & SPACE ADM.	HOUSTON	TX	03610	9199	0	\$0
09-11149-03	NATIONAL AERONAUTICS & SPACE ADM.	KENNEDY SPACE CTR.	FL	03610	9199	60	\$0
04-07845-04	NATIONAL AERONAUTICS & SPACE ADM.	MOFFETT FIELD	CA	03610	9199	0	\$0
45-01052-21	NATIONAL AERONAUTICS & SPACE ADM.	HAMPTON	VA	03611	8733	5000	\$0
37-28751-01	NEOSE TECHNOLOGIES INC.	HORSHAM	PA	03620	8733	62	\$125,000
06-28473-01	NEUROGEN CORPORATION	BRANFORD	CT	03620	8731	150	\$10,209,000
29-19517-03	NEW JERSEY INST. OF TECHNOLOGY	NEWARK	NJ	03620	8221	0	\$0
29-18389-01	NEW JERSEY STATE DEPT. OF HEALTH	TRENTON	NJ	03620	9199	276	\$0
29-07009-05	NEW JERSEY, DEPT. OF ENVIRONMENTAL	TRENTON	NJ	03620	9199	61	\$0
29-20876-01	NEW JERSEY, UNIV. OF MED. & DENTIST	STRATFORD	NJ	03620	8221	8	\$320,000
29-15188-01	NEW JERSEY, UNIV. OF MED. & DENTIST	PISCATAWAY	NJ	01100	8221	35	\$0
29-23754-01	NEXTRAN	PRINCETON	NJ	03620	8731	41	\$3,800,000
45-23080-01	NORFOLK STATE UNIVERSITY	NORFOLK	VA	03620	8221	1200	\$122,507,878
24-17210-01	NORTHEAST REGIONAL MEDICAL CENTER	KIRKSVILLE	MO	03620	8062	0	\$0
34-18196-01	NORTHEASTERN OHIO UNIVERSITIES	ROOTSTOWN	OH	01110	8221	375	\$25,580,858
20-06432-08	NORTHEASTERN UNIVERSITY	BOSTON	MA	03620	8221	2350	\$319,622,000
21-26687-01	NORTHERN BIOMEDICAL RESEARCH	MUSKEGON	MI	03620	8071	10	\$1,200,000
21-09119-02	NORTHERN MICHIGAN UNIVERSITY	MARQUETTE	MI	03620	8221	1029	\$106,593,761
44-07570-01	NORWICH UNIVERSITY	NORTHFIELD	VT	03620	8221	13	\$0
13-01983-15	NOTRE DAME, UNIVERSITY OF DU LAC	NOTRE DAME	IN	01100	8221	0	\$0
48-26067-01	NOVAGEN	MADISON	WI	03620	2835	45	\$5,000,000
29-08978-02	NOVARTIS PHARMACEUTICALS CORP.	EAST HANOVER	NJ	03610	2834	7000	\$900,300,000
22-23522-01	NOVARTIS SEEDS	MINNEAPOLIS	MN	03620	2834	800	\$224,200,000
24-26450-01	NOVUS INTERNATIONAL, INC.	ST. CHARLES	MO	03620	8731	24	\$0
21-15209-01	NSF INTERNATIONAL/TSTNG LABORATORY	ANN ARBOR	MI	03620	8731	300	\$22,400,000
37-30243-01	NYCOMED AMERSHAM	WAYNE	PA	03620	8731	185	\$0
21-10725-03	OAKLAND UNIVERSITY	ROCHESTER	MI	03620	8221	2000	\$145,973,000
34-05669-04	OBERLIN COLLEGE	OBERLIN	OH	03620	8221	1050	\$117,137,000
34-00410-02	OHIO STATE UNIVERSITY (THE)	WOOSTER	OH	01100	8221	0	\$0
34-01260-09	OHIO UNIVERSITY	ATHENS	OH	01100	8221	12	\$0
35-07464-03	OKLAHOMA MEDICAL RESEARCH FDN.	OKLAHOMA CITY	OK	03610	8733	450	\$28,367,824
35-00237-03	OKLAHOMA STATE UNIVERSITY	STILLWATER	OK	01100	8221	1	\$0
35-19079-01	OKLAHOMA STATE UNIVERSITY	TULSA	OK	03620	8221	300	\$0
35-06901-03	OKLAHOMA, STATE OF	OKLAHOMA CITY	OK	03620	9199	119	\$0
35-07466-05	OKLAHOMA, UNIVERSITY OF	NORMAN	OK	01100	8221	0	\$0
35-03176-01	OKLAHOMA, UNIVERSITY OF	OKLAHOMA CITY	OK	01100	8221	40	\$160,000

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LIC NO	APP. NAME	CITY	ST	Prog.Code	SIC	Employees	Revenue
45-09599-03	OLD DOMINION UNIVERSITY	NORFOLK	VA	01100	8221	4000	\$215,100,000
48-32048-01	OPHIDIAN PHARMACEUTICALS	MADISON	WI	03620	8731	31	\$26,965
35-18282-01	ORAL ROBERTS UNIVERSITY	TULSA	OK	03620	8221	9	\$0
06-30353-01	OREAD, INC.	FARMINGTON	CT	03620	8733	67	\$0
29-16223-01	ORTHO-CLINICAL DIAGNOSTICS INC.	RARITAN	NJ	03620	2835	1600	\$132,100,000
34-08296-03	OTTERBEIN COLLEGE	WESTERVILLE	OH	03620	8221	464	\$33,610,776
29-30383-01	PALATIN TECHNOLOGIES, INC.	PRINCETON	NJ	03620	8733	30	\$609,977
48-26429-01	PAN VERA CORPORATION	MADISON	WI	03620	2835	59	\$5,000,000
21-01443-06	PARKE-DAVIS & COMPANY	ANN ARBOR	MI	03611	2834	0	\$0
37-00185-04	PENNSYLVANIA STATE UNIVERSITY (THE)	UNIVERSITY PARK	PA	01100	8221	14	\$0
21-12192-01	PERFECT CIRCLE SEALED POWER	MUSKEGON	MI	03620	3592	120	\$0
06-05869-01	PFIZER, INC.	GROTON	CT	03610	2833	6000	\$0
13-10179-01	PFIZER, INC.	TERRE HAUTE	IN	03620	2833	600	\$0
29-30152-01	PHARMACOPEIA, INC.	PRINCETON	NJ	03620	8731	192	\$103,959,000
37-30063-01	PHILA. COLLEGE OF OSTEOPATHIC MED.	PHILADELPHIA	PA	03620	8221	300	\$8,535,177
37-07438-15	PHILADELPHIA HEALTH & EDUC. CORP.	PHILADELPHIA	PA	01100	8221	20	\$740,000
37-00467-34	PHILADELPHIA HEALTH & EDUC. CORP.	PHILADELPHIA	PA	01100	8221	0	\$0
45-00385-04	PHILIP MORRIS U. S. A.	RICHMOND	VA	03620	2111	11000	\$0
35-00313-03	PHILLIPS PETROLEUM COMPANY	BARTLESVILLE	OK	03620	2911	1200	\$0
29-30358-01	PHYTOTECH, INC.	MONMOUTH JUNCTION	NJ	03612	2833	3	\$461,452
34-24963-01	PICKER INTERNATIONAL INC.	HIGHLAND HEIGHTS	OH	03620	8731	30	\$25,000,000
48-14075-01	PIERCE MILWAUKEE INCORPORATED	MILWAUKEE	WI	03620	8731	0	\$0
22-20484-01	PILLSBURY COMPANY (THE)	LESUEUR	MN	03620	8731	0	\$0
37-30070-01	PITTSBURGH ENVIRONMENTAL RES. LAB.	PITTSBURGH	PA	03620	8731	10	\$810,000
52-19547-01	PONCE SCHOOL OF MEDICINE	PONCE	PR	03620	8221	206	\$10,500,000
48-20256-01	POWDERJECT VACCINE INCORPORATED	MADISON	WI	03620	8731	52	\$3,700,000
45-25314-01	PPD PHARMACO, INC.	RICHMOND	VA	03620	8731	140	\$0
29-30422-01	PRAELUX INCORPORATED	LAWRENCEVILLE	NJ	03620	8733	16	\$1,100,000
29-05185-24	PRINCETON UNIVERSITY	PRINCETON	NJ	03610	8221	0	\$0
34-01572-01	PROCTER & GAMBLE COMPANY	ROSS(BUTLER COUNTY)	OH	03610	8733	850	\$0
48-20111-01	PROMEGA CORPORATION	MADISON	WI	03620	2836	600	\$89,000,000
52-10510-04	PUERTO RICO, UNIVERSITY OF	MAYAGUEZ	PR	01100	8221	1872	\$0
52-01986-04	PUERTO RICO, UNIVERSITY OF	RIO PIEDRAS	PR	03620	8221	0	\$0
13-02812-04	PURDUE UNIVERSITY	WEST LAFAYETTE	IN	01100	8221	0	\$0
24-26509-01	PURINA MILLS INCORPORATED	ST. LOUIS	MO	03620	2048	2600	\$437,442,000
29-28152-01	QUALITY BIOTECH INC.	CAMDEN	NJ	03620	8731	0	\$0
29-15797-01	QUEST DIAGNOSTICS INC.	TETERBORO	NJ	03620	8071	13500	\$1,458,607,000
24-15595-01	QUINTILES, INC.	KANSAS CITY	MO	03620	8732	500	\$0
29-02608-03	R.W. JOHNSON PHARMACEUTICAL RES.INS	RARITAN	NJ	03610	2834	1000	\$0
45-25052-01	RADFORD UNIVERSITY	RADFORD	VA	03620	8221	3	\$74,000
29-15627-01	RAMAPO COLLEGE OF NEW JERSEY	MAHWAH	NJ	03620	8221	500	\$57,388,000
22-24658-01	RESEARCH & DIAGNOSTIC SYSTEMS, INC.	MINNEAPOLIS	MN	03620	2833	390	\$90,900,697

Table C-4. NRC-Licensed Research and Development Laboratories

LIC NO	APP NAME	CITY	ST	Prog.Code	SIC	Employees	Revenue
37-08802-01	RHONE-POULENC RORER, INC	COLLEGEVILLE	PA	03620	2834	2800	\$1,500,000,000
25-19852-01	RIBI IMMUNOCHEM RES., INC.	HAMILTON	MT	03620	8731	0	\$0
34-00583-04	RICERCA INCORPORATED	PAINESVILLE	OH	03620	8731	250	\$18,600,000
29-15222-02	RICHARD STOCKTON COLLEGE OF NJ(THE)	POMONA	NJ	03620	8221	1250	\$72,027,431
45-08373-01	RICHMOND, UNIVERSITY OF	RICHMOND	VA	03620	8221	1300	\$114,621,026
29-23401-01	RIDER UNIVERSITY	LAWRENCEVILLE	NJ	03620	8221	740	\$73,797,000
45-10085-04	ROANOKE COLLEGE	SALEM	VA	03620	8221	360	\$38,054,898
37-01665-01	ROHM & HAAS RESEARCH LABS.	SPRING HOUSE	PA	03610	8731	1100	\$0
29-05218-28	RUTGERS, THE STATE UNIVERSITY	PISCATAWAY	NJ	01100	8221	28	\$0
47-25265-01	SALEM-TEIKYO UNIVERSITY	SALEM	WV	03620	8221	180	\$10,369,951
35-00141-03	SAMUEL ROBERTS NOBLE FDN., INC.	ARDMORE	OK	03620	8731	229	\$21,546,783
52-24907-01	SAN JUAN BAUTISTA SCHOOL OF	SAN JUAN	PR	03620	8221	0	\$0
37-28076-01	SANOFI WINTHROP, INC.	MALVERN	PA	03610	8731	500	\$0
29-28005-01	SARNOFF CORPORATION (THE)	PRINCETON	NJ	03620	8731	3	\$200,000
13-01264-05	SCHERING-PLOUGH ANIMAL HEALTH CORP.	TERRE HAUTE	IN	03620	2834	60	\$0
06-00807-01	SCHLUMBERGER TECHNOLOGY CORP.	RIDGEFIELD	CT	03620	8731	150	\$0
19-21091-01	SCIENCE APPLICATIONS INTL. CORP.	FREDERICK	MD	03610	8071	2	\$0
37-04237-03	SCRANTON, UNIVERSITY OF	SCRANTON	PA	03620	8221	1044	\$79,895,259
34-26364-01	SDG TECHNOLOGY INCORPORATED	WOOSTER	OH	03620	8731	0	\$0
29-09831-01	SETON HALL UNIVERSITY	SOUTH ORANGE	NJ	03620	8221	1007	\$159,443,000
37-19501-01	SETON HILL COLLEGE	GREENSBURG	PA	03620	8221	280	\$18,654,324
24-16273-01	SIGMA CHEMICAL COMPANY	ST. LOUIS	MO	03610	2836	1500	\$90,800,000
24-16607-03	SIGMA CHEMICAL COMPANY	ST. LOUIS	MO	03610	2836	1500	\$90,800,000
29-30442-01	SMALL MOLECULE THERAPEUTICS, INC.	MONMOUTH JUNCTION	NJ	03620	8731	24	\$2,600,000
37-00282-04	SMITHKLINE BEECHAM PHARMA,	KING OF PRUSSIA	PA	03610	2834	0	\$0
08-05938-13	SMITHSONIAN INSTITUTION	WASHINGTON	DC	03620	8733	20	\$0
40-02194-17	SOUTH DAKOTA STATE UNIVERSITY	BROOKINGS	SD	01100	8221	31	\$0
40-11733-01	SOUTH DAKOTA, STATE OF	PIERRE	SD	03620	9199	0	\$0
40-02331-19	SOUTH DAKOTA, UNIVERSITY OF	VERMILLION	SD	03611	8221	1162	\$64,100,000
24-09296-02	SOUTHEAST MISSOURI STATE UNIVERSITY	CAPE GIRARDEAU	MO	03620	8221	941	\$100,965,495
23-24850-01	SOUTHERN MISSISSIPPI, UNIVERSITY OF	STENNIS SPACE CNTR.	MS	03620	8221	0	\$0
24-11585-04	SOUTHWEST MISSOURI STATE UNIVERSITY	SPRINGFIELD	MO	03620	8221	0	\$0
22-15594-02	ST. CLOUD STATE UNIVERSITY	ST. CLOUD	MN	03620	8221	1510	\$80,900,000
22-26725-01	ST. CROIX WATERSHED RESRCH STATION	MARINE ON ST. CROIX	MN	03620	8733	10	\$0
37-01753-03	ST. JOSEPH'S UNIVERSITY	PHILADELPHIA	PA	03620	8221	1000	\$53,400,000
22-00027-06	ST. MARY'S UNIVERSITY OF MINNESOTA	WINONA	MN	03620	8221	580	\$39,217,746
22-24980-01	ST. OLAF COLLEGE	NORTHFIELD	MN	03620	8221	870	\$70,079,419
22-08550-01	ST. THOMAS, UNIVERSITY OF	ST. PAUL	MN	03620	8221	1300	\$153,919,652
37-30238-01	STEM CELL THERAPEUTICS LLC	KING OF PRUSSIA	PA	03620	8731	5	\$340,000
29-05263-08	STEVENS INSTITUTE OF TECHNOLOGY	HOBOKEN	NJ	03620	8221	500	\$65,301,481
07-28613-01	STRATEGIC DIAGNOSTICS INCORPORATED	NEWARK	DE	03620	3826	30	\$0
37-30457-01	STROUD WATER RESEARCH CENTER, INC.	AVONDALE	PA	03620	8731	35	\$2,000,000

