ATTACHMENT A – PART A

KNOLLS ATOMIC POWER LABORATORY
KESSELRING SITE
WEST MILTON, NEW YORK

EPA ID NUMBER: NY5890008993

PERMIT NUMBER: 5-4142-00005/00049

United States Environmental Protection Agency
RCRA SUBTITLE C SITE IDENTIFICATION FORM

1. Reason for Submittal (Select only one.)

☐	Obtaining or updating an EPA ID number for on-going regulated activities (Items 10-17 below) that will continue for a period of time.
☐	Submitting as a component of the Hazardous Waste Report for _____ (Reporting Year)
	☐ Site was a TSD facility, a reverse distributor, and/or generator of ≥ 1,000 kg of non-acute hazardous waste, > 1 kg of acute hazardous waste, or > 100 kg of acute hazardous waste spill cleanup in **one or more months of the reporting year** (or State equivalent LQG regulations)
☐	Notifying that regulated activity is no longer occurring at this Site
☐	Obtaining or updating an EPA ID number for conducting Electronic Manifest Broker activities
☑	Submitting a new or revised Part A (permit) Form

2. Site EPA ID Number

N	Y	5	8	9	0	0	0	8	9	9	3

3. Site Name

U.S.D.O.E. Knolls Atomic Power Laboratory (KAPL) - Kesselring Site

4. Site Location Address

Street Address	**350 Atomic Project Road**				
City, Town, or Village	**West Milton**			County	**Saratoga**
State	**N.Y.**	Country	**United States**	Zip Code	**12020-2817**
Latitude	**43.039753019546986**	Longitude	**-73.95280339701158**	☐ Use Lat/Long as Primary Address	

5. Site Mailing Address ☐ Same as Location Street Address

Street Address	**P. O. Box 1072**				
City, Town, or Village	**Schenectady**				
State	**N.Y.**	Country	**United States**	Zip Code	**12301-1072**

6. Site Land Type

☐ Private ☐ County ☐ District ☑ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

7. North American Industry Classification System (NAICS) Code(s) for the Site (at least 5-digit codes)

A. (Primary) **541715**	C.
B.	D.

8. Site Contact Information

☐ Same as Location Address

First Name **David**	MI **A**	Last Name **Delwiche**
Title **Program Manager,Environment Safety and Health**		
Street Address **P. O. Box 1069**		
City, Town, or Village **Schenectady**		
State **N.Y.**	Country **United States**	Zip Code **12301-1069**
Email **david.delwiche@nrp.doe.gov**		
Phone **518-395-6366**	Ext **N/A**	Fax **518-395-7314**

9. Legal Owner and Operator of the Site

A. Name of Site's Legal Owner

☐ Same as Location Address

Full Name **USDOE as administered by NRLFO**	Date Became Owner (mm/dd/yyyy) **5/10/1949**

Owner Type

☐ Private ☐ County ☐ District ☑ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

Street Address **P.O. Box 1069**		
City, Town, or Village **Schenectady**		
State **N.Y.**	Country **United States**	Zip Code **12301-1069**
Email **david.delwiche@nrp.doe.gov**		
Phone **518-395-6366**	Ext **N/A**	Fax **518-395-7314**
Comments		

B. Name of Site's Legal Operator

☐ Same as Location Address

Full Name **Fluor Marine Propulsion, LLC (FMP)**	Date Became Operator (mm/dd/yyyy) **10/1/2018**

Operator Type

☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

Street Address **P.O. Box 1072**		
City, Town, or Village **Schenectady**		
State **N.Y.**	Country **United States**	Zip Code **12301-1072**
Email **William.Johnson@unnpp.gov**		
Phone **518-884-1237**	Ext **N/A**	Fax **518-884-1811**
Comments		

10. Type of Regulated Waste Activity (at your site)

Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities

☑ Y ☐ N	1. Generator of Hazardous Waste—If "Yes", mark only one of the following—a, b, c	
☑	a. LQG	-Generates, in any calendar month, 1,000 kg/mo (2,200 lb/mo) or more of non-acute hazardous waste (includes quantities imported by importer site); or - Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lb/mo) of acute hazardous waste; or - Generates, in any calendar month or accumulates at any time, more than 100 kg/mo (220 lb/mo) of acute hazardous spill cleanup material.
☐	b. SQG	100 to 1,000 kg/mo (220-2,200 lb/mo) of non-acute hazardous waste and no more than 1 kg (2.2 lb) of acute hazardous waste and no more than 100 kg (220 lb) of any acute hazardous spill cleanup material.
☐	c. VSQG	Less than or equal to 100 kg/mo (220 lb/mo) of non-acute hazardous waste.
☐ Y ☑ N	2. Short-Term Generator (generates from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section. *Note: If "Yes", you MUST indicate that you are a Generator of Hazardous Waste in Item 10.A.1 above.*	
☑ Y ☐ N	3. Treater, Storer or Disposer of Hazardous Waste—Note: Part B of a hazardous waste permit is required for these activities.	
☐ Y ☑ N	4. Receives Hazardous Waste from Off-site	
☐ Y ☑ N	5 Recycler of Hazardous Waste	
☐	a. Recycler who stores prior to recycling	
☐	b. Recycler who does not store prior to recycling	
☐ Y ☑ N	6. Exempt Boiler and/or Industrial Furnace—If "Yes", mark all that apply.	
☐	a. Small Quantity On-site Burner Exemption	
☐	b. Smelting, Melting, and Refining Furnace Exemption	

B. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g. D001, D003, F007, U112). Use an additional page if more spaces are needed.

D001	**D002**	**D003**	**D004**	**D005**	**D006**	**D007**
D008	**D009**	**D010**	**D011**	**D018**	**D019**	**D022**
D023	**D024**	**D025**	**D026**	**D028**	**D029**	**D035**
D036	**D038**	**D039**	**D040**	**D042**	**D043**	**F001**
F002	**F003**	**F004**	**F005**	**F027**	**P012**	**P015**

C. Waste Codes for State Regulated (non-Federal) Hazardous Wastes. Please list the waste codes of the State hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.

B001	**B002**	**B003**	**B004**	**B005**	**B006**	**B007**

Attachment 1 - Continuation of Item 10.B
RCRA SUBTITLE C SITE IDENTIFICATION FORM

Description of Hazardous Wastes – Waste Codes for Federally Regulated Hazardous Wastes

P018	P021	P022	P028	P030	P042	P068
P073	P075	P078	P081	P098	P104	P105
P106	P119	U002	U009	U019	U028	U031
U032	U043	U044	U051	U052	U057	U075
U076	U077	U078	U080	U092	U095	U112
U117	U122	U123	U133	U134	U140	U144
U151	U154	U159	U161	U165	U170	U188
U196	U201	U202	U204	U210	U211	U218
U219	U220	U223	U226	U227	U228	U239
U359						

11. Additional Regulated Waste Activities (NOTE: Refer to your State regulations to determine if a separate permit is required.)

A. Other Waste Activities

☐ Y ☑ N	1. Transporter of Hazardous Waste—If "Yes", mark all that apply.
☐	a. Transporter
☐	b. Transfer Facility (at your site)
☐ Y ☑ N	2. Underground Injection Control
☐ Y ☑ N	3. United States Importer of Hazardous Waste
☐ Y ☑ N	4. Recognized Trader—If "Yes", mark all that apply.
☐	a. Importer
☐	b. Exporter
☐ Y ☑ N	5. Importer/Exporter of Spent Lead-Acid Batteries (SLABs) under 40 CFR 266 Subpart G—If "Yes", mark all that apply.
☐	a. Importer
☐	b. Exporter

B. Universal Waste Activities

☐ Y ☑ N	1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) - If "Yes" mark all that apply. Note: Refer to your State regulations to determine what is regulated.
☐	a. Batteries
☐	b. Pesticides
☐	c. Mercury containing equipment
☐	d. Lamps
☐	e. Aerosol Cans
☐	f. Other (specify) _____
☐	g. Other (specify) _____
☐ Y ☑ N	2. Destination Facility for Universal Waste Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities

☐ Y ☑ N	1. Used Oil Transporter—If "Yes", mark all that apply.
☐	a. Transporter
☐	b. Transfer Facility (at your site)
☐ Y ☑ N	2. Used Oil Processor and/or Re-refiner—If "Yes", mark all that apply.
☐	a. Processor
☐	b. Re-refiner
☐ Y ☑ N	3. Off-Specification Used Oil Burner
☐ Y ☑ N	4. Used Oil Fuel Marketer—If "Yes", mark all that apply.
☐	a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
☐	b. Marketer Who First Claims the Used Oil Meets the Specifications

D. Pharmaceutical Activities

☐ Y ☑ N	1. Operating under 40 CFR Part 266, Subpart P for the management of hazardous waste pharmaceuticals—if "Yes", mark only one. Note: See the item-by-item instructions for definitions of healthcare facility and reverse distributor.
☐	a. Healthcare Facility
☐	b. Reverse Distributor
☐ Y ☑ N	2. Withdrawing from operating under 40 CFR Part 266, Subpart P for the management of hazardous waste pharmaceuticals. Note: You may only withdraw if you are a healthcare facility that is a VSQG for all of your hazardous waste, including hazardous waste pharmaceuticals.

12. Eligible Academic Entities with Laboratories—Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262, Subpart K.

☐ Y ☑ N	A. Opting into or currently operating under 40 CFR Part 262, Subpart K for the management of hazardous wastes in laboratories— If "Yes", mark all that apply. Note: See the item-by-item instructions for definitions of types of eligible academic entities.
☐	1. College or University
☐	2. Teaching Hospital that is owned by or has a formal written affiliation with a college or university
☐	3. Non-profit Institute that is owned by or has a formal written affiliation with a college or university
☐ Y ☑ N	B. Withdrawing from 40 CFR Part 262, Subpart K for the management of hazardous wastes in laboratories.

13. Episodic Generation

☐ Y ☑ N	Are you an SQG or VSQG generating hazardous waste from a planned or unplanned episodic event, lasting no more than 60 days, that moves you to a higher generator category. If "Yes", you must fill out the Addendum for Episodic Generator.

14. LQG Consolidation of VSQG Hazardous Waste

☐ Y ☑ N	Are you an LQG notifying of consolidating VSQG Hazardous Waste Under the Control of the Same Person pursuant to 40 CFR 262.17(f)? If "Yes", you must fill out the Addendum for LQG Consolidation of VSQG hazardous waste.

15. Notification of LQG Site Closure for a Central Accumulation Area (CAA) (optional) OR Entire Facility (required)

☐ Y ☑ N	LQG Site Closure of a Central Accumulation Area (CAA) or Entire Facility.
	A. ☐ Central Accumulation Area (CAA) or ☐ Entire Facility
	B. Expected closure date: _____ mm/dd/yyyy
	C. Requesting new closure date: _____ mm/dd/yyyy
	D. Date closed : _____ mm/dd/yyyy ☐ 1. In compliance with the closure performance standards 40 CFR 262.17(a)(8) ☐ 2. Not in compliance with the closure performance standards 40 CFR 262.17(a)(8)

16. Notification of Hazardous Secondary Material (HSM) Activity

☐ Y ☑ N	Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 260.30, 40 CFR 261.4(a)(23), (24), (25), or (27)? If "Yes", you must fill out the Addendum to the Site Identification Form for Managing Hazardous Secondary Material.

17. Electronic Manifest Broker

☐ Y ☑ N	Are you notifying as a person, as defined in 40 CFR 260.10, electing to use the EPA electronic manifest system to obtain, complete, and transmit an electronic manifest under a contractual relationship with a hazardous waste generator?

18. Comments (include item number for each comment)

Item 10.B. Waste Codes for Federally Regulated Hazardous Wastes - see attached page 3a.

19. Certification I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations. **Note: For the RCRA Hazardous Waste Part A permit Application, all owners and operators must sign (see 40 CFR 270.10(b) and 270.11)**.

Signature of legal owner, operator or authorized representative	Date (mm/dd/yyyy)
Jay P. Showman Digitally signed by Jay P. Showman Date: 2023.06.14 07:51:38 -04'00'	06/14/2023
Printed Name (First, Middle Initial Last) **Jay P. Showman**	Title **Manager, NRLFO**
Email **jay.showman@nrp.doe.gov**	

Signature of legal owner, operator or authorized representative	Date (mm/dd/yyyy)
WILLIAM JOHNSON Digitally signed by johnsw@nnpp.gov (1000000209) Date: 2023.06.12 15:39:10 -04'00'	06/12/2023
Printed Name (First, Middle Initial Last) **William J. Johnson**	Title **Site Director, Kesselring Site**
Email **William.Johnson@unnpp.gov**	

United States Environmental Protection Agency

HAZARDOUS WASTE PERMIT PART A FORM

1. Facility Permit Contact

First Name	**David**	MI	**A**	Last Name	**Delwiche**
Title	**Program Manager,Environment Safety and Health**				
Email	**david.delwiche@nrp.doe.gov**				
Phone	**518-395-6366**	Ext	**N/A**	Fax	**518-395-7314**

2. Facility Permit Contact Mailing Address

Street Address	**P.O. Box 1069**	
City, Town, or Village	**Schenectady**	
State **N.Y.**	Country **United States**	Zip Code **12301-1069**

3. Facility Existence Date (mm/dd/yyyy)

11/19/1980

4. Other Environmental Permits

A. Permit Type	B. Permit Number	C. Description
N	NY0005843	New York State (NYS) - SPDES Permit
E	GR-042-4	Grease Trap Permit
E	A-05	Saratoga Co. Wastewater Sludge Permit
E	5-414506	NYS - Petroleum Bulk Storage Certificate
E	5-000070	NYS - Chemical Bulk Storage Certificate
E	KAPL-788-01	EPA Radioactive Air Emission Permit
	Seelitem 11	

5. Nature of Business

The Knolls Atomic Power Laboratory (KAPL) - Kesselring Site is operated under contract with the Department of Energy as administered by Naval Reactors Laboratory Field Office (NRLFO). The principal function of the Kesselring Site is research and development of Naval Nuclear Power Plants. In addition, the Kesselring Site is used for training of personnel in the operation of these plants.

Item 4. Other Environmental Permits		
A. Permit Type	B. Permit Number	C. Description
E	5-4142-00005/00073	Air Facility Registration Certificate
E	5-4142-00005/00090	Water Withdrawal Permit (WWR0000875)
E	24089	NYS – Nuisance Beaver Permit
R	5-4142-00005/00049	RCRA Permit
U	09NY09104001	Underground Injection Control Site Registration
N	GP-0-20-001	NYS – SPDES Stormwater Construction (NYR11H979)

6. Process Codes and Design Capacities

Line Number		A. Process Code			B. Process Design Capacity		C. Process Total Number of Units	D. Unit Name
					(1) Amount	(2) Unit of Measure		
X	1	S	0	1	19,580.0	G	001	Building 75
X	2	S	0	1	7,550.0	G	001	Building 91

7. Description of Hazardous Wastes (Enter codes for Items 7.A, 7.C and 7.D(1))

Line No.		A. EPA Hazardous Waste No.				B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes								
								(1) Process Codes								(2) Process Description (if code is not entered in 7.D1))
						See Item	11									

8. Map

Attach to this application a topographical map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all spring, rivers, and other surface water bodies in this map area. See instructions for precise requirements.

9. Facility Drawing

All existing facilities must include a scale drawing of the facility. See instructions for more detail.

10. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, and disposal areas; and sites of future storage, treatment, or disposal areas. See instructions for more detail.

11. Comments

Item 4. Other Environmental Permits - see attached page 7a.
tem 7. Description of Hazardous Wastes - see attached pages 8a to 8g.
Item 8. Map - see attached Figures A-1 & A-3.
Item 9. Facility Drawing - see attached Figure A-2.
Item 10. Photographs - see attached pages A-22 to A-25.

Item 7. Description of Hazardous Wastes (continued)																		
Line No.	A. EPA Hazardous Waste No.				B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes											
							(1) Process Codes											(2) Process Description (if code is not entered in 7.D1)
1	B	0	0	1*	1	P	S	0	1									
2	B	0	0	2*	1	P	S	0	1									
3	B	0	0	3*	1	P	S	0	1									
4	B	0	0	4*	1	P	S	0	1									
5	B	0	0	5*	1	P	S	0	1									
6	B	0	0	6*	1	P	S	0	1									
7	B	0	0	7*	10,000	P	S	0	1									
8	D	0	0	1*	1,500	P	S	0	1									
9	D	0	0	2*	500	P	S	0	1									
10	D	0	0	3*	1	P	S	0	1									
11	D	0	0	4*	1	P	S	0	1									
12	D	0	0	5*	10	P	S	0	1									
13	D	0	0	6*	870	P	S	0	1									
14	D	0	0	7*	140	P	S	0	1									
15	D	0	0	8*	90,000	P	S	0	1									
16	D	0	0	9*	1,000	P	S	0	1									
17	D	0	1	0*	10	P	S	0	1									
18	D	0	1	1*	2,000	P	S	0	1									
19	D	0	1	8*	250	P	S	0	1									
20	D	0	1	9	5	P	S	0	1									
21	D	0	2	2	1	P	S	0	1									
22	D	0	2	3	50	P	S	0	1									
23	D	0	2	4	50	P	S	0	1									
24	D	0	2	5	50	P	S	0	1									
25	D	0	2	6	1	P	S	0	1									
26	D	0	2	8*	1	P	S	0	1									
27	D	0	2	9*	1	P	S	0	1									
28	D	0	3	5*	50	P	S	0	1									
29	D	0	3	6*	1	P	S	0	1									
30	D	0	3	8	5	P	S	0	1									
31	D	0	3	9*	5	P	S	0	1									
32	D	0	4	0*	5	P	S	0	1									
33	D	0	4	2	1	P	S	0	1									
34	D	0	4	3	1	P	S	0	1									
35	F	0	0	1*	5	P	S	0	1									
36	F	0	0	2*	5	P	S	0	1									
37	F	0	0	3*	50	P	S	0	1									
38	F	0	0	4*	1	P	S	0	1									
39	F	0	0	5*	1	P	S	0	1									
40	F	0	2	7	1	P	S	0	1									

Item 7. Description of Hazardous Wastes (continued)																		
Line No.	A. EPA Hazardous Waste No.				B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes											
							(1) Process Codes											(2) Process Description (if code is not entered in 7.D1)
42	P	0	1	2	1	P	S	0	1									
43	P	0	1	5	1	P	S	0	1									
44	P	0	1	8	1	P	S	0	1									
45	P	0	2	1	1	P	S	0	1									
46	P	0	2	2	1	P	S	0	1									
47	P	0	2	8	1	P	S	0	1									
48	P	0	3	0	5	P	S	0	1									
49	P	0	4	2	1	P	S	0	1									
50	P	0	6	8	1	P	S	0	1									
51	P	0	7	3	1	P	S	0	1									
52	P	0	7	5	1	P	S	0	1									
53	P	0	7	8	1	P	S	0	1									
54	P	0	8	1	1	P	S	0	1									
55	P	0	9	8	1	P	S	0	1									
56	P	1	0	4	1	P	S	0	1									
57	P	1	0	5	1	P	S	0	1									
58	P	1	0	6	1	P	S	0	1									
59	P	1	1	9*	1	P	S	0	1									
60	U	0	0	2*	20	P	S	0	1									
61	U	0	0	9	1	P	S	0	1									
62	U	0	1	9	1	P	S	0	1									
63	U	0	2	8	1	P	S	0	1									
64	U	0	3	1	1	P	S	0	1									
65	U	0	3	2	1	P	S	0	1									
66	U	0	4	3	1	P	S	0	1									
67	U	0	4	4*	1	P	S	0	1									
68	U	0	5	1	1	P	S	0	1									
69	U	0	5	2	1	P	S	0	1									
70	U	0	5	7	1	P	S	0	1									
71	U	0	7	5	1	P	S	0	1									
72	U	0	7	6	1	P	S	0	1									
73	U	0	7	7	1	P	S	0	1									
74	U	0	7	8	1	P	S	0	1									
75	U	0	8	0	1	P	S	0	1									
76	U	0	9	2	1	P	S	0	1									
77	U	0	9	5	1	P	S	0	1									
78	U	1	1	2*	1	P	S	0	1									
79	U	1	1	7	1	P	S	0	1									
80	U	1	2	2	10	P	S	0	1									
81	U	1	2	3	1	P	S	0	1									

Item 7. Description of Hazardous Wastes (continued)																	
Line No.	A. EPA Hazardous Waste No.				B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes										
							(1) Process Codes										(2) Process Description (if code is not entered in 7.D1)
82	U	1	3	3	5	P	S	0	1								
83	U	1	3	4*	5	P	S	0	1								
84	U	1	4	0	5	P	S	0	1								
85	U	1	4	4	1	P	S	0	1								
86	U	1	5	1*	20	P	S	0	1								
87	U	1	5	4*	1	P	S	0	1								
88	U	1	5	9*	1	P	S	0	1								
89	U	1	6	1	1	P	S	0	1								
90	U	1	6	5	1	P	S	0	1								
91	U	1	7	0	1	P	S	0	1								
92	U	1	8	8	1	P	S	0	1								
93	U	1	9	6	1	P	S	0	1								
94	U	2	0	1	1	P	S	0	1								
95	U	2	0	2	1	P	S	0	1								
96	U	2	0	4	1	P	S	0	1								
97	U	2	1	0*	10	P	S	0	1								
98	U	2	1	1	1	P	S	0	1								
99	U	2	1	8	1	P	S	0	1								
100	U	2	1	9	1	P	S	0	1								
101	U	2	2	0*	20	P	S	0	1								
102	U	2	2	3	1	P	S	0	1								
103	U	2	2	6*	10	P	S	0	1								
104	U	2	2	7	10	P	S	0	1								
105	U	2	2	8*	10	P	S	0	1								
106	U	2	3	9	25	P	S	0	1								
107	U	3	5	9	1	P	S	0	1								
Routine Waste Combinations																	
108	B	0	0	7*	3	P	S	0	1								
	D	0	0	7													Included With Above
109	B	0	0	7*	250	P	S	0	1								
	D	0	0	6													Included With Above
110	B	0	0	7*	5	P	S	0	1								
	D	0	0	5													Included With Above
	D	0	0	6													Included With Above
	D	0	0	7													Included With Above
	D	0	0	8													Included With Above
111	B	0	0	7*	15,000	P	S	0	1								
	D	0	0	5													Included With Above
	D	0	0	6													Included With Above
	D	0	0	7													Included With Above