Table C-4. NRC-Licensed Research and Development Laboratories

LIC NO	APP NAME	CITY	ST	Prog.Code	SIC	Employees	Revenue
22-20307-01	SURMODICS, INC.	EDEN PRAIRIE	MN	03620	8731	105	\$13,493,540
37-15672-01	SUSQUEHANNA UNIVERSITY	SELINGROVE	PA	03620	8221	400	\$32,888,641
37-06958-02	SWARTHMORE COLLEGE	SWARTHMORE	PA	03620	8221	700	\$101,351,000
29-28169-01	SYNAPTIC PHARMACEUTICAL CORPORATION	PARAMUS	NJ	03620	8731	120	\$1,855,000
13-26086-02	T. P. S. INCORPORATED	MT. VERNON	IN	03620	8733	40	\$1,900,000
29-30390-01	TAYLOR TECHNOLOGY, INC.	PRINCETON	NJ	03620	8734	48	\$7,000,000
13-04004-02	TAYLOR UNIVERSITY	UPLAND	IN	03620	8221	550	\$61,647,000
45-25123-01	TECHLAB, INC.	BLACKSBURG	VA	03620	3821	16	\$1,300,000
37-28306-01	TEKTAGEN, INC.	MALVERN	PA	03620	8731	0	\$0
29-00055-15	TELEDYNE ENVIRONMENTAL INC.	WESTWOOD	NJ	03620	8734	80	\$0
29-00055-06	TELEDYNE ENVIRONMENTAL INC.	WESTWOOD	NJ	03610	8734	80	\$0
41-25370-01	TENNESSEE VALLEY AUTHORITY	KNOXVILLE	TN	03620	4911	15000	\$6,595,000,000
34-18743-01	TERRA COMMUNITY COLLEGE	FREMONT	OH	01120	8222	150	\$15,483,746
42-09082-09	TEXAS A&M UNIVERSITY	COLLEGE STATION	TX	03620	8221	318	\$819,470,094
34-10247-06	TOLEDO, UNIVERSITY OF	TOLEDO	OH	03620	8221	5150	\$268,748,994
45-25215-01	TRI-MED SPECIALTIES, INC.	CHARLOTTESVILLE	VA	03620	8071	3	\$130,000
06-09045-03	TRINITY COLLEGE	HARTFORD	CT	03620	8221	0	\$0
08-06506-01	TRINITY COLLEGE	WASHINGTON	DC	03620	8221	260	\$18,263,351
24-17224-02	TRUMAN STATE UNIVERSITY	KIRKSVILLE	MO	03620	8221	778	\$87,858,957
21-26771-01	TSRL, INC.	ANN ARBOR	MI	03620	8733	12	\$1,000,000
35-06776-06	TULSA, THE UNIVERSITY OF	TULSA	OK	03620	8221	1033	\$120,722,000
19-08330-02	UNIFORMED SERVICES UNIVERSITY OF	BETHESDA	MD	03610	8221	0	\$0
19-23344-01	UNIFORMED SERVS. UNIV. OF HEALTH SC	BETHESDA	MD	01100	8221	1750	\$0
29-21016-01	UNIGENE LABORATORIES, INC.	FAIRFIELD	NJ	03620	8731	71	\$9,589,413
29-00304-02	UNILEVER RESEARCH U.S., INC.	EDGEWATER	NJ	03620	8731	520	\$0
06-00221-08	UNIROYAL CHEMICAL CO., INC.	MIDDLEBURY	CT	03610	2822	2750	\$1,209,649,000
06-28642-01	UNITED STATES SURGICAL CORPORATION	NORTH HAVEN	CT	03620	3841	2400	\$0
06-07522-01	UNITED TECHNOLOGIES CORP.	EAST HARTFORD	CT	03610	8733	650	\$0
52-23059-01	UNIVERSIDAD CENTRAL DEL CARIBE	BAYAMON	PR	03620	8221	240	\$20,491,531
37-17452-01	UNIVERSITY CITY SCIENCE CENTER	PHILADELPHIA	PA	03620	8221	90	\$9,880,055
37-00582-02	UNIVERSITY OF THE SCIENCES IN PHILA	PHILADELPHIA	PA	03620	8221	500	\$43,434,923
35-27508-01	UROCOR, INC.	OKLAHOMA CITY	OK	03620	8071	360	\$45,508,000
37-28452-01	URSINUS COLLEGE	COLLEGEVILLE	PA	03620	8221	335	\$32,864,979
34-32134-01	USB CORPORATION	CLEVELAND	OH	03620	2835	50	\$16,500,000
20-10184-01	V. A. EDITH NOURSE ROGERS MEM. VET.	BEDFORD	MA	01100	8062	1400	\$0
41-00119-08	V. A. MEDICAL CENTER	MEMPHIS	TN	03610	8062	1200	\$0
39-12130-02	V. A. MEDICAL CENTER	CHARLESTON	SC	03610	8062	0	\$0
45-09413-06	V. A. MEDICAL CENTER	RICHMOND	VA	03610	8062	3	\$190,000
41-00104-04	V. A. MEDICAL CENTER	NASHVILLE	TN	03610	8062	25	\$0
01-00643-02	V. A. MEDICAL CENTER	BIRMINGHAM	AL	03610	8062	1250	\$0
16-03121-02	V. A. MEDICAL CENTER	LOUISVILLE	KY	03611	8062	0	\$0
10-08389-03	V. A. MEDICAL CENTER	AUGUSTA	GA	03610	8062	0	\$0

Table C-4. NRC-Licensed Research and Development Laboratories

LIC NO	APP NAME	CITY	ST	Prog.Code	SIC	Employees	Revenue
02-06186-01	V. A. MEDICAL CTR.	TUCSON	AZ	03610	8062	1033	\$0
04-00689-07	V. A. MEDICAL CTR.	LONG BEACH	CA	03610	8062	32	\$0
44-05123-01	V. A., DEPARTMENT OF	WHITE RIVER JCT	VT	03610	8062	0	\$0
05-01401-02	V. A., DEPARTMENT OF	DENVER	CO	03610	8062	0	\$0
04-17862-01	V. A., DEPARTMENT OF	LOMA LINDA	CA	03610	8062	0	\$0
09-15294-01	V. A., DEPARTMENT OF	TAMPA	FL	03611	8011	5	\$360,000
46-00990-01	V. A., DEPARTMENT OF	SEATTLE	WA	03610	8062	0	\$0
08-00942-05	V. A., DEPARTMENT OF	WASHINGTON	DC	01100	8062	0	\$0
43-03299-01	V. A., DEPARTMENT OF	SALT LAKE CITY	UT	03610	8062	1500	\$0
11-18311-01	V. A., DEPARTMENT OF	BOISE	ID	03610	8062	0	\$0
42-15881-01	V. A., DEPARTMENT OF	SAN ANTONIO	TX	03610	8062	0	\$0
13-06711-01	VALPARAISO UNIVERSITY	VALPARAISO	IN	03620	8221	950	\$57,140,962
44-11382-01	VERMONT DEPARTMENT OF HEALTH	BURLINGTON	VT	03620	9199	38	\$0
44-00728-13	VERMONT, UNIVERSITY OF	BURLINGTON	VT	01100	8221	25	\$0
21-26750-01	VET GEN, LLC	ANN ARBOR	MI	03620	8734	7	\$340,000
37-07886-01	VILLANOVA UNIVERSITY	VILLANOVA	PA	03620	8221	2150	\$192,411,000
45-04869-02	VIRGINIA MILITARY INSTITUTE	LEXINGTON	VA	03620	8221	450	\$45,192,454
45-09475-30	VIRGINIA POLYTECHNIC INSTITUTE &	BLACKSBURG	VA	01100	8221	0	\$0
37-30241-01	VIOPHARMA, INC.	EXTON	PA	03620	2833	24	\$1,500,000
48-26761-01	VULCAN CHEMICALS	PORT EDWARDS	WI	03620	2819	77	\$0
13-07419-02	WABASH COLLEGE	CRAWFORDSVILLE	IN	03620	8221	225	\$60,314,778
29-03761-01	WARNER-LAMBERT COMPANY	MORRIS PLAINS	NJ	03611	2834	41000	\$12,928,900,000
45-25034-01	WASHINGTON AND LEE UNIVERSITY	LEXINGTON	VA	03620	8221	650	\$76,711,000
21-00741-08	WAYNE STATE UNIVERSITY	DETROIT	MI	01100	8221	0	\$0
06-00483-10	WESLEYAN UNIVERSITY	MIDDLETOWN	CT	03620	8221	2077	\$95,505,000
37-16046-01	WEST CHESTER UNIVERSITY	WEST CHESTER	PA	03620	8221	1151	\$144,932,000
37-30229-01	WEST COMPANY (THE)	LIONVILLE	PA	03620	3069	4800	\$469,100,000
47-19315-01	WEST VA SCHOOL OF OSTEOPATHIC MED.	LEWISBURG	WV	03620	8221	180	\$14,643,510
47-25273-01	WEST VIRGINIA STATE COLLEGE	INSTITUTE	WV	03620	8221	0	\$0
47-23035-01	WEST VIRGINIA UNIVERSITY	MORGANTOWN	WV	01100	8221	90	\$0
21-03336-09	WESTERN MICHIGAN UNIVERSITY	KALAMAZOO	MI	03620	8221	1570	\$411,864,712
SNM-770	WESTINGHOUSE ELECTRIC COMPANY	PITTSBURGH	PA	03610	2819	1000	\$0
47-14258-01	WHEELING JESUIT COLLEGE	WHEELING	WV	03620	8221	500	\$41,864,561
37-30247-01	WHITE EAGLE TOXICOLOGY LABORATORIES	DOYLESTOWN	PA	03620	8071	38	\$3,343,191
34-20070-01	WIL RESEARCH LABORATORIES, INC.	ASHLAND	OH	03620	8731	225	\$15,200,000
45-03499-06	WILLIAM AND MARY, COLLEGE OF	WILLIAMSBURG	VA	03620	8221	4	\$0
45-07112-01	WILLIAM AND MARY, COLLEGE OF	GLOUCESTER POINT	VA	03620	8221	0	\$0
45-03499-08	WILLIAM AND MARY, COLLEGE OF	WILLIAMSBURG	VA	03620	8221	3500	\$198,718,948
29-18435-02	WILLIAM PATERSON COLLEGE	WAYNE	NJ	03620	8221	0	\$0
48-08895-01	WISCONSIN-EAU CLAIRE, UNIVERSITY OF	EAU CLAIRE	WI	03620	8221	125	\$0
48-13818-01	WISCONSIN-GREEN BAY, UNIVERSITY OF	GREEN BAY	WI	03620	8221	4	\$0
48-12594-01	WISCONSIN-LA CROSSE, UNIVERSITY OF	LA CROSSE	WI	03620	8221	50	\$0

Table C-4. NRC-Licensed Research and Development Laboratories

LIC NO	APP NAME	CITY	ST	Prog.Code	SIC	Employees	Revenue
48-09944-01	WISCONSIN-MILWAUKEE, UNIVERSITY OF	MILWAUKEE	WI	01110	8221	200	\$0
48-13250-02	WISCONSIN-OSHKOSH, UNIVERSITY OF	OSHKOSH	WI	01110	8221	125	\$0
48-15342-02	WISCONSIN-PARKSIDE, UNIVERSITY OF	KENOSHA	WI	03620	8221	0	\$0
48-12968-04	WISCONSIN-PLATTEVILLE, UNIVERSITY	PLATTEVILLE	WI	03620	8221	50	\$0
48-09993-01	WISCONSIN-STEVENSON POINT, UNIVERSITY	STEVENSON POINT	WI	03620	8221	3	\$120,000
48-26694-01	WISCONSIN-STOUT, UNIVERSITY OF	MENOMONIE	WI	03620	8221	1200	\$0
48-20005-01	WISCONSIN-SUPERIOR, UNIVERSITY OF	SUPERIOR	WI	03620	8221	14	\$850,000
48-12642-01	WISCONSIN-WHITEWATER, UNIVERSITY OF	WHITEWATER	WI	03620	8221	0	\$0
34-11327-03	WITTENBERG UNIVERSITY	SPRINGFIELD	OH	03620	8221	0	\$0
20-00064-03	WOODS HOLE OCEANOGRAPHIC INSTITUTION	WOODS HOLE	MA	03610	8733	0	\$0
34-11812-01	WOOSTER COLLEGE (THE)	WOOSTER	OH	03620	8221	4	\$64,000
29-11577-01	WORTHINGTON BIOCHEMICAL CORPORATION	FREEHOLD	NJ	03620	8731	0	\$0
34-11912-03	WRIGHT STATE UNIVERSITY	DAYTON	OH	03610	8221	2027	\$224,154,291
37-00401-03	WYETH LABORATORIES, INC.	PHILADELPHIA	PA	03611	2834	0	\$0
37-28782-01	WYETH LEDERLE VACCINES & PEDIATRICS	MALVERN	PA	03620	2834	0	\$0
29-28053-01	XENOBIOTIC LABS., INC.	PLAINSBORO	NJ	03620	8731	45	\$6,200,000
06-00183-03	YALE UNIVERSITY	NEW HAVEN	CT	01100	8221	0	\$0
34-14187-02	YOUNGSTOWN STATE UNIVERSITY	YOUNGSTOWN	OH	03620	8221	1900	\$153,377,000
29-30285-01	YUKONG LIMITED	FAIRFIELD	NJ	03620	8731	0	\$0
07-03990-01	ZENECA PHARMACEUTICALS	WILMINGTON	DE	03610	2879	0	\$0

**APPENDIX D**

**VISIT TO MILTON S. HERSHEY MEDICAL CENTER**



## APPENDIX D

### VISIT TO MILTON S. HERSHEY MEDICAL CENTER ON FEBRUARY 27, 2001

#### Participants

Ken Miller - Hershey Medical Center 717-531-8027  
Michael C. Erdman - Hershey Medical Center 717-531-8574  
John Mauro - SC&A  
Nicole Briggs - SC&A

#### Purpose

The purpose of the visit is described in Attachment 1, which was provided by e-mail to Ken Miller and Mike Erdman by SC&A on Monday February 26, 2001, prior to the visit. In brief, the purpose of the visit was for SC&A to obtain real world information on how the alternative clearance criteria being investigated by the NRC may impact health physics oversight, waste management, and clearance at the Hershey Medical Center (HMC).

#### Discussion

We met with Ken Miller from about 10:30 AM to 1:00 PM. This was followed by a meeting and tour of the Medical Center with Mike Erdman from about 1:00 to 3:30 PM, followed by a round table meeting from 3:30 to 4:00 PM. The following summarizes our discussions.

After discussing the purpose of our visit, as summarized in Attachment 1, we discussed a broad range of topics. The following attempts to reconstruct those conversations in a manner that addresses the issues listed in Attachment 1. As such, the discussion is not necessarily presented in the order in which the discussions actually occurred.

There are about 500 biomedical research labs in the Hershey Medical Center. Of these, at any given time, about 250 labs/rooms are designated as radioisotope labs (radiation control areas) because of the presence of sealed or unsealed sources of radioactivity. The unsealed sources are primarily C-14, H-3, I-125/131, P-32, and S-35 (referred to as CHIPS). In support of these

procedures, the hospital receives about 2000 radioisotope shipments per year which consist of about 54 percent P-32, 23 percent I-125, 10 percent S-35, 6 percent H-3 and 2 percent C-14. Other radioisotopes are used for biomedical research but to a much lesser extent.

In the hospital, 100-150 patients per week undergo nuclear medicine diagnostic or therapeutic procedures. The nuclear medicine rooms include hot labs, injection rooms, and imaging rooms. The hot lab is where Mo-99/Tc-99m generators are eluted, radiopharmaceuticals are prepared and syringes are loaded and calibrated prior to administration of the radiopharmaceutical. Other radionuclides used for imaging and treatment purposes include P-32, I-131, Tl-201, Ga-67, F-18, and Sr-85. The injection room is where the patients are injected with, or otherwise administered, the radiopharmaceuticals. The imaging rooms contain gamma cameras for patient imaging procedures. All nuclear medicine procedures are performed by the medical staff under strict protocols and the authorization of nuclear medicine physicians approved by the Radiation Safety Committee and the Subcommittee-Human Use of Radioisotopes. All radioisotope research is performed by faculty specifically reviewed and authorized by the Radiation Safety Committee. Health Physics (Radiation Safety Office) is involved with ALL uses of ionizing and non-ionizing radiation sources for biomedical research and clinical practice. Health Physics consists of four health physicists (three are ABHP certified and one is NRRPT certified) and three health physics technologists (one of which is NRRPT certified). A copy of the Radiation Safety Manual was provided to SC&A which describes the overall health physics oversight programs.

All radioisotope shipments entering the facility are received by Health Physics for survey, addition to the inventory, and delivery to the authorized user. All radioisotopes are tracked under a "cradle-to-grave" program. Procedures are followed which document the fate of all radioisotopes. Every radioisotope research lab and hospital area where radioisotopes are used or stored are under a radiological surveillance program which includes personnel dosimetry, bioassay, training, radioactive waste disposal, and periodic surveys for external radiation, airborne radioactivity, and surface contamination. All oversight activities are documented and audited, as required to meet NRC and State requirements, including ALARA.<sup>1</sup> All radioisotope procedures are as per written protocols, and involve specific considerations for contamination and radiation control. Extensive use is made of trays, absorbent pads, fume hoods, appropriate shielding and post-use surveying. Contamination surveying by Health Physics is performed

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<sup>1</sup> The Hershey Medical Center possesses NRC licenses for byproduct material and gamma cells and a license from the Commonwealth of Pennsylvania for accelerator-produced and naturally occurring radionuclides .

according to a protocol and frequency to ensure that all surfaces are clean and that investigators are performing their required surveys after each handling procedure. Clean is defined as less than 100 dpm/100 cm<sup>2</sup> for beta/gamma emitters and below 10 dpm/100 cm<sup>2</sup> for alpha emitters (however, to date, no unsealed alpha emitters have been used). In general, clean is meant to be below the limits of detection. Because of ongoing oversight, areas that are designated as clean are believed to be actually clean, or at least well below the limits of detection of the survey instruments. In addition, because of a thorough understanding of the quantities, properties, and chemical characteristics of the radioisotopes used and how they are being used, where they are being used and by whom, Health Physics has a high level of confidence that they know where the isotopes are and where they are not. Effective training and retraining programs are provided for all radioisotope users.

An important distinction was made between research labs and nuclear medicine. Nuclear medicine operations involve the handling of up to curie quantities of radioactive materials that have half-lives generally less than 8 days. The waste from these operations are easy to collect and they lend themselves readily to decay-in-storage. An appreciable amount of the waste generated in nuclear medicine is in the form of patient excreta that is not regulated. However, HMC attempts to collect as much of the urine from radioiodine cancer therapy patients as is practicable and hold it for radioactive decay prior to disposal. NaI portal monitors are installed at the egress location from the hospital. All hospital waste and laundry pass by these detectors. The detectors can detect 10  $\mu$ Ci of Tc-99m as the containers pass the monitors. The containers are about 5' x 3' x 3'. If the alarm goes off, the containers are held in a designated area for inspection by the health physics staff. If contamination is confirmed, the contaminated material is characterized and placed in radioactive waste storage for decay. This system establishes another line of defense to ensure that no radioactive material leaves regulatory control.

Research labs use  $\mu$ Ci to mCi quantities of beta/gamma emitters. At any given time, the total inventory is approximately 700 mCi. The majority of these (with the exception of H-3 and C-14) lend themselves to decay-in-storage as a disposal means. All radioactive waste is separated by the investigators according to radioisotope and half-life. The ultimate fate of all radioactive waste is under the control of Health Physics. Waste with half-lives less than 120 days is stored for decay. Wastes with longer half-lives are packaged and transferred to commercial, licensed radioactive waste disposal companies. Animal carcasses containing radioactive material are stored in a large, dedicated freezer facility to await decay of the radioactivity before incineration.

Aqueous liquid wastes are disposed of via the sanitary sewer by Health Physics after analysis of the radioactive content and after assurance of solubility and/or dispersability.

Maintenance is routinely being performed at the Medical Center. This often includes repair or replacement of ducts. Prior to any work on the ducts, the HP staff performs surveys to assure the absence of contamination. Such surveying includes swipe testing of the insides of the ductwork. In most cases, no detectable contamination is found. However, if it is found and cannot be cleaned, the duct is labeled for eventual decontamination or management as low-level radioactive waste when it is removed.