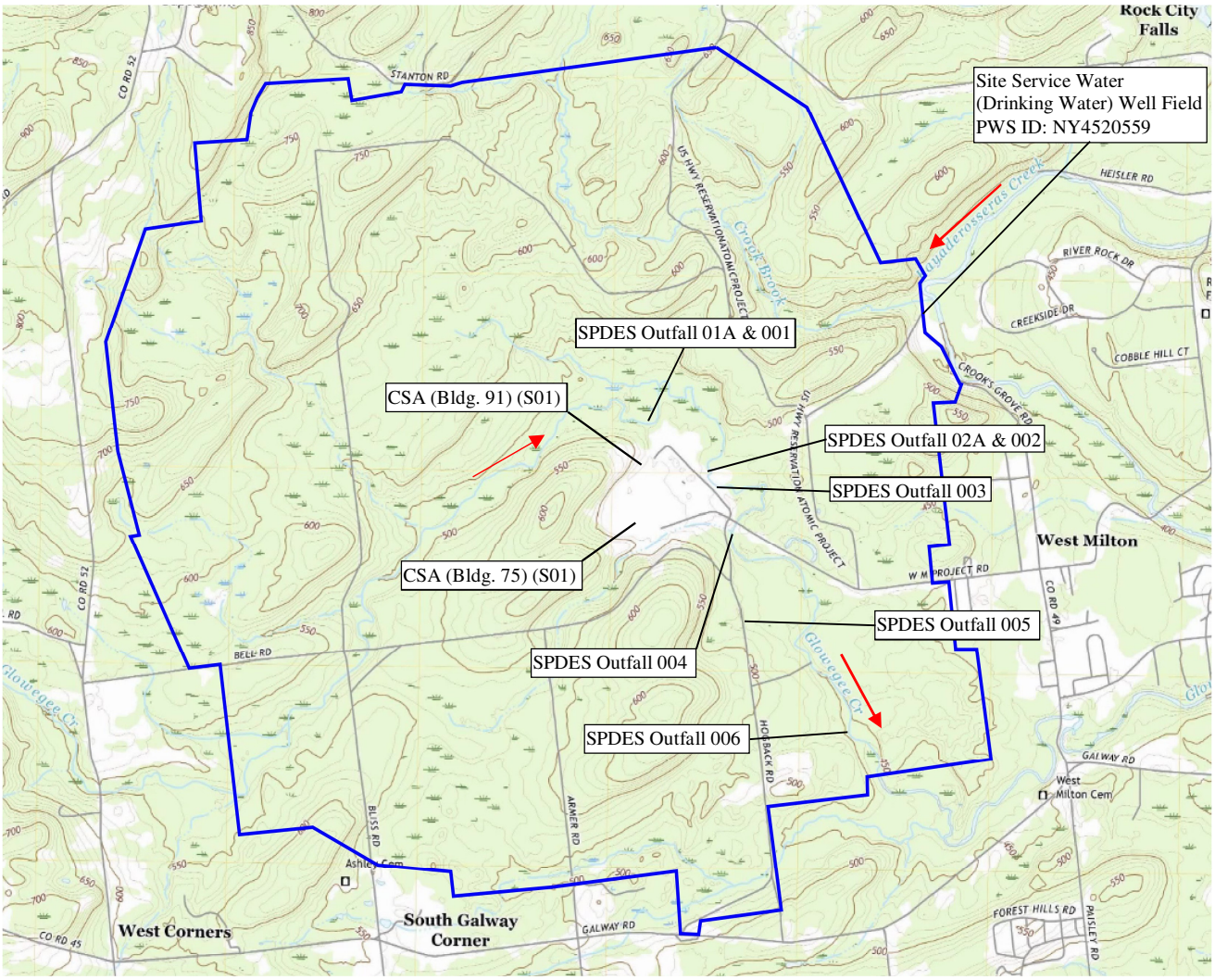
Item 7. Description of Hazardous Wastes (continued)																	
Line No.	A. EPA Hazardous Waste No.				B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes										
							(1) Process Codes										(2) Process Description (if code is not entered in 7.D1)
	D	0	0	8													Included With Above
	D	0	1	0													Included With Above
112	B	0	0	7*	430	P	S	0	1								
	D	0	0	6													Included With Above
	D	0	0	7													Included With Above
	D	0	0	8													Included With Above
113	B	0	0	7*	1,830	P	S	0	1								
	D	0	0	6													Included With Above
	D	0	0	7													Included With Above
	D	0	0	8													Included With Above
	D	0	1	0													Included With Above
114	B	0	0	7*	900	P	S	0	1								
	D	0	0	6													Included With Above
	D	0	0	8													Included With Above
115	B	0	0	7*	2,280	P	S	0	1								
	D	0	0	7													Included With Above
	D	0	0	8													Included With Above
116	B	0	0	7*	1,000	P	S	0	1								
	D	0	0	8													Included With Above
117	D	0	0	1	210	P	S	0	1								
	D	0	0	2													Included With Above
118	D	0	0	1	520	P	S	0	1								
	D	0	0	5													Included With Above
119	D	0	0	1	1	P	S	0	1								
	D	0	0	5													Included With Above
	D	0	3	5													Included With Above
120	D	0	0	1	10	P	S	0	1								
	D	0	0	6													Included With Above
	D	0	0	7													Included With Above
	D	0	0	8													Included With Above
121	D	0	0	1	10	P	S	0	1								
	D	0	0	6													Included With Above
	D	0	0	8													Included With Above
122	D	0	0	1	1	P	S	0	1								
	D	0	0	7													Included With Above
123	D	0	0	1	5	P	S	0	1								
	D	0	0	7													Included With Above
	D	0	0	8													Included With Above
124	D	0	0	1	15	P	S	0	1								
	D	0	0	8													Included With Above

Item 7. Description of Hazardous Wastes (continued)																	
Line No.	A. EPA Hazardous Waste No.				B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes										
							(1) Process Codes										(2) Process Description (if code is not entered in 7.D1)
125	D	0	0	1	15	P	S	0	1								
	D	0	0	8													Included With Above
	D	0	0	9													Included With Above
126	D	0	0	1	140	P	S	0	1								
	D	0	1	8													Included With Above
127	D	0	0	1	1	P	S	0	1								
	D	0	1	9													Included With Above
128	D	0	0	1	1	P	S	0	1								
	D	0	2	2													Included With Above
129	D	0	0	1	10	P	S	0	1								
	D	0	3	5													Included With Above
130	D	0	0	1	1	P	S	0	1								
	D	0	1	8													Included With Above
	D	0	3	5													Included With Above
131	D	0	0	1	5	P	S	0	1								
	F	0	0	2													Included With Above
132	D	0	0	1	120	P	S	0	1								
	F	0	0	3													Included With Above
133	D	0	0	1	1	P	S	0	1								
	F	0	0	5													Included With Above
134	D	0	0	1	1	P	S	0	1								
	U	0	3	1													Included With Above
135	D	0	0	2	100	P	S	0	1								
	D	0	0	4													Included With Above
136	D	0	0	2	25	P	S	0	1								
	D	0	0	6													Included With Above
137	D	0	0	2	1	P	S	0	1								
	D	0	0	6													Included With Above
	D	0	0	7													Included With Above
	D	0	0	8													Included With Above
138	D	0	0	2	185	P	S	0	1								
	D	0	0	6													Included With Above
	D	0	0	8													Included With Above
139	D	0	0	2	5	P	S	0	1								
	D	0	0	8													Included With Above
140	D	0	0	2	1	P	S	0	1								
	D	0	0	9													Included With Above
141	D	0	0	2	75	P	S	0	1								
	D	0	1	0													Included With Above
142	D	0	0	2	1	P	S	0	1								

Item 7. Description of Hazardous Wastes (continued)																
Line No.	A. EPA Hazardous Waste No.				B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes									
							(1) Process Codes									(2) Process Description (if code is not entered in 7.D1)
	D	0	1	1												Included With Above
143	D	0	0	2	1	P	S	0	1							
	D	0	0	9												Included With Above
	D	0	1	1												Included With Above
144	D	0	0	5*	1	P	S	0	1							
	D	0	0	6												Included With Above
	D	0	0	7												Included With Above
	D	0	0	8												Included With Above
145	D	0	0	5*	1	P	S	0	1							
	D	0	0	6												Included With Above
	D	0	0	7												Included With Above
	D	0	0	8												Included With Above
	D	0	1	0												Included With Above
146	D	0	0	5*	5	P	S	0	1							
	D	0	2	6												Included With Above
147	D	0	0	6	1	P	S	0	1							
	D	0	0	7												Included With Above
148	D	0	0	6*	920	P	S	0	1							
	D	0	0	7												Included With Above
	D	0	0	8												Included With Above
149	D	0	0	6*	10	P	S	0	1							
	D	0	0	7												Included With Above
	D	0	0	8												Included With Above
	D	0	1	0												Included With Above
150	D	0	0	6*	2,900	P	S	0	1							
	D	0	0	8												Included With Above
151	D	0	0	6*	30	P	S	0	1							
	D	0	1	0												Included With Above
152	D	0	0	2*	150	P	S	0	1							
	D	0	0	7												Included With Above
153	D	0	0	7*	1,880	P	S	0	1							
	D	0	0	8												Included With Above
154	D	0	0	7*	5	P	S	0	1							
	D	0	0	8												Included With Above
	D	0	1	8												Included With Above
155	D	0	0	7*	5	P	S	0	1							
	D	0	1	0												Included With Above
156	D	0	0	7*	1	P	S	0	1							
	D	0	1	1												Included With Above
157	D	0	0	8*	120	P	S	0	1							

Item 7. Description of Hazardous Wastes (continued)																	
Line No.	A. EPA Hazardous Waste No.				B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes										
							(1) Process Codes										(2) Process Description (if code is not entered in 7.D1)
	D	0	0	9													Included With Above
158	D	0	0	2	5	P	S	0	1								
	D	0	0	6													Included With Above
	D	0	0	9													Included With Above
159	D	0	0	9*	220	P	S	0	1								
	D	0	1	1													Included With Above
160	D	0	0	1	1	P	S	0	1								
	D	0	1	1													Included With Above
161	D	0	0	8*	5	P	S	0	1								
	D	0	1	8													Included With Above
162	D	0	3	5	1	P	S	0	1								
	F	0	0	3													Included With Above
	F	0	0	5													Included With Above
163	D	0	3	9	120	P	S	0	1								
	F	0	0	2													Included With Above
164	F	0	0	1	1	P	S	0	1								
	F	0	0	2													Included With Above
165	F	0	0	2	5	P	S	0	1								
	F	0	0	3													Included With Above
166	D	0	2	2	1	P	S	0	1								
	U	0	4	4													Included With Above
167	D	0	0	1	1	P	S	0	1								
	U	1	6	5													Included With Above

* These codes are more likely than others to be generated as mixed waste.



MAP FEATURES

- DISCHARGE POINTS (SPDES OUTFALLS)
- SITE SERVICE WATER INTAKES
- S01 – CONTAINER STORAGE AREA (CSA)

NOTE: There are numerous residential drinking water wells within ¼ mile of the 3,900 acre Kesselring Site. There are also several adjacent community water systems (e.g., trailer parks); however, excluding the Kesselring Site system, there are no other drinking water wells within the property boundary (near the active facility).

N

Scale: 1” = 2,000 Feet

Site Latitude: 43˚02’ 23”
Site Longitude: 73˚57’ 10”

Creek Flow Direction

Property Boundary

Figure A-1 KESSELRING SITE FACILITY MAP

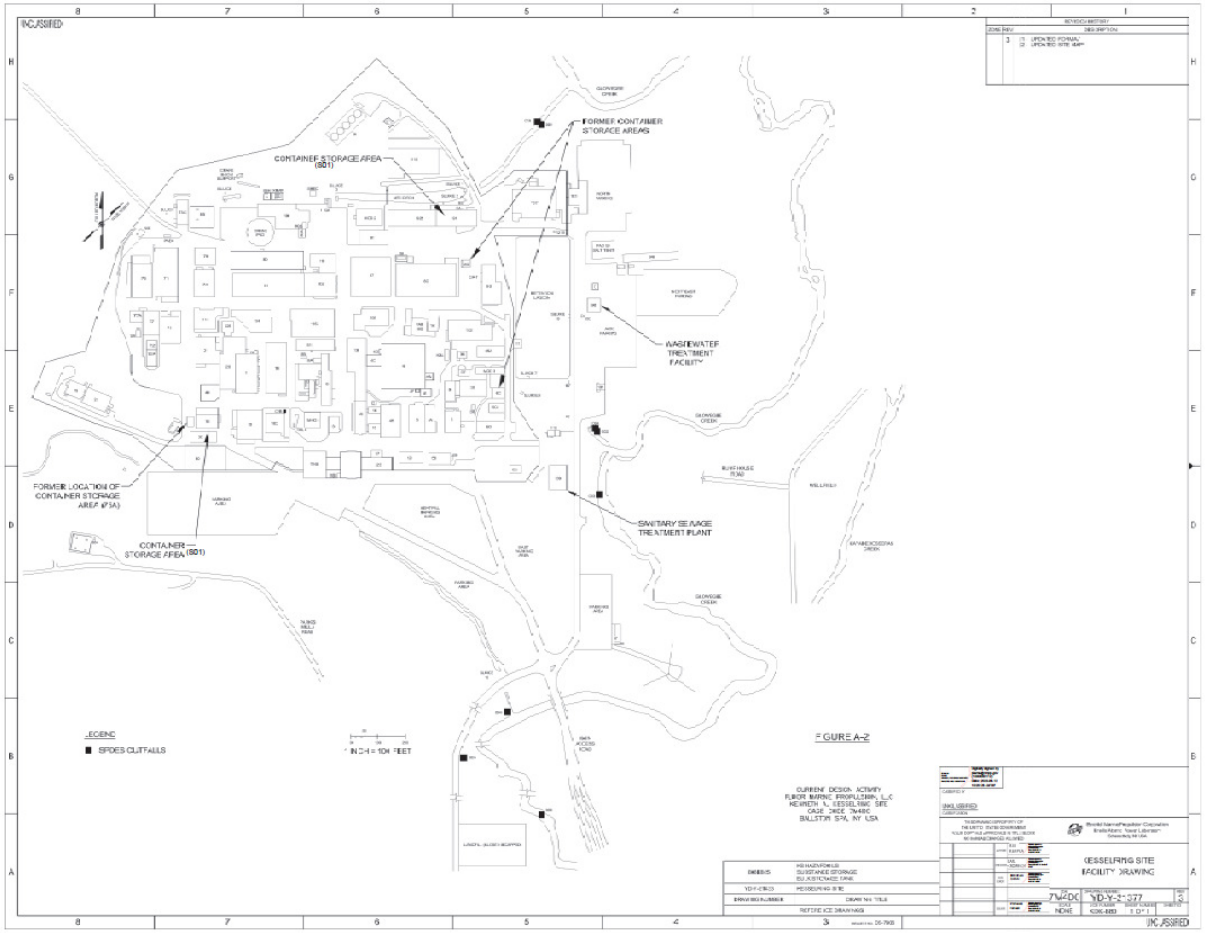
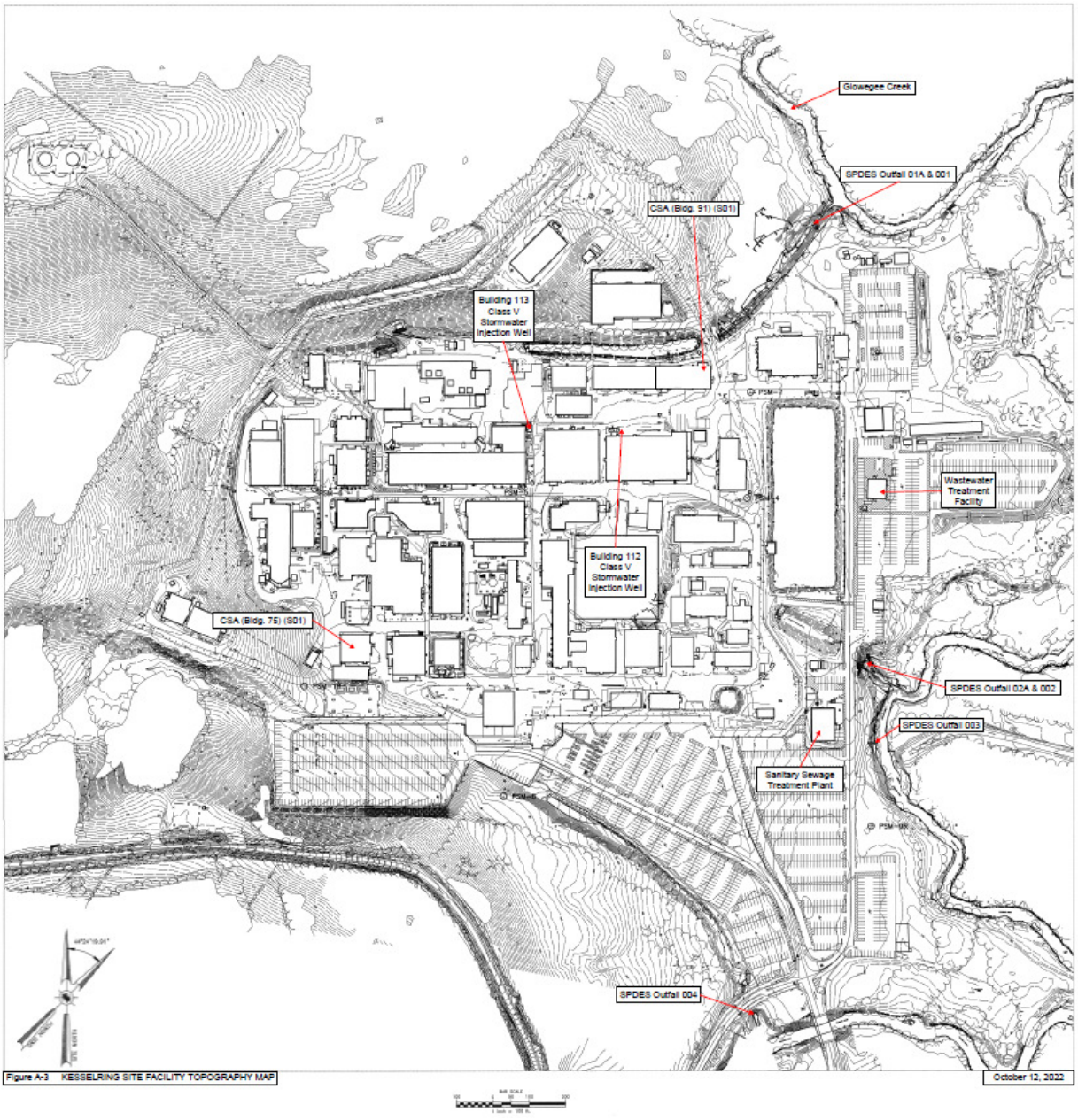


Figure A-2 KESSELRING SITE FACILITY DRAWING

NOTE: See Map Pocket for full size drawing.



MAP FEATURES **NOTE: Scale 1" = 100 Feet**

- DISCHARGE POINTS (SPDES OUTFALLS)
- S01 – CONTAINER STORAGE AREA (CSA)

Figure A-3 KESSELRING SITE FACILITY TOPOGRAPHIC MAP

NOTE: See Map Pocket for full size drawing.

BUILDING 75 EAST SIDE (EXTERIOR) (S01)
(UNCLASSIFIED)

10/12/2022

BUILDING 75 WEST SIDE (EXTERIOR) (S01)
(UNCLASSIFIED)

10/12/2022

BUILDING 75 NORTHWEST CORNER (INTERIOR) (S01)
(UNCLASSIFIED)

10/12/2022

BUILDING 75 SOUTHEAST CORNER (INTERIOR) (S01)
(UNCLASSIFIED)

10/12/2022

BUILDING 91 SOUTH WALL (EXTERIOR) (S01)
(UNCLASSIFIED)

10/18/2022

BUILDING 91 CONTAINER STORAGE AREA (S01) NORTHEAST CORNER
(UNCLASSIFIED)

09/22/2022

BUILDING 91 CONTAINER STORAGE AREA (LOOKING SOUTHEAST)
(FLAMMABLE LIQUIDS LOCKER) (S01)
(UNCLASSIFIED)

09/22/2022

BUILDING 91 CONTAINER STORAGE AREA (LOOKING SOUTH)
(INTERIOR OF FLAMMABLE LIQUIDS STORAGE) (S01)
(UNCLASSIFIED)

10/12/2022

ATTACHMENT B – FACILITY DESCRIPTION

In accordance with the regulatory requirements set forth in 40 CFR 270.14(b)(1), (10), (11), (19) and 6 NYCRR 373-1.5 (a)(2)(i), (x), (xi), (xix), and 2.2(j), a general facility description is provided for the Knolls Atomic Power Laboratory (KAPL) – Kesselring Site located in West Milton, New York.

B-1 GENERAL DESCRIPTION

B-1A Business Description

The Knolls Atomic Power Laboratory – Kenneth A. Kesselring Site (Kesselring Site) is operated under contract with the United Stated Department of Energy (DOE) – EPA ID No. NY5890008993; DEC Permit No. 5-4142-00005/00049.

The facility owner name and mailing address are:

United States Department of Energy
Naval Reactors Laboratory Field Office
P.O. Box 1069
Schenectady, New York 12301

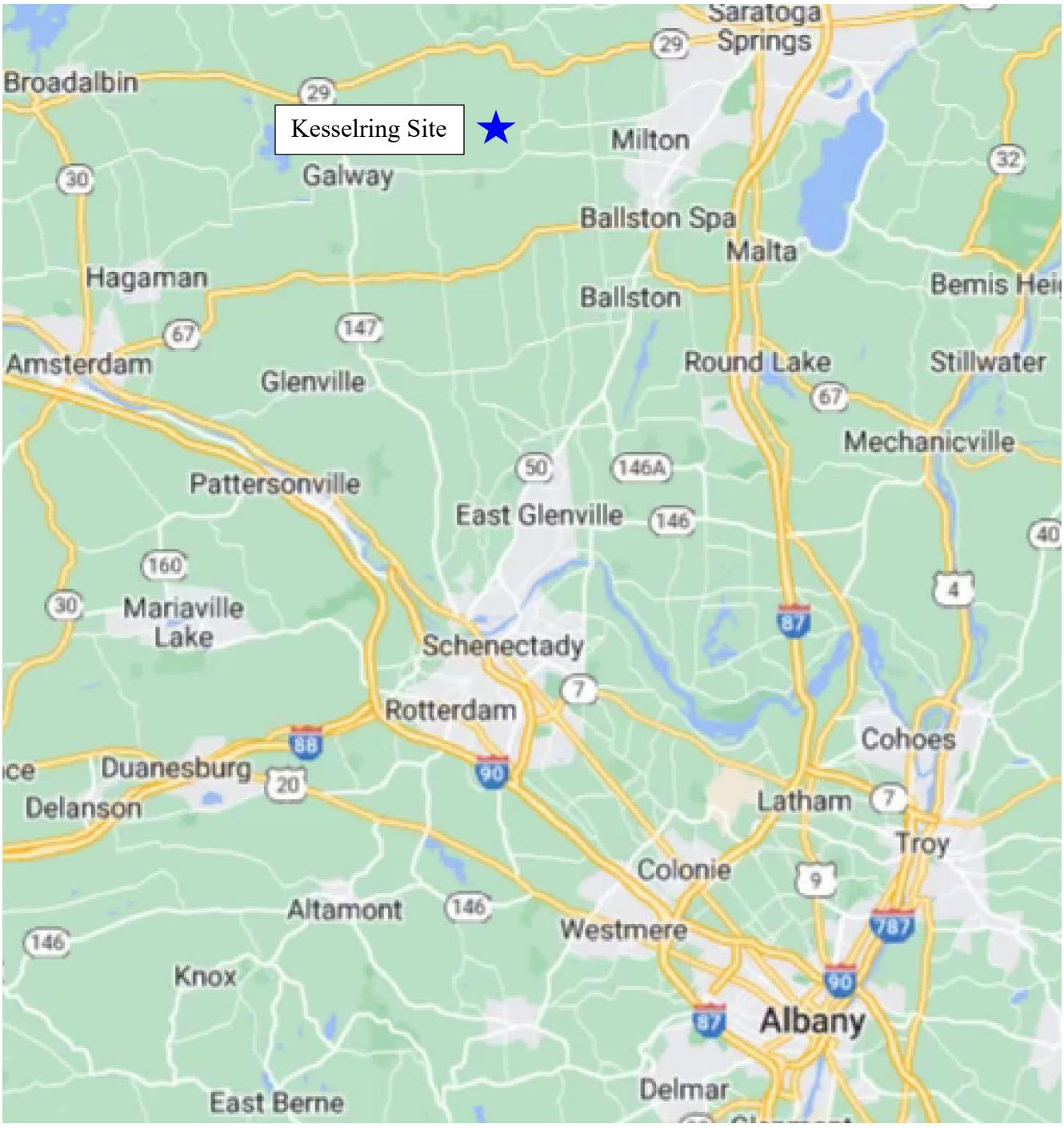
The facility operator name and location are:

Fluor Marine Propulsion (FMP) LLC
Knolls Atomic Power Laboratory – Kesselring Site
350 Atomic Project Road
West Milton, New York 12020

The facility contact is:

D. A. Delwiche, Program Manager
Environment, Safety, and Health
United States Department of Energy
Naval Reactors Laboratory Field Office
(518) 395-6366
david.delwiche@nrp.doe.gov

FIGURE B-1 – KESSELRING SITE LOCATION MAP



A location map for the Kesselring Site, latitude 43° 02' 23" longitude 73° 57' 10", is shown in Figure B-1. The facility, located near West Milton, New York, approximately seventeen miles north of the City of Schenectady, nine miles southwest of Saratoga Springs, and thirteen miles northeast of Amsterdam, is situated on 3,900 acres of land. The surrounding area is a rural, sparsely populated region of wooded lands through which flow the Glowegee Creek and several smaller streams that empty into the Kayaderosseras Creek.

The principal function at the facility is research and development in the design and operation of naval nuclear propulsion plants. Additionally, the Kesselring Site is used for the training of personnel in the operation of the naval nuclear propulsion plants. Presently located on the Site are two pressurized water naval nuclear propulsion plants and support facilities, including administrative offices, training facilities, equipment service buildings, a boiler house, cooling tower, and wastewater treatment facilities.

B-1B Operations Description

The use of hazardous materials at the Kesselring Site is strictly limited to the types and quantities essential for operation. Their use is by trained personnel, and the materials are monitored during use and storage to prevent exposure of workers and release to the environment. Transportation and disposal are limited to vendors operating under permits/licenses issued by the cognizant state and federal regulatory agencies. Information regarding the types of waste managed at the Kesselring Site can be found in Attachment C (Waste Characteristics). The Kesselring Site only generates, stores, and processes hazardous/mixed wastes it manages under the terms of this permit for shipment to off-site, licensed/permitted treatment, storage, or disposal facilities.

A limited number of Central Accumulation Areas (CAAs) (formerly referred to as ≤ 90-day accumulation areas) for hazardous/mixed wastes have been established in accordance with 6 NYCRR 373-1.1(d)(1)(iii) for waste storage prior to transfer to the Container Storage Areas (CSAs).

Hazardous/mixed wastes that are generated and stored at the Site for greater than 90 days are maintained in the Building 75 and 91 CSAs. The buildings are designed to completely contain spills utilizing curbing, trenches, sumps, or individual containments and are protected by fire suppression systems.

Secondary containment within the CSA in Building 75 allows the storage of a maximum of 19,580 gallons of waste. Containers stored within the secondary containment system meet the definition of "container" specified in 6 NYCRR 370.2(b)(33) and 40 CFR 260.10. The Building 91 CSA, which is divided into two areas, has the capacity to store a maximum of 7,550 gallons (combined capacity of the two areas) of mixed waste within its secondary containment systems. A minimum of two (2) feet aisle space width between rows of containers will also be maintained to facilitate adequate inspection of all contents.

All CSAs are located within the security fence. The CSAs also remain locked when not in use and there are appropriate warning signs at all entrances to the facilities. The locations of the CSAs on-site are shown on the facility layout Figure B-3.

B-2 TOPOGRAPHIC MAP

B-2A General Requirements

Figures A-3 and B-2 through B-6 are provided in accordance with 40 CFR 270.14 (b)(19), and 6 NYCRR 373-1.5(a)(2)(xix). Additional maps and drawings are also provided in the Part A section and Attachment G (Contingency Plan). Map Figure B-2 shows the layout of the Kesselring Site storm and sanitary sewer lines. Map Figure B-3 shows the active portion of the Kesselring Site and typical transportation routes (approximate scale 0.5 inch – 200 feet). A north arrow is provided for orientation on all maps.

Map Figure B-4 is a United States Geological Survey (USGS) based map, produced by the United States Department of Interior. This map, dated 2019, includes the entire facility and an extended area beyond the Site's boundary to illustrate the surrounding land use and surface waters. The map includes contour intervals of ten feet, sufficient to show surface water flow around the Site’s operations. Due to the large size of the Site, this map with a scale of one inch equal to 2,000 feet was utilized.

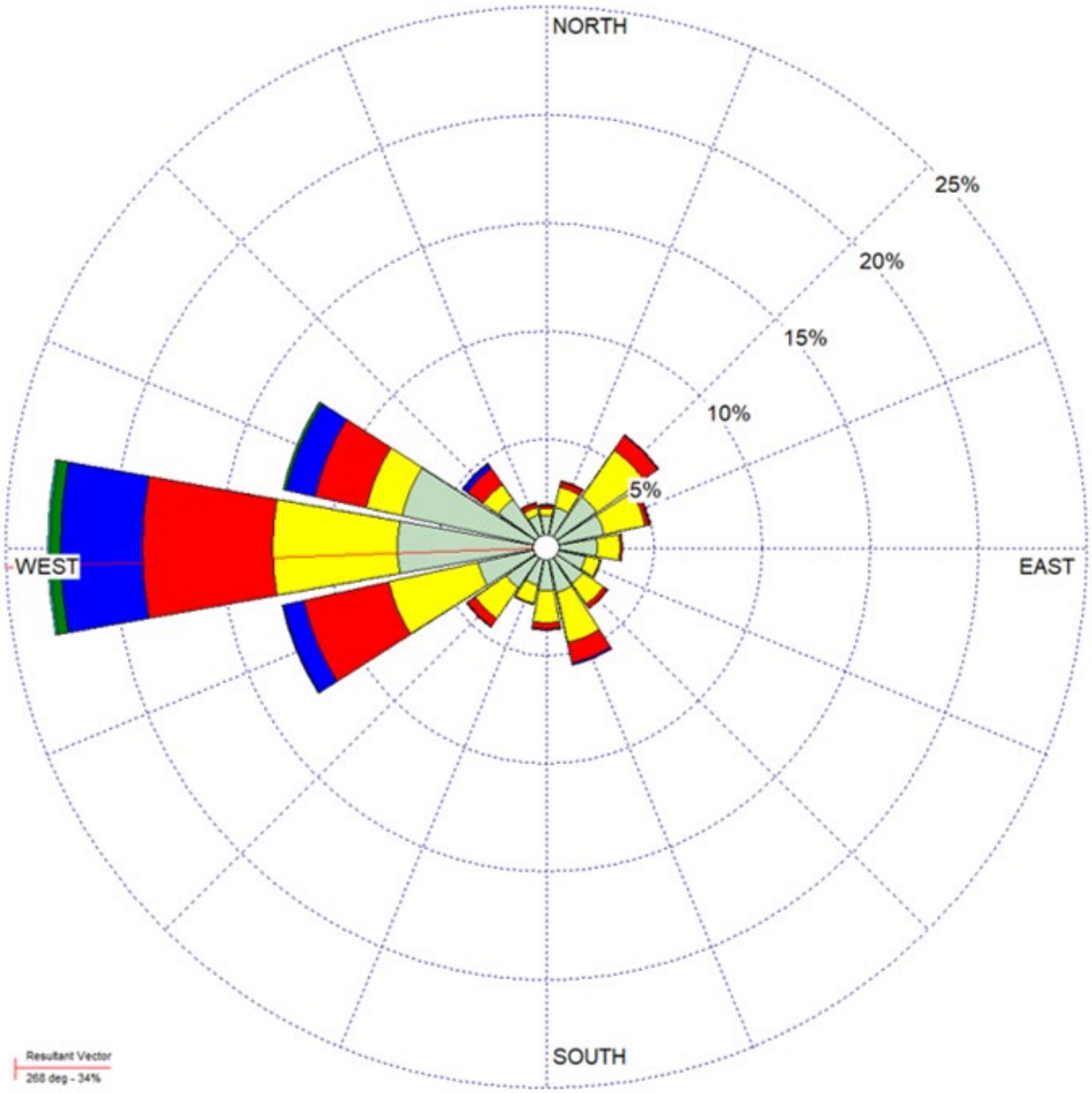
B-2B Land Use

The topographic map (Figure B-4) identifies the Site and surrounding areas. The land use is characterized as agricultural, recreational, and rural residential.

B-2C Wind Rose

Figure B-5 presents the wind rose for the Kesselring Site. The wind rose shown was prepared utilizing data obtained from monitoring equipment on a meteorological tower located at the Kesselring Site. The wind rose represented is the composite data from 2000 through 2021.

FIGURE B-5
KESSELRING SITE WIND ROSE DIAGRAM FOR JANUARY 1, 2000 THROUGH DECEMBER 31, 2021



	Wind Speeds (m/s)	
	Greater than or equal to:	and less than:
	0.3	2.0
	2.0	3.5
	3.5	5.5
	5.5	8.5
	8.5	11.0
	11.0	

B-2D Access Control

The Kesselring Site is a secure facility designed to prevent accidental or unauthorized access to all active portions of the facility. Personnel and vehicle gates for routine entry are controlled by security guards as described in Attachment F (Procedures to Prevent Hazards) to the Resource Conservation and Recovery Act (RCRA) Permit. The individual CSAs have the proper warning/identification signs and are locked when not manned to prevent disturbance of the waste or equipment, by unknowing or unauthorized personnel within these areas.

B-2E Buildings

Figure B-3 shows the location of all existing buildings at the Kesselring Site. Further details on the CSAs are described in Attachment D (Process Information) to the RCRA permit.

B-2F Runoff Control Systems

The CSAs, which consist of the buildings designated as 75 and 91, are completely enclosed and designed to prevent precipitation from contacting the containers while in storage. There are no drains in the CSAs.

As shown in Figure B-2, the Site stormwater and wastewater drain systems consist of discharge channels and a common retention lagoon. Discharge from the lagoon is via a wastewater treatment system, which has continuous monitoring equipment for pH, chlorine, and temperature and which can be secured remotely to prevent off-site releases if necessary. Discharge from the wastewater treatment facility is via two outfalls to the Glowegee Creek. A third outfall is dedicated to the on-site sewage treatment plant. A fourth outfall, which collects parking lot stormwater runoff, also collects a small amount of stormwater runoff from the southwest corner of the developed portion of the Site. The fourth outfall has a gate installed, which can be closed remotely to prevent off-site releases if necessary. If a spill or leak should occur on-site, runoff can be prevented from entering the Glowegee Creek by securing the discharge points. Further discussion on this is provided in Attachment F (Procedures to Prevent Hazards).

B-2G Injection and Withdrawal Wells

Approximately one mile northeast of the facility, within the Site boundary, is the Site service water supply well field for the facility. The location of the well field is illustrated in Figure B-4. The service water is used for drinking water, process water, and non-contact cooling purposes. The water is monitored through periodic sampling and analysis to demonstrate compliance with applicable drinking water standards. The Kesselring Site has two registered injection wells. Both of these structures are designed to receive stormwater runoff from roof drains and local area drainage. These injection wells meet the definition of a Subsurface Fluid Distribution System, and are therefore required to be registered with the U.S. Environmental Protection Agency. There are no groundwater monitoring wells

dedicated to the CSA operations since such wells are not required for storage facilities.

B-2H Truck Loading Areas

The truck loading areas for wastes being removed from the CSAs for off-site disposal are shown in Figure B-3. Forklift trucks or other suitable equipment operated by trained personnel remove waste from the CSAs and load the waste into transport trucks in the loading areas designated in Figure B-3. Truck loading is performed on a paved surface. Building 75 has a covered loading area equipped with secondary containment.

B-2I Access and Internal Roads

All access and internal roads within the secured fenced facility perimeter are shown on Figure B-3. The normal routes over which hazardous/mixed wastes are transported off-site from the CSAs are designated in the same figure. Trucks access the secured facility via the Main Access Road or Hogback Road.

B-2J Storm, Sanitary, and Process Sewerage System

Liquid effluent from the Kesselring Site originates from several sources including Site boiler blowdown, sanitary sewage treatment plant effluent, extracted groundwater, cooling tower blowdown, retention basin discharges, stormwater drainage, and Site service cooling water. The drain system, which intercepts this water, is comprised of drainage piping, drain manholes, catch basins, and floor drains. The storm sewer system and sanitary drainage system are illustrated in Figure B-2.

With the exception of stormwater drainage, effluent from once-through cooling systems that operate continuously are released in batches following analysis, are directed to a discharge channel, and then to a retention lagoon. As previously discussed in subsection B-2F, the sanitary sewage treatment plant effluent is directed through a dedicated outfall that is independent of the lagoon. The discharges are permitted by the New York State Department of Environmental Conservation under the State Pollutant Discharge Elimination System.

B-2K Fire Control Facilities

Fire protection is provided by the Emergency Services (ES) organization, which is trained and equipped to handle on-site fires and emergencies associated with hazardous/mixed waste. This full-time organization has personnel available on a 24-hour/day basis. ES is fully equipped with emergency response equipment including necessary firefighting apparatuses and a New York State certified ambulance. This equipment is located in the on-site firehouse. In addition, the Site is equipped with adequately spaced fire hydrants and properly sized water mains. More details are provided in Attachment F (Procedures to Prevent Hazards), subsection F-3A(3).

The CSAs are equipped with fire extinguishers at each exit, a sprinkler system, fire alarms, and a telephone. The emergency response capabilities at the Kesselring Site are further discussed in Attachment G (Contingency Plan).

In the event that off-site assistance is necessary, the fire departments listed in Attachment G (Contingency Plan) would be notified. The primary responder (Rock City Falls Fire Department) conducts joint training with Site ES personnel.

B-2L Flood Control/Drainage Barriers

As described in subsection B-3B, the hazardous/mixed waste storage areas at the Kesselring Site are located above the 100-year flood plain and do not require any flood control barriers. Drainage of stormwater and/or snowmelt at the Kesselring Site is handled by a combination of drainage ditches, subsurface drainage pipe, and surface grading to conduct water away from all buildings (including the CSAs).

B-3 LOCATION INFORMATION

B-3A Seismic Standard

The facility is located near West Milton, New York in Saratoga County. As such, this facility is not located in a seismically sensitive area listed in Appendix VI of 40 CFR 264. Facilities not located in political jurisdictions listed in 40 CFR 264, Appendix VI, are assumed to be in compliance with this requirement.

B-3B Floodplain Standard

According to the 1995 Flood Insurance Rate Map (FIRM) as prepared by the Federal Emergency Management Agency, the hazardous/mixed waste CSAs at the Kesselring Site are not located within a 100-year floodplain. The 100-year floodplain is indicated in the 1995 FIRM, Figure B-6.

B-4 TRAFFIC INFORMATION

The gate through which trucks enter the facility and the routes over which they normally travel to transport hazardous/mixed waste off site are shown in Figure B-3. Normally, trucks arriving to pick up wastes for shipment enter the facility at the main entrance on the Main Access Road as illustrated in Figure B-3. Hogback Road is an alternate route in and out of the facility, also shown on Figure B-3.

Once admitted through the front gate, the truck is directed by Site personnel over fully paved main roads to the container storage loading areas. These roads, which have a load-bearing capacity in accordance with the American Association of State Highway and Transportation Officials (AASHTO) Standard H20-44, have been subjected to heavy loading from trucks of the box tractor trailer variety for several years and are maintained in good condition. Based on Site records, the average number of truck shipments transporting hazardous/mixed waste off site is approximately 3 to 4 per month. Before a truck leaves the Site, it is inspected to ensure proper loading and placarding, and to ensure that the proper paperwork accompanies the

shipment.

ATTACHMENT C – WASTE CHARACTERISTICS

In accordance with the regulatory requirements set forth in 6 NYCRR 373-1.5(a)(2)(ii) and (iii) and 40 CFR 270.14(b)(2) and (3), this attachment describes the waste characteristics including the chemical and physical nature of the hazardous/mixed waste stored at the Kesselring Site. It also contains the waste analysis plan for sampling, testing, and evaluating the wastes to ensure that sufficient information is available for their safe handling and to identify proper disposal means to protect human health and the environment.

C-1 CHEMICAL AND PHYSICAL CHARACTERISTICS

The Kesselring Site has historically generated various hazardous wastes identified and listed in 6 NYCRR 371 and 40 CFR 261. These wastes are listed by code number in Table C-1 with their United States Environmental Protection Agency (USEPA) and New York State Department of Environmental Conservation (NYSDEC) Waste Category descriptions. As listed in the Part A portion of this document and as footnoted on Table C-1, various combinations of these waste codes have and will continue to be generated. Table C-2 lists general waste categories historically generated. Table C-3 provides more detailed information on each of the general waste categories including associated hazardous/mixed waste code numbers which typically[1] apply to each category, the typical processes generating the waste, typical generated waste streams, management type, and locations where permitted wastes are expected to be managed, typical treatment/disposal paths, and compatibility groupings. Table C-4 provides the sources of waste data, major components (by %), typical test parameters, and sampling methods. Table C-5 summarizes the recommended laboratory methods and the rationale for analyzing hazardous wastes under the Resource Conservation and Recovery Act (RCRA). Table C-6 lists the waste code combinations, which are typically associated with specific waste streams based on historic generation, knowledge of the process generating the waste, and the potential for minor process modifications as a result of updated procedures or updated technology.

The majority of hazardous/mixed wastes, which are managed at the Kesselring Site, are generated from well-identified processes, laboratory operations, and facility renovation activities. The resultant waste streams are periodically evaluated by a cognizant Waste Chemical Coordinator[2] (WCC) to determine if their compositions change due to process alterations or other factors. The remainder of the hazardous/mixed waste managed at the facility is comprised of waste generated during maintenance operations, facility dismantlement, and remediation activities or from the discarding of unused excess, expired or off-specification laboratory reagents, products, or equipment.

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[1] That is, if a generated waste meets criteria that fits at least one general waste category in Table C-2, but it has a waste code that is not assigned to that general waste category on Table C-3, the generated waste is not precluded from being managed in a Container Storage Area (CSA) covered under this permit unless the unassigned waste code is not listed on Table C-1 (or in Attachment A).

[2] The term "*Waste Chemical Coordinator*" or "WCC" describes the Kesselring Site employees responsible for coordinating the hazardous/mixed waste programs. See Attachment H (Training Plan) for further information on this position.

All unlabeled or incompletely documented wastes are thoroughly evaluated to identify and characterize them prior to acceptance in any CSA. Clearly labeled and documented commercial product wastes do not require analysis unless a discrepancy is noted. The tests and procedures for detecting changes in waste characteristics are described in the Waste Analysis Plan (section C-2).

C-1A Containerized Waste

The CSAs are used for storage and staging of wastes, which are generated at the Kesselring Site prior to disposal at off-site facilities. The Kesselring Site manages hazardous wastes for periods exceeding 90 days in Building 75 and mixed wastes in a portion of Building 91. Information regarding each of these CSAs can be found in Attachment B (Facility Description), Attachment D (Process Information), and Attachment G (Contingency Plan).

All hazardous/mixed wastes managed at the Kesselring Site are handled and stored in containers meeting the definitions in 6 NYCRR 370.2(b) and 40 CFR 260.10. Where practical, United Nations (UN) standard packaging is used per United States Department of Transportation (USDOT) regulations. Information regarding the types and sizes of containers employed can be found in Attachment D (Process Information). Waste characterization results are reviewed to ensure proper identification and compatibility between waste(s) and container materials.