The lower limits of detection for surface scans depend on the radionuclide, the instrument used and the counting time. HMC usually uses a plastic scintillator probe with a 100 cm<sup>2</sup> surface area, a background of about 300 cpm, and an efficiency of about 7 percent for C-14/S-35, 36 percent for P-32, and 22 percent for I-131. According to HMC's procedures, a positive reading is discernible by ear at about 1.5 times above background, or about 450 cpm. Corresponding LLDs for 1 minute measurements are about 1,190 dpm/100 cm<sup>2</sup> for C-14/S-35, 240 dpm/100 cm<sup>2</sup> for P-32, and 380 dpm/100 cm<sup>2</sup> for I-131. I-125 is measured using a NaI detector with an efficiency of about 17 percent, a background of about 40 cpm, and an LLD of about 4,200 dpm/100 cm<sup>2</sup>. Table D-1 presents these LLDs, along with other pertinent parameters.

Although this table was not discussed during our meeting, it is provided here to facilitate the discussion. The lower limits of detection are such that cleared materials, even if they were at the limits of detection, are less than Regulatory Guide (RG) 1.86 limits for scan procedures used.

We discussed the concept of license termination and decontamination and decommissioning at the hospital. We realized that the concept doesn't apply in the same way as it does to nuclear power plants and nuclear fuel cycle facilities, because hospitals and biomedical research facilities may be expected to operate indefinitely. However, some of the labs and rooms under radiological controls are periodically cleared from regulatory control so that they may be used for other purposes. As such, clearance and termination of regulatory control over labs and other rooms is an ongoing process.

Table D-1. LLDs and Alternative Clearance Criteria\*

Radionuclide	LLD (dpm/100 cm <sup>2</sup> ) pancake GM probe (Hershey Medical Center)				RG 1.86 (dpm/100 cm <sup>2</sup> average over 1 m <sup>2</sup> )	DRAFT NUREG-1640 (μSv/yr per Bq/cm <sup>2</sup> ) for recycling of steel	DRAFT NUREG-1640 Level corresponding to 1 mrem/yr from steel recycle (dpm/100 cm <sup>2</sup> )	DRAFT NUREG-1640 (μSv/yr per Bq/cm <sup>2</sup> ) for reuse of equipment	DRAFT NUREG-1640 Level corresponding to 1 mrem/yr from steel recycle (dpm/100 cm <sup>2</sup> )
	Scan <sup>1</sup>	Integrated count (scaler)							
		6 sec	30 sec	1 min					
C-14 <sup>3</sup>	7470	4026	1700	1190	5000	2.1e-03	2.86e+07	3.10e-04	1.94e+08
H-3 <sup>2</sup>	---	---	---	18	5000	4.8e-04	1.25e+08	1.10e-05	5.45e+09
I-125 <sup>4</sup>	7075	15400	6100	4200	100	2.1	2.86e+04	2.60e-01	2.31e+05
I-131 <sup>3</sup>	2380	1280	540	380	1000	19	3.16e+03	7.40e-02	8.11e+05
S-35 <sup>3</sup>	7470	4026	1700	1190	5000	5.6e-03	1.07e+07	1.70e-03	3.53e+07
P-32 <sup>3</sup>	1430	805	340	240	5000	9.9e-02	6.06e+05	1.20e-04	5.00e+08

Footnotes:

<sup>1</sup> "Scan" indicates normal survey procedures with probe moving slowly over the surface in a typical survey fashion. These numbers can be lowered, with the exception of I-125, to less than RG 1.86 levels by slowing down the scan speed as shown in the adjacent columns.

<sup>2</sup> Liquid scintillation counting can detect H-3 to approximately 18 dpm.

<sup>3</sup> Survey instrument for C-14, I-131, S-35, and P-32: Bicon NE Electra Plus with BP19DD plastic scintillation probe, 100 cm<sup>2</sup> surface area.

<sup>4</sup> Survey instrument for I-125: NaI detector.

\*The LLDs in the table are from HMC calculations for the portable survey instruments routinely used and at the scan rates indicated. The LLD is affected by the instrument, the detector, the area of detection, the efficiency for a particular radionuclide, the background (which can be decreased by shielding the detector), the counting time, etc. For example, the poor results for I-125 detection are due to the diameter of the NaI detector. A larger diameter detector (if available) with additional shielding to lower the background would probably allow us to get below the level indicated in RG 1.86.

I-125 levels (and other levels) in RG 1.86 are inconsistent with levels for clearance as specified in ANSI/HPS N13.12 - 1999 "Surface and Volume Radioactivity Standards for Clearance." In particular, in ANSI/HPS the order of magnitude difference between I-131 and I-125 are in the opposite direction to that indicated in RG 1.86.

During routine use of labs or rooms, if a piece of equipment or a lab surface is found to be contaminated, it is decontaminated to below 100 dpm/100 cm<sup>2</sup>. Experience has shown that little decontamination is needed because all surfaces are maintained below the limit during routine use of the labs as a matter of good health physics practice. Records attesting to this practice are available. For example, only 0.8 percent of all swipes (22,230 total swipes obtained in year 2000) in nuclear medicine areas and biomedical research laboratories were found to be in excess of the contamination limit of 100 dpm/100 cm<sup>2</sup>. On occasion, routine surveillance identifies areas that are contaminated above the limit but are not easily cleaned. These areas are labeled and covered and are entered into a tracking system referred to as the "Fixed Contamination Report." At any given time, there are about 10 such areas in the Fixed Contamination Report, each about only 1 foot square and contaminated at levels that are detectable but generally comparable to RG 1.86 limits. There is very little contamination in the labs and rooms that may contribute to low-level waste upon clearance of the room. When the lab no longer wishes to use radioisotopes, Health Physics addresses the area(s) of fixed contamination in the lab or on equipment. If the material is relatively short-lived (<120 day half life), it might be placed in radioactive waste storage and allowed to decay for 10 half lives. If it is long lived or storage is not possible, aggressive means are used to remove the contamination. If removal is not achieved, the contaminated area might be excised or the item might be disposed of as radioactive waste.

For hospitals, it may be more appropriate to think of clearance in terms of an ongoing process for specific labs and rooms, as opposed to a process that is implemented primarily in support of license termination. On average, 6 to 12 rooms out of the approximate 250 rooms under regulatory control are cleared per year at HMC. In addition, new rooms are placed under regulatory control as the need arises. As a result, there is a quasi-equilibrium established, whereby rooms are continually being cleared as new rooms are placed under radiological controls. Out of the 250 biomedical research labs under radiological controls, 60 percent have vented hoods, 30 percent have unvented laminar flow hoods, and 10 percent have unvented benchtop glove boxes. When labs are cleared, the "Caution Radioactive Materials" labels remain on fume hoods and sink drains to alert maintenance personnel that these areas need to be surveyed by Health Physics prior to conducting any maintenance on them.

Once a room and the material and equipment in a room are cleared, they are no longer under regulatory control. At this point, the Medical Center administration may recycle or dispose of any remaining material or equipment in the room. Typical items sent to University Salvage

include tables, cabinets, scales, hoods, and other laboratory equipment that may have some salvage or recycle value.

The materials management philosophy is that nothing leaves regulatory control unless it is demonstrated and documented to be clean. The reason is that even though the Medical Center may be able to clear material at RG 1.86 limits, such practice is not in keeping with the hospital's ALARA philosophy.

Another factor affecting waste management practices is the very high cost of disposal of low-level radioactive waste. Most of the waste shipped for disposal at a low-level radioactive waste disposal facility contains tritium and is disposed of through a waste broker at a cost of about \$5/lb or \$10,000 per ton. HMC typically ships about ten 55-gallon drums per year.

Some of the clearance alternatives under review by the NRC include prohibition of clearance, or the establishment of clearance criteria that are so restrictive that the clearance levels cannot be detected. The latter is effectively equivalent to prohibition because, if the clearance level cannot be detected, the Medical Center would have little choice but to presume that any area under regulatory control for unsealed sources is contaminated and cannot be cleared. Such material would be treated as low-level waste and, as such, would be disposed of as low-level waste at a cost of \$5 per pound. Alternatively, if the radionuclides used in the room had half-lives less than 120 days, the material could be stored for 10 half-lives and then cleared. The cost implications would be significant. With regard to a strict prohibition alternative, whether the Medical Center would have the option for clearance following radioactive decay, as opposed to simply disposing of all material as low-level waste, would be an NRC policy decision. Either way, the cost implications would be substantial. The Health Physics staff at HMC felt that such a regulatory scenario would be unnecessary and unjustifiable. It would require additional time, effort, and documentation simply to verify regulatory compliance when regulatory compliance is already assured by the programs that are in place. The regulatory approach just described would require literally gutting every radioisotope research lab and disposing of the debris and the lab equipment as radioactive waste when there is no verification that this material constitutes radioactive waste. This would be an incredible waste of resources with no beneficial impact on public health and safety. Hershey feels that its continuing efforts to assure that radioisotope labs and the equipment used in them remain free of contamination is effective and that the likelihood of contamination below the detection limits is unlikely due to:

- An aggressive radiation safety program
- An ongoing training program for all radioisotope users
- A close working relationship between Health Physics and authorized users
- A cradle-to-grave accounting for all radioisotopes received
- Radiation safety practices used by all radioisotope handlers
- Contamination surveying immediately after each radioisotope handling procedure
- Overwhelmingly negative results of health physics contamination surveys
- Immediate response to any spills or other mishaps
- A management attitude that things will be done “the right way”

We discussed the various reference labs summarized in Attachment 1 and the degree to which they are representative of labs at HMC. The composition of the labs, hoods, tables, etc., are representative. However, the contamination levels are not. In Attachment 1, the reference labs generally have elevated levels of contamination that requires decontamination at the time of clearance. As discussed, this is not the case at HMC. We discussed whether HMC could be used as a reference hospital and whether the characterization for HMC can be extrapolated to other smaller or larger hospitals. The general sense was that most university research programs and university hospitals deal with CHIPS and in the same manner as HMC. With regard to scalability, we discussed using number of personnel as a basis for scaling. The HMC staff indicated that was not an unreasonable approach.

## Attachment 1

### Understanding of Recycling and Reuse Issues for Hospitals and Labs with NRC Materials Licenses

The NRC Office of Nuclear Regulatory Research (NRR) is compiling information and performing a broad range of cost and benefit analyses to aid the Commission in determining whether to establish, by rule, regulation, or order, standards and instructions for governing the clearance of materials (i.e., various equipment, devices, metals, concrete, and other materials) “as may be deemed necessary or desirable to promote the common defense and security or to protect health or minimize danger to life and property.”

To address this issue, NRR is assessing the cost and benefits of the following alternative criteria pertaining to the clearance of equipment and materials for reuse and recycling:

- Permitting release from license control of material if it meets certain dose-based criteria; i.e., 100  $\mu\text{Sv/a}$  (10 mrem/yr) clearance level, 10  $\mu\text{Sv/a}$  (1 mrem/yr) clearance level, 1  $\mu\text{Sv/a}$  (0.1 mrem/yr) clearance level, or zero above background
- Prohibiting release of material that had been in an area in a licensed facility where radioactive material was used or stored
- Restricting release to only certain authorized uses

As part of these investigations, information is needed regarding:

- The types of equipment and volumes of the various types of materials that may be affected by the alternatives
- The composition of the material: carbon steel (CS), stainless steel (SS), types of SS, Cu, Al, Pb, concrete, other materials
- The radionuclide composition and concentration distributions of the potentially affected equipment and material
- The time when disposition decisions will be made and implemented

With respect to hospitals with NRC licenses, we are interested in gathering information on a number of general and very specific issues, as follows:

- During the day to day running of a major hospital, are materials and equipment generated where there is some question regarding the disposition of these materials and equipment with respect to clearance for recycling, reuse, or disposal in a municipal or industrial landfill?
- What criteria are currently being used to make such determinations?
- In a given year, what types and quantities of materials and equipment are cleared?
- What are the physical and radiological characteristics of these materials and equipment at the time of clearance?
- At the time of license termination, what types and quantities of material and equipment may be candidates for clearance? What do you expect their radiological characteristics to be, and do you anticipate a need for decontamination prior to clearance and disposal? How would your decision-making regarding clearance change under any of the above alternative criteria?.
- What protocol (instrumentation, procedures) do you currently use to determine if material and equipment may be cleared?
- Attached<sup>2</sup> are tables characterizing generic labs with respect to the types, quantities, and radiological characteristics of materials and equipment that may be generated during decommissioning. How comparable are these characterizations to labs and facilities at your hospital?
- How many such reference or generic labs are at your hospital?
- Could we somehow extrapolate from the information characterizing the reference labs to an entire reference hospital?
- Could we then extrapolate to all hospitals in the U.S. with the objective of characterizing the totality of materials and equipment in U.S. hospitals that may be affected by the alternative criteria?

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<sup>2</sup> In the original transmittal to HMC, Tables 2-85, 2-86, and 2-87 in the main text were attached to the transmittal letter.

**APPENDIX E**

**EXCERPT FROM AMS DECOMMISSIONING FUNDING PLAN**



## **APPENDIX E**

### **EXCERPT FROM AMS DECOMMISSIONING FUNDING PLAN**

The following is excerpted from the AMS decommissioning plan (AMS 2000).



## **2 SITE CHARACTERISTICS**

AMS operations that involve licensed radioactive materials occupy approximately 25% of an 80,000 square foot warehouse and manufacturing building at the London Road address. The main floor of this three-story area includes an office area, the Isotope Shop area, a hot cell, a source storage area and irradiation facility, a shielded work room, and miscellaneous unoccupied areas. The second floor contains additional unoccupied office space, a mechanical equipment room, and the ventilation system equipment room. The basement contains a former waste storage area, additional unoccupied space, and a liquid waste holdup tank room (WHUT Room). The majority of the 6.3-acre property outside of the building is covered with asphalt or concrete.

The AMS facility was built specifically for the manufacture and distribution of sealed sources, however this operation is no longer performed. Licensed radioactive materials are located in specific areas within the AMS building. The following is a description of the various areas of the building, along with conservative estimates of the quantity of radioactive material that exists in each area as of the date of this report. This information is also summarized in Table 2.

### **2.1 Hot Cell**

The Hot Cell was designed and equipped to encapsulate sources of radioactive material used for medical therapy and industrial radiography. The cell is six (6) feet square, has 5.5-foot thick concrete walls, and a four-foot thick floor and ceiling. There is a stainless steel floor pan in the cell, and 0.25-inch (thick) by 11 foot tall steel wall plates. The cell has a six (6) foot wide, 42-ton hinged door at the rear, and a 60-inch (thick) viewing window at the cell front.

Remote handling is accomplished with a pair of manipulators and a two-ton overhead crane. Every item of equipment in the cell and every item in the cell structure is removable. The location of the Hot Cell on the first floor of the AMS building.

The Hot Cell is a "Restricted Area". It currently contains approximately 1.3 curies of  $^{60}\text{Co}$  in the form of residual surface contamination. The average ambient exposure rates within the cell approximately 130 R per hour on contact with certain surfaces.

### **2.2 Isotope Shop**

The Isotope Shop is located on the first floor next to the Hot Cell. This area has a concrete floor, ceiling, and interior walls. The exterior walls are of painted brick. Sealed sources are transported around this area in shielded containers.<sup>3</sup> Within the Isotope Shop is the Source Garden, which is described further below. The Isotope Shop is a "Restricted Area", that contains approximately 65 microcuries of residual radioactivity in the form of surface contamination.

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<sup>3</sup> One such container is the "transfer monster", which is used to move sources in and out of the Hot Cell.



### 2.3 Source Garden

The Source Garden is located in the southwest corner of the Isotope Shop area. This storage location was designed to house 54 vertical tubes in a six-foot square well that extends from the first floor to the basement. An L-shaped shield around the well at the basement level is provided by two sand-filled compartments which, at one time, were accessible through manholes in the first floor.<sup>4</sup> The high-density concrete walls that hold the sand shield are two-feet thick.

The 54 storage tubes in the Source Garden are arranged in a nine-by-seven rectangular array. The nine center spaces of the array are open and fitted with an irradiation plug which accommodates objects up to 8.5 inches square by 12 inches high. The source tubes terminate in a metal container through which cooling air is drawn from the room to the high-efficiency particulate air- (HEPA) filtered exhaust system.

The Source Garden is in a "Restricted Area", but it does not contain a significant quantity of licensed radioactive materials.<sup>5</sup> The residual radioactivity in this area totals approximately 5.4 microcuries, in the form of surface contamination.

### 2.4 Decontamination Room

The Decontamination Room is located behind the Hot Cell and adjacent to the Isotope Shop. This area has a concrete floor and walls. The room provides space enough for opening the Hot Cell door into the ventilation controlled space of the Decontamination Room. It is equipped with water outlets and a floor drain which was used during decontamination operations that were on-going prior to 1989. The Decontamination Room is a "Restricted Area" that contains approximately 0.7 microcuries of residual surface contamination.

### 2.5 Radiography Room

The Radiography Room is located next to the Hot Cell on the first floor. This room has a concrete floor, walls (three feet thick) and ceiling. At one time there were drums of waste stored here, along with spent HEPA filters. Currently, it houses the sealed sources in the current inventory, and is used to perform "beam off" tests. The Radiography Room is a "Restricted Area", however contamination levels are insignificant (e.g., below the site-specific release criteria).

### 2.5 Clean Equipment Room

The Clean Equipment Room is located on the second floor. This room has a concrete floor, walls and ceiling. It contains all of the facility service equipment with the exception of the HEPA ventilation equipment. Although the Clean Equipment Room is a "Restricted Area", it does not contain licensable materials of significance. It currently has average ambient exposure rates of less than one (1) mR per hour, and surface contamination levels that are below the site-specific release criteria.

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<sup>4</sup> These manholes have been sealed by multiple layers of paint that have been placed there over the years.

<sup>5</sup> All of the sources in the Source Garden were removed during the Building Recovery Project.



## 2.7 HEPA Equipment Room

The HEPA Equipment Room is located on the second floor of the facility. This room has a concrete floor, walls and ceiling, and contains the facility HEPA ventilation equipment. There is one large HEPA exhaust blower that holds four (4) two-foot by two-foot HEPA filters in a filter housing. This system services all of the isotope areas except the Hot Cell. There is a small HEPA exhaust blower with only one pre-filter and one HEPA filter in its housing to service the Hot Cell.

The HEPA Equipment Room is a "Restricted Area" that currently contains less than seven (7) curies of activity. It has average ambient exposure rates of approximately 50 mR per hour, and contamination levels ranging to 10,000 dpm per 100 cm<sup>2</sup>.

## 2.8 Back Basement

The Back Basement is located in the west side of the basement underneath the Isotope Shop. This room has a concrete floor and walls. At one time, the area was used to store drums of waste. There are approximately 500 high-density concrete blocks in the room that are positioned to provide shielding from the WHUT Room. The Back Basement is a "Restricted Area" that contains approximately 0.5 millicuries of residual radioactivity in the form of surface contamination.

## 2.9 WHUT Room

The Waste Hold-Up Tank (WHUT) Room is located in the basement directly under the Hot Cell. This room has a concrete floor, walls and ceiling. The walls of the room are three feet thick to provide shielding from the room's contents. The room contains a 100-gallon and a 500-gallon tank for liquid wastes as well as other ancillary items.<sup>6</sup> When the room was still in use, wastes were "held up" in the tanks until sampling/analysis confirmed that they could be discharged to the sewer system. However, in 1989 AMS ceased discharging liquid radioactive waste to the sewer system. Shortly thereafter, the WHUT Room was sealed. The exposure rates in the room range to 130 R per hour in accessible areas, and residual radioactivity totals approximately 21 curies.

## 2.10 Front Basement

The Front Basement is located on the east side of the basement next to the WHUT Room, and is composed of concrete floors, ceiling and exterior walls. The Front Basement is a "Restricted Area" with average ambient exposure rates of about one (1) mR per hour due to the materials in the WHUT Room. Surface contamination levels range to a maximum of 40,000 dpm per 100 cm<sup>2</sup>.

## 2.11 Miscellaneous Restricted Areas

There are a number of miscellaneous areas within the AMS facility. These include the air lock adjacent to the Isotope Shop, the Isotope Shop Warehouse, and locker room. (The Isotope Shop Warehouse houses a tank of water collected during a basement flooding event that contains approximately one millicurie of <sup>60</sup>Co, a hot cell window that contains residual radioactivity, miscellaneous hoods, and eight staged waste containers.) These areas have been designated as "Restricted Areas". However, the average ambient exposure rates therein, with the exception of the immediate vicinity of the water tank, the waste containers and the hot cell window in the Isotope Shop

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<sup>6</sup> Wright, K., "Waste Hold-Up Tank Room Survey", Scientific Ecology Group, Inc., February, 1995.



Warehouse, are not readily distinguishable from "background". Contamination levels in each of the Miscellaneous Restricted Areas are less than the site-specific release criteria.

### 2.12 Miscellaneous Unrestricted Areas

There are a number of other miscellaneous areas within the AMS facility that are not restricted for purposes of radiological control. These are a former chemistry laboratory, the Hot Cell control office, the first floor office areas, caged storage area, and the counting room. In addition, the Warehouse and the Classroom Complex have been released for unrestricted use.<sup>7</sup> The exposure rates and contamination levels in these areas are not distinguishable from background.

### 2.13 Areas Outside of the Building

As part of a remedial action performed in response to a 1994 basement flooding event, approximately 3,000 cubic feet of contaminated soil was removed from around the underdrains and is currently stored in an outdoor restricted area within the fence line. A license amendment has been submitted to the ODH requesting authorization to survey and segregate and dispose of this soil. Because action on this application is pending, and because AMS is prepared to implement the requested action immediately upon ODH approval, the disposition of these materials is excluded from this report.

Also during the remedial action, AMS replaced the underdrains along the east (front) and south sides of the building and the area was back-filled with clean gravel and soil. However, the underdrains in the vicinity of the Source Garden could not be replaced because of the presence of high ambient gamma exposure rates in the work area at the time.<sup>8</sup> If it is assumed that 20 linear feet of foundation drains remain outside the Source Garden, and that this length is uniformly contaminated to levels less than 100,000 dpm per 100 cm<sup>2</sup>, approximately 0.361 millicuries (3.61x10<sup>-4</sup> curies) remain in this location.<sup>9</sup>

Also, prior to abandoning the lateral connection that runs from the west side of the AMS facility to the London Road interceptor, the four-inch discharge line from the AMS building, the AMS manhole and the 15-inch lateral connection were filled with grout. In advance of this action, the ambient exposure rates within the lateral were measured and found to be approximately one (1) milliR per hour. The exposure rate in the manhole prior to grouting ranged from 0.2 to 0.5 milliR per hour, with a maximum measured exposure rate of four (4) milliR per hour at the base. The contamination status of the lateral, determined using dry disk smears and a pancake GM detector, was negative for removable activity.

By assuming that the residual radioactivity fixed inside the abandoned lateral and the manhole is evenly distributed, the Microshield code was used to generate "dose rate-to-activity" conversion

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<sup>7</sup> Written communication (plus attached Amendment No. 53) from George M. McCann, U. S. Nuclear Regulatory Commission, to Stephen J. Haddock, Advanced Medical Systems, Inc., August 12, 1999.

<sup>8</sup> A concrete wall constructed between the abandoned drains and the new foundation drains, and the presence of an impermeable liner on the ground surface above the drainage systems serve to fully isolate the residual contamination in the abandoned drains from the new drainage system.

<sup>9</sup> Estimated activity as of January 26, 2000.



1 factors.<sup>10</sup> Applying these factors to the measured exposure rate of one (1) millirem per hour in the  
2 lateral and 0.5 milliR per hour in the manhole, translates into approximately 0.607 and 0.353  
3 millicuries ( $6.07 \times 10^{-4}$  and  $3.53 \times 10^{-4}$  curies) of  $^{60}\text{Co}$ , respectively, at these locations, for a total of 9.60  
4 millicuries ( $9.60 \times 10^{-4}$  curies).<sup>11</sup> When corrected for decay, the amount of residual radioactivity in  
5 this area as of January 26, 2000 totals less than 0.4 millicuries.

### 7 **2.14 Depleted Uranium Inventory**

8 AMS currently possesses approximately 2,200 kilograms of depleted uranium for use as shielding and  
9 in the form of parts for teletherapy machines at both the London Road and the Eagle Street facilities.  
10 The physical nature of this material is stable, and it has commercial value. Thus, it can be  
11 sold/transferred to other licensees when it is no longer required by AMS. However, to ensure the cost  
12 estimates herein are conservatively derived, it is assumed that the depleted uranium will be disposed  
13 of as radioactive waste at the time of decommissioning.

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<sup>10</sup> Grove Engineering, Inc. Microshield 4.10, dated October, 1993.

<sup>11</sup> Estimated activity as of August 14, 1996.

Table 3.5 Decontamination Alternative

Number and Dimension of Facility Components			
Component	Number of Components	Dimensions of Component (units)	Total Dimensions (units)
Glove Boxes	0	-	-
Fume Hoods	2	1 m <sup>2</sup>	2 m <sup>2</sup>
Lab Benches	2	1 m <sup>2</sup>	2 m <sup>2</sup>
Sinks	3	0.5 m <sup>2</sup>	m <sup>2</sup>
Drains	14	10 linear ft	140 linear ft
Floors (Basement, Isotope Shop, Decon Room, HEPA Equipment Room)	450	m <sup>2</sup>	450 m <sup>2</sup>
Walls (Basement, Isotope Shop, Decon Room, HEPA Equipment Room)	350	m <sup>2</sup>	350 m <sup>2</sup>
Ceilings	0	-	-
Ventilation/Ductwork	5	m <sup>2</sup>	5 m <sup>2</sup>
Hot Cell	1	4 m <sup>2</sup>	4 m <sup>2</sup>
Equipment, materials, staged/stored waste	20	m <sup>2</sup>	20 m <sup>2</sup>
Soil Piles (Old lateral/trashhole)	1	4 m <sup>2</sup>	4 m <sup>2</sup>
Storage Tanks (3000 gal. tank)	1	3000 gal	3000 gal
Storage Areas	0	-	-
Radwaste Areas	0	-	-
Scrap Recovery Areas	0	-	-
Maintenance Shop	0	-	-
Equipment Decontamination Areas	0	-	-
Other (WHUT room)	1	20 m <sup>2</sup>	20 m <sup>2</sup>



**APPENDIX F**

**EXCERPT FROM PARSONS STUDY**

(Parsons et al. 1995, Appendix B)



# SCRAP METAL MATERIALS LIST

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TONYARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
FERNALD	PLANT	COPPER INGOTS	CU	P	C	0.0	0.000	0.0	0.0000	300.000	
FERNALD	PLANT	BULK COPPER WIRING	CU	U	C	0.0	0.000	103.0	9.7000	1,000.000	
FERNALD	PLANT	BOXES, BEAMS, TANKS	FE	U	C	0.0	0.000	0.0	0.0000	4.000	PIPE FITTINGS/VALVES
FERNALD	PLANT	BOXES, BEAMS, TANKS	FE	U	C	0.0	0.000	1.0	12.0000	12.000	TANK
FERNALD	PLANT	BOXES, BEAMS, TANKS	FE	U	C	0.0	0.000	20.0	8.5000	170.000	WHITE BOX
FERNALD	PLANT	BOXES, BEAMS, TANKS	FE	U	U	0.0	0.000	0.0	0.0000	62.000	STRUCTURAL - 74P
FERNALD	PLANT	BOXES, BEAMS, TANKS	FE	U	U	0.0	0.000	43.0	0.0000	61.000	H-BEAM - 8A
FERNALD	PLANT	BOXES, BEAMS, TANKS	FE	U	U	0.0	0.000	0.0	0.0000	120.000	FREE RELEASE
FERNALD	PLANT	RAIL, HOPPERS	FE	U	U	0.0	0.000	0.0	0.0000	2.500	RAIL
HANFORD	100F, 100B&C, 100H, 100D&BR	RAIL AND FE SCRAP	FE	M	U	0.0	0.000	0.0	0.0000	1.500	MISC. SMALL PILE -100B&C
HANFORD	100F, 100B&C, 100H, 100D&BR	RAIL AND FE SCRAP	FE	U	U	0.0	0.000	1.0	0.6500	0.650	1 RAIL -100H
HANFORD	100F, 100B&C, 100H, 100D&BR	RAIL AND FE SCRAP	FE	U	U	0.0	0.000	7.0	1.0000	7.000	6" DIA X 10' PETROLEUM TANK -100D
HANFORD	100F, 100B&C, 100H, 100D&BR	RAIL AND FE SCRAP	FE	U	U	0.0	0.000	23.0	0.6000	13.800	GALV. COVERS 10" DIA -100H
HANFORD	100F, 100B&C, 100H, 100D&BR	RAIL AND FE SCRAP	FE	U	U	0.0	0.000	32.0	0.6500	20.800	32 PIECES OF 100# RAIL -100F
HANFORD	300 SITE	HEAT EXCHANGERS, TANKS, REACTORS	FE	U	U	0.0	0.000	0.0	0.0000	2,227.200	80% TOTAL SHIP WEIGHT FE
HANFORD	300 SITE	HEAT EXCHANGERS, TANKS, REACTORS	SS	U	U	0.0	0.000	0.0	0.0000	631.800	20% TOTAL SHIP WEIGHT SS
INEL			FE	U	C	0.0	0.000	0.0	0.0000	300.000	
INEL			FE	U	U	0.0	0.000	0.0	0.0000	33.300	
INEL	FPR-EAST YARD	MISC. - EAST FENCE FLANGES AND PIPE	FE	U	U	0.0	0.000	0.0	0.0000	2.000	ROW M
INEL	FPR-EAST YARD	MISC. - EAST FENCE FLANGES AND PIPE	FE	U	U	0.0	0.000	0.0	0.0000	5.500	NORTH FENCE ROW
INEL	FPR-EAST YARD	ROWS F AND E	FE	U	U	0.0	0.000	0.0	0.0000	0.250	ROW F 1/4 TON GALV.
INEL	FPR-EAST YARD	ROWS F AND E	FE	U	U	0.0	0.000	0.0	0.0000	35.500	ROW E - 1/2 TON GALV.
INEL	FPR-EAST YARD	ROWS H AND G	FE	U	U	0.0	0.000	0.0	0.0000	1.500	ROW G
INEL	FPR-EAST YARD	ROWS H AND G	FE	U	U	0.0	0.000	0.0	0.0000	40.000	ROW H
INEL	FPR-EAST YARD	ROWS K, J, AND I	FE	U	U	0.0	0.000	0.0	0.0000	10.000	ROW J
INEL	FPR-WEST YARD	PIPE SOUTH WEST OF WEST YARD	FE	U	U	0.0	0.000	0.0	0.0000	26.250	
INEL	FPR-WEST YARD	PIPE SOUTH WEST OF WEST YARD	FE	U	U	0.0	0.000	0.0	0.0000	84.000	GALV
INEL	FPR-WEST YARD	TANKS & STACKS WEST OF WEST YARD	FE	U	U	0.0	0.000	0.0	0.0000	1.000	7' X 6" X 16' X 1/8" - TANK
INEL	FPR-WEST YARD	TANKS & STACKS WEST OF WEST YARD	FE	U	U	0.0	0.000	0.0	0.0000	10.000	6 X 80 X 1/4 - STACK & FLANGES
INEL	FPR-WEST YARD	TANKS & STACKS WEST OF WEST YARD	FE	U	U	0.0	0.000	0.0	0.0000	12.000	10 X 80 X 1/4 - STACK & FLANGES
INEL	FPR-WEST YARD	TANKS & STACKS WEST OF WEST YARD	FE	U	U	0.0	0.000	0.0	0.0000	13.000	9 X 76 X 1/4 - STACK & FLANGES

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## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TON/YARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
INEL			M	U	U	0.0	0.000	0.0	0.0000	8.000	
INEL	FPR-EAST YARD	ROWS H AND G	M	U	U	0.0	0.000	0.0	0.0000	7.000	ROW G
INEL			SS	U	C	0.0	0.000	0.0	0.0000	301.000	
INEL			SS	U	U	0.0	0.000	0.0	0.0000	344.400	
INEL	FPR-EAST YARD	MISC. - EAST FENCE FLANGES AND PIPE	SS	U	U	0.0	0.000	0.0	0.0000	1.500	ROW M
INEL	FPR-EAST YARD	MISC. - EAST FENCE FLANGES AND PIPE	SS	U	U	0.0	0.000	0.0	0.0000	4.000	NORTH FENCE ROW
INEL	FPR-EAST YARD	MISC. - EAST FENCE FLANGES AND PIPE	SS	U	U	0.0	0.000	0.0	0.0000	9.500	ROW L
INEL	FPR-EAST YARD	ROWS F AND E	SS	U	U	0.0	0.000	0.0	0.0000	0.250	1/4 TON OF SS IN ROW E
INEL	FPR-EAST YARD	ROWS F AND E	SS	U	U	0.0	0.000	0.0	0.0000	24.000	F
INEL	FPR-EAST YARD	ROWS H AND G	SS	U	U	0.0	0.000	0.0	0.0000	3.000	ROW H
INEL	FPR-EAST YARD	ROWS H AND G	SS	U	U	0.0	0.000	0.0	0.0000	63.000	ROW G
INEL	FPR-EAST YARD	ROWS K, J, AND I	SS	U	U	0.0	0.000	0.0	0.0000	6.500	ROW J
INEL	FPR-EAST YARD	ROWS K, J, AND I	SS	U	U	0.0	0.000	0.0	0.0000	13.000	ROW K
INEL	FPR-EAST YARD	ROWS K, J, AND I	SS	U	U	0.0	0.000	0.0	0.0000	18.500	ROW I
INEL	FPR-WEST YARD	NORTH TALL TABLES	SS	U	U	0.0	0.000	0.0	0.0000	45.000	
INEL	FPR-WEST YARD	PIPE SOUTH WEST OF WEST YARD	SS	U	U	0.0	0.000	0.0	0.0000	91.300	
INEL	FPR-WEST YARD	SOUTH SHORT TABLES	SS	U	U	0.0	0.000	0.0	0.0000	33.150	
K-25	K-707	SHREDDOED ALUMINUM BLADES	AL	D	C	0.0	0.000	4000.0	0.1250	500.000	
K-25	4-C	ALUMINUM AND S.S. MIXED	AL	M	C	0.0	0.000	0.0	0.0000	2.500	
K-25	6-A	UNPREPARED FABRICATION WITH ALCU RADIATORS MIXED	AL	M	C	1,333.0	0.250	0.0	0.0000	18.650	5% AL
K-25	11-A	SHREDDOED ALUMINUM	AL	P	C	2,000.0	0.200	0.0	0.0000	400.000	
K-25	JUNK YARD	CLEAN SCRAP	AL	P	U	0.0	0.000	0.0	0.0000	15.000	PLATE
K-25	2A-POST B8	HEAT EXCHANGER, B-25, PIPES, BOXES	AL	U	C	0.0	0.000	1.0	3.0000	3.000	SUB-A1 HEAT EXCHANGER
K-25	4-B	ALUMINUM AND FAN BLADES AND S.S. DUCT	AL	U	C	0.0	0.000	0.0	0.0000	5.000	FAN BLADES
K-25	5-A	ACID TANKS AND MISCELLANEOUS EQUIPMENT	AL	U	C	0.0	0.000	0.0	0.0000	0.410	10% AL
K-25	5-A	ACID TANKS AND MISCELLANEOUS EQUIPMENT	AL	U	C	0.0	0.000	0.0	0.0000	1.000	MISCELLANEOUS
K-25	9A	ALUMINUM TRANSITION COVERS	AL	U	C	0.0	0.000	304.0	0.5500	167.200	
K-25	PILE 3-A	UNPREPARED ALUMINUM SCRAP	AL	U	C	1,250.0	0.060	0.0	0.0000	75.000	
K-25	JUNK YARD	CLEAN SCRAP	AL	U	U	9,200.0	0.160	0.0	0.0000	25.020	5%
K-25	10-A	TWO PILES OF LIGHT STRUCTURAL WITH MISC. SURROUNDING PCS.	CU	M	C	230.0	0.466	0.0	0.0000	1.210	1% CU
K-25	10-A	TWO PILES OF LIGHT STRUCTURAL WITH MISC. SURROUNDING PCS.	CU	M	C	800.0	0.466	0.0	0.0000	4.200	1% CU
K-25	6-A	UNPREPARED FABRICATION WITH ALCU RADIATORS MIXED	CU	M	C	1,333.0	0.250	0.0	0.0000	18.810	6% CU
K-25	PILE A-1	LIGHT FE PUSHED UP WITH DIRT	CU	M	C	4,887.0	0.200	0.0	0.0000	22.090	2% CU