TABLE C-1 HAZARDOUS WASTES HISTORICALLY GENERATED AT THE KESSELRING SITE

USEPA HAZARDOUS WASTE NUMBER[3]	USEPA WASTE CATEGORY[2]
D001	A solid waste that exhibits the characteristics of ignitability. (I)
D002	A solid waste that exhibits the characteristic of corrosivity. (C)
D003	A solid waste that exhibits the characteristic of reactivity. (R)
D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D022, D023, D024, D025, D026, D028, D029, D035, D036, D038, D039, D040, D042, D043	A solid waste (except manufactured gas plant waste) that exhibits the characteristic of toxicity (T)
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures
F004	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures

TABLE C-1 HAZARDOUS WASTES HISTORICALLY GENERATED AT THE KESSELRING SITE

USEPA HAZARDOUS WASTE NUMBER[3]	USEPA WASTE CATEGORY[2]
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing [hexachlorophene synthesized] from prepurified 2,4,5-trichlorophenol as the sole component.)
P012	Arsenic trioxide[1] or Arsenic oxide As_2O_3
P015	Beryllium Powder[1]
P018	Brucine[1]
P021	Calcium cyanide[1] or Calcium cyanide $Ca(CN)_2$
P022	Carbon disulfide[1]
P028	Benzene, (chloromethyl)-[1] Benzyl chloride
P030	Cyanides[1] (soluble cyanide salts), not otherwise specified
P042	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)[1] or Epinephrine
P068	Methyl hydrazine[1] or Hydrazine, methyl-
P073	Nickel carbonyl[1] or Nickel carbonyl $Ni(CO)_4$ (T-4)-
P075	Nicotine, & salts[1] or Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P078	Nitrogen oxide NO_2 or Nitrogen dioxide[1]
P081	Nitroglycerine (R)[1] or 1,2,3-Propanetriol, trinitrate (R)
P098	Potassium cyanide[1] or Potassium cyanide K(CN)
P104	Silver cyanide[1] or Silver cyanide Ag(CN)
P105	Sodium azide[1]
P106	Sodium cyanide[1] or Sodium cyanide Na(CN)
P119	Vanadic acid, ammonium salt[1] or Ammonium vanadate
U002	Acetone (I) or 2-Propanone (I)
U009	Acrylonitrile or 2-Propenenitrile
U019	Benzene (I, T)
U028	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester or Diethylhexyl phthalate
U031	1-Butanol (I) or n-Butyl alcohol (I)
U032	Calcium chromate or Chromic acid H_2CrO_4, calcium salt
U043	Ethene, chloro– or Vinyl chloride
U044	Chloroform or Methane, trichloro-

TABLE C-1 HAZARDOUS WASTES HISTORICALLY GENERATED AT THE KESSELRING SITE

USEPA HAZARDOUS WASTE NUMBER[3]	USEPA WASTE CATEGORY[2]
U051	Creosote
U052	Cresol (Cresylic acid) or Phenol, methyl-
U057	Cyclohexanone (I)
U075	Dichlorodifluoromethane or Methane, dichlorodifluoro-
U076	Ethane, 1,1-dichloro– or Ethylidene dichloride
U077	Ethane, 1,2-dichloro– or Ethylene dichloride
U078	1,1–Dichloroethylene or Ethene, 1,1-dichloro-
U080	Methane, dichloro– or Methylene chloride
U092	Dimethylamine (I) or Methanamine, -methyl-(I)
U095	3,3'-Dimethylbenzidine or [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U112	Ethyl acetate (I) or Acetic acid ethyl ester (I)
U117	Ethyl ether (I) or Ethane, 1,1'-oxybis-(I)
U122	Formaldehyde
U123	Formic acid (C, T)
U133	Hydrazine (R, T)
U134	Hydrofluoric acid (C, T) or Hydrogen fluoride (C, T)
U140	Isobutyl alcohol (I, T) or 1-Propanol, 2-methyl- (I, T)
U144	Lead acetate or Acetic acid, lead(2+) salt
U151	Mercury
U154	Methanol (I) or Methyl alcohol (I)
U159	2-Butanone (I,T) or Methyl ethyl ketone(MEK) (I, T)
U161	Methyl isobutyl ketone (I) or 4-Methyl-2-pentanone (I) or Pentanol, 4-methyl-
U165	Naphthalene
U170	p-Nitrophenol or Phenol, 4-nitro-
U188	Phenol
U196	Pyridine
U201	Resorcinol or 1,3-Benzenediol
U202	Saccharin, & salts or 1,2-Benzisothiazol- 3(2H)-one, 1,1-dioxide, & salts
U204	Selenious acid or Selenium dioxide

TABLE C-1 HAZARDOUS WASTES HISTORICALLY GENERATED AT THE KESSELRING SITE

USEPA HAZARDOUS WASTE NUMBER[3]	USEPA WASTE CATEGORY[2]
U210	Tetrachloroethylene or Ethene, tetrachloro-
U211	Methane, tetrachloro– or Carbon tetrachloride
U218	Thioacetamide or Ethanethioamide
U219	Thiourea
U220	Toluene or Benzene, methyl-
U223	Toluene diisocyanate (R, T) or Benzene, 1,3-diisocyanatomethyl- (R, T)
U226	Ethane, 1,1,1-trichloro- or Methyl chloroform or 1,1,1-Trichloroethane
U227	Ethane, 1,1,2-trichloro- or 1,1,2-Trichloroethane
U228	Trichloroethylene or Ethene, trichloro-
U239	Benzene, dimethyl- (I, T) or Xylene (I)
U359	Ethanol, 2-ethoxy- or Ethylene glycol monoethyl ether
B001 [4]	Polychlorinated biphenyl (PCB) Oil (concentrated) from transformers, capacitors, etc.
B002 [4]	Petroleum oil or other liquid containing 50 ppm or greater of PCBs, but less than 500 ppm PCBs. This includes oil from electrical equipment whose PCB concentration is unknown, except for circuit breakers, reclosers and cable.
B003 [4]	Petroleum oil or other liquid containing 500 ppm or greater of PCBs.
B004 [4]	PCB Articles containing 50 ppm or greater of PCBs, but less than 500 ppm PCBs, excluding small capacitors. This includes oil-filled electrical equipment whose PCB concentration is unknown, except for circuit breakers, reclosers, and cable.
B005 [4]	PCB Articles, other than transformers, that contain 500 ppm or greater of PCBs, excluding small capacitors.
B006 [4]	PCB Transformers. “PCB Transformers” means any transformer that contains 500 ppm PCB or greater.
B007 [4]	Other PCB Wastes including contaminated soil, solids, sludges, clothing, rags and dredge material.

(1) These chemicals are USEPA defined acute hazardous wastes.
(2) For the convenience of the reader, the primary hazardous properties of the above listed chemicals have been indicated by the letter T (Toxicity), R (Reactivity), I (Ignitability), and C (Corrosivity). Absence of a letter indicates that the chemical is only listed for toxicity. Combinations of characteristic/toxic wastes are also generated at times.
(3) All waste codes on this table may be generated in various combinations and stored in any of the CSAs on site for greater than 90 days. (Typical combinations are shown on the Part A application - Attachment A.)
(4) These are New York State hazardous waste numbers related to PCBs based on regulations contained in 6 NYCRR 371.4(e).

C-2 WASTE ANALYSIS PLAN

A requisite step in the proper management of waste is the characterization and identification of hazardous/mixed wastes in accordance with regulatory and permit requirements. The Kesselring Site evaluates solid wastes to determine if the wastes are hazardous in accordance with RCRA characteristics and listings set forth in 6 NYCRR 371.3 and 371.4 and 40 CFR 261, Subparts C and D. These evaluations are performed through the application of acceptable knowledge and/or testing.

Acceptable Knowledge

"Acceptable knowledge" can be broadly defined to include one or more of the following:

- "Process knowledge" whereby detailed information on the waste is obtained from existing published or documented sources, including but not limited to: Safety Data Sheets (SDS), information supplied with purchased materials, information on materials obtained from standard references such as the Hawley's Condensed Chemical Dictionary (Van Nostrand/Reinhold), the Merck Index (Royal Society of Chemistry), Sax's Dangerous Properties of Industrial Materials (Sax), or equivalent sources. Analysis data or characterization studies conducted by the Kesselring Site or other Naval Nuclear Propulsion Program (NNPP) sites, may also be used to develop knowledge of the waste.

- Appropriately documented sample and analysis data obtained from Kesselring Site generators for wastes, which are received into the Kesselring Site's CSAs.

- Analysis for determination of mixed waste may be performed on surrogate samples as a substitute for the actual waste. Non-radioactive surrogate materials must be selected or developed, which are representative of the waste being generated. These surrogates will consist of equivalent materials or items, or will be prepared consistent with the physical make-up, chemical constituents, and concentration of the generated waste without the radioactivity. Sampling and analysis of the surrogate will provide sufficient data to determine the identity of the waste and if it is acceptable for meeting permit requirements. A representative surrogate may be used to substitute for the actual waste when conducting chemical/physical analyses for characterization for identifying, managing, treating, and disposal.

Testing

The Kesselring Site also ensures permit compliance by conducting, as necessary, a full-scale, or under certain circumstances an abbreviated-scale, sampling and analysis program to identify hazardous constituents or characteristics. Testing is conducted on any unknown waste prior to managing the waste in the permitted units and on wastes received, based on the criteria discussed below, and in subsection C-2A and subsection C-2D. Acceptable standard methods for conducting these tests are discussed in subsection C-2B. Full-scale analysis of a waste (e.g., Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA Office of Solid Waste, Washington, DC 20460, SW-846 methods or equivalent (USEPA SW-846)) may be necessary when:

- A new process begins or changes are made to an existing process;

- A new waste is generated at the facility for the first time;
- The hazardous characteristics of a waste stream are variable;
- An off-site treatment, storage, and/or disposal facility requires additional chemical and physical information for a waste;
- The WCC suspects that the wastes received from on-site generators were not adequately identified by the generator; or
- USEPA/NYSDEC changes RCRA waste identification/classification rules.

Table C-4 provides a listing of the typical evaluation parameters applied to each general waste category shown in Table C-2, that a specific waste stream under that category would be subject to under the term "full-scale". The evaluator may use "acceptable knowledge" to limit the constituents analyzed for under these typical evaluation parameters to only those expected to be in the waste stream.

Abbreviated-scale waste analysis, which may be referred to as "fingerprint" or "screening" analysis, is conducted generally for parameters (e.g., flash point, pH, halogen content) that will give information that can be used to help verify that the waste generated, or received, matches the expected characteristics (profile) for that waste. For example, fingerprint analysis can be used to indicate that the waste received matches the description and information provided on the internal waste transfer form, and that it is the waste type that the facility has agreed to (and is permitted to) accept.

Waste Evaluation

Acceptable knowledge may be used alone or in conjunction with sampling and laboratory analysis (testing). Although the exclusive use of acceptable knowledge does not relieve the Kesselring Site of its responsibility to obtain accurate waste analysis data, there are situations where it may be appropriate to apply "acceptable knowledge" previously defined, including:

- Hazardous waste characteristics and constituents from specific routine processes, which are adequately determined and properly documented.

- The waste is discarded unused commercial chemical products, reagents, or chemicals of known physical and chemical constituents. A number of these fit into the P-listed and U-listed categories (6 NYCRR 371.4(d) or 40 CFR 261.33).

In other circumstances, a combination of "acceptable knowledge" and some level of sampling and analysis of the waste is necessary to properly characterize a waste. These include the following:

- Physical nature of the waste does not lend itself to obtaining a representative sample. For example, to perform a characterization of surface contaminated construction debris, such as painted steel girders, piping, and other structural materials, it may be necessary to use a combination of laboratory analysis and process knowledge. Process knowledge could be applied to identifying the composition of base construction materials (e.g., steel, brass, gypsum). Then surface samples (e.g., paint or surface wipe) can be collected and laboratory analysis conducted to determine the type and concentrations of any

contaminants present. Porous base materials, such as gypsum or concrete, could be evaluated by conducting analysis on the extracts obtained from a solvent wash.

- Where knowledge of the waste stream is insufficient to characterize a routinely generated waste, or waste composition is variable, chemical analyses are performed on a regular basis, or whenever the operation generating waste undergoes change. For infrequently generated wastes (i.e., less than once per year) analysis is performed when the waste is actually generated. A separate characterization/chemical analysis is typically obtained for batch type and non-routine wastes. Analysis frequencies, including reevaluation of "acceptable knowledge" based on the process generating the waste and past history are discussed in subsection C-2D.

- Health and safety risks to personnel would not justify sampling and analysis (e.g., minimizing exposure to radioactivity and handling of radioactive material, if mixed waste is involved, provided an acceptable surrogate can be prepared).

A written operating record is kept at the facility in accordance with 6 NYCRR 373-2.5(c)(1). The results of all analytical testing performed and evaluations conducted on wastes managed in the permitted units are maintained in the facility operating record in accordance with 6 NYCRR 373-2.5(c)(2)(iii).

C-2A Parameters and Rationale

Where practical, waste will be identified from knowledge of material type, quality, and composition, which will be obtained from Safety Data Sheets (SDS), information supplied with purchased materials, or information on materials obtained from standard references such as the Hawley's Condensed Chemical Dictionary (Van Nostrand/Reinhold), the Merck Index (Royal Society of Chemistry), Sax's Dangerous Properties of Industrial Materials (Sax), or equivalent sources.

Since a portion of the Kesselring Site's waste is generated in laboratories, the chemical composition of these wastes is readily available from the generator of the waste. In addition, off-specification, outdated, or excess reagent chemicals are generated as wastes. Laboratory chemicals individually packaged in labeled containers may be shipped for disposal when properly packaged into UN standard packaging per USDOT regulations. Appendix C-3 outlines the compatibility groupings for such packaged laboratory chemicals. In this case, sufficient identification information on the waste is usually available either from the label or from the supplier.

In the event that sufficient information is not available and analyses are deemed necessary, Table C-5 outlines the waste parameters, which may be tested, and the rationale for selecting each parameter. The parameters chosen represent those, which can best determine whether the waste is hazardous. The measurement of these parameters provides information to the WCC from which a decision on how to properly store, safely handle, and accurately label each waste is made. It is also part of the waste identification process to determine whether the waste is restricted from land disposal in accordance with 6 NYCRR 376 and 40 CFR 268. If the waste is restricted, the disposal or treatment facility is notified in writing of applicable treatment standards.

An accurate representation of a waste's physical and chemical properties is critical in determining viable waste management options. Table C-5 provides:

- A listing of analysis parameters utilized at the Kesselring Site when waste testing is to be performed. These analysis parameters are selected to represent those characteristics necessary for safe and effective waste management.

- A rationale column corresponding to each analysis parameter category. Each rationale describes the basis for selection of the particular waste analysis parameter and how it will measure the necessary physical and chemical waste properties to afford effective waste management within regulatory, permit, process, and design conditions.

C-2B Test Methods

The Kesselring Site requires that all test methods used by the laboratory, including both internal and external laboratories performing analyses, are approved by USEPA and are referenced in USEPA SW-846 and other appropriate standard references. Recommended methods for selected parameters are presented in Table C-5. Appropriate digestion and sample preparation methods, as described in USEPA SW-846 (most recent revision), are to be used for these parameters prior to analysis. In addition, all outside laboratories contracted by the Kesselring Site, which perform all necessary analyses stipulated in this attachment, must maintain current New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certification for those waste parameters where certification exists.

C-2C Sampling Methods

Appendix C-1 contains information on the equipment, accepted standard procedures, and guidance to be used to sample the various hazardous/mixed wastes. Recommended sample methods are indicated in Table C-4, corresponding to each of the general waste categories listed.

C-2D Frequency of Evaluation

Unlabeled or incompletely documented wastes will be evaluated prior to delivery to any CSA in accordance with section C-1. Since the majority of the wastes, which are generated at the Kesselring Site, are from well-identified and documented operations or processes, repeat evaluation or analysis is not required every time identical/reoccurring wastes are to be delivered to a CSA. Reevaluation of a waste is required if there has been a change in raw materials or operational parameters or if discrepancies are discovered during periodic waste stream review. Table C-4 provides a listing of the general waste categories generated at the Kesselring Site and indicates the source(s) of waste information.

The minimum frequency of evaluation for each specific waste stream within a general waste category is based upon the type and character of the process generating the waste stream and its frequency of generation. The WCC is responsible for establishing the

frequency for waste analysis and for the reevaluation of "acceptable knowledge" associated with a given waste stream. Criteria for establishing these waste evaluations are based on the generation process and frequencies presented below:

GENERATION		EVALUATION FREQUENCY
FREQUENCY	PROCESS	
Waste is generated routinely (e.g. daily/ weekly).	The process generating the waste is always the same.	Full-scale evaluation performed when waste is first generated, but will have its process and previous data reviewed annually to determine if anything has changed.
Waste is generated routinely in multiple container quantities.	The process generating the waste is constant over time and comes from multiple sources with like processes.	Full-scale evaluations are performed when the wastes are first generated. Evaluations using representative samples could entail use of individual samples from each container or a composite sample of a grouping of containers to determine the hazardous nature of the waste. The process(es) generating waste(s) and previous data are reviewed annually to determine if anything has changed.
Waste is generated routinely.	Process and/or waste demonstrate a significant degree of variability.	Full-scale evaluation to be performed on each generating process and/or quantity of waste generated, as appropriate.
Waste is generated infrequently * (e.g., once a year or longer).	The process generating the waste is atypical.	Full-scale evaluations performed on every container of waste generated.

* Includes wastes falling under the general Miscellaneous Lab Chemical category.

C-2E Additional Requirements for Ignitable, Reactive, or Incompatible Wastes

All waste materials are evaluated for ignitability and reactivity before acceptance for storage in a CSA. Incompatible wastes are appropriately segregated within the CSA and no incompatible wastes are mixed together in the same container. If a waste is determined to be ignitable or reactive, specific handling and storage requirements are determined by the WCC. Waste handlers are trained to use special precautions when handling ignitable or reactive materials. Segregation methods of reactive and incompatible materials for storage are determined prior to acceptance of the waste at the CSA. Table C-3 provides a listing of compatibility grouping codes corresponding to each of the general waste categories managed at the Kesselring Site. The compatibility grouping codes are defined in Appendix C-3. Additional requirements for ignitable and reactive wastes are discussed in Attachment F (Procedures to Prevent Hazards), subsection F-5B.

C-2F Additional Requirements for Compliance with Air Emission Standards for Tanks, Surface Impoundments, and Containers

Specific waste management unit (including containers) exemptions are provided in 6 NYCRR 373-2.29(a)(2). At the Kesselring Site, the following hazardous/mixed wastes are exempted from testing, evaluation, recordkeeping, and air emissions control management:

(1) Wastes managed in containers with capacities less than or equal to 0.1 m^3 (100 liters or 26 gallons), or

(2) Wastes managed in a waste management unit (CSA), which is used solely for the management of radioactive mixed waste under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act.

6 NYCRR 373-2.29 requires an evaluation/determination of the volatile organic (VO) concentration of a hazardous waste only when the hazardous waste is to be placed in a waste management unit (e.g., container, tank, or surface impoundment subject to the rule), that does not use air emission controls in accordance with the requirements of the rule (e.g., containers using Level 1 controls).

Hazardous/mixed wastes that are not managed in an exempt unit or a unit that is compliant with the above requirements, will be evaluated to determine whether the waste's average VO concentration is ≥500 ppmw (parts per million by weight). The determination will be performed using acceptable knowledge or laboratory analysis as outlined in 6 NYCRR 373-2.29(d). For each hazardous/ mixed waste generated at the Kesselring Site, which is not exempted, the VO concentration determination must be made at the point the waste is first identified as a hazardous waste per 6 NYCRR 371.

The WCC or designee is responsible for determining the VO concentration, or verifying the determination made by the generator of the waste, by testing and/or application of knowledge of hazardous/mixed wastes not exempted from regulation. Those hazardous/mixed wastes having VO concentrations ≥500 ppmw will be managed to control air emissions per the applicable portions of 6 NYCRR 373-2.29. The methods used to control the VO emissions from nonexempt hazardous/mixed wastes in CSAs at the Kesselring Site are discussed in Attachment D (Process Information).

C-2G Quality Assurance/Quality Control Plan

Appendix C-2 provides the Kesselring Site Quality Assurance/Quality Control plan as required by 6 NYCRR 373-1.6(a)(5).

C-2H Recording of Analysis Result

The results of all analyses conducted to evaluate Kesselring Site hazardous/mixed waste streams as part of this permit will be maintained in the facility operating record until closure of the facility as required by 6 NYCRR 373-2.5(c)(2)(iii) and 40 CFR 264.73(b)(3).

C-2I Testing for Permits

The Kesselring Site does not perform any testing as part of this permit to satisfy other permits (e.g., State Pollutant Discharge Elimination System (SPDES)). When testing is performed to satisfy any off-site treatment and disposal methods (e.g., land burial restrictions), the results are maintained within the facility operating record.

C-2J Additional Information

Evaluations performed on spill residues associated with the Kesselring Site hazardous and mixed waste management units will be maintained in the facility operating record.