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## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TONYARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
K-25	A9 AND A10	UNCONTAMINATED BOXES, TRAILER, EXCAVATOR	FE	B	C	0.0	0.000	227.0	1.2500	283.800	READY TO SHIP AFTER I.D.
K-25	POST 88 (A, B, D, E, F, G)	B-25 BOXES	FE	B	C	0.0	0.000	66.0	0.3750	24.380	
K-25	POST 88-SOUTH	B-25 BOXES	FE	B	C	0.0	0.000	35.0	0.3750	12.750	
K-25	10-A	TWO PILES OF LIGHT STRUCTURAL WITH MISC. SURROUNDING PCS.	FE	M	C	230.0	0.466	0.0	0.0000	95.230	89% FE WITH 6% S
K-25	10-A	TWO PILES OF LIGHT STRUCTURAL WITH MISC. SURROUNDING PCS.	FE	M	C	800.0	0.466	0.0	0.0000	331.060	89% FE WITH 5% S
K-25	6-A	UNPREPARED FABRICATION WITH AL/ALU RADIATORS MIXED	FE	M	C	1,333.0	0.250	0.0	0.0000	299.700	90% FE
K-25	P/LE A-1	LIGHT FE PUSHED UP WITH DIRT	FE	M	C	4,887.0	0.200	0.0	0.0000	957.850	98% FE
K-25	JUNK YARD	CLEAN SCRAP	FE	M	U	0.0	0.000	0.0	0.0000	2.000	MISCELLANEOUS ELECTRICAL ITEMS
K-25	2A-POST 88	HEAT EXCHANGER, B-25, PIPES, BOXES	FE	P	C	0.0	0.000	20.0	1.2500	25.000	B-25 FULL
K-25	2A-POST 88	HEAT EXCHANGER, B-25, PIPES, BOXES	FE	P	C	0.0	0.000	39.0	1.2500	49.000	B-25 FULL CONTAMINATED
K-25	P/LE 7A1	PREPARED FE HEAVY AND MEDIUM STRUCTURAL	FE	P	C	27,500.0	0.830	0.0	0.0000	22,825.000	HEAVY P&S 0.1% NI (7A1)
K-25	P/LE 7A2	PREPARED FE HEAVY AND MEDIUM STRUCTURAL	FE	P	C	2,520.0	0.700	0.0	0.0000	1,764.000	MEDIUM STRUCTURAL (7A2)
K-25	P/LE 7A3	PREPARED FE HEAVY AND MEDIUM STRUCTURAL	FE	P	C	1,500.0	0.700	0.0	0.0000	1,050.000	MEDIUM STRUCTURAL (7A3)
K-25	JUNK YARD	CLEAN SCRAP	FE	P	U	0.0	0.000	0.0	0.0000	70.000	PLATE
K-25	2A-POST 88	HEAT EXCHANGER, B-25, PIPES, BOXES	FE	U	C	0.0	0.000	5.0	4.6000	22.600	HEAT EXCHANGER PIPE
K-25	4-C	ALUMINUM AND S.S. MIXED	FE	U	C	0.0	0.000	200.0	0.0250	5.000	EMPTY DRUMS
K-25	5-A	ACID TANKS AND MISCELLANEOUS EQUIPMENT	FE	U	C	0.0	0.000	0.0	0.0000	10.800	90% FE
K-25	5-A	ACID TANKS AND MISCELLANEOUS EQUIPMENT	FE	U	C	0.0	0.000	0.0	0.0000	25.000	MISCELLANEOUS EQUIPMENT & ACID TANK
K-25	5-A	ACID TANKS AND MISCELLANEOUS EQUIPMENT	FE	U	C	0.0	0.000	6.0	5.0000	30.000	PROCESSING OF TANKS
K-25	6-A	UNPREPARED FABRICATION WITH AL/ALU RADIATORS MIXED	FE	U	C	0.0	0.000	4.0	1.6000	6.000	TANK SECTIONS
K-25	6-A	UNPREPARED FABRICATION WITH AL/ALU RADIATORS MIXED	FE	U	C	0.0	0.000	6.0	1.0000	6.000	TANKS
K-25	CLASSIFIED SCRAP YARD	AERIAL PHOTOGRAPH TAKEOFF	FE	U	C	0.0	0.000	290.0	20.0000	5,800.000	
K-25	H, I, J, K, L, M	DRUMS	FE	U	C	0.0	0.000	7.0	0.0300	0.200	TALL DRUMS
K-25	H, I, J, K, L, M	DRUMS	FE	U	C	0.0	0.000	94.0	0.0180	1.650	SMALL DRUMS
K-25	H, I, J, K, L, M	DRUMS	FE	U	C	0.0	0.000	626.0	0.0250	15.700	DRUMS
K-25	P 88-SOUTH (N, O, P)	DRUMS AND BOXES	FE	U	C	0.0	0.000	60.0	0.0250	1.600	DRUM
K-25	P 88-SOUTH (N, O, P)	DRUMS AND BOXES	FE	U	C	0.0	0.000	144.0	0.0300	4.320	TALL DRUM
K-25	POST 88 (A, B, D, E, F, G)	MISCELLANEOUS, FE, DRUMS, TRAILER	FE	U	C	0.0	0.000	58.0	0.0300	1.700	TALL DRUMS

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## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TONYARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
K-25	POST 88 (A, B, D, E, F, G)	MISCELLANEOUS, FE, DRUMS, TRAILER	FE	U	C	0.0	0.000	106.0	0.0260	4.900	DRUMS
K-25	POST 88 (A, B, D, E, F, G)	MISCELLANEOUS, FE, DRUMS, TRAILER	FE	U	C	0.0	0.000	0.0	0.0000	20.000	MISCELLANEOUS
K-25	POST 88-DRUM	1-50 TON CRANE - 3 TRAILERS	FE	U	C	0.0	0.000	1.0	3.0000	3.000	30 FT TRAILER
K-25	POST 88-DRUM	1-50 TON CRANE - 3 TRAILERS	FE	U	C	0.0	0.000	2.0	5.0000	10.000	2 - 42 FT TRAILERS
K-25	POST 88-DRUM	1-50 TON CRANE - 3 TRAILERS	FE	U	C	0.0	0.000	1.0	70.0000	70.000	CRANE
K-25	POST 88-SOUTH	DRUMS, DUMP TRUCK, 2 LOADERS	FE	U	C	0.0	0.000	106.0	0.0300	3.000	TALL DRUMS
K-25	POST 88-SOUTH	DRUMS, DUMP TRUCK, 2 LOADERS	FE	U	C	0.0	0.000	1.0	4.0000	4.000	6 TON DUMP
K-25	POST 88-SOUTH	DRUMS, DUMP TRUCK, 2 LOADERS	FE	U	C	0.0	0.000	1477.0	0.0250	37.000	DRUMS
K-25	POST 88-SOUTH	DRUMS, DUMP TRUCK, 2 LOADERS	FE	U	C	0.0	0.000	2.0	23.0000	46.000	2 FRONT LOADERS
K-25	JUNK YARD	CLEAN SCRAP	FE	U	U	0.0	0.000	60.0	0.0250	1.250	EMPTY DRUMS
K-25	JUNK YARD	CLEAN SCRAP	FE	U	U	9,200.0	0.160	0.0	0.0000	1,398.400	95%
K-25	PILE 4-A	S.S. AND MONEL MIXED	M	M	C	0.0	0.000	0.0	0.0000	10.000	MISCELLANEOUS
K-25	10-A	TWO PILES OF LIGHT STRUCTURAL WITH MISC. SURROUNDING PCS.	SS	M	C	230.0	0.466	0.0	0.0000	10.700	10% SS
K-25	10-A	TWO PILES OF LIGHT STRUCTURAL WITH MISC. SURROUNDING PCS.	SS	M	C	600.0	0.466	0.0	0.0000	37.200	10% SS
K-25	4-C	ALUMINUM AND S.S. MIXED	SS	M	C	0.0	0.000	0.0	0.0000	2.500	
K-25	PILE 4-A	S.S. AND MONEL MIXED	SS	M	C	300.0	0.210	0.0	0.0000	63.000	MIXED
K-25	4-B	ALUMINUM AND FAN BLADES AND 8.S. DUCT	SS	U	C	0.0	0.000	0.0	0.0000	0.250	S.S. DUCT
LOS ALAMOS	TA-81 AREA (G1-18 BLDG.)	MISC. EQUIPMENT	AL	U	C	0.0	0.000	0.0	0.0000	0.750	RADIATORS
LOS ALAMOS	TA-81 AREA (G1-18 BLDG.)	MISC. EQUIPMENT	AL	U	C	0.0	0.000	4.0	1.0000	4.000	CHILLERS
LOS ALAMOS	VARIOUS	MISCELLANEOUS	AL	U	C	0.0	0.000	0.0	0.0000	19.000	
LOS ALAMOS	T-21 (SOUTH SIDE OF 21-314 BLDG.)		FE	U	C	0.0	0.000	1.0	0.2500	0.250	HORIZ. TANK
LOS ALAMOS	T-21 (SOUTH SIDE OF 21-314 BLDG.)		FE	U	C	0.0	0.000	1.0	0.3500	0.350	HORIZ. TANK
LOS ALAMOS	T-21 (SOUTH SIDE OF 21-314 BLDG.)		FE	U	C	0.0	0.000	0.0	0.0000	1.000	SCAFFOLD CLAMPS IN A BOX
LOS ALAMOS	T-21 (SOUTH SIDE OF 21-314 BLDG.)		FE	U	C	0.0	0.000	1.0	1.0000	1.000	SCRAPED BACKHOE BUCKET
LOS ALAMOS	T-21 (SOUTH SIDE OF 21-314 BLDG.)		FE	U	C	0.0	0.000	0.0	0.0000	1.500	MISC. PIPE ON GROUND
LOS ALAMOS	T-21 (SOUTH SIDE OF 21-314 BLDG.)		FE	U	C	0.0	0.000	0.0	0.0000	13.000	PIPE IN RACK TO BE DEMOLISHED
LOS ALAMOS	T-21 (SOUTH SIDE OF 21-314 BLDG.)		FE	U	C	0.0	0.000	0.0	0.0000	16.000	EXISTING PIPE RACK TO BE DEMOLISHED
LOS ALAMOS	T-21 AREA (21-312 BLDG)		FE	U	C	0.0	0.000	1.0	2.6000	2.600	HORIZ. PROPANE TANK
LOS ALAMOS	T-21 AREA (21-312 BLDG)		FE	U	C	0.0	0.000	0.0	0.0000	22.600	STRUCTURAL
LOS ALAMOS	T-21 NORTH SIDE OF 21-314 BLDG.		FE	U	C	0.0	0.000	0.0	0.0000	2.200	EXISTING PIPE IN RACK TO BE DEMOLISHED

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## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TON/YARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
ORNL	SCRAP METAL ACCUMULATION AREA	7 x 7 x 22 BOX STAGING AREA	AL	SL	U	0.0	0.000	131.0	8.5000	22.000	2% AL
ORNL	AREA 7841	VESSELS, DRUMS, TRAILERS, TRANSFORMERS, AND MISCELLANEOUS ITEMS	CU	U	C	0.0	0.000	2.0	5.0000	1.200	2 TRANSFORMERS
ORNL	SCRAP METAL ACCUMULATION AREA	7 x 7 x 22 BOX STAGING AREA	CU	U	U	0.0	0.000	0.0	0.0000	0.500	WIRE
ORNL	AREA 7841	TANKS, TRAILERS, AND MISCELLANEOUS ITEMS	FE	M	C	0.0	0.000	1.0	10.0000	5.000	TRAILER
ORNL	AREA 7841	VESSELS, DRUMS, TRAILERS, TRANSFORMERS, AND MISCELLANEOUS ITEMS	FE	M	C	1.0	26.000	0.0	0.0000	2.600	GROUP A
ORNL	AREA 7841	VESSELS, DRUMS, TRAILERS, TRANSFORMERS, AND MISCELLANEOUS ITEMS	FE	M	C	1.0	18.000	0.0	0.0000	14.000	GROUP C
ORNL	AREA 7841	VESSELS, DRUMS, TRAILERS, TRANSFORMERS, AND MISCELLANEOUS ITEMS	FE	M	C	1.0	83.000	0.0	0.0000	21.000	GROUP B
ORNL	SCRAP METAL ACCUMULATION AREA	MISCELLANEOUS EQUIPMENT AND STEEL BEAMS	FE	M	U	0.0	0.000	1.0	4.0000	<del>1.000</del>	40% FE
ORNL	SCRAP METAL ACCUMULATION AREA	MISCELLANEOUS SCRAP AROUND SL BOX STORAGE AREA	FE	M	U	0.0	0.000	1.0	5.0000	<del>4.000</del>	OXYGEN RECHARGER
ORNL	SCRAP METAL ACCUMULATION AREA	7 x 7 x 22 BOX STAGING AREA	FE	SL	U	0.0	0.000	131.0	8.5000	<del>1,080.000</del>	97% FE
ORNL	AREA 7841	TANKS, TRAILERS, AND MISCELLANEOUS ITEMS	FE	U	C	0.0	0.000	1.0	0.5000	0.500	CAMPER
ORNL	AREA 7841	TANKS, TRAILERS, AND MISCELLANEOUS ITEMS	FE	U	C	0.0	0.000	2.0	0.3750	0.750	B-25 BOXES MT
ORNL	AREA 7841	TANKS, TRAILERS, AND MISCELLANEOUS ITEMS	FE	U	C	0.0	0.000	1.0	1.0000	1.000	TOOL TRAILER
ORNL	AREA 7841	TANKS, TRAILERS, AND MISCELLANEOUS ITEMS	FE	U	C	0.0	0.000	1.0	4.0000	4.000	1,000 GALLON TANK
ORNL	AREA 7841	VESSELS, DRUMS, TRAILERS, TRANSFORMERS, AND MISCELLANEOUS ITEMS	FE	U	C	0.0	0.000	2.0	5.0000	8.800	2 TRANSFORMERS
ORNL	AREA 7841	VESSELS, DRUMS, TRAILERS, TRANSFORMERS, AND MISCELLANEOUS ITEMS	FE	U	C	0.0	0.000	1.0	20.0000	20.000	PRESS VESSEL
ORNL	AREA 7841	VESSELS, DRUMS, TRAILERS, TRANSFORMERS, AND MISCELLANEOUS ITEMS	FE	U	C	0.0	0.000	22.0	1.5000	33.000	BUCKETS
ORNL	SCRAP METAL ACCUMULATION AREA	MISCELLANEOUS EQUIPMENT AND STEEL BEAMS	FE	U	U	0.0	0.000	4.0	0.2500	1.000	4-B25 BOXES
ORNL	SCRAP METAL ACCUMULATION AREA	MISCELLANEOUS EQUIPMENT AND STEEL BEAMS	FE	U	U	0.0	0.000	1.0	2.2500	2.250	AIR HANDLER

## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE BITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TONYARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
ORNL	SCRAP METAL ACCUMULATION AREA	MISCELLANEOUS SCRAP AROUND SL BOX STORAGE AREA	FE	U	U	0.0	0.000	0.0	0.0000	2.000	MISCELLANEOUS STEEL CRADLES STOVE PIPE
ORNL	SCRAP METAL ACCUMULATION AREA	MISCELLANEOUS SCRAP AROUND SL BOX STORAGE AREA	FE	U	U	0.0	0.000	1.0	4.0000	4.000	TURBIN HEADS AND PUMP
ORNL	SCRAP METAL ACCUMULATION AREA	MISCELLANEOUS SCRAP AROUND SL BOX STORAGE AREA	FE	U	U	0.0	0.000	2.0	2.1000	4.200	2 HEAT EXCHANGERS
ORNL	SCRAP METAL ACCUMULATION AREA	MISCELLANEOUS SCRAP AROUND SL BOX STORAGE AREA	FE	U	U	0.0	0.000	1.0	6.0000	6.000	PORTABLE PACKAGE CONVEYOR
ORNL	SCRAP METAL ACCUMULATION AREA	MISCELLANEOUS SCRAP AROUND SL BOX STORAGE AREA	FE	U	U	0.0	0.000	1.0	7.8500	7.850	LIQUID OXYGEN TANK
ORNL	AREA 7841	TANKS, TRAILERS, AND MISCELLANEOUS ITEMS	SS	M	C	0.0	0.000	1.0	10.0000	6.000	S.S. TANK ON TRAILER
ORNL	AREA 7841	VESSELS, DRUMS, TRAILERS, TRANSFORMERS, AND MISCELLANEOUS ITEMS	SS	M	C	1.0	18.000	0.0	0.0000	2.000	GROUP C
ORNL	AREA 7841	VESSELS, DRUMS, TRAILERS, TRANSFORMERS, AND MISCELLANEOUS ITEMS	SS	M	C	1.0	26.000	0.0	0.0000	23.400	GROUP A
ORNL	AREA 7841	VESSELS, DRUMS, TRAILERS, TRANSFORMERS, AND MISCELLANEOUS ITEMS	SS	M	C	1.0	83.000	0.0	0.0000	62.000	GROUP B
ORNL	SCRAP METAL ACCUMULATION AREA	MISCELLANEOUS EQUIPMENT AND STEEL BEAMS	SS	M	U	0.0	0.000	1.0	4.0000	2.400	60% SS
ORNL	SCRAP METAL ACCUMULATION AREA	MISCELLANEOUS SCRAP AROUND SL BOX STORAGE AREA	SS	M	U	0.0	0.000	1.0	6.0000	1.760	VAN TANK WITH SS EQUIPMENT
ORNL	SCRAP METAL ACCUMULATION AREA	7 x 7 x 22 BOX STAGING AREA	SS	SL	U	0.0	0.000	131.0	8.6000	11.000	1% SS
ORNL	AREA 7841	TANKS, TRAILERS, AND MISCELLANEOUS ITEMS	SS	U	C	0.0	0.000	0.0	0.0000	20.000	GROUP E
ORNL	AREA 7841	VESSELS, DRUMS, TRAILERS, TRANSFORMERS, AND MISCELLANEOUS ITEMS	SS	U	C	0.0	0.000	400.0	0.0500	19.000	S.S. DRUMS
PADUCAH	C-748-C1	PILES, FINS, COMPRESSOR SHELLS, INGOTS	AL	P	C	0.0	0.000	1820.0	0.6500	1,053.000	AL INGOTS
PADUCAH	C-748-E	PIPE, MIX, AND RINGS	AL	P	C	0.0	0.000	182.0	0.0200	3.800	AL SHAVINGS IN 65 GALLON DRUM
PADUCAH	C-746-H4	NICKEL YARD	AL	P	C	0.0	0.000	186.0	0.6500	121.000	AL INGOTS - 1300#/EA
PADUCAH	C-746-H4	NICKEL YARD	AL	P	C	0.0	0.000	1773.0	0.6500	1,153.000	AL INGOTS - 1300#/EA
PADUCAH	C-748-C	PILES, DRUMS, PIPE, AND MIX	AL	U	C	0.0	0.000	0.0	0.0000	1.500	PILE (1) JUST SOUTH OF DRUMS
PADUCAH	C-746-C	PILES, DRUMS, PIPE, AND MIX	AL	U	C	0.0	0.000	0.0	0.0000	48.000	LRG PILE - AL PORTION - 1%
PADUCAH	C-748-C1	AIR HANDLERS, PILES, EQUIPMENT, INGOTS	AL	U	C	0.0	0.000	160.0	0.0500	7.500	BOMB CASSINGS

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## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TONYARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
PADUCAH	C-746-C1	PILES, FINS, COMPRESSOR SHELLS, INGOTS	AL	U	C	0.0	0.000	0.0	0.0000	11.000	CAST AL KNOTS (DIFFERENT)
PADUCAH	C-746-C1	PILES, FINS, COMPRESSOR SHELLS, INGOTS	AL	U	C	0.0	0.000	0.0	0.0000	187.500	COMPRESSOR SHELLS
PADUCAH	C-746-C1	PILES, FINS, COMPRESSOR SHELLS, INGOTS	AL	U	C	0.0	0.000	0.0	0.0000	204.000	AL FINS
PADUCAH	C-746-C1	PILES, FINS, COMPRESSOR SHELLS, INGOTS	AL	U	C	0.0	0.000	0.0	0.0000	280.000	AL LIDS
PADUCAH	C-746-E	PIPE, MIX, AND RINGS	AL	U	C	0.0	0.000	0.0	0.0000	0.250	500 # AL
PADUCAH	C-746-E1	COVERS, BLADES, AND PIPE	AL	U	C	0.0	0.000	0.0	0.0000	21.500	AL COVERS AND HEAT EXCHANGERS
PADUCAH	C-746-E1	COVERS, BLADES, AND PIPE	AL	U	C	0.0	0.000	0.0	0.0000	34.500	AL COVERS
PADUCAH	C-746-E1	COVERS, BLADES, AND PIPE	AL	U	C	0.0	0.000	0.0	0.0000	41.600	AL BLADES
PADUCAH	C-746-E1	COVERS, BLADES, AND PIPE	AL	U	C	0.0	0.000	0.0	0.0000	42.000	AL COVERS
PADUCAH	C-746-E1	PILES, CONVERTER, SHELLS, NICKEL PLATED	AL	U	C	0.0	0.000	0.0	0.0000	108.000	MIX AL
PADUCAH	C-746-E1	PILES, CONVERTER, SHELLS, NICKEL PLATED	AL	U	C	0.0	0.000	0.0	0.0000	116.000	AL LIDS AND COMPRESSORS
PADUCAH	C-746-E1	PILES, CONVERTER, SHELLS, NICKEL PLATED	AL	U	C	0.0	0.000	0.0	0.0000	208.000	AL CONV. SHELLS AND BLADES
PADUCAH	C-746-E1	PILES, CONVERTER, SHELLS, NICKEL PLATED	AL	U	C	0.0	0.000	0.0	0.0000	741.000	AL MIX, FINS, SHELL
PADUCAH	C-746-H4	NICKEL YARD	AL	U	C	0.0	0.000	0.0	0.0000	4.200	MISCELLANEOUS AL
PADUCAH	C-746-H4	NICKEL YARD	AL	U	C	0.0	0.000	0.0	0.0000	48.700	AL INGOTS
PADUCAH	C-746-P EAST	MIXED, MISCELLANEOUS	AL	U	C	0.0	0.000	0.0	0.0000	163.600	BIG PILE 10% AL - MIX
PADUCAH	C-746-P EAST	WIRE, PIPE, DRUMS, AND SHEET	AL	U	C	0.0	0.000	0.0	0.0000	0.500	AL PIPE
PADUCAH	C-746-P EAST	WIRE, PIPE, DRUMS, AND SHEET	AL	U	C	0.0	0.000	0.0	0.0000	0.500	AL PIPE
PADUCAH	SOUTH OF C-746-B YARD	MIXED	AL	U	C	0.0	0.000	0.0	0.0000	1.250	AL COMPRESSOR SECTIONS
PADUCAH	SOUTH OF C-746-B YARD	MIXED	AL	U	C	0.0	0.000	0.0	0.0000	4.500	AL
PADUCAH	C-746-P1	MISCELLANEOUS, MESH, DRUMS, PIPE	AL	U	U	0.0	0.000	0.0	0.0000	0.500	
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FAN BLADES	AL	U	U	0.0	0.000	0.0	0.0000	0.250	ALUMINUM CONDUIT
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FAN BLADES	AL	U	U	0.0	0.000	0.0	0.0000	3.000	ALUMINUM BLADES
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FANS	AL	U	U	0.0	0.000	0.0	0.0000	3.500	PILE 2
PADUCAH	C-746-C	PILES, DRUMS, PIPE, AND MIX	CU	U	C	0.0	0.000	0.0	0.0000	2.000	PILE (1) JUST SOUTH OF DRUMS
PADUCAH	C-746-C1	AIR HANDLERS, PILES, EQUIPMENT, INGOTS	CU	U	C	0.0	0.000	8.0	1.2000	9.600	FAIRBANKS - MORSE PUMP MOTORS
PADUCAH	C-746-C1	AIR HANDLERS, PILES, EQUIPMENT, INGOTS	CU	U	C	0.0	0.000	24.0	0.5000	12.000	CU - TUBING - AIR HANDLERS
PADUCAH	C-746-P EAST	MIXED, MISCELLANEOUS	CU	U	C	0.0	0.000	0.0	0.0000	2.000	CU PILE
PADUCAH	C-746-P EAST	MIXED, MISCELLANEOUS	CU	U	C	0.0	0.000	0.0	0.0000	2.000	TRANSFORMERS
PADUCAH	C-746-P EAST	WIRE, PIPE, DRUMS, AND SHEET	CU	U	C	0.0	0.000	0.0	0.0000	1.000	CU WIRE

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## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TONYARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
PADUCAH	C-746-P1	MISCELLANEOUS, MESH, DRUMS, PIPE	CU	U	U	0.0	0.000	0.0	0.0000	1.500	COPPER PIPE SPRINKLERS
PADUCAH	C-746-P1	MISCELLANEOUS, MESH, DRUMS, PIPE	CU	U	U	0.0	0.000	0.0	0.0000	2.000	COPPER
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FAN BLADES	CU	U	U	0.0	0.000	9.0	0.1000	0.900	MOTORS
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FAN BLADES	CU	U	U	0.0	0.000	0.0	0.0000	10.000	COPPER HEAT EXCHANGER TUBING
PADUCAH	C-746-C	PILES, DRUMS, PIPE, AND MIX	FE	P	C	0.0	0.000	1212.0	0.0500	60.600	55 GALLON DRUMS
PADUCAH	C-746-C	PILES, DRUMS, PIPE, AND MIX	FE	P	C	0.0	0.000	1212.0	0.0500	60.600	55 GALLON DRUMS
PADUCAH	C-746-E	PIPE, MIX, AND RINGS	FE	P	C	0.0	0.000	182.0	0.2000	36.500	FE SHAVINGS IN 55 GALLON DRUM
PADUCAH	C-747-A	DRUMS AND TANKS	FE	P	C	10,725.0	0.700	0.0	0.0000	7,507.000	CRUSHED DRUMS
PADUCAH	C-746-C	PILES, DRUMS, PIPE, AND MIX	FE	U	C	0.0	0.000	0.0	0.0000	16.500	PILE (1) JUST SOUTH OF DRUMS
PADUCAH	C-746-C	PILES, DRUMS, PIPE, AND MIX	FE	U	C	0.0	0.000	0.0	0.0000	27.250	PILE (2) SOUTH OF PILE (1)
PADUCAH	C-746-C	PILES, DRUMS, PIPE, AND MIX	FE	U	C	0.0	0.000	0.0	0.0000	4,521.000	LRG PILE - 20% NICKEL PLATED
PADUCAH	C-746-C1	AIR HANDLERS, PILES, EQUIPMENT, INGOTS	FE	U	C	0.0	0.000	0.0	0.0000	0.600	TUB - 50% SS
PADUCAH	C-746-C1	AIR HANDLERS, PILES, EQUIPMENT, INGOTS	FE	U	C	0.0	0.000	1.0	1.5000	1.500	MARVEL SAW
PADUCAH	C-746-C1	AIR HANDLERS, PILES, EQUIPMENT, INGOTS	FE	U	C	0.0	0.000	0.0	0.0000	2.000	FE MIX
PADUCAH	C-746-C1	AIR HANDLERS, PILES, EQUIPMENT, INGOTS	FE	U	C	0.0	0.000	0.0	0.0000	8.500	FE PIPE
PADUCAH	C-746-C1	AIR HANDLERS, PILES, EQUIPMENT, INGOTS	FE	U	C	0.0	0.000	8.0	4.8000	38.400	FAIRBANKS - MORSE PUMP MOTORS
PADUCAH	C-746-C1	AIR HANDLERS, PILES, EQUIPMENT, INGOTS	FE	U	C	0.0	0.000	24.0	2.0000	48.000	FE - SHEET - AIR HANDLERS
PADUCAH	C-746-C1	PILES, FINS, COMPRESSOR SHELLS, INGOTS	FE	U	C	0.0	0.000	0.0	0.0000	1.500	GRATING AND EQUIPMENT
PADUCAH	C-746-C1	PILES, FINS, COMPRESSOR SHELLS, INGOTS	FE	U	C	0.0	0.000	0.0	0.0000	2.000	FE TANKS
PADUCAH	C-746-C1	PILES, FINS, COMPRESSOR SHELLS, INGOTS	FE	U	C	0.0	0.000	0.0	0.0000	651.000	NICKEL PLATED PIPE
PADUCAH	C-746-C1	PILES, FINS, COMPRESSOR SHELLS, INGOTS	FE	U	C	0.0	0.000	0.0	0.0000	879.900	PILE - MIXED
PADUCAH	C-746-D	CLASSIFIED	FE	U	C	0.0	0.000	0.0	0.0000	14,560.000	
PADUCAH	C-746-E	PILES AND PLATE	FE	U	C	0.0	0.000	7.0	2.5000	17.500	END PIECES
PADUCAH	C-746-E	PILES AND PLATE	FE	U	C	0.0	0.000	6.0	4.3000	21.500	CONVERTER SHELLS
PADUCAH	C-746-E	PILES AND PLATE	FE	U	C	0.0	0.000	0.0	0.0000	60.300	ALL NICKEL PLATED - SML PILE
PADUCAH	C-746-E	PILES AND PLATE	FE	U	C	0.0	0.000	0.0	0.0000	11,900.000	50% NICKEL PLATED - LRG PILE
PADUCAH	C-746-E	PIPE, MIX, AND RINGS	FE	U	C	0.0	0.000	73.0	0.0400	3.000	SML RINGS
PADUCAH	C-746-E	PIPE, MIX, AND RINGS	FE	U	C	0.0	0.000	86.0	0.0600	4.300	LRG RINGS
PADUCAH	C-746-E	PIPE, MIX, AND RINGS	FE	U	C	0.0	0.000	10.0	0.6000	6.000	FE NICKEL PLATE
PADUCAH	C-746-E	PIPE, MIX, AND RINGS	FE	U	C	0.0	0.000	0.0	0.0000	7.500	FE MIX
PADUCAH	C-746-E	PIPE, MIX, AND RINGS	FE	U	C	0.0	0.000	0.0	0.0000	39.000	FE MIX

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## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TONYARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
PADUCAH	C-746-E	PIPE, MIX, AND RINGS	FE	U	C	0.0	0.000	0.0	0.0000	71.000	MISCELLANEOUS FE PIPE
PADUCAH	C-746-E	PIPE, MIX, AND RINGS	FE	U	C	0.0	0.000	36.0	2.6000	93.600	LRG DIA - 1" THICK RINGS
PADUCAH	C-746-E1	COVERS, BLADES, AND PIPE	FE	U	C	0.0	0.000	0.0	0.0000	31.000	FE - 10" DIAMETER PIPE
PADUCAH	C-746-E1	PILES, CONVERTER, SHELLS, NICKEL PLATED	FE	U	C	0.0	0.000	0.0	0.0000	10.000	FE PIPE - 10" DIAMETER
PADUCAH	C-746-E1	PILES, CONVERTER, SHELLS, NICKEL PLATED	FE	U	C	0.0	0.000	30.0	0.6500	19.500	RR RAIL
PADUCAH	C-746-E1	PILES, CONVERTER, SHELLS, NICKEL PLATED	FE	U	C	0.0	0.000	68.0	1.6700	106.760	FE NICKEL PLATED PIPE SHELLS
PADUCAH	C-746-E1	PILES, CONVERTER, SHELLS, NICKEL PLATED	FE	U	C	0.0	0.000	0.0	0.0000	2,499.000	LRG PIPE
PADUCAH	C-746-P EAST	MIXED, MISCELLANEOUS	FE	U	C	0.0	0.000	0.0	0.0000	2.000	CABINETS AND LOCKERS
PADUCAH	C-746-P EAST	MIXED, MISCELLANEOUS	FE	U	C	0.0	0.000	0.0	0.0000	3.600	MISCELLANEOUS FE MIX
PADUCAH	C-746-P EAST	MIXED, MISCELLANEOUS	FE	U	C	0.0	0.000	8.0	0.6900	5.500	100# RR RAIL
PADUCAH	C-746-P EAST	MIXED, MISCELLANEOUS	FE	U	C	0.0	0.000	0.0	0.0000	6.000	LIGHT STRUCTURAL AND PIPE
PADUCAH	C-746-P EAST	MIXED, MISCELLANEOUS	FE	U	C	0.0	0.000	0.0	0.0000	8.000	TRANSFORMERS
PADUCAH	C-746-P EAST	MIXED, MISCELLANEOUS	FE	U	C	0.0	0.000	68.0	0.5000	29.000	STL IN INSULATORS - NO CERAMIC
PADUCAH	C-746-P EAST	MIXED, MISCELLANEOUS	FE	U	C	0.0	0.000	1.0	0.0000	37.000	1 PACKAGE MOBILE BOILER
PADUCAH	C-746-P EAST	MIXED, MISCELLANEOUS	FE	U	C	0.0	0.000	0.0	0.0000	1,382.400	BIG PILE 90% FE - MIX
PADUCAH	C-746-P EAST	WIRE, PIPE, DRUMS, AND SHEET	FE	U	C	0.0	0.000	0.0	0.0000	6.000	FE MIX AND DRUMS
PADUCAH	C-746-P EAST	WIRE, PIPE, DRUMS, AND SHEET	FE	U	C	0.0	0.000	0.0	0.0000	10.000	MIX
PADUCAH	C-746-P EAST	WIRE, PIPE, DRUMS, AND SHEET	FE	U	C	0.0	0.000	0.0	0.0000	12.000	GALV. PIPE AND SHEET
PADUCAH	C-747-A	DRUMS AND TANKS	FE	U	C	0.0	0.000	18.0	2.5000	40.500	TANKS
PADUCAH	C-747-B	PIPE, GATING, EQUIPMENT	FE	U	C	0.0	0.000	0.0	0.0000	1.000	GRATING
PADUCAH	C-747-B	PIPE, GATING, EQUIPMENT	FE	U	C	0.0	0.000	3.0	0.6000	1.600	MOBILE UNITS
PADUCAH	C-747-B	PIPE, GATING, EQUIPMENT	FE	U	C	0.0	0.000	0.0	0.0000	2.000	SCRAP
PADUCAH	C-747-B	PIPE, GATING, EQUIPMENT	FE	U	C	0.0	0.000	1.0	4.0000	4.000	MOBILE CRANE
PADUCAH	C-747-B	PIPE, GATING, EQUIPMENT	FE	U	C	0.0	0.000	0.0	0.0000	6.000	PIPE
PADUCAH	C-747-B	PIPE, GATING, EQUIPMENT	FE	U	C	0.0	0.000	2.0	3.0000	6.000	TRUCKS
PADUCAH	C-747-B	PIPE, GATING, EQUIPMENT	FE	U	C	0.0	0.000	0.0	0.0000	11.000	MOBILE UNITS
PADUCAH	C-747-B	PIPE, GATING, EQUIPMENT	FE	U	C	0.0	0.000	1.0	60.0000	60.000	RR FLAT CAR
PADUCAH	C-747-B	PIPE, GATING, EQUIPMENT	FE	U	C	0.0	0.000	84.0	1.5000	81.000	FORK LIFTS
PADUCAH	C-747-B	RAIL, TANKS	FE	U	C	0.0	0.000	1.0	4.0000	4.000	TANKS
PADUCAH	C-747-B	RAIL, TANKS	FE	U	C	0.0	0.000	2.0	2.0000	4.000	TANKS
PADUCAH	C-747-B	RAIL, TANKS	FE	U	C	0.0	0.000	134.0	0.8800	81.000	RAIL
PADUCAH	SOUTH OF C-746-B YARD	MIXED	FE	U	C	0.0	0.000	1.0	4.0000	4.000	CAR