TABLE C-2 KESSELRING SITE WASTE CATEGORIES	
CATEGORY	DESCRIPTION
Oils/Petroleum Products	Lubricating/cutting, pump, engine, and hydraulic oils from maintenance/repair of various equipment and machinery, and remediation activities
PCB Contaminated Waste	Waste material with PCB concentrations ≥ 50 ppm meeting the criteria specified in 6 NYCRR 371.4(e)
Debris and Solids, Primarily Organic	Discarded debris and solids, primarily organic materials (e.g., paper, plastic, cloth, rubber) containing or contaminated with materials/residues, cleaning/decontamination solutions, surface coatings, inherent hazardous waste
Debris, Equipment, and Solids, Primarily Inorganic	Discarded inorganic (e.g., glass, metals, ceramics) debris, equipment, and solids containing or contaminated with materials/residues, cleaning/decontamination solutions, surface coatings, inherent hazardous waste, or solidified media
Sludges and Particulates, Primarily Inorganic	System or process residues containing predominantly inorganic, sludges, particulates, and paint chips from maintenance and remedial operations
Sludges and Particulates, Primarily Organic	Organic system or process residues, sludges, particulates from maintenance and remedial operations
Aqueous Liquids and Slurries, Low Total Organic Carbon (TOC)	Aqueous waste from laboratory, maintenance, decontamination, and remedial operations
Aqueous Liquids and Slurries, with Organics	Aqueous waste from laboratory, maintenance, decontamination, and remedial operations, which contain organics (e.g. hydrocarbons, solvents, alcohols)
Soils	Waste soils from maintenance, decontamination, and remediation activities
Compressed Gases and Aerosols	Aerosol cans containing product (e.g., paint, lubricant, cleaner), Freon canisters, calibration standards, etc.
Solvents	Waste solvents from laboratory operations, maintenance, decontamination, and remediation activities
Miscellaneous Lab Chemicals	Small quantity, lab-pack type wastes consisting of discarded portions of unused or off-specification commercial chemical products, container residues, spill residues, and laboratory wastes

TABLE C-3 KESSELRING SITE WASTE STREAM BREAKDOWN

General Waste Category[1]	USEPA/NYSDEC Hazardous Waste Codes [2] [3]	Typical Process/Source Generating Waste	Typical Generated Waste Streams	Storage		Typical Treatment Disposal Path	Compatibility Group [6]
				Type	Location [4]		
Oils/ Petroleum Products	D001, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D022, D028, D029, D035, D036, D039, D040, F001, F002, F003, F005	General Maintenance Discontinued use of process equipment Remediation Discarded out-of-specification or unused products/materials	• Used steam turbine oil • Used internal combustion engine oil • Off specification fuels	S01	CSA	Recycle/Reclaim Incinerate	C, D
PCB Contaminated Waste	D001, D002, D004, D005, D006, D007, D008, D009, D010, D011, D018, D035, D036, D039, D040, F001, F002, F003, F005, B001, B002, B003, B004, B005, B006, B007	General Maintenance Discontinued use of process equipment Remediation Facility Renovation Laboratory Wastes	• Light ballasts • Capacitors • Painted materials and equipment • Electrical cable • Spent Grit Blast material	S01	CSA	Incinerate Stabilize Landfill [5]	C, E [7]
Debris and Solids, Primarily Organic	D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D022, D028, D029, D035, D036, D039, D040, F001, F002, F003, F005	General Maintenance Discontinued use of process equipment Remediation Facility Renovation Discarded out-of-specification or unused products/material	• Spent activated carbon • Spent ion exchange resin • Painting/paint removal waste • Rags, wipes, PPE	S01	CSA	Recycle/Reclaim Incinerate Retort Stabilize Macro-encapsulate/ Landfill	C, E [7]
Debris, Equipment, and Solids, Primarily Inorganic	D001, D003, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D022, D028, D029, D035, D036, D039, D040	General Maintenance Discontinued use of process equipment Remediation Facility Renovation Discarded out-of-specification or unused products/material	• Light bulbs • Spent batteries • Mercury bearing components • Metal components and equipment	S01	CSA	Recycle/Reclaim Retort Stabilize Macro-encapsulate/ Landfill	A, B, C, E[7]

TABLE C-3 KESSELRING SITE WASTE STREAM BREAKDOWN

Sludges and Particulates, Primarily Inorganic	D002, D005, D006, D007, D008, D009, D010, D011, D018, D019, D035, D036, D039, D040, F001, F002, F003, F005	General Maintenance Discontinued use of process equipment Remediation Facility Renovation	• Spent grit blast media • Cooling tower sludge • Acid tank sludge (cleaning)	S01	CSA	Incinerate Retort Stabilize	A, B, E (7)
Sludges and Particulates, Primarily Organic	D005, D006, D007, D008, D009, D010, D011, D018, D019, D035, D036, D039, D040, F001, F002, F003, F005	General Maintenance Discontinued use of process equipment Facility Renovation	• Oil/water separator sludge • Paint chips and scrapings • Petroleum tank sludge	S01	CSA	Incinerate Retort Stabilize	C, D, E (7)
Aqueous Liquids and Slurries, Low TOC	D002, D003, D005, D006, D007, D008, D009, D010, D011, D018, D019, D022, D028, D029, D035, D036,D039,D040,D042	General Maintenance Discontinued use of process equipment Remediation Facility Renovation Laboratory Wastes	• Chromated water • Analytical wastes (silver and mercury) • Acids/Caustics • Photoprocessing solutions • Spent cleaning solutions	S01	CSA	Recycle/Reclaim Wastewater Treatment Incinerate Retort Stabilize	A, B (7)
Aqueous Liquids and Slurries with Organics	D001, D002, D003, D005, D006, D007, D008, D009, D010, D011, D018, D019, D022, D028, D029, D035, D036, D039, D040, D042, F001, F002, F003, F005,	General Maintenance Discontinued use of process equipment Remediation Facility Renovation Laboratory Wastes	• Oily water • Acetone solutions • Isopropyl alcohol solutions	S01	CSA	Recycle/Reclaim Wastewater Treatment Incinerate Retort Stabilize	A, B, C, D, E (7)
Soils	D005, D006, D007, D008, D009, D010, D011, D018, D019, D035, D039, D040, D042, F001, F002, F003, F005, U002, U151,U154,U210,U211 U220,U226,U227,U228	Remediation Facility Renovation	• Fuel spill cleanup • Solvent spill cleanup • Soils containing toxic metals	S01	CSA	Incinerate Stabilize	C, D, E

TABLE C-3 KESSELRING SITE WASTE STREAM BREAKDOWN

Compressed Gases and Aerosols	D001, D018, D019, D022, D028, D029, D035, D036, D039, D040, D042	General Maintenance Discarded out-of-specification or unused products/material	• Freon canisters • Paints and lubricants • Cleaning products	S01	CSA	Incinerate	C, D, H
Solvents	D001, D005, D006, D007, D008, D009, D010, D011, D018, D019, D022, D028, D029, D035, D036, D039, D040, D042, F001, F002, F003,F005	General Maintenance Discontinued use of process equipment Remediation Facility Renovation Discarded out-of-specification or unused products/material Laboratory Wastes	• Various alcohols • Paint thinners/additives • 1,1,1-trichloroethane	S01	CSA	Recycle/Reclaim Incinerate	C, D
Miscellaneous Lab Chemicals	Any/All Table C-1 Constituents	Remediation Discarded out-of-specification or unused products/material Laboratory Wastes	• Unusable commercial products • Laboratory chemicals and solutions	S01	CSA	Recycle/Reclaim Incinerate Retort Stabilize Landfill	Any (7)

(1) Waste categories listed in this column are taken from Table C-2.
(2) These general waste category code assignments are "typical". That is, if a generated waste meets criteria that fits at least one general waste category in Table C-2, but it has a waste code that is not assigned to that general waste category on Table C-3, the generated waste is not precluded from being managed in a CSA covered under this permit unless the unassigned waste code is not listed on Table C-1 (or in Attachment A).
(3) All waste codes on this table may be generated in various combinations and stored on site for greater than 90 days. Examples of typical combinations are shown in Attachment A, Part A Application and in Table C-6.
(4) CSAs are located in Buildings 75 and 91.
(5) Many PCB wastes, hazardous per 6 NYCRR 371.4(e), can still be landfilled without treatment per applicable portions of 40 CFR 761.
(6) See Appendix C-3 for explanation of the compatibility group(s).
(7) Exceptions are not typical wastes (see Appendix C-3). They are handled separately on site with extreme caution and under close supervision. Varies depending upon overall composition of waste stream.

TABLE C-4 WASTE ANALYSIS PLAN

GENERAL WASTE CATEGORY[1]	SOURCE OF WASTE DATA[2]	MAJOR COMPONENTS (by %)[3]		TYPICAL EVALUATION PARAMETERS[4][7]	SAMPLE METHOD[6]
Oils/Petroleum Products	• Process Knowledge • Laboratory Analysis of Representative Sample • Laboratory Analysis of Representative Surrogate Sample	Hazardous Constituents Petroleum/Synthetic Hydrocarbons Water Other Inert/Nonhazardous Constituents	<1 80-99 0-10 0-10	• TC-Metals • Total Organic - Halogens • PCBs • Flash Point	COLIWASA Grab Sample Composite Whole Waste
PCB Contaminated Waste	• Process Knowledge • Laboratory Analysis of Representative Sample • Laboratory Analysis of Representative Surrogate Sample	Hazardous Constituents Petroleum/Synthetic Hydrocarbons Water Other Inert/Nonhazardous Constituents	<1-99 <1-99 0 ≤1-99	• TC-Metals • PCBs	COLIWASA Grab Sample Composite Surface Sample Whole Waste
Debris and Solids, Primarily Organic	• Process Knowledge • Laboratory Analysis of Representative Sample • Laboratory Analysis of Representative Surrogate Sample	Hazardous Constituents Petroleum/Synthetic Hydrocarbons Water Other Inert/Nonhazardous Constituents	≤1-99 ≤10 0 1-99	• TC-Metals • TC-Organics • Free Liquids [5] • PCBs	Grab Sample Composite
Debris, Equipment, and Solids, Primarily Inorganic	• Process Knowledge • Laboratory Analysis of Representative Sample • Laboratory Analysis of Representative Surrogate Sample	Hazardous Constituents Petroleum/Synthetic Hydrocarbons Water Other Inert/Nonhazardous Constituents	≤1-99 ≤1 0 1-99	• TC-Metals • TC-Organics • Free Liquids [5] • PCBs	Grab Sample Composite Whole Waste
Sludges and Particulates, Primarily Inorganic	• Process Knowledge • Laboratory Analysis of Representative Sample • Laboratory Analysis of Representative Surrogate Sample	Hazardous Constituents Petroleum/Synthetic Hydrocarbons Water Other Inert/Nonhazardous Constituents	<1-99 ≤1 0-70 1-99	• TC-Metals • TC-Organics • pH • Free Liquids [5] • PCBs	Grab Sample Composite Whole Waste
Sludges and Particulates, Primarily Organic	• Process Knowledge • Laboratory Analysis of Representative Sample • Laboratory Analysis of Representative Surrogate Sample	Hazardous Constituents Petroleum/Synthetic Hydrocarbons Water Other Inert/Nonhazardous Constituents	<1-10 1-99 0-70 1-99	• TC-Metals • TC-Organics • pH • Flash Point • Free Liquids [5] • PCBs	Grab Sample Composite Whole Waste

TABLE C-4 WASTE ANALYSIS PLAN

GENERAL WASTE CATEGORY[1]	SOURCE OF WASTE DATA[2]	MAJOR COMPONENTS (by %)[3]		TYPICAL EVALUATION PARAMETERS[4][7]	SAMPLE METHOD[6]
Aqueous Liquids and Slurries, Low TOC	• Process Knowledge • Laboratory Analysis of Representative Sample • Laboratory Analysis of Representative Surrogate Sample	Hazardous Constituents Petroleum/Synthetic Hydrocarbons Water Other Inert/Nonhazardous Constituents	<1-10 <1 90-99 ≤10	• TC-Metals • TC-Organics • pH	COLIWASA Grab Sample Composite Whole Waste
Aqueous Liquids and Slurries, with Organics	• Process Knowledge • Laboratory Analysis of Representative Sample • Laboratory Analysis of Representative Surrogate Sample	Hazardous Constituents Petroleum/Synthetic Hydrocarbons Water Other Inert/Nonhazardous Constituents	<1-10 ≤10 80-99 ≤10	• TC-Metals • TC-Organics • pH • Flash Point	COLIWASA Grab Sample Whole Waste
Soils	• Process Knowledge • Laboratory Analysis of Representative Sample • Laboratory Analysis of Representative Surrogate Sample	Hazardous Constituents Petroleum/Synthetic Hydrocarbons Water Other Inert/Nonhazardous Constituents	<1-10 ≤1 ≤1-10 90-99	• TC-Metals • TC-Organics • Free Liquids [5]	Grab Sample Composite
Compressed Gases and Aerosols	• Process Knowledge • Laboratory Analysis of Representative Sample	Hazardous Constituents Petroleum/Synthetic Hydrocarbons Water Other Inert/Nonhazardous Constituents	1-100 0-99 0 1-99	• TC-Metals • TC-Organics • Flash Point	Grab Sample Composite
Solvents	• Process Knowledge • Laboratory Analysis of Representative Sample • Laboratory Analysis of Representative Surrogate Sample	Hazardous Constituents Petroleum/Synthetic Hydrocarbons Water Other Inert/nonhazardous constituents	11-99 ≤1 ≤1-10 1-99	• TC-Metals • TC-Organics • Flash Point	COLIWASA Grab Sample Composite
Miscellaneous Lab Chemicals	• Process Knowledge • Laboratory Analysis of Representative Sample • Laboratory Analysis of Representative Surrogate Sample	Hazardous Constituents Petroleum/Synthetic Hydrocarbons Water Other Inert/Nonhazardous Constituents	1-100 0-99 0-99 0-99	• TC-Metals • TC-Organics • pH • Flash Point	Grab Sample Whole waste

(1) Waste categories listed in this column are taken from Table C-2.
(2) One or any combination of sources.
(3) Based on acceptable knowledge, laboratory analyses, or a combination of the two.
(4) These are the minimum parameters expected to be evaluated for each waste stream within a general waste category. Evaluations of a waste stream may entail acceptable knowledge (i.e., process knowledge, waste analysis data from other sources or surrogate samples) or laboratory analysis of a representative sample to

provide the applicable parameter information consistent with this portion of the table. Where laboratory analysis is used, test parameters are selected based on knowledge of waste matrices and the waste generating process. See Table C-5 for recommended methods and rationale for analysis (other approved methods in USEPA's latest approved edition of USEPA SW-846 may also be used).

(5) Free liquids evaluation may be conducted through visual means.

(6) See Appendix C-1 for representative sampling method references.

(7) Wastes that are determined to be hazardous wastes, as identified in 6 NYCRR 371, may be subject to evaluation for volatile organic content to determine the applicability of management requirements under 6 NYCRR 373-2.29(d), as discussed in subsection C-2F.

TABLE C-5 RECOMMENDED METHODS AND RATIONALE FOR ANALYZING HAZARDOUS WASTES[1]

TEST PARAMETER	MEDIA	METHOD	REFERENCE[2],[3]	RATIONALE
pH	Liquid Sludge	Electrometric Measurement pH Paper Method	USEPA SW-846 Methods: Method 9040C- Electrometric Measurement Method 9041A - pH Paper Method	Identify wastes that may compromise container structural integrity. Identify wastes that may require pretreatment to ensure optimum effectiveness of treatment processes (e.g., stabilization).
Flash Point	Liquid	Pensky-Martens Closed Cup Tester Setaflash Closed-cup Apparatus	USEPA SW-846 Methods: Pensky- Martin 1010A Setaflash 1020B American Society for Testing and Materials (ASTM) Standard D-93	Identify appropriate storage conditions (e.g., out of direct sunlight, away from heat sources). Determine applicable requirements to treat, deactivate or separately manage ignitable wastes to ensure compliance with applicable regulations.
Free Liquids	Solid Sludge	Paint Filter	USEPA SW-846: Method 9095B	Identify presence/absence of free liquids to ensure compliance with applicable land disposal standards.
RCRA Regulated Metals	Liquid Solid Sludge	Atomic Absorption (AAS) Inductively Coupled Plasma (ICP) --- Manual Cold Vapor Technique (Mercury)	USEPA SW-846 Methods: - ICP 6010C 6020A - AAS 7000 series --- USEPA SW-846 Method: Mercury 7470A, 7471B	Identify constituent(s) for compliance with regulatory limits and for safe handling of the waste. Determine applicable requirements to treat, deactivate or separately manage characteristic wastes to ensure compliance with applicable regulations.

TABLE C-5 RECOMMENDED METHODS AND RATIONALE FOR ANALYZING HAZARDOUS WASTES(1)

TEST PARAMETER	MEDIA	METHOD	REFERENCE(2),(3)	RATIONALE
Volatile Organics	Liquid Solid Sludge	Gas Chromatographic and/or Mass Spectroscopic	USEPA SW-846 Methods: - Volatiles 8260B, 8260 - Semivolatiles 8270D, 8270	Identify constituent(s) for compliance with regulatory limits and for safe handling of the waste. Determine applicable requirements to treat, deactivate or separately manage characteristic wastes to ensure compliance with applicable regulations.
Halogenated/Non-Halogenated Aromatic Organics	Liquid Solid Sludge	Gas Chromatographic	USEPA SW-846; Methods: - Halogenated 8021B - Nonhalogenated 8015C - Aromatic and Halogenated 8021B	
Organochlorine Pesticides/ Chlorinated Herbicides	Liquid Solid Sludge	Gas Chromatographic	USEPA SW-846; Methods: - Organochlorine Pesticides 8081B - Chlorinated Herbicides 8151A	
Total Organic Halides (TOX)	Liquid Solid Sludge	Carbon adsorption w/ microcoulometric - titration detector/Neutron Activation	USEPA SW-846 Methods: - TOX 9020B - TOX by Neutron Activation 9022	Identify constituent(s) for compliance with regulatory limits and for safe handling of the waste. Determine applicable requirements to treat, deactivate or separately manage characteristic wastes to ensure compliance with applicable regulations.
Polychlorinated Biphenyls (PCBs)	Liquid Solid Sludge	Gas Chromatographic	USEPA SW-846; Methods: PCB's 8082A	

(1) Other methods referenced in 6 NYCRR 371, Appendix 21 and 40 CFR 261, Appendix III, other equivalent references and/or guidance documents, or equivalent methods approved by the NYSDEC may be utilized as necessary.
(2) USEPA SW-846, latest edition approved by the USEPA. Other applicable USEPA SW-846, other equivalent references and/or guidance documents, or equivalent methods approved by the NYSDEC may also be used.
(3) ASTM Standards, latest editions.

TABLE C-6 ADDITIONAL WASTE STREAM CODES [1] [2]

GENERAL WASTE CATEGORY	HAZARDOUS WASTE CODE POTENTIAL COMBINATIONS
Oils/Petroleum Products	D001/D018 D006/D010
PCB Contaminated Wastes	B007/D006 B007/D007 B007/D008 B007/D007/D008 B007/D006/D008 B007/D005/D006/D007/D008 B007/D005/D006/D007/D008/D010 B007/D006/D007/D008/D010 B007/D006/D007/D008
Debris and Solids, Primarily Organic	D001/D006/D008 D001/D007/D008 D001/D006/D007/D008 D005/D026 D005/D006/D007/D008 D005/D006/D007/D008/D010 D006/D008 D007/D008 D007/D008/D018 F001/F002 F002/F003 F003/F005/D035
Debris, Equipment, and Solids, Primarily Inorganic	D001/D005 D006/D008 D006/D007/D008 D007/D008 D007/D010 D007/D011 D008/D009 D008/D018 D009/D011
Sludges and Particulates, Primarily Inorganic	D002/D008 D007/D008
Sludges and Particulates, Primarily Organic	D001/D008 D007/D008
Aqueous Liquids and Slurries, Low TOC	D002/D004 D002/D006 D002/D006/D008 D002/D006/D009 D002/D007 D002/D008 D002/D009

TABLE C-6 ADDITIONAL WASTE STREAM CODES (1) (2)

GENERAL WASTE CATEGORY	HAZARDOUS WASTE CODE POTENTIAL COMBINATIONS
	D002/D010 D006/D007/D008/D010 D007/D008 D007/D010 D008/D009 D009/D011
Aqueous Liquids and Slurries, with Organics	D001/D002 D001/D018 D006/D007 D007/D010 D008/D009 D008/D018
Soils	D007/D008
Compressed Gases and Aerosols	D001/D005 D001/D007 D001/D008 D001/D035
Solvents	D001/F002 D001/F003 D001/F005 D035/F003/F005 D039/ F002 F001/F002 F002/F003
Miscellaneous Lab Chemicals	(3)

(1) P- and U-Listed Wastes not specifically identified.
(2) This table is not meant to provide a listing of all the possible permutations of waste code combinations, other combinations of waste codes appearing in Table C-1 may be possible.
(3) Packaged laboratory chemicals may be generated in all combinations listed in this table in addition to those listed in the Part A.

APPENDIX C-1

REPRESENTATIVE SAMPLING METHODS

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples are collected with local procedures incorporating the sampling protocols listed below, for wastes with properties similar to the indicated materials, and will be considered to be representative of the waste. These methods are referenced in 6 NYCRR 371 and 40 CFR 261.

- Extremely viscous liquid - ASTM Standard D140-70
- Crushed or powdered material - ASTM Standard D346-75
- Soil or rock-like material - ASTM Standard D420-69
- Soil-like material - ASTM Standard D1452-65
- Fly ash-like material - ASTM Standard D2234-76
- Containerized liquid waste - "COLIWASA" described in USEPA SW-846 (latest revision).
- Liquid Waste in Tanks - described in USEPA SW-846 (latest revision).

Where waste materials do not conform to one of the above or have a recognized standard sampling method, local procedures are developed to perform sampling. These procedures are developed using guidance contained in USEPA SW-846 (latest revision), and other equivalent or appropriate references.

APPENDIX C-2

QUALITY ASSURANCE/QUALITY CONTROL PLAN

I. INTRODUCTION

The basic purpose of the Kesselring Site Quality Assurance/Quality Control (QA/QC) Plan is to ensure that data generated in the implementation of the Site's hazardous/mixed waste management program is technically sound, statistically valid, properly documented, and satisfactory for its intended use.

The following QA/QC Plan is based on applicable guidance outlined in the QA/QC chapter of the USEPA SW-846 (latest revision). This guidance states that a proper QA/QC program should address the necessary level of precision and accuracy to reflect the intended use for the data.

This plan is a compilation of the Kesselring Site's QA/QC activities, specific to hazardous waste management, that are mentioned elsewhere in this Part 373 permit application. The majority of the hazardous/mixed wastes generated at the Kesselring Site come from well-identified sources and have well documented characteristics. Where appropriate or where required, references to specific methodologies, procedures, or other Kesselring Site programs are included. The Kesselring Site QA/QC plan will comply with the most current approved revisions to USEPA SW-846 (latest revision) and the QA/QC requirements of the individual methods utilized.

II. QUALITY ASSURANCE/QUALITY CONTROL ACTIVITIES

The Kesselring Site maintains a QA/QC program in order to ensure the accuracy and reliability of the evaluations (including analyses) performed on solid waste samples. Waste evaluations can be performed using acceptable knowledge (i.e., process knowledge, waste analysis data from other sources or surrogate samples), laboratory analysis, or a combination of the two. Where laboratory analysis is utilized, Kesselring Site maintains a QA/QC program in order to ensure the accuracy and reliability of the analyses performed on solid waste samples. Since Kesselring Site personnel perform or oversee all sampling and vendor laboratories perform the majority of the analyses, the Kesselring Site QA/QC program is divided into internal and external controls.

A. Internal Controls

The internal controls of the QA/QC plan can be broken into six parts: 1) personnel training; 2) sampling and analysis protocols; 3) sample containers; 4) sample accountability; 5) sample storage; and 6) audits.

1. Personnel Training (Sampling)

All hazardous and/or mixed waste management unit personnel who draw samples for waste analysis purposes in accordance with this permit shall meet, as a minimum, the following training requirements:

a. Initially, the individual must read and discuss with Site Environmental Engineering or the WCC sampling procedures applicable to the specific waste stream.

b. Initially, the individual must take at least one sample under the observation of Site Environmental Engineering or the WCC, followed by a discussion of the factors, which can affect the validity of samples and analyses.

c. The individual must demonstrate an understanding of the importance of the mechanism for maintaining sample traceability and the procedures to ensure sample result validity.

d. Periodically, a Supervisor or Site Environmental Engineering observation shall be conducted of personnel drawing chemical waste samples. These observations are conducted such that each person qualified to draw samples is observed at least once a year.

2. Sample and Analytical Protocols

Chemical waste sampling and analysis must, as a minimum, be performed in accordance with 40 CFR 261 Appendices I and III and USEPA SW-846 (latest revision). Each analytical methodology gives specific guidance on representative sampling, proper sampling devices, container selection, storage, and preservation requirements. Appendix C-1 lists the various methodologies and sampling protocols required for representative sampling of waste streams generated at the Kesselring Site. Subsection C-2D outlines the frequency at which each waste stream is analyzed. Since most of the wastes generated at the Kesselring Site are from well-identified and documented sources, repeat analysis is not required each time identical wastes are delivered to the container storage areas.

Duplicate samples of these waste streams are taken at a minimum 5% frequency to verify the precision of laboratory results. If major discrepancies occur, further sampling and analysis will take place until satisfactory resolution of discrepancies is achieved. As outlined in subsection C-2A, data indicating specific types and concentrations of hazardous constituents, whether from the literature or from actual analysis, is used only to determine the safe and proper handling, storage, and permanent disposal requirements of the specific waste streams. In cases where sampling results are close to regulatory limits, the waste may be categorized so that the more stringent controls are applied.

3. Sample Containers

Sample containers for chemical wastes are vendor or Kesselring Site supplied. All containers are new, appropriately cleaned using accepted practices (such as ASTM Standards or Standard Methods) and, if necessary, furnished with all materials required for sample preservation.

4. Sample Accountability

Chain-of-custody requirements at the Kesselring Site will be accomplished in accordance with Section 9.2.2.7 of Chapter 9, USEPA SW-846 (latest revision). The protocols employed for each sample collected include labels, seals, analysis request, and chain-of-custody forms. During sampling operations, all samples are under the custody of the monitoring personnel. Custody of samples is transferred to the vendor laboratory's representative at the time of pickup. See Figure C-1 for a typical vendor's chain-of-custody form. Samples are transported to the vendor laboratory via the laboratory's courier or common carrier, either ground or air transport as appropriate.

5. Sample Storage

Storage and handling, including hold times, shall conform to the requirements cited in the analytical method used. For example, holding times for VO compounds require 7 days if maintained at 4°C or 14 days, if preserved with concentrated Hydrochloric Acid to a pH <2 and maintained at 4°C. If the sample is to be subjected to multiple analyses, storage conditions (e.g., refrigeration) shall address all requirements cited as needed to ensure valid results.

6. Audits

A Kesselring Site organization, knowledgeable of environmental requirements but not involved in the daily solid waste sampling and analysis, will evaluate the Kesselring Site Sampling and Analysis Program, as part of a compliance audit, on an annual basis.

B. External Controls

The Kesselring Site External Controls section of the QA/QC plan encompasses the following responsibilities:

1. Vendor Certification

Vendors are required to maintain certification by the NYSDOH ELAP. Copies of the current certification shall be maintained by the vendor and available to KAPL during the term of the contract.

2. Vendor QA/QC

Vendors are required to have a QA/QC program that incorporates all applicable requirements in USEPA SW-846 (latest revision), Chapter 1 and all other QA/QC requirements of the NYSDEC and the NYSDOH. Vendors shall maintain their QA/QC programs current and have copies available for KAPL review during the term of the contract.

3. Vendor Subcontracting

Vendors shall not subcontract analysis without prior approval by KAPL.

4. Vendor Supplied Sample Containers

   Vendors will supply containers, necessary preservatives, and under no conditions exceed recommended holding periods as established by State and Federal regulatory guidelines.

5. Vendor Inspections

   At any reasonable time during the contract period, a Kesselring Site representative may visit the vendor laboratory to review data, procedures, equipment, and analytical techniques.

FIGURE C-1
EXAMPLE CHAIN OF CUSTODY RECORD

Adirondack Environmental Services Inc.
Experience is the solution

314 North Pearl Street
Albany, New York 12207
518-434-4546/434-0891 FAX

CHAIN OF CUSTODY RECORD

AES Work Order #

A full service analytical research laboratory offering solutions to environmental concerns

Client Name:	Address:	
Send Report To:	Project Name (Location)	Samplers: (Names)
Client Phone No: / Client Email: / PO Number:		Samplers: (Signature)

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.	Sample Type: Matrix	Comp	Grab	Number of Cont'rs	Analysis Required
			A / P					

Shipment Arrived Via:
FedEx UPS Client AES Other:_____

CC Report To / Special Instructions/Remarks:

Turnaround Time Request:
☐ 1 Day ☐ 3 Day ☐ Normal
☐ 2 Day ☐ 5 Day

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received for Laboratory by:	Date/Time

Temperature	AES Bottles	Properly Preserved	Received Within Holding Times
Ambient or Chilled	Y ☐ N ☐	Y N	Y N
Notes:		Notes:	Notes:

WHITE - Lab Copy YELLOW - Sampler Copy PINK - Generator Copy

Adirondack Environmental Services, Inc.

APPENDIX C-3

CHEMICAL COMPATIBILITY GUIDE

WASTE PACKAGING DESCRIPTION

Laboratory chemicals and residues individually packaged in labeled containers may be shipped for disposal when properly packed into UN standard packaging per USDOT regulations, identified, and labeled. These chemicals must be sorted into specific compatibility groups and packaged in accordance with USDOT regulations (49 CFR 100-199). In cases where a chemical would fit into two (2) or more groups, it would be placed in the group most appropriate for the highest hazard concern.

COMPATIBILITY GROUPS

Packaged laboratory chemicals and residue groupings described below are generally considered to be compatible within that group in the event of an incident, which would cause commingling of the materials within a drum. Examples illustrating each type of material are in parentheses:

Group A – Acid Generating Compounds

1. Inorganic acids (e.g., hydrochloric or sulfuric).
2. Inorganic chemicals, excluding heavy metals that do not liberate gaseous products when acidified (e.g., sodium chloride, potassium sulfate).

Group B – Acid Sensitive Compounds

1. Inorganic alkaline chemicals (e.g., sodium hydroxide, ammonium hydroxide).
2. Non-flammable organic bases, which have a flash point greater than 140°F (e.g., triethanolamine).
3. Elements and inorganic chemicals that liberate gaseous products when acidified (e.g., potassium cyanide, sodium sulfide).

Group C – Organic Compounds

Organic compounds, including organic acids, but excluding organic bases, which have a flash point greater than or equal to 140°F (e.g., mineral oil, glucose, cured phenolic resins, chloroform).

Group D – Organic Compounds

Combustible organic compounds, including organic bases but excluding organic acids, which have a flash point less than 140°F (e.g., acetone, mineral spirits, pyridine).

Group E – Inorganic Compounds

1. Inorganic oxidizing agents (e.g., potassium nitrate, potassium permanganate).
2. Heavy metal compounds and elements (e.g., $CuSO_4$, $ZnCl_2$, Hg, Fe, Mn, Co, Cd).

Note: Use non-oxidizing packing material such as vermiculite with these materials.

Group F – Highly Toxic Organics

1. Solid pesticides, insecticides, fungicides, etc.
2. Known and suspected carcinogenic materials.
3. Organics with toxicities of special concern.

Group G – Alkaline Sensitive

Alkaline sensitive compounds, pseudometal compounds and elements (e.g., As_2O_3, Se, Be, Bi, Te).

Note: In cases where a waste might fit into two or more groups, place in group of higher hazard concern (e.g., NaCl in acetone would go into Group D; lead acetate would go into Group E).

Group H – Other

Any waste (e.g., pressurized containers such as, aerosol paint cans and small gas or propane cylinders) that does not fit into Categories A through G will be properly segregated and managed in accordance with the general safe handling and segregation procedures in Attachment F (Procedures to Prevent Hazards). Packaging and disposal of such wastes shall be in accordance with lab-pack disposal vendor requirements and guidance.

ATTACHMENT D – PROCESS INFORMATION

In accordance with the regulatory requirements set forth in 40 CFR 270.15, 40 CFR 264.17, 264.171 through 264.177, 264.1080 through 264.1090, and 6 NYCRR 373-1.5(b), 2.2, 2.9, and 2.29, process information is provided for the Kesselring Site.

D-1 HAZARDOUS/MIXED WASTE CONTAINER STORAGE AREAS

Hazardous/mixed wastes generated at locations throughout the Kesselring Site are transported to the Container Storage Areas (CSAs) prior to shipment off the site. Building 75 is where hazardous wastes can be stored for greater than 90 days. Building 91 has been established for storage of hazardous and/or mixed waste for greater than 90 days. In all instances, containers being used shall be compatible with the waste being stored. See Appendix C-3 for additional chemical compatibility information. Transfer, removal, and ultimate disposal of all hazardous/mixed wastes at the Kesselring Site is the responsibility of the Waste Chemical Coordinator (WCC). The containers used, the design and operation of the CSAs, and hazardous/mixed waste management practices are described herein.

D-1A Containers With/Without Free Liquids

Containerized wastes stored in the CSAs include those containing free liquids and those without free liquids. The CSAs are designed and/or managed to handle storage of all containers with liquid and non-liquid wastes, thereby ensuring adequate secondary containment and container protection in the event of a spill or leak.

The following discussion applies to all containerized wastes, whether or not they contain free liquids.

D-1A(1) Basic Design Parameters, Dimensions, and Materials of Construction

Figure D-1 illustrates the location and general layout of the Building 91 CSA. It is located in the northeastern part of Building 91. The CSA is functionally divided into two areas. The approximate floor dimensions of the two areas are 40 ft x 29 ft and 17 ft x 9 ft. For flexibility, liquid, non-liquid, and/or flammable wastes may be stored in any part of the CSA, based on compatibility and overall CSA inventory; however, any flammable waste stored in the 40 ft x 29 ft area must be stored within a flammable locker. The 40 ft x 29 ft area can store a maximum of 7,000 gallons of waste and the 17 ft x 9 ft area can store a maximum of 550 gallons of waste. Flammable wastes are most commonly stored in a self-contained locker within the CSA (the 17 ft x 9 ft area), which meets National Fire Protection Association (NFPA) 30 “Flammable and Combustible Liquids Code” for the types and amounts of waste planned for storage. The locker has a chemically resistant open epoxy coated deck and integral epoxy coated sump to collect spilled liquids. All liquid wastes are placed on elevated open steel grating with curbing and a containment sump, or they are placed on individual containments or

other suitable devices to contain spills or leaks. The 40 ft x 29 ft area provides containment for inadvertent leaks or spills using a revetment constructed from drive-over curbing. Additionally, the building floor is sloped from the exterior entries to prevent the spread outside the building of any leakage.

Figure D-2 illustrates the layout of the CSA in Building 75. It consists of a heated steel frame building, which has a chemically resistant epoxy coated concrete floor. The approximate floor dimensions are 50 ft x 80 ft. The Building 75 CSA can store a maximum of 19,580 gallons of hazardous waste. It is fully curbed to contain spills and entrance doorways are designed to prevent run-on.

Building 75 has been designed in accordance with NFPA 30 for the types and amounts of materials planned for storage. Drums or other containers of liquids to be stored in Building 75 are placed on individual pallets or other suitable, chemically compatible, devices. Non-liquid hazardous wastes, when managed in the same areas as liquid wastes, are also elevated using suitable devices such as pallets.

Figure D-2 shows the location of waste stored within Building 75. The locations of the wastes are based on segregation, compatibility, and inspection requirements. The areas may enlarge or expand within the respective CSA, and may vary vertically as needed to accommodate individual waste stream generation rates. Concrete block wall partitions exist to support segregation of incompatible materials and are labeled to identify the specific type of waste currently being stored in each partition. In all cases, requirements for the proper management of containers are met. These requirements include aisle space inspection, segregation of incompatible waste streams, and spill control needs.

D-1A(2) Drainage and Protection of Containers from Standing Liquids; Secondary Containment

The Building 91 CSA roof, walls, and entryways are designed to eliminate precipitation and run-on from entering the storage areas contained within. As stated in subsection D-1A(1), waste may be stored in any of the areas based on compatibility and overall CSA inventory. All liquid wastes are placed on elevated open steel grating with curbing and a containment sump or they are placed on individual containments or other suitable devices.

Building 75 is constructed with a roof, walls, and entryways designed to prevent precipitation and run-on from entering the CSA and is constructed with continuous curbing around its perimeter. The truck loading area of Building 75 is covered to control precipitation run-on and is surrounded by curbing and trench drains to contain spills in this area. In Building 75, incompatible types of waste are segregated from each

other by masonry walls and/or stored apart on individual containment pallets. The pallets are designed to prevent the drums from sitting in any accumulated liquid should the drum, or a nearby drum on the same pallet leak.

D-1A(3) Capacity of Containment System Relative to Waste Volume Stored

Each of the CSAs covered in this Attachment is equipped with a secondary containment system that has sufficient capacity to contain 10 percent of the volume of containers or the volume of the single largest container, whichever is greater. Table D-1 below provides a comparison of existing secondary containment capacities with regulatory requirements.

The Kesselring Site CSAs may also be utilized to manage polychlorinated biphenyl (PCB) waste. Therefore, the requirements for storage of regulated quantities of PCBs specified in 40 CFR 761.65 will also be followed.

TABLE D-1 – SECONDARY CONTAINMENT CAPACITIES (gallons)

CSA	Permitted	10% Minimum Required	Single Largest Container(1)	Secondary Containment Capacity
91(2)	7,000	700	330	2,842
91(3)	550	55	55	500
75	19,580	1,958	958	6,872

(1) Larger non-liquid containers other than those listed may also be placed in the CSAs.
(2) Non-Flammable liquid waste storage area (In accordance with 6 NYCRR 373-2.9(f)(1)).
(3) Flammable liquid waste storage area (In accordance with 6 NYCRR 373-2.9(f)(1)).

D-1A(4) Provisions for Preventing or Managing Run-On

Run-on prevention is provided by the construction of the CSAs, as described in previous subsection D-1(A)2.

D-1A(5) Analysis and Removal of Spill Overflow

If a spill or container leak is detected in Building 91 or Building 75, the container will be placed in an overpack drum or repackaged and the spilled material absorbed. After the material is completely absorbed, it will be swept, or otherwise cleaned up, and placed in a container for storage and disposal. Proper decontamination of all surfaces following spill cleanup will be performed, as necessary, to ensure that no residue remains that may be hazardous to human health or pose a risk of reaction if an incompatible material should subsequently spill in the same area. Analysis of such spills is not necessary since the container labels characterize the waste adequately.

D-1B Containers Without Free Liquids

Subsection D-1A covers all containerized hazardous/mixed wastes, whether or not they contain free liquids.

D-1C Requirements for Ignitable or Reactive Wastes and Incompatible Wastes

Attachment F (Procedures to Prevent Hazards) discusses the procedures followed when handling ignitable, reactive, or incompatible wastes. No ignitable or reactive wastes are stored within 50 ft of the property boundary at the Kesselring Site, in compliance with 40 CFR 264.176 and 6 NYCRR 373-2.9. The location of the CSAs in relation to the Site property line is illustrated in Figure A-1 (Attachment A).

D-1D Container Management Practices

D-1D(1) Description of Containers

Hazardous/mixed wastes managed at the Kesselring Site's CSAs are routinely stored in containers, except for specific cases where a solid waste (containing no free liquids) is too large for any readily available container (e.g., United Nations (UN) standard packaging per United States Department of Transportation (USDOT) regulations). In this situation, the waste will be securely sealed within a wrapping material that will preclude the release of any hazardous waste or waste constituents and therefore meet the definition of a Resource Conservation and Recovery Act (RCRA) container as specified in 6 NYCRR 370.2(b) or 40 CFR 260.10.

Most hazardous/mixed wastes are stored in new containers, which conform to applicable UN standard packaging per USDOT regulations. Liquid wastes are normally stored in steel or plastic, "closed-top, bung type" drums, which have non-removable lids. Wastes that contain no free liquids are stored in steel or plastic, "open-top" drums, which have removable lids, or in fiber drums. "Open-top" drums are sealed by ensuring proper seating of the gasketed cover on the rim and securing the bolt ring mechanism until the lid is tightly in place in accordance with the drum manufacturer's instructions.

Low volume laboratory wastes are also stored in the CSAs. These wastes are often stored in their original containers (i.e., small jars, cans, or poly containers), which are placed in chemically compatible trays on racks according to their compatibility group until they are prepared for off-site disposition. Prior to off-site disposition, compatible laboratory wastes, which are similar in characteristics, are packaged together in UN standard packaging per USDOT regulations and per designated treatment method. The containers are packed with sufficient absorbent medium to reduce the likeliness of inner container breakage, thus preventing the mixing of the wastes, and to meet USDOT and disposal facility requirements.

D-1D(2) Container Handling Practices

Preparation for transit to the CSA includes a visual inspection of the container and its contents by the cognizant generator and/or Waste Chemical Representative (WCR). This inspection includes checks for proper sealing of the container, signs of leaks or corrosion, validation that no material is present on the outside of the container, sealing of bungs and lids, and affirmation that the contents are labeled correctly. If the visual inspection reveals that a container may contain material other than the labeled contents, or if the cognizant generator or WCR has other reasons to suspect an inconsistency, a sample of the container's contents may be taken and analyzed. Prior to transport to the CSA, the cognizant generator or WCR will notify the WCC or designee that a containerized waste is ready for transport (designee is defined as any individual possessing the required training and experience level to properly undertake the assigned task). The cognizant generator enters waste information into a tracking system and certifies the identification and characterization of the waste. Upon receipt, the WCC or designee reviews the information and if acceptable, the waste is scheduled for pickup.

Wastes are transported to the CSA by either truck, forklift, barrel jack, or, if small enough, by hand. If a truck is used, the waste is loaded on the truck either by hand or a forklift (or other suitable equipment). Prior to transport, the WCC or designee ensures that the container is properly sealed, and, if necessary, secured to the vehicle to prevent containers from moving or falling over in transit.

Upon arrival at the CSA, a WCC, cognizant supervisor, Waste Processor, or designee reinspects the containers for signs of leakage or damage, which may have occurred in transit. If a container does not pass this inspection, it may be placed in an overpack or the contents may be transferred to another suitable container. If it passes inspection, a WCC, cognizant supervisor, or designee ensures that the waste is properly stored in a compatible location within the unit.

The compatibility of the waste material with other wastes stored in the CSA is determined through the use of the internal waste identification and certification process and the container labels. Only compatible wastes are stored adjacent to each other within the CSAs. Reactive wastes, ignitable wastes, or wastes incompatible with one another are segregated. Aisle space between rows is a minimum of two (2) feet wide to allow CSA personnel to inspect any stored container and, in emergency situations, to allow for unobstructed access to any area within the unit to deploy fire protection, spill control, and decontamination equipment.

Where mixed waste is stored, there may be occasions when containers with low exposure rates may be used to provide radiation shielding for

containers with higher exposure rates (this is known by the term "dense packing"). Dense packing may be used so long as there is a means of detecting, locating the source of, and responding to a release within 24 hours of detection to mitigate any significant release.

The maximum container stacking height ranges from one to three containers depending on the type of container, size of container, and the design height of the CSA. Typical container sizes range from approximately 700-gallon metal boxes to plastic pails, three gallon or smaller in size. The stacking limit for 55-gallon drums is limited to two drums, but single-level storage is preferred and practiced whenever possible. Any placement or relocation of containers in the CSA is evaluated and determined by the WCC or designee.

After they are properly situated, the containers are opened only to inspect the contents, extract samples, add to or repackage the waste within the existing container, or transfer the contents to another container. Compatibility regarding the latter actions is assured by verifying the container's contents through the internal waste identification and certification process and the container labels. During storage, the wastes are in the custody of a WCC who retains accountability for their disposal.

To maintain compliance with 6 NYCRR 373-2.29, all regulated wastes (e.g., hazardous wastes having a volatile organic concentration ≥500 ppmw), when managed in containers greater than 26 gallons, but less than 121.5 gallons, will be placed in Level 1 containers (e.g., UN standard packaging per USDOT regulations) in compliance with the container requirements in 6 NYCRR 373-2.29(g). These containers will be kept closed and only opened for sampling or addition of more waste.

Mixed wastes may be removed from the CSA for non-intrusive activities that require the use of specialized equipment not present in the CSA, such as radiation counting equipment. In such cases, the movement and return of the mixed waste will be recorded in the operating record. Information to be recorded includes container identification, date and time removed and returned, where it was moved, and the reason for the movement. Mixed wastes removed from the CSA for such purposes will be returned to the CSA within one shift of removal.

When the hazardous/mixed wastes are to be removed from any CSA for off-site disposition, trained waste processors or waste disposal vendor employees will remove the wastes from the unit and a licensed hazardous waste hauler will transport the wastes from the Kesselring Site facility to a permitted treatment, storage, and/or disposal facility.