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## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TON/YARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
PADUCAH	SOUTH OF C-746-B YARD	MIXED	FE	U	C	0.0	0.000	2.0	2.5000	5.000	TRANSFER CARS
PADUCAH	SOUTH OF C-746-B YARD	MIXED	FE	U	C	0.0	0.000	1.0	6.0000	6.000	PUMP
PADUCAH	SOUTH OF C-746-B YARD	MIXED	FE	U	C	0.0	0.000	0.0	0.0000	7.500	DOUYS, MISCELLANEOUS FE
PADUCAH	SOUTH OF C-746-B YARD	MIXED	FE	U	C	0.0	0.000	0.0	0.0000	61.300	MIXED FE
PADUCAH	C-746-P1	MISCELLANEOUS, MESH, DRUMS, PIPE	FE	U	U	0.0	0.000	2.0	0.1250	0.500	REFRIGERATORS
PADUCAH	C-746-P1	MISCELLANEOUS, MESH, DRUMS, PIPE	FE	U	U	0.0	0.000	0.0	0.0000	1.000	FE PIPE
PADUCAH	C-746-P1	MISCELLANEOUS, MESH, DRUMS, PIPE	FE	U	U	0.0	0.000	200.0	0.0175	3.500	DRUMS
PADUCAH	C-746-P1	MISCELLANEOUS, MESH, DRUMS, PIPE	FE	U	U	0.0	0.000	0.0	0.0000	5.500	FE RAIL
PADUCAH	C-746-P1	MISCELLANEOUS, MESH, DRUMS, PIPE	FE	U	U	0.0	0.000	0.0	0.0000	8.000	RR RAIL
PADUCAH	C-746-P1	MISCELLANEOUS, MESH, DRUMS, PIPE	FE	U	U	0.0	0.000	0.0	0.0000	14.000	CARRIER
PADUCAH	C-746-P1	MISCELLANEOUS, MESH, DRUMS, PIPE	FE	U	U	0.0	0.000	0.0	0.0000	383.000	PILE 1 - 20% LIGHT
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FAN BLADES	FE	U	U	0.0	0.000	0.0	0.0000	2.000	PIPE
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FAN BLADES	FE	U	U	0.0	0.000	9.0	0.4000	3.600	MOTORS
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FAN BLADES	FE	U	U	0.0	0.000	2.0	3.5000	7.000	TANKS
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FAN BLADES	FE	U	U	0.0	0.000	0.0	0.0000	10.000	STRUCTURAL
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FAN BLADES	FE	U	U	0.0	0.000	0.0	0.0000	12.800	PIPE
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FAN BLADES	FE	U	U	0.0	0.000	0.0	0.0000	15.500	FE PIPE 18" DIAMETER
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FAN BLADES	FE	U	U	0.0	0.000	0.0	0.0000	327.000	RR RAIL
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FANS	FE	U	U	0.0	0.000	0.0	0.0000	1.000	MISCELLANEOUS FE
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FANS	FE	U	U	0.0	0.000	0.0	0.0000	11.000	COOLING TOWER STANDOFF PIPE
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FANS	FE	U	U	0.0	0.000	0.0	0.0000	31.500	PILE 2 MIXED, SHEETING
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FANS	FE	U	U	0.0	0.000	68.0	0.6500	38.350	RR RAIL
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FANS	FE	U	U	0.0	0.000	0.0	0.0000	41.500	PIPE
PADUCAH	C-746-H4	NICKEL YARD	NI	P	C	0.0	0.000	0.0	0.0000	9,700.000	PURE NICKEL INGOTS
PADUCAH	C-746-C	PILES, DRUMS, PIPE, AND MIX	SS	U	C	0.0	0.000	0.0	0.0000	2.000	SS STEEL PIPE
PADUCAH	C-746-C1	AIR HANDLERS, PILES, EQUIPMENT, INGOTS	SS	U	C	0.0	0.000	0.0	0.0000	0.500	PLATING ACID TANK
PADUCAH	C-746-C1	AIR HANDLERS, PILES, EQUIPMENT, INGOTS	SS	U	C	0.0	0.000	0.0	0.0000	0.500	TUB - 60% FE
PADUCAH	C-746-C1	AIR HANDLERS, PILES, EQUIPMENT, INGOTS	SS	U	C	0.0	0.000	0.0	0.0000	14.000	SS TANKS AND EQUIPMENT
PADUCAH	C-746-C1	PILES, FINS, COMPRESSOR SHELLS, INGOTS	SS	U	C	0.0	0.000	0.0	0.0000	1.500	SS PIPE
PADUCAH	C-746-E	PIPE, MIX, AND RINGS	SS	U	C	0.0	0.000	0.0	0.0000	4.000	SS PIPE
PADUCAH	C-746-P EAST	MIXED, MISCELLANEOUS	SS	U	C	0.0	0.000	2.0	6.0000	12.000	PRESSURE VESSELS
PADUCAH	C-746-P1	MISCELLANEOUS, MESH, DRUMS, PIPE	SS	U	U	0.0	0.000	0.0	0.0000	2.000	SS MESH
PADUCAH	C-746-P1	RAIL, PIPE, MOTORS, FAN BLADES	SS	U	U	0.0	0.000	0.0	0.0000	4.500	SS PIPE
PINELLAS	SCRAP YARD	MISCELLANEOUS METALS	AL	P	U	0.0	0.000	0.0	0.0000	8.250	
PINELLAS	SCRAP YARD	MISCELLANEOUS METALS	CU	P	U	0.0	0.000	0.0	0.0000	7.500	
PINELLAS	BONDED STOCK BUILDING	STORAGE YARD	CU	U	U	0.0	0.000	0.0	0.0000	0.200	INS. WIRE

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## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TONYARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
PINELLAS	SCRAP YARD	MISCELLANEOUS METALS	FE	P	U	0.0	0.000	0.0	0.0000	6.800	
PINELLAS	BONDED STOCK BUILDING	STORAGE YARD	FE	U	U	0.0	0.000	0.0	0.0000	14.000	*SHEET IRON MISCELLANEOUS CABINETS AND DRW.
PINELLAS	SCRAP YARD	MISCELLANEOUS METALS	M	P	U	0.0	0.000	1.0	0.1250	0.125	KOVAR
PINELLAS	SCRAP YARD	MISCELLANEOUS METALS	MI	P	U	0.0	0.000	3.0	0.1250	0.375	IN KENEL
PINELLAS	SCRAP YARD	MISCELLANEOUS METALS	MI	P	U	0.0	0.000	2.0	0.2500	0.500	MOLLY
PINELLAS	SCRAP YARD	MISCELLANEOUS METALS	MI	P	U	0.0	0.000	0.0	0.0000	0.700	BRASS
PINELLAS	SCRAP YARD	MISCELLANEOUS METALS	MI	P	U	0.0	0.000	18.0	0.1100	1.980	
PINELLAS	SCRAP YARD	MISCELLANEOUS METALS	SS	P	U	0.0	0.000	0.0	0.0000	12.770	
PORTSMOUTH	WEST YARD		AL	P	C	0.0	0.000	0.0	0.0000	332.000	INGOTS - 8'+8
PORTSMOUTH	WEST OF SOUTH PILE		AL	U	C	0.0	0.000	0.0	0.0000	0.500	AL SCAFFOLD
PORTSMOUTH	WEST YARD		AL	U	C	0.0	0.000	0.0	0.0000	5.500	LVDS. AND RADIATORS
PORTSMOUTH	WEST FENCE YARD	UNCONTAMINATED	AL	U	U	0.0	0.000	0.0	0.0000	6.500	EXTRUSIONS
PORTSMOUTH	WEST FENCE YARD	UNCONTAMINATED	CU	U	U	0.0	0.000	0.0	0.0000	3.000	INSULATION WIRING
PORTSMOUTH	WEST FENCE YARD	UNCONTAMINATED	CU	U	U	0.0	0.000	0.0	0.0000	19.500	PIPE AND SHEETING
PORTSMOUTH	WEST OF SOUTH PILE		FE	M	C	0.0	0.000	0.0	0.0000	38.000	SOLID SHAFTS WITH 5% AL
PORTSMOUTH	WEST YARD		FE	M	C	0.0	0.000	0.0	0.0000	2.000	SOLIDS SHAFTS W/5% AL
PORTSMOUTH	CLASSIFIED SCRAP YARD	AERIAL PHOTOGRAPH TAKEOFF	FE	U	C	0.0	0.000	385.0	20.0000	7,700.000	
PORTSMOUTH	NORTH AND SOUTH PILES	PILES	FE	U	C	0.0	0.000	0.0	0.0000	640.000	NORTH - FE NICKEL PLATED
PORTSMOUTH	NORTH AND SOUTH PILES	PILES	FE	U	C	0.0	0.000	0.0	0.0000	650.000	SOUTH CONVERTER SHELLS
PORTSMOUTH	WEST OF SOUTH PILE		FE	U	C	0.0	0.000	0.0	0.0000	44.000	NICKEL PLATED
PORTSMOUTH	WEST OF SOUTH PILE		FE	U	C	0.0	0.000	0.0	0.0000	61.000	P&S W/10% SHEET
PORTSMOUTH	WEST YARD		FE	U	C	0.0	0.000	10.0	8.3000	83.000	FE/NICKEL PLATED TANKS
PORTSMOUTH	WEST YARD		FE	U	C	0.0	0.000	0.0	0.0000	459.700	FE/NICKEL PLATED D&S
PORTSMOUTH	WEST YARD		FE	U	C	0.0	0.000	0.0	0.0000	1,123.000	P&S
PORTSMOUTH	WEST FENCE YARD	UNCONTAMINATED	FE	U	U	0.0	0.000	1.0	2.0000	2.000	DOUBLE AXLE TRUCK
PORTSMOUTH	WEST FENCE YARD	UNCONTAMINATED	FE	U	U	0.0	0.000	3.0	2.0000	6.000	CARS
PORTSMOUTH	WEST FENCE YARD	UNCONTAMINATED	FE	U	U	0.0	0.000	3.0	2.2500	6.750	TRUCK VEHICALS
PORTSMOUTH	WEST FENCE YARD	UNCONTAMINATED	FE	U	U	0.0	0.000	0.0	0.0000	87.250	STRUCTURAL W/12% SHEET IRON
PORTSMOUTH	WEST YARD		M	U	C	0.0	0.000	0.0	0.0000	0.650	TUBING
PORTSMOUTH	WEST OF SOUTH PILE		SS	U	C	0.0	0.000	0.0	0.0000	0.100	PLATE
PORTSMOUTH	WEST FENCE YARD	UNCONTAMINATED	SS	U	U	0.0	0.000	0.0	0.0000	1.050	
ROCKY FLATS	CANVAS STORAGE AREAS	MIXED SCRAP	CU	U	C	0.0	0.000	0.0	0.0000	2,700.000	
ROCKY FLATS	STORAGE	MIXED SCRAP	FE	U	C	0.0	0.000	0.0	0.0000	8,100.000	
ROCKY FLATS	STORAGE	MIXED SCRAP	SS	U	C	0.0	0.000	0.0	0.0000	16,200.000	

## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TONYARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
SAVANNAH RIVER	SITE N	704 - ION / CENTRAL SHOP	AL	P	U	0.0	0.000	0.0	0.0000	2.000	
SAVANNAH RIVER	SITE N	704 - ION / CENTRAL SHOP	AL	P	U	60.0	0.000	0.0	0.0000	3.000	AL CANS
SAVANNAH RIVER	SITE C	REACTOR COMPONENTS	AL	U	C	0.0	0.000	0.0	0.0000	10.000	
SAVANNAH RIVER	SITE N	704 - ION / CENTRAL SHOP	CU	P	U	0.0	0.000	0.0	0.0000	12.000	COPPER WIRE, PIPE AND FITTINGS
SAVANNAH RIVER	SITE A		FE	U	C	0.0	0.000	0.0	0.0000	130.000	MIXED
SAVANNAH RIVER	SITE C	MIXED	FE	U	C	0.0	0.000	21.0	0.0400	1.000	55 GALLON DRUMS
SAVANNAH RIVER	SITE C	MIXED	FE	U	C	0.0	0.000	3.0	0.3400	1.000	PURPLE BOX
SAVANNAH RIVER	SITE C	MIXED	FE	U	C	0.0	0.000	10.0	0.6000	6.000	YELLOW BOXES
SAVANNAH RIVER	SITE C	MIXED	FE	U	C	0.0	0.000	36.0	0.2800	10.000	GRAY BOXES
SAVANNAH RIVER	SITE C	MIXED	FE	U	C	0.0	0.000	0.0	0.0000	20.600	30% GALV.
SAVANNAH RIVER	SITE C	MIXED	FE	U	C	0.0	0.000	0.0	0.0000	26.000	1% GALV.
SAVANNAH RIVER	SITE C	MIXED	FE	U	C	0.0	0.000	20.0	8.0000	160.000	WATER COOLING PUMPS
SAVANNAH RIVER	SITE D		FE	U	C	0.0	0.000	0.0	0.0000	78.000	MIXED
SAVANNAH RIVER	SITE F	MIXED - STRUCT / PLATE	FE	U	C	0.0	0.000	0.0	0.0000	78.000	MIXED
SAVANNAH RIVER	SITE H - SH-1	MIXED	FE	U	C	0.0	0.000	0.0	0.0000	650.000	MIXED
SAVANNAH RIVER	SITE K	MIXED - STRUCT / PLATE	FE	U	C	0.0	0.000	0.0	0.0000	182.000	MIXED
SAVANNAH RIVER	SITE L	MIXED - STRUCT / PLATE	FE	U	C	0.0	0.000	0.0	0.0000	206.000	
SAVANNAH RIVER	SITE M	MIXED - PLATE / STRUCT	FE	U	C	0.0	0.000	0.0	0.0000	104.000	MIXED
SAVANNAH RIVER	SITE P	MIXED - STRUCT / PLATE	FE	U	C	0.0	0.000	0.0	0.0000	260.000	MIXED
SAVANNAH RIVER	SITE R	MIXED	FE	U	C	0.0	0.000	0.0	0.0000	78.000	MIXED
SAVANNAH RIVER	SITE T	MIXED PLATE / STRUCT	FE	U	C	0.0	0.000	0.0	0.0000	78.000	MIXED
SAVANNAH RIVER	SITE D		FE	U	U	0.0	0.000	3.0	400.0000	1,200.000	3-POWER HOUSES SML

## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TON/YARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
SAVANNAH RIVER	SITE D		FE	U	U	0.0	0.000	1.0	3,200.0000	3,200.000	1 POWER HOUSE - 8X
SAVANNAH RIVER	SITE F	MIXED - STRUCT/ PLATE	FE	U	U	0.0	0.000	0.0	0.0000	374.000	MIXED
SAVANNAH RIVER	SITE H - SH-1	MIXED	FE	U	U	0.0	0.000	0.0	0.0000	187.000	MISCELLANEOUS SCRAP
SAVANNAH RIVER	SITE H - SH-1	MIXED	FE	U	U	0.0	0.000	0.0	0.0000	628.000	MIXED
SAVANNAH RIVER	SITE K	MIXED - BSTRUCT / PLATE	FE	U	U	0.0	0.000	0.0	0.0000	661.000	MIXED
SAVANNAH RIVER	SITE L	MIXED - STRUCT / PLATE	FE	U	U	0.0	0.000	0.0	0.0000	935.000	MIXED
SAVANNAH RIVER	SITE S	MIXED STRUCT / PLATE	FE	U	U	0.0	0.000	0.0	0.0000	187.000	MIXED
SAVANNAH RIVER	SITE N	704 - ION / CENTRAL SHOP	SS	P	U	0.0	0.000	0.0	0.0000	11.500	
SAVANNAH RIVER	C, L, K, P BASINS	SLUG BUCKETS	SS	U	C	0.0	0.000	1227.0	0.0750	92.000	UNDERWATER
SAVANNAH RIVER	PLANTWIDE	MISCELLANEOUS	SS	U	C	0.0	0.000	600.0	0.0400	20.000	65 GALLON DRUMS 80# / EA
SAVANNAH RIVER	SITE N	HEAT EXCHANGERS	SS	U	C	0.0	0.000	49.0	100.0000	4,900.000	TYPE A - AVAILABLE
SAVANNAH RIVER	SITE R	SLUG BUCKETS	SS	U	C	0.0	0.000	1394.0	0.0750	108.000	105R LOCATION
WELDON SPRING	MATERIAL STAGING AREA		AL	M	C	19.8	0.280	0.0	0.0000	5.540	COPPER MOTOR PILE RADIATOR 15%
WELDON SPRING	MATERIAL STAGING AREA		AL	U	C	1,033.0	0.200	0.0	0.0000	207.000	MISCELLANEOUS ALUMINUM PILE
WELDON SPRING	MATERIAL STAGING AREA		AL	U	C	1,240.0	0.230	0.0	0.0000	288.000	SHREDDABLE PILE 5%
WELDON SPRING	TEMPORARY STAGING AREA		AL	U	C	0.0	0.000	75.0	0.0000	6.400	25 YD CONTAINERS
WELDON SPRING	TEMPORARY STAGING AREA	MISCELLANEOUS SCRAP	AL	U	C	46.0	0.200	0.0	0.0000	9.000	5% AL
WELDON SPRING	TEMPORARY STAGING AREA	PLATE STEEL	AL	U	C	67.0	0.830	0.0	0.0000	47.000	85% AL
WELDON SPRING	MATERIAL STAGING AREA		CU	M	C	12.0	0.100	0.0	0.0000	1.200	CONDUIT WIRE PILE 5%
WELDON SPRING	MATERIAL STAGING AREA		CU	M	C	52.8	0.940	0.0	0.0000	49.600	RADIATOR COPPERMOTOR PILE 40
WELDON SPRING	MATERIAL STAGING AREA		FE	M	C	228.0	0.100	0.0	0.0000	22.800	CONDUIT WIRE PILE 95%
WELDON SPRING	MATERIAL STAGING AREA		FE	M	C	69.4	0.830	0.0	0.0000	49.300	RADIATOR COPPERMOTOR PILE 45

## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TON/YARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
			FE	U	C	0.0	0.000	0.0	0.0000	10.000	WINDOW FRAMES
WELDON SPRING	MATERIAL STAGING AREA		FE	U	C	0.0	7.000	0.0	0.0000	80.000	DACON PILE (RAIL ONLY)
WELDON SPRING	MATERIAL STAGING AREA		FE	U	C	237.0	0.700	0.0	0.0000	166.000	MACHINERY
WELDON SPRING	MATERIAL STAGING AREA		FE	U	C	13,760.0	0.830	0.0	0.0000	11,413.000	DACONABLE PILE
WELDON SPRING	MATERIAL STAGING AREA		FE	U	C	23,560.0	0.700	0.0	0.0000	16,492.000	SHREDDABLE PILE 95%
WELDON SPRING	MATERIAL STAGING AREA		FE	U	C	0.0	0.000	0.0	0.0000	5.000	VESSELS AND EQUIPMENT PIPE 20% FE
WELDON SPRING	TEMPORARY STAGING AREA		FE	U	C	84.0	0.670	0.0	0.0000	48.000	STEEL PIPING 70% FE
WELDON SPRING	TEMPORARY STAGING AREA		FE	U	C	100.0	0.630	0.0	0.0000	63.000	STRUCTURAL PILE
WELDON SPRING	TEMPORARY STAGING AREA		FE	U	C	0.0	0.000	75.0	0.0000	631.000	25 YD CONTAINERS
WELDON SPRING	TEMPORARY STAGING AREA	MISCELLANEOUS SCRAP	FE	U	C	828.0	0.600	0.0	0.0000	487.000	90% FE
WELDON SPRING	TEMPORARY STAGING AREA	PLATE STEEL	FE	U	C	326.0	0.270	0.0	0.0000	88.000	15% FE
WELDON SPRING	TEMPORARY STAGING AREA		SS	U	C	600.0	0.630	0.0	0.0000	378.000	STAINLESS PILE
WELDON SPRING	MATERIAL STAGING AREA		SS	U	C	36.0	0.670	0.0	0.0000	20.000	STEEL PIPING 30% SS
WELDON SPRING	TEMPORARY STAGING AREA		SS	U	C	0.0	0.000	0.0	0.0000	20.000	VESSELS AND EQUIPMENT PIPE 80% SS
WELDON SPRING	TEMPORARY STAGING AREA		SS	U	C	48.0	0.600	0.0	0.0000	28.000	5% SS
WELDON SPRING	TEMPORARY STAGING AREA	MISCELLANEOUS SCRAP	SS	U	C	4,575.0	0.500	0.0	0.0000	7,780	1% AL
Y-12	SY-H1, AREA 1	ONE PILE OF MIXED UNPREPARED FE, SS, & AL/CU RADIATORS	AL	M	C	1,575.0	0.468	0.0	0.0000	2,500	1% AL
Y-12	SY-H1, AREA 2	TANKS, SCRAP PILES, MIXED FE, SS, AL, & CU PLUS CRANE BODY AND HOPPER	AL	M	C	4,236.0	0.430	0.0	0.0000	6,190	1% AL
Y-12	SY-H1, AREA 4	ONE PILE OF MIXED, SCRAP WITH MACHINE TOOLS AND ONE PILE MIXED SCRAP	AL	M	C	3,928.0	0.468	0.0	0.0000	6,220	1% AL
Y-12	SY-H1, AREA 4	ONE PILE OF MIXED, SCRAP WITH MACHINE TOOLS AND ONE PILE MIXED SCRAP	AL	M	C	4,014.0	0.500	0.0	0.0000	13,650	2% AL
Y-12	SY-C3, AREA 3	ONE PILE OF MIXED UNPREPARED FE, SS, AL, & CU, ONE NEARBY TRANSFORMER	AL	M	U	0.0	0.000	0.0	0.0000	5.500	
Y-12	NEW SALVAGE YARD	FE, CU, LD, VARIOUS PALLET8	AL	P	U	4,575.0	0.500	0.0	0.0000	25,850	1% CU
Y-12	SY-H1, AREA 1	ONE PILE OF MIXED UNPREPARED FE, SS, & AL/CU RADIATORS	CU	M	C						

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~~548,227.8~~ = 27,815  
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## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TONYARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
Y-12	8Y-H1, AREA 2	TANKS, SCRAP PILES, MIXED FE, SS, AL, & CU PLUS CRANE BODY AND HOPPER	CU	M	C	1,575.0	0.466	0.0	0.0000	4,140	0.5% CU
Y-12	8Y-C3, AREA 3	ONE PILE OF MIXED UNPREPARED FE, SS, AL, & CU. ONE NEARYBY TRANSFORMER	CU	M	U	0.0	0.000	1.0	30.0000	3.600	TRANSFORMER
Y-12	8Y-C3, AREA 3	ONE PILE OF MIXED UNPREPARED FE, SS, AL, & CU. ONE NEARYBY TRANSFORMER	CU	M	U	4,014.0	0.500	0.0	0.0000	11,300	0.5% CU
Y-12	NEW SALVAGE YARD	FE, CU, LD, VARIOUS PALLETS	CU	U	U	0.0	0.000	0.0	0.0000	3.000	MAJORITY LEAD-SHIELDED WIRE
Y-12	8Y-H1 AREA 4	BOXES B-26	FE	B	C	0.0	0.000	55.0	1.2500	69.000	FAR NORTH
Y-12	8Y-H1 AREA 4	BOXES B-25	FE	B	C	0.0	0.000	68.0	1.2500	83.000	JUST NORTH
Y-12	8Y-H1 AREA 4	BOXES B-25	FE	B	C	0.0	0.000	111.0	10.0000	110.000	
Y-12	8Y-H1 AREA 4	BOXES B-25	FE	B	C	0.0	0.000	187.0	1.2500	234.000	WEST COLLECTION
Y-12	8H-C3 AREA 3, SUB A,B,C,&D	S-5 BOXES	FE	M	C	0.0	0.000	0.0	0.0000	4.000	AREA B
Y-12	8Y-H1, AREA 1	ONE PILE OF MIXED UNPREPARED FE, SS, & AL/CU RADIATORS	FE	M	C	4,575.0	0.500	0.0	0.0000	1,896.630	83% FE
Y-12	8Y-H1, AREA 2	TANKS, SCRAP PILES, MIXED FE, SS, AL, & CU PLUS CRANE BODY AND HOPPER	FE	M	C	1,575.0	0.466	0.0	0.0000	576.200	78.5% FE
Y-12	8Y-H1, AREA 4	ONE PILE OF MIXED, SCRAP WITH MACHINE TOOLS AND ONE PILE MIXED SCRAP	FE	M	C	4,236.0	0.430	0.0	0.0000	1,712.190	94% FE
Y-12	8Y-H1, AREA 4	ONE PILE OF MIXED, SCRAP WITH MACHINE TOOLS AND ONE PILE MIXED SCRAP	FE	M	C	3,828.0	0.466	0.0	0.0000	1,720.200	94% FE
Y-12	8Y-C3, AREA 3	ONE PILE OF MIXED UNPREPARED FE, SS, AL, & CU. ONE NEARYBY TRANSFORMER	FE	M	U	0.0	0.000	1.0	30.0000	<del>28.400</del>	TRANSFORMER
Y-12	8Y-C3, AREA 3	ONE PILE OF MIXED UNPREPARED FE, SS, AL, & CU. ONE NEARYBY TRANSFORMER	FE	M	U	4,014.0	0.500	0.0	0.0000	1,856.000	82.5% FE
Y-12	NEW SALVAGE YARD	FE, CU, LD, VARIOUS PALLETS	FE	P	U	0.0	0.000	0.0	0.0000	198.000	
Y-12	8H-C3 AREA 3, SUB A,B,C,&D	S-5 BOXES	FE	SL	C	0.0	0.000	16.0	10.0000	160.000	AREA D
Y-12	8H-C3 AREA 3, SUB A,B,C,&D	S-5 BOXES	FE	SL	C	0.0	0.000	27.0	10.0000	270.000	AREA A
Y-12	8H-C3 AREA 3, SUB A,B,C,&D	S-5 BOXES	FE	SL	C	0.0	0.000	113.0	10.0000	1,130.000	AREA D
Y-12	8H-C3 AREA 3, SUB A,B,C,&D	S-5 BOXES	FE	SL	C	0.0	0.000	11.0	10.0000	110.000	AREA F
Y-12	8Y-H1 AREA SUB E,F,&G	S-5 BOX AND EQUIPMENT	FE	SL	C	0.0	0.000	33.0	10.0000	330.000	E-STORAGE BOX
Y-12	8Y-H1 AREA SUB E,F,&G	S-5 BOX AND EQUIPMENT	FE	SL	U	0.0	0.000	1.0	25.0000	25.000	CRANE BODY
Y-12	8Y-H1, AREA 2	TANKS, SCRAP PILES, MIXED FE, SS, AL, & CU PLUS CRANE BODY AND HOPPER	FE	U	C	0.0	0.000	2.0	12.0000	24.000	MOBL UNITS
Y-12	8Y-H1, AREA 4	ONE PILE OF MIXED, SCRAP WITH MACHINE TOOLS AND ONE PILE MIXED SCRAP	FE	U	C	0.0	0.000	3.0	30.0000	90.000	TRACK DOZERS
Y-12	8Y-H1, AREA 4	ONE PILE OF MIXED, SCRAP WITH MACHINE TOOLS AND ONE PILE MIXED SCRAP	FE	U	C	0.0	0.000	0.0	0.0000	<del>65.000</del>	
Y-12	NEW SALVAGE YARD	FE, CU, LD, VARIOUS PALLETS	FE	U	U	0.0	0.000	0.0	0.0000	<del>6.000</del>	
Y-12	NEW SALVAGE YARD	FE, CU, LD, VARIOUS PALLETS	PB	P	U	0.0	0.000	0.0	0.0000	114.400	6% SS
Y-12	8Y-H1, AREA 1	ONE PILE OF MIXED UNPREPARED FE, SS, & AL/CU RADIATORS	SS	M	C	4,575.0	0.500	0.0	0.0000		

## SCRAP METAL MATERIALS LIST (CONTINUED)

DOE SITE	LOCATION	DESCRIPTION	TYPE	PREP	RAD	VOLUME	SCRAP DENSITY TON/YARDS	NUMBER UNITS	UNIT WEIGHT (TONS)	AMOUNT TONS	COMMENTS
Y-12	SY-H1, AREA 2	TANKS, SCRAP PILES, MIXED FE, SS, AL, & CU PLUS CRANE BODY AND HOPPER	SS	M	C	1,575.0	0.466	0.0	0.0000	146.800	20% SS
Y-12	SY-H1, AREA 4	ONE PILE OF MIXED, SCRAP WITH MACHINE TOOLS AND ONE PILE MIXED SCRAP	SS	M	C	4,236.0	0.430	0.0	0.0000	81.070	6% SS
Y-12	SY-H1, AREA 4	ONE PILE OF MIXED, SCRAP WITH MACHINE TOOLS AND ONE PILE MIXED SCRAP	SS	M	C	3,828.0	0.466	0.0	0.0000	81.600	6% SS
Y-12	SY-C3, AREA 3	ONE PILE OF MIXED UNPREPARED FE, SS, AL, & CU. ONE NEARYBY TRANSFORMER	SS	M	U	4,014.0	0.600	0.0	0.0000	<del>301.000</del>	16% SS
Y-12	NEW SALVAGE YARD	FE, CU, LD, VARIOUS PALLETS	SS	U	U	0.0	0.000	0.0	0.0000	<del>7.000</del>	

**ABBREVIATIONS:**

TYPE - MATERIAL TYPE (AL - ALUMINUM, CU - COPPER, M - MONEL, PB - LEAD, SS - STAINLESS STEEL, FE - CARBON STEEL, NI - NICKEL)

PREP - PREPARATION STATE (P - PREPARED, M - MIXED, U - UNPREPARED, B - B-26, D - DRUM, I - INGOT, SL - SEALAND)

RAD - RADIOACTIVITY (C - CONTAMINATED, U - UNCONTAMINATED)

VOLUME - ESTIMATED VOLUME IN YARDS

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**APPENDIX G**  
**CALCULATED MASS AND RADIOACTIVITY ASSOCIATED**  
**WITH FERROUS METALS FROM GDP INVENTORY AND D&D**  
(See Excel Spreadsheet k31con.xls for details)



Table G-1. Calculated Mass and Radioactivity Associated with Ferrous Metals from GDP Inventory and D&D

Surface Activity (dpm/100 cm <sup>2</sup> )	Mass per Bin (tons)	Tc-99 (Ci)	U-235 (Ci)	U-234 (Ci)	U-238 (Ci)	Am-241 (Ci)	Np-237 (Ci)	Pu-238 (Ci)	Pu-239 (Ci)	Total All (Ci)
0 - 1000	145925	0.06	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.08
1000-2000	113166	0.13	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.18
2000-3000	65517	0.12	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.17
3000-4000	29781	0.08	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.11
4000-5000	17868	0.06	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.09
5000-6000	5956	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.03
6000-7000	11912	0.06	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.08
7000-8000	14890	0.08	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.12
8000-9000	10423	0.07	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.09
9000-10000	2978	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.03
10000-20000	29781	0.34	0.00	0.08	0.05	0.00	0.00	0.00	0.00	0.48
20000-30000	14890	0.28	0.00	0.07	0.04	0.00	0.00	0.00	0.00	0.40
30000-40000	8934	0.24	0.00	0.06	0.04	0.00	0.00	0.00	0.00	0.33
40000-50000	11912	0.41	0.00	0.10	0.06	0.00	0.00	0.00	0.00	0.57
50000-60000	8934	0.37	0.00	0.09	0.06	0.00	0.00	0.00	0.00	0.52
60000-70000	5956	0.29	0.00	0.07	0.04	0.00	0.00	0.00	0.00	0.41
70000-80000	5956	0.34	0.00	0.08	0.05	0.00	0.00	0.00	0.00	0.48
80000-90000	5956	0.38	0.00	0.09	0.06	0.00	0.00	0.00	0.00	0.54
90000-100000	7445	0.53	0.01	0.13	0.08	0.00	0.00	0.00	0.00	0.76
100000-200000	26803	3.04	0.04	0.74	0.46	0.00	0.01	0.00	0.00	4.29
200000-300000	8934	1.69	0.02	0.41	0.26	0.00	0.00	0.00	0.00	2.38
300000-400000	11912	3.15	0.04	0.77	0.48	0.00	0.01	0.00	0.00	4.45
400000-500000	5956	2.03	0.02	0.49	0.31	0.00	0.00	0.00	0.00	2.86
500000-600000	4467	1.86	0.02	0.45	0.28	0.00	0.00	0.00	0.00	2.62
600000-700000	1489	0.73	0.01	0.18	0.11	0.00	0.00	0.00	0.00	1.03
700000-800000	2978	1.69	0.02	0.41	0.26	0.00	0.00	0.00	0.00	2.38

Table G-1. Calculated Mass and Radioactivity Associated with Ferrous Metals from GDP Inventory and D&D (continued)

Surface Activity (dpm/100 cm <sup>2</sup> )	Mass per Bin (tons)	Tc-99 (Ci)	U-235 (Ci)	U-234 (Ci)	U-238 (Ci)	Am-241 (Ci)	Np-237 (Ci)	Pu-238 (Ci)	Pu-239 (Ci)	Total All (Ci)
800000-900000	298	0.19	0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.27
900,000-1,000,000	4467	3.21	0.04	0.78	0.49	0.00	0.01	0.00	0.00	4.53
1,000,000-2,000,000	8934	10.13	0.12	2.47	1.54	0.01	0.02	0.00	0.01	14.31
2,000,000-3,000,000	4467	8.45	0.10	2.06	1.28	0.01	0.02	0.00	0.01	11.92
3,000,000-4,000,000	1489	3.94	0.05	0.96	0.60	0.00	0.01	0.00	0.00	5.56
4,000,000-5,000,000	596	2.03	0.02	0.49	0.31	0.00	0.00	0.00	0.00	0.32
5,000,000-6,000,000	1489	6.19	0.07	1.51	0.94	0.00	0.01	0.00	0.00	2.01
6,000,000-7,000,000	298	1.46	0.02	0.36	0.22	0.00	0.00	0.00	0.00	0.08
7,000,000-8,000,000	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000,000-9,000,000	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000,000-10,000,000	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10,000,000-20,000,000	596	6.76	0.08	1.65	1.03	0.01	0.01	0.00	0.01	0.32