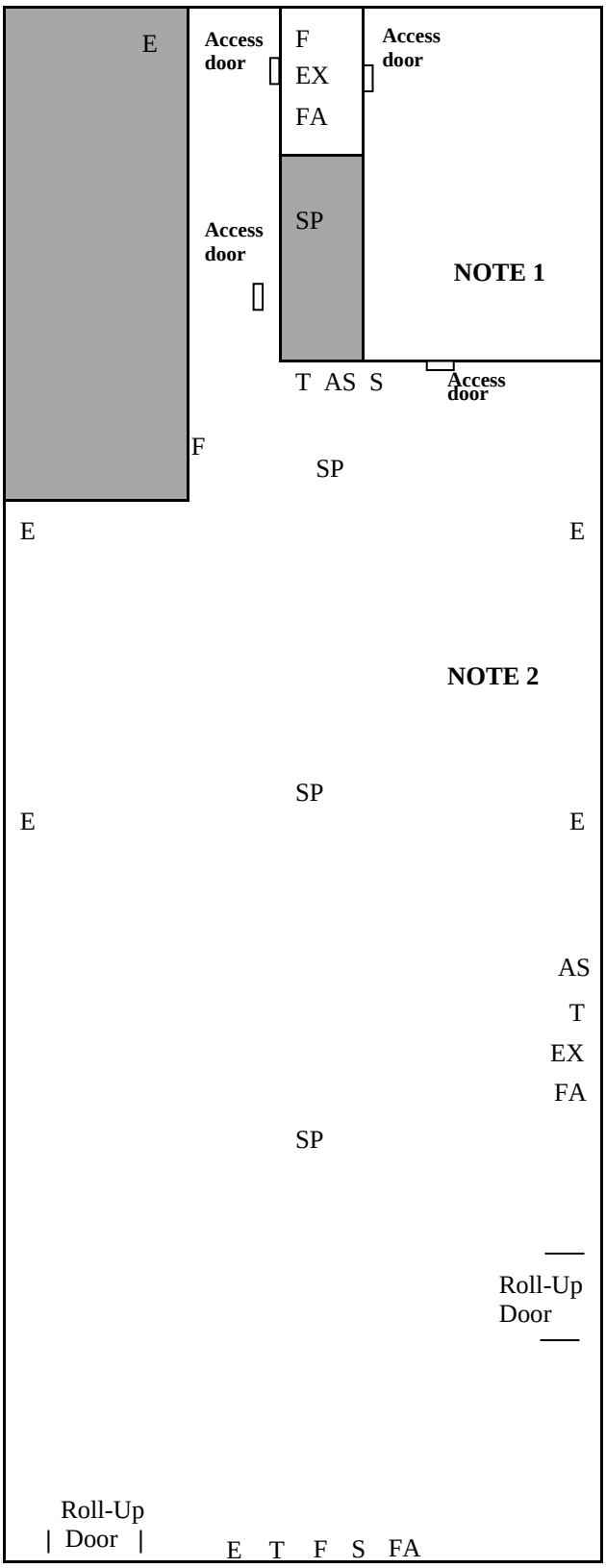
D-1D(3) Inspections

The CSAs are inspected in accordance with the plan outlined in Attachment F (Procedures to Prevent Hazards). These inspections are performed to ensure the containers are free from hazards due to corrosion, leaks, ruptures, or spills and that the structural integrity of the building and floor is intact. The CSAs are inspected weekly for spills, leaks, and general facility conditions regardless of whether waste is present or not.

D-2 NAVY VESSEL WASTE HANDLING PROCEDURE

The Federal Facility Compliance Act (FFCA) exempts hazardous waste generated on Navy vessels from regulation until such waste is transferred to a shore facility. The active prototype at the Kesselring Site simulates a Navy vessel and is used to train Navy personnel. To enable prototype training conditions to simulate actual shipboard conditions to the maximum extent practicable, Navy-operated prototype areas are designated as "in-process" and the New York State hazardous waste management requirements for the point of generation are applied at the prototype exits.

The prototype areas are not used to store used/excess hazardous materials (HM) long term. Prototype used/excess HM storage areas are sized such as to limit the amount of materials that can be stored in them. It is not anticipated that used/excess hazardous materials will remain in the active prototype areas in excess of 180 days. Consistent with shipboard operations while in port, such HM is moved ashore as necessary to meet Navy requirements on shipboard HM management. The used/excess HM, generated by prototype personnel inside prototype areas, is labeled as RCRA hazardous waste when the material leaves the confines of the prototype area and is transferred to a regulated waste management area.



N

KEY

E	Emergency Lighting
F	Fire Extinguisher
T	Telephone
S	Spill Kit (portable; moved to support work as needed)
EX	Emergency Exit
FA	Fire Alarm Pull Box
AS	Eyewash/Shower (portable; moved to support work as needed)
SP	Automatic Sprinkler System (water-based)
▭	Container Storage Area

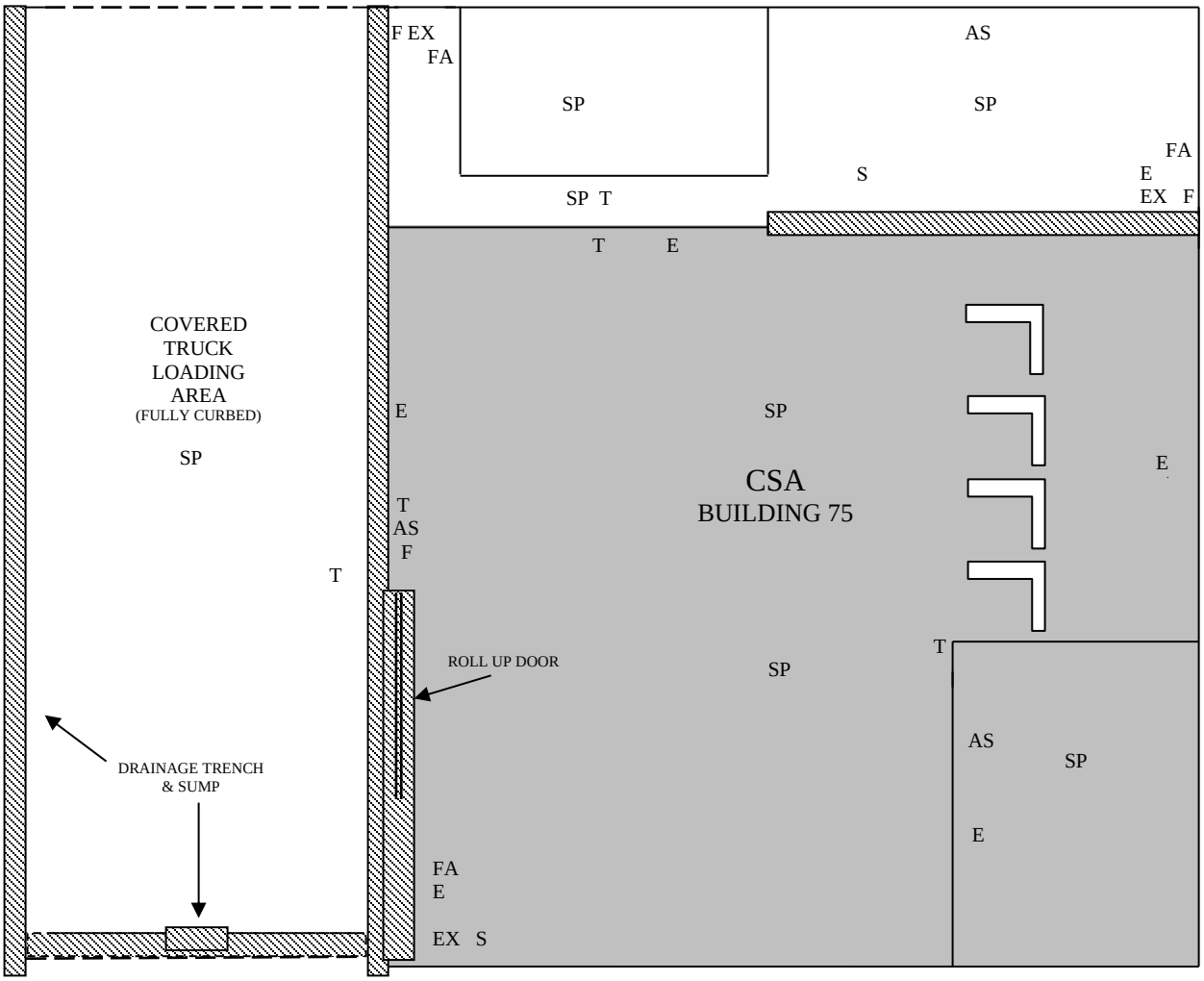
NOTES

1. Two (2) Removable Roof Hatches
2. Perimeter Concrete Shield Wall

Note that, for flexibility, liquid, non-liquid, or flammable waste may be stored in any part of the Container Storage Area, based on compatibility, secondary containment, and overall Container Storage Area inventory.

NOT TO SCALE

Figure D-1
Building 91
Container Storage Areas



AS	Eyewash/Shower
T	Telephone
F	Fire Extinguisher
S	Spill Kit (portable; moved to support work as needed)
SP	Automatic Sprinkler System (water-based)
FA	Fire Alarm Pull Box
E	Emergency Lighting
EX	Emergency Exit
▨	Curb
▭	Container Storage Area
– – –	No wall at ends of roofed truck bay

Note that, for flexibility, liquid, non-liquid, or flammable waste may be stored in any part of the Container Storage Area, based on compatibility, secondary containment, and overall Container Storage Area inventory.

NOT TO SCALE

Figure D-2
Building 75
Container Storage Area

ATTACHMENT E

SOLID WASTE MANAGEMENT UNITS (SWMUs) AND AREAS OF CONCERN (AOCs)

Knolls Atomic Power Laboratory
Kesselring Site
West Milton, New York

Table E-1. Further Action SWMU/AOC Summary

Further Action	
Sampling Visit	
SWMU #55	Stormwater Drain System *
AOC #5	Building 17 High Yard Area **
AOC #8	Building 80 Soil Area

* Unit managed Resource Conservation and Recovery Act (RCRA) solid waste potentially containing or mixed with RCRA-solid-waste-exempt special nuclear or byproduct material.

** Further action deferred based upon unit inaccessibility.

Table E-2. No Further Action SWMU/AOC Summary

No Further Action	
SWMU #1	Wastewater Treatment Lagoon
SWMU #2	Storage Containers
SWMU #3	Container Storage Area
SWMU #4	Wastewater Treatment Tanks
SWMU #5	Wastewater Treatment Tanks
SWMU #6	Wastewater Treatment Tanks
SWMU #7	**Wastewater Treatment Tanks ***
SWMU #8	Wastewater Treatment/Neutralization Tank
SWMU #9	Wastewater Treatment/Neutralization Tank
SWMU #10	**Wastewater Collection Tanks**
SWMU #11	**Wastewater Collection Tanks**
SWMU #12	**Wastewater Collection Tanks**
SWMU #13	**Former Wastewater Collection Tank**
SWMU #14	Wastewater Collection Tank
SWMU #15	Wastewater Treatment Tanks
SWMU #15A	Wastewater Treatment Tanks
SWMU #16	Wastewater Collection Tank
SWMU #17	Wastewater Collection Tank
SWMU #18	Wastewater Collection Tank
SWMU #19	Waste Oil Treatment Tanks
SWMU #20	Wastewater Treatment Tank
SWMU #21	**Wastewater Collection Tank**
SWMU #22	Wastewater Collection Tank
SWMU #23	Waste Oil Collection Tank
SWMU #24	Wastewater Treatment Tanks
SWMU #25	**Former Wastewater Collection Tank**
SWMU #26	Wastewater Treatment Tank
SWMU #27	Wastewater Collection Tank
SWMU #28	Wastewater Collection Tank
SWMU #29	Wastewater Collection Tank
SWMU #30	**Wastewater Collection Tank/Neutralization**
SWMU #31	**Former Wastewater Treatment Tank/Neutralization**
SWMU #32	Filter Press Floor Area
SWMU #33	Wastewater Collection Tank
SWMU #34	Wastewater Collection Tank
SWMU #35	Hogback Road Landfill *
SWMU #36	**Former Container Storage Area**
SWMU #37	**Swan School Road Area**
SWMU #38	**Silo Area ***
SWMU #39	**Parkis Mills Road Area**
SWMU #40	Baptist Hill Road Area
SWMU #41	**Insulation Disposal Area**
SWMU #42	**Hogback Road Construction Material Debris Area**
SWMU #43	Wastewater Collection Tank
SWMU #44	Wastewater Collection Tank
SWMU #45	Hogback Road Former Urea-Sand Mixing Area
SWMU #46	Empty Drum Staging Area
SWMU #47	Building 75 Container Storage Area
SWMU #48	Building 75A Hazardous Waste Storage Locker
SWMU #49	**Lee Road Farmhouse Foundation**
SWMU #50	Building 92 Waste Processing Facility
SWMU #51	Building 91 Waste Compacting and Container Storage Areas
SWMU #52	Scrap Metal Management Areas
SWMU #53	Building 37 Former Waste Oil Storage Tank
SWMU #54	**Building 5C Wastewater Processing System ***
SWMU #56	Former S1G Interment Area
SWMU #57	Building 13/14 Former Chemistry Laboratory Wastewater Collection Tank
SWMU #58	Building 8 Boiler Blowdown Tank
SWMU #59	Building 13 High Bay
SWMU #60	Building 13 Waste Processing & Storage Cell
SWMU #61	Building 4 Former Wastewater Processing System
SWMU #62	Building 4 Former Wastewater Collection Tank
SWMU #63	Building 4 Former Waste Sodium Processing System
SWMU #64	Building 4 Former Wastewater Processing System
SWMU #65	Building 63 M8-70 Tank
SWMU #66	Former Sodium Waste Tank
SWMU #67	Building 4 Former Wastewater Collection System
SWMU #68	Waste Processing and Staging Area *
SWMU #69	Building 1C (Former Site of Building 2C/3C) Former Wastewater Collection System
SWMU #70	Site Wastewater Processing Systems
SWMU #71	Building 20 Former Wastewater Processing System
SWMU #72	Building 21A Waste Compaction Area
SWMU #73	Building 21 Waste Storage/Compaction Area
SWMU #74	Building 21 FSF Dry Pool Area
SWMU #75	**Building 29 Wastewater Collection Pit ***
SWMU #76	Building 72 Wastewater Accumulation Tank
SWMU #77	Building 3C Former Wastewater Collection System
SWMU #78	Pumphouse Road Land Disposal Area
SWMU #79	Aboveground Wastewater Piping Systems
SWMU #80	SWMU #4 and SWMU #5 Below-Ground Wastewater Piping Systems
SWMU #81	Steam Condensate Return System Discharge Locations
SWMU #82	Site Service Water Pumphouses
SWMU #83	Building 4 Scrap Metal Dumpster
SWMU #84	Miscellaneous ≤ 90-Day Waste Accumulation Areas
SWMU #85	Canberra Cronos-11 Unit
AOC #1	**Borrow Area**
AOC #2	**Lead Laydown Area**
AOC #3	**KSO Firing Range**
AOC #4	**Swan School Road Spoils Area ***
AOC #6	**Swan School Road Drum Area**
AOC #7	**Building 20 South**

Unbolded — SWMUs that were determined to be No Further Action in the 1995 Part 373 Permit, the 1999 modification, subsequent discoveries, and the 2013 modification. As a consequence of the No Further Action status, any subsequent physical or process modification associated with the SWMU was not included in the 1999 or 2013 Permit modifications SWMU descriptions since the action did not affect the No Further Action status. This methodology will be maintained as the Further Action SWMUs/AOCs (Table E-1) are dispositioned by the New York State Department of Environmental Conservation (NYSDEC). No Further Action SWMUs/AOCs will be retained without modification throughout the duration of the Permit.

Bolded — SWMUs/AOCs that were subject to Further Action based on the 1995 Permit, the 1999 modification, and subsequent discoveries.

* Unit managed RCRA solid waste potentially containing or mixed with RCRA-solid-waste-exempt special nuclear or byproduct material.

SWMU and AOC Descriptions

SWMU #1: Wastewater Treatment Lagoon - This area is used to collect site effluent wastewater prior to release to permitted State Pollutant Discharge Elimination System (SPDES) discharge points. The Wastewater Treatment Lagoon also provides some treatment of influent water due to its inherent design, including heat and chlorine dissipation. Based on the Resource Conservation and Recovery Act (RCRA) Facility Assessment-Preliminary and Visual Site Inspection transmitted by the New York State Department of Environmental Conservation (NYSDEC) on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the 6 New York Codes, Rules, and Regulations (NYCRR) Part 373 Permit issued June 1, 1995.

SWMU #2: Storage Containers - This unit was used for collecting waste oil before it was shipped to an off-site disposal facility. The unit consisted of three containers with covers, each lined with a layer of polyethylene. Each container had a capacity of approximately 700 gallons. Since 1990, the three containers had replaced two storage tanks, which have been placed in excess. The three containers were removed from service in August 1992. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #3: Container Storage Area - This area was used for the storage, in drums, of hazardous wastes. It was an indoor storage area, which had secondary containment and a storage capacity of 12,000 gallons. This was a regulated unit and was closed in accordance with the approved Closure Plan. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this unit. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #4: Wastewater Treatment Tanks - This unit consists of two 1,500-gallon above floor level metal tanks in Building 37. The tanks are located indoors and were used as an oil-water separator in the processing of oily wastewater prior to transfer to SWMU #27. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995. The unit was removed from service in 1996.

SWMU #5: Wastewater Treatment Tanks - This unit consisted of two 800-gallon metal tanks situated indoors, above floor level. The tanks were used to separate hazardous waste oil (D008) from the influent oily wastewater stream prior to transfer to SWMU #26. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995. This unit was removed in March 2006 during the dismantlement of Building 29.

SWMU and AOC Descriptions, cont.

SWMU #6: Wastewater Treatment Tanks - This unit consists of two 4,000-gallon concrete tanks situated indoors above floor level in Building 81. This unit is used to separate hazardous waste oil (D008) from the influent oily wastewater stream prior to transfer to SWMU #12. Also, water collected inside the building's basement sumps are redirected to this unit. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #7: Wastewater Treatment Tanks - This outdoor unit consisted of two 6,000-gallon concrete in-ground tanks located east of Building 37. This unit managed RCRA solid waste potentially containing or mixed with RCRA-solid-waste-exempt special nuclear or byproduct material. This unit had been used for thermal and chemical mixing of cooling tower and retention basin effluents prior to discharge to the environment. This occurred prior to the SPDES permitting process. In 1957, mercury was discovered in this unit. Approximately 5 quarts of mercury were recovered and later shipped to an off-site disposal facility. Since this unit consisted of single containment tanks, with the potential for releasing hazardous constituents, and since the RCRA Facility Assessment (RFA) Preliminary Review and Visual Site Inspection could not determine, conclusively, whether or not the tanks were secure, further evaluation of its integrity was necessary. Therefore, the Permittee implemented a Department-approved RFA-Sampling Visit Tank Integrity Assessment Work Plan in 1997. The tanks failed the assessment, were removed, and a soil and groundwater assessment was performed in 1998. Based on the results of the 1998 assessment, the Permittee implemented an Interim Corrective Measure (ICM) Study Work Plan in 2001. As a result of the 2001 ICM Study, no further action was recommended on March 7, 2002. The Department approved the recommendation on June 14, 2002.

SWMU #8: Wastewater Treatment/Neutralization Tank - This unit consists of a 10,000-gallon fiberglass tank situated aboveground and outdoors. This tank is used for the neutralization of boiler blowdown and acidic/caustic streams from the regeneration of ion exchange resins. Neutralization is done to comply with a SPDES discharge condition specifying pH in the range of 6.5-8.5 pH units prior to release to SWMU #1 for subsequent discharge. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. However, during a maintenance upgrade project in 2000, a leak of potential hazardous waste (acidic and caustic) was discovered from the system. Subsequent assessment of the condition determined that the nature of the release consisted of a small volume of diluted water with a pH above 2 and less than 12.5 having negligible environmental significance. Therefore, no further action was recommended on January 31, 2002 and approved by the Department on May 21, 2002.

SWMU #9: Wastewater Treatment/Neutralization Tank - This unit consists of a 6,000-gallon metal tank situated outdoors and aboveground. This tank is used for the neutralization of boiler blowdown and acidic/caustic streams from the regeneration of ion exchange resins. Neutralization is done to comply with a SPDES discharge condition specifying pH in the range of 6.5-8.5 pH units prior to

SWMU and AOC Descriptions, cont.

release to SWMU #1 for subsequent discharge. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. However, during a maintenance upgrade project in January 2000, a leak of potential hazardous waste (acidic and caustic) was discovered from the system. Subsequent assessment of the condition determined that the nature of the release consisted of a small volume of diluted water with a pH above 2 and less than 12.5 having negligible environmental significance. Therefore, no further action was recommended on January 31, 2002 and approved by the Department on May 21, 2002.

SWMU #10: Wastewater Collection Tanks - This unit consists of two 20,000-gallon concrete tanks situated below floor level in Building 37. This unit, located in an operating facility, was used to collect treated wastewater effluent from SWMU #27 for discharge in accordance with SPDES Permit #NY0005843 requirements, via SWMU #1. Since this unit consists of single containment tanks with a potential for releasing hazardous constituents, and since the RCRA Facility Assessment (RFA) Preliminary Review and Visual Site Inspection could not determine conclusively whether or not these tanks were secure, further evaluation of their integrity was necessary. Therefore, the Permittee implemented a Department-approved RFA-Sampling Visit Tank Integrity Assessment Work Plan. The assessment concluded that the integrity of the tanks was acceptable, and no further action was approved by the Department on November 16, 2001. This unit was removed from service in 1996.

SWMU #11: Wastewater Collection Tanks - This unit consisted of two 7,500-gallon concrete tanks situated below floor level in Building 29. This unit was used to collect treated wastewater effluent from SWMU #26 for discharge in accordance with SPDES Permit #NY0005843 requirements via SWMU #1. Since this unit consisted of single containment tanks with a potential for releasing hazardous constituents and since the RCRA Facility Assessment (RFA) Preliminary Review and Visual Site Inspection could not determine, conclusively, whether or not these tanks were secure, further evaluation of their integrity was required. Therefore, the Permittee implemented a Department-approved RFA-Sampling Visit (SV) Tank Integrity Assessment Work Plan. The assessment concluded that the integrity of the tanks were unacceptable. The results of the integrity assessment were approved by the Department on November 16, 2001. As a result of this assessment, it was concluded that waste may have been released to the environment. An SV Work Plan was prepared and designed, in part, to investigate this conclusion; SV Work Plan implementation was completed in 2009. The results of the SV concluded that no release to the environment had occurred and no further action was approved by the Department on September 30, 2010.

SWMU #12: Wastewater Collection Tanks - This unit consists of two 15,000-gallon concrete tanks situated below floor level in Building 81, which is an operating facility. This unit is used to collect treated wastewater effluent from SWMUs #6 and #24 for discharge in accordance with SPDES Permit #NY0005843 requirements, via SWMU #1. Since this unit consists of single containment tanks with a potential for releasing hazardous constituents and since the RCRA Facility Assessment (RFA) Preliminary Review and Visual Site Inspection could not determine, conclusively, whether or not these tanks were secure, further evaluation of their integrity was necessary. Therefore, the Permittee implemented a Department-approved RFA-Sampling Visit Tank Integrity Assessment

SWMU and AOC Descriptions, cont.

Work Plan. The assessment concluded that the integrity of the tanks was acceptable, and no further action was approved by the Department on November 16, 2001.

SWMU #13: Former Wastewater Collection Tank - This unit consisted of a 2,000-gallon underground concrete tank west of Building 83. This unit was used for the collection of waste effluent from pipe laundry and from a photographic laboratory. Once full, the contents were pumped to a tank truck for transportation to an off-site disposal facility. This unit may have contained hazardous constituents from laboratory sinks and photography waste. Since this unit was a single containment tank with a potential for releasing hazardous constituents, and since the RCRA Facility Assessment (RFA) Preliminary Review and Visual Site Inspection could not determine, conclusively, whether or not this tank was secure, further evaluation of the integrity was required. Therefore, the Permittee implemented a Department-approved RFA-Sampling Visit Tank Integrity Assessment Work Plan in 1997. The tank failed the assessment, was removed in May 1999, and a soil and groundwater assessment was then performed. Based on the results of the 1999 assessment, the Permittee implemented an Interim Corrective Measure (ICM) Study Work Plan in 2001. As a result of the 2001 ICM Study, no further action was recommended on March 7, 2002. The Department approved the recommendation on June 14, 2002.

SWMU #14: Wastewater Collection Tank - This unit consisted of a 3,000-gallon metal tank. The tank is located indoors and below floor level in Building 4. This unit served as the first unit of an oily wastewater separation process consisting of SWMUs #4, #10, #14, and #27. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995. The unit was removed from service in 1996.

SWMU #15: Wastewater Treatment Tanks - This unit consisted of four 750-gallon indoor, above floor level polyethylene containers. This unit was used to treat highly phosphated boiler blowdown effluent from SWMU #16 prior to transfer to SWMU #14 for continued processing and subsequent SPDES discharge. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995. The unit was removed and placed into storage around 1997. In 1998, three of the four tanks were relocated to Building 21 and re-designated as SWMU #15A, the fourth tank remains in storage.

SWMU #15A: Wastewater Treatment Tanks - This unit consists of three 750-gallon indoor, above floor level polyethylene containers. This unit is used to treat phosphated boiler blowdown effluent from SWMU #29 prior to discharge in accordance with the Site's SPDES discharge permit (#NY0005843). The Permittee transmitted a Newly Identified SWMU Assessment Report with a recommendation of no further action for this unit to the Department on August 27, 1998. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999. There is no evidence of releases from this SWMU since its installation in 1998.

SWMU and AOC Descriptions, cont.

SWMU #16: Wastewater Collection Tank - This unit consisted of a metal tank located indoors above floor level in Building 4. This unit was used for the collection of highly phosphated wastewater prior to treatment. It served as the first unit of a boiler blowdown wastewater treatment process consisting of SWMUs #4, #10, #14, #15, #16, and #27. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995. The unit was removed from service in 1996.

SWMU #17: Wastewater Collection Tank - This unit consists of a 1,000-gallon above floor level metal tank in Building 72. This unit was used to collect oily wastewater prior to treatment. It served as the first unit of an oily wastewater separation process consisting of SWMUs #5, #11, #17, and #26. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #18: Wastewater Collection Tank - This unit consists of a 550-gallon above floor level tank located in Building 77. This unit was used to collect treated wastewater effluents from SWMU #20 for discharge in accordance with SPDES Permit #NY0005843 requirements via SWMU #1. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995. This unit is not currently in service.

SWMU #19: Waste Oil Treatment Tanks - This unit is located in Building 77 and consists of two above floor level open containers lined with polyethylene. This unit was used to collect oily wastewater from SWMU #21. Wastewater was then recirculated through filtration systems, sampled and discharged in accordance with SPDES Permit #NY0005843, via SWMU #1. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995. This unit is not currently in service and the polyethylene containers have been removed.

SWMU #20: Wastewater Treatment Tank - This unit is located in Building 77 and consists of a 550-gallon above floor level metal tank. This unit is used to separate hazardous waste oil from the oily wastewater stream prior to collection and subsequent discharge via SWMU #18. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995. This unit is not currently in service.

SWMU and AOC Descriptions, cont.

SWMU #21: Wastewater Collection Tank - This unit consists of a 775-gallon sump tank situated in Building 77, which is an operating facility. This unit is used as the first unit of an oily wastewater separation process consisting of SWMUs #19 and #21. Since this unit consists of a single containment tank with a potential for releasing hazardous constituents and since the RCRA Facility Assessment (RFA) Preliminary Review and Visual Site Inspection could not determine, conclusively, whether or not this tank was secure, further evaluation of its integrity was necessary. Therefore, the Permittee implemented a Department-approved RFA-Sampling Visit Tank Integrity Assessment Work Plan. The assessment concluded that the integrity of the tank was acceptable, and no further action was approved by the Department on November 16, 2001.

SWMU #22: Wastewater Collection Tank - This unit was located in Building 20 and consisted of a 2,000-gallon above floor level metal tank. This unit was used to collect oily wastewater prior to treatment and subsequent SPDES discharge. This unit was removed from service in 1992. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #23: Waste Oil Collection Tank - This unit is located in the basement of Building 81 and consists of a 500-gallon above floor level metal tank. This unit is used to collect hazardous waste oil (D008) which results from the separation performed in SWMU #6. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #24: Wastewater Treatment Tanks - This unit is located in Building 81 and consists of three 750-gallon above floor level polyethylene containers. This unit is used to treat highly phosphated boiler blowdown effluent from SWMU #28 prior to transfer to SWMU #12. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #25: Former Wastewater Collection Tank - This unit consisted of an aboveground 10,000-gallon metal tank located outside of Building 21. When in use this tank served as an oily wastewater overflow tank for SWMU #22. This unit may have contained hazardous constituents from oily wastewater. Since this unit was a single containment tank with a potential for releasing hazardous constituents, and since the RCRA Facility Assessment (RFA) Preliminary Review and Visual Site Inspection could not determine, conclusively, whether or not this tank was secure, further evaluation of the integrity was necessary. Therefore, the Permittee implemented a Department-approved RFA Sampling Visit (SV) Tank Removal Work Plan to visually evaluate tank integrity upon removal, and if necessary collect environmental samples for release assessment purposes.

SWMU and AOC Descriptions, cont.

Inspections did not reveal any integrity issues; therefore, no environmental samples were collected. The results of the RFA SV were provided to the Department on February 22, 2000 with a recommendation for no further action. The Department approved the recommendation on October 31, 2001.

SWMU #26: Wastewater Treatment Tank - This unit was located in Building 29 and consisted of a 95-gallon metal tank situated below floor level inside a concrete pit. This unit functioned as a head tank for the transfer and treatment of wastewater from SWMU #5 to SWMU #11. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995. This unit was removed during the Building 29 dismantlement that occurred from 2007 to 2009. There were no releases from this unit.

SWMU #27: Wastewater Collection Tank - This unit was located in Building 37 and consisted of a 160-gallon above floor level metal tank. This unit functioned as a head tank for the transfer and treatment of wastewater from SWMU #4 to SWMU #10. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995. This unit was removed and disposed of around 1997. There were no releases from this unit.

SWMU #28: Wastewater Collection Tank - This unit is located in Building 81 and consists of a 1,000-gallon above floor level metal tank. This unit functions as the first unit of a boiler blowdown wastewater treatment process consisting of SWMUs #12, #24, and #28. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #29: Wastewater Collection Tank - This unit is located in Building 21 and consists of a 250-gallon above floor level metal tank. This unit functions as the first unit of a boiler blowdown wastewater treatment process consisting of SWMUs #5, #11, #26, and #29. Based on the RCRA Facility Assessment-Preliminary Review and Visual Site Inspection transmitted by NYSDEC on April 14, 1994, the Commissioner had determined that there was no evidence, at that time, of any releases from this SWMU. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #30: Wastewater Collection Tank/Neutralization - This former unit measured 6.5 feet high and 3 feet in diameter. It was a vitrified clay underground tank situated outdoors just north of Building 20A. This tank was filled with crushed limestone. It was designed to collect and neutralize overflow from an indoor emergency shower, an acid storage tank, and from an indoor piping

SWMU and AOC Descriptions, cont.

containment system. Since this unit consisted of a single containment tank with a potential for releasing hazardous constituents, and since the RCRA Facility Assessment (RFA) Preliminary Review and Visual Site Inspection could not determine, conclusively, whether or not this tank was secure, further evaluation of its integrity was necessary. Therefore, the Permittee implemented a Department-approved RFA Sampling Visit (SV) Tank Removal Work Plan. Evidence of integrity loss was evident following removal of the tank. Samples were collected; the results indicated slightly elevated chromium and mercury levels, concluding that a release had occurred. However, the release was restricted to soil, with no groundwater impact and was therefore judged environmentally insignificant. The results of the RFA SV were provided to the Department on February 22, 2000 with a recommendation for no further action. The Department approved the recommendation on October 31, 2001.

SWMU #31: Former Wastewater Treatment Tank/Neutralization - This unit consisted of a 260-gallon underground metal tank located outdoors and east of Building 38. This unit was normally filled with limestone until 1989, when the limestone was removed. A sulfuric acid release occurred in 1973. The unit was originally intended to neutralize corrosive spillage from shower and eyewash drains and an acid tank vent. It then served as a catch tank in the event of inadvertent spillage. Since this unit consisted of a single containment tank with a potential for releasing hazardous constituents and since the RCRA Facility Assessment (RFA) Preliminary Review and Visual Site Inspection could not determine, conclusively, whether or not this tank was secure, further evaluation of its integrity was necessary. Therefore, the Permittee implemented a Department-approved RFA Sampling Visit (SV) Tank Removal Work Plan to visually evaluate tank integrity upon removal, and if necessary collect environmental samples for release assessment purposes. Inspections did not reveal any integrity issues; therefore, no environmental samples were collected. The results of the RFA SV were provided to the Department on February 22, 2000 with a recommendation for no further action. The Department approved the recommendation on October 31, 2001.

SWMU #32: Filter Press Floor Area - This unit consists of a 120-square foot concrete floor area located in Building 17. This area once contained equipment used in past years to purify insulating oil in polychlorinated biphenyl (PCB) transformers. As a result of this past oil purification process, PCB oil was found to have spilled in this area. Oil was noticed leaking from the filter press and the concrete floor was found to be stained below the storage tank and filter press. On August 13, 1991, weepage was noticed at the union leading to the filter press. During cleanup, a general discoloration of the concrete floor below the filter press and the storage tank was noticed. Best records estimated this to be an old spill from when the filter press was used years ago. The spill location was in the northwest corner of Building 17. The equipment and concrete floor were found to be contaminated. The PCB contamination on the concrete floor was found to be as high as 13,806 $\mu g/100\ cm^2$. Boundaries were set up approximately 1 foot out from the verified contamination levels. Decontamination attempts of the floor included 12 iterations in an effort to remove the PCBs from the concrete. These iterations consisted of repeated "Double Wash/Rinse" cleanings with Penetone Power cleaner. After several unsuccessful surface cleanings, core-boring samples were taken in the concrete area of highest surface contamination. Concrete contamination was found to be as deep as 6 inches. As a result of these core samples, the entire concrete floor that was found to be

SWMU and AOC Descriptions, cont.

contaminated was jack hammered and removed. The soil and the surrounding concrete sides remaining were sampled afterwards. After removing a small amount of soil and wiping down all the concrete dust on the remaining concrete, all areas on concrete were found to be less than 10 $\mu g/100\ cm^2$. All the equipment, piping and concrete waste were removed from Building 17 as PCB waste. Cleanup of this area was completed on October 16, 1991. These past corrective measures associated with this area were adequate for the remediation of this area. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #33: Wastewater Collection Tank - This unit is located in Building 51 and consists of a 50-gallon polyethylene, metal reinforced tank situated below floor level in a concrete pit. This unit is used to collect small amounts of nonhazardous laboratory chemicals for discharge in accordance with SPDES Permit #NY0005843 requirements via the Kesselring Site Sewage Treatment Plant. Based on the fact this unit never received hazardous waste or constituents, past releases from this unit are not possible. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #34: Wastewater Collection Tank - This unit is located in Building 87 and consists of a 500-gallon above floor level metal tank. This unit is used to collect small amounts of nonhazardous laboratory chemicals for discharge in accordance with SPDES Permit #NY0005843 requirements via the Kesselring Site Sewage Treatment Plant. Based on the fact this unit never received hazardous waste or constituents, past releases from this unit are not possible. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #35: Hogback Road Landfill - This unit covers 14 acres and had been active since 1954. Since the enactment of RCRA, only cafeteria wastes, office wastes, and construction & demolition debris have been disposed in this area. Prior to RCRA, some potentially hazardous wastes were disposed such as asbestos scraps, sheets and dust, lead bricks, oil and oily water, paint, scrap metal, unspecified solvents, neutralized chemicals, and analytical wastes. This unit managed RCRA solid waste potentially containing or mixed with RCRA-solid-waste-exempt special nuclear or byproduct material. Operations ceased on October 1, 1993. The landfill was closed on October 21, 1994 per 6 NYCRR Part 360 Solid Waste Management Regulations. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #36: Former Container Storage Area - This outdoor area encompassed 2,400 square feet. It had a storage capacity of approximately 2,200 gallons. This area was used for the temporary storage of waste chemicals (reactives, ignitables, and incompatibles), waste oil, and water containing waste oil between 1976 and 1979. Based on the past spillage that was reported to have occurred, the soil may have contained hazardous wastes and/or hazardous constituents. Therefore, the Permittee implemented a RCRA Facility Assessment Sampling Visit Work Plan for this unit to determine the presence or absence of hazardous constituents in the soil media. The results of this sampling program were provided to the Department on January 30, 1998 and no further action was recommended. The Department approved the recommendation on December 17, 1999.

SWMU and AOC Descriptions, cont.

SWMU #37: Swan School Road Area - This unit consisted of a former farmhouse area comprising 1,000 square feet. Approximately 3,000 pounds of battery acid from lead acid batteries were disposed of in the mid-1950s inside the cellar foundations in this farmhouse area. Based on the past disposal practices that were reported to have occurred, the soil may have contained hazardous wastes and/or hazardous constituents. Therefore, the Permittee implemented a Department-approved RCRA Facility Assessment (RFA) Sampling Visit (SV) Work Plan. Based on the results of the SV provided to the Department on January 30, 1998, an RFA Interim Corrective Measure (ICM) Work Plan was implemented that involved remediation, soil sampling, and restoration. Approximately 150 tons of soil were removed during the ICM. Soil results, specifically lead, zinc, barium, and arsenic were consistent with Site background and some elevated arsenic results were attributed to pesticide usage during occupancy of the former farmhouse. No further action was recommended on January 28, 2002, and approved by the Department on July 3, 2002.

SWMU #38: Silo Area - This unit is an outdoor area comprising approximately 13,200 square feet. This unit managed RCRA solid waste potentially containing or mixed with RCRA-solid-waste-exempt special nuclear or byproduct material. This area was used for burning waste oil and sodium containing low-level radioactivity and for the disposal of components potentially contaminated with mercury. The quantity of mercury is estimated at less than 1 pound. Based on the past disposal practice that was reported to have occurred, the soil may have contained hazardous/mixed wastes and/or hazardous constituents. Therefore, the Permittee implemented a Sampling Visit Work Plan in 1996 that concluded a mercury release did occur in the area. A RCRA Facility Assessment Interim Corrective Measure (ICM) Study was completed to define the nature and extent of the mercury release. The ICM Study Report, containing a recommendation for remediating the area via soil excavation, was provided to the Department in May 2011; the report was approved on September 20, 2011. An ICM Work Plan was submitted to the Department on February 23, 2012, which was approved on May 16, 2012. The Permittee completed implementation of the ICM Work Plan in October 2012; sample data confirm that the ICM was successful in meeting the unrestricted-use soil cleanup objectives. The ICM Report with a recommendation for no further action was submitted to the Department on April 9, 2013 for approval. The Department approved the recommendation on November 19, 2013. The Department prepared a draft Statement of Basis with the proposed final remedy for this SWMU and provided a 45-day public comment period from February 26, 2015 to March 28, 2015. The Department's final Statement of Basis was issued on April 1, 2015.

SWMU #39: Parkis Mills Road Area - This unit consisted of the cellar of a former farmhouse (barely visible) measuring approximately 1,000 square feet. Approximately 6,000 pounds of battery acid from lead acid batteries were disposed inside the cellar foundation. Based on the past disposal practice that was reported to have occurred, the soil may have contained hazardous wastes and/or hazardous constituents. Therefore, the Permittee implemented a Department-approved RCRA Facility Assessment (RFA) Sampling Visit (SV) Work Plan. Based on the results of the SV provided to the Department on January 30, 1998, an RFA Interim Corrective Measure (ICM) Work Plan was implemented that involved remediation, soil sampling, and restoration. Approximately 280 tons of soil was removed during the ICM. Soil results, specifically lead, zinc, barium, and arsenic were

SWMU and AOC Descriptions, cont.

consistent with Site background and some elevated arsenic results were attributed to pesticide usage during occupancy of the former farmhouse. No further action was recommended on January 28, 2002, and approved by the Department on July 3, 2002.

SWMU #40: Baptist Hill Road Area - This area consisted of 4 acres that was used for the disposal of land clearing and grubbing debris. There were specific occasions when some construction and demolition materials had been disposed at this location. These materials included scrap metal, asbestos lagging, paint materials, empty containers with residual anti-freeze and motor oil, and reinforcing rod. All items that were found were removed. This SWMU was initially identified as an inactive hazardous waste disposal site during a 1985-1986 U.S. Department of Energy Installation Assessment. Based on this information, the site was placed on the New York State (NYS) Registry of Inactive Hazardous Waste Sites in January 1989. Based upon subsequent literature research and interviews, KAPL determined that the reports upon which the initial assessment was made were inaccurate. The area was identified as a construction and demolition debris area. As a result, NYSDEC was petitioned to delist this site from the NYS Registry of Inactive Hazardous Waste Sites on March 29, 1991. NYSDEC approved this petition on May 8, 1991. Groundwater monitoring results from wells placed in the vicinity demonstrate no groundwater impact. Based on the results of the RCRA Facility Assessment Preliminary Review and Visual Site Inspection (VSI) past releases from this unit are unlikely. No releases were identified (i.e., leachate) during the VSI. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #41: Insulation Disposal Area - This area had consisted of approximately 5,000 cubic feet of crushed glass insulation buried along Hogback Road. Department approval was granted for the relocation of the waste into the Hogback Road Landfill. This removal took place in 1994 under the Part 373 Corrective Action Program and was considered an Interim Corrective Measure. Observation and documentation of the material, during removal, took place to verify the nature of the waste. It has been determined that the corrective measures associated with this area are adequate for the remediation of this area. This unit was identified as a no further action SWMU in the Part 373 Permit issued June 1, 1995.

SWMU #42: Hogback Road Construction Material Debris Area - This unit consisted of an area where broken slabs of concrete, scrap metal, empty containers, and drums found to contain construction debris (i.e., concrete, rags, hoses) were disposed. An Interim Corrective Measure (ICM) was implemented in 1994 to relocate approximately 8,180 cubic yards of soil, rock, asphalt, concrete, scrap metal, and other various construction debris items to the Hogback Road Landfill. Two large slabs of concrete were buried in place at the area with Department concurrence due to their size. Following relocation of the waste items, the Permittee implemented a Department-approved Soil Sampling Work Plan to verify whether any significantly contaminated soils remained. The results of the sampling were provided to the Department in August 1995 in the ICM Soil Sampling Work Plan Investigation Report with the recommendation for no further action, which was approved by the Department on September 26, 1995.

SWMU and AOC Descriptions, cont.

SWMU #43: Wastewater Collection Tank - This unit, located in Building 77, was placed into service on July 7, 1995. It is a closed, aboveground carbon steel tank with a capacity of 6,800 gallons. This unit receives oily wastewater from machinery space bilges that has been treated to separate out all waste oil. The wastewater is ultimately discharged in accordance with the Site's SPDES permit (#NY0005843). The unit is situated on a sealed concrete floor of continuous-pour construction and is surrounded by a sealed indoor concrete trench, which drains back to SWMU #21. There is no evidence of contamination of environmental media from this unit. The Permittee transmitted a Newly Identified SWMU Assessment Report, recommending no further action for this unit to the Department on July 31, 1995, which was approved on November 14, 1995. This unit is not currently in service.

SWMU #44: Wastewater Collection Tank - This former unit, located in Building 86C, was made up of welded 0.5-inch thick steel plate and was divided into two equally sized sections. The unit had an approximate capacity of 2,300 gallons. The unit received wastewater that was awaiting discharge in accordance with the Site's SPDES permit (#NY0005843). The unit was situated indoors on a continuous-pour concrete floor and was fully surrounded by a continuous-pour concrete curb. The Permittee transmitted a Newly Identified SWMU Assessment Report, recommending no further action for this unit to the Department on July 31, 1995, which was approved on November 14, 1995. The unit was removed during the dismantlement of Building 86C in 2005. There was no evidence of contamination of environmental media from this unit.

SWMU #45: Hogback Road Former Urea-Sand Mixing Area – This former unit measured approximately 10,000 square feet. There are no pads or structures associated with this unit. This unit was once used for the mixing of urea and sand. The resultant mixture was subsequently applied to Site roads during the winter for deicing purposes. It was also determined that this area was used for staging empty drums and materials left from subcontracting activities. This area was in use between 1980 and 1982. There is no evidence of contamination of environmental media from this unit. The Permittee transmitted a Newly Identified SWMU Assessment Report, recommending no further action for this unit, on July 31, 1995 to the Department, which approved the report on November 14, 1995.

SWMU #46: Empty Drum Staging Area - This inactive outdoor area, adjacent to Pad 90, measured approximately 2,000 square feet and had a capacity of about 300 drums. This unit was used to stage RCRA-empty [6 NYCRR Part 371.1(h)(1)(i)] 55-gallon drums prior to recycling. Drum bungs were secured and the drums were staged on their sides in stacked rows. The Permittee transmitted a Newly Identified SWMU Assessment Report, recommending no further action for this unit, on July 31, 1995 to the Department, which approved the report on November 14, 1995. This unit was removed from service in 1997. There was no evidence of contamination of environmental media from this unit.

SWMU #47: Building 75 Container Storage Area - This unit, a Part 373-permitted container storage area, is a steel-framed building measuring approximately 4,000 square feet. It is fully curbed to contain spills, the entrance doorways are designed to contain spills, and the floor is epoxy-coated concrete. The unit is permitted to store up to 19,580 gallons of hazardous wastes. This is a regulated

SWMU and AOC Descriptions, cont.

unit with no history of any releases or violations and shall be closed in accordance with an approved Closure Plan. A Certification of Construction and a Notification of a Newly Identified SWMU recommending no further action was transmitted to the Department on March 6, 1996. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #48: Building 75A Hazardous Waste Storage Locker - This unit, also a Part 373-permitted container storage area, is a self-contained structure measuring approximately 240 square feet. The floor is constructed of open steel grates supported over an integral epoxy-coated steel containment sump and curbing to contain spills. The unit has the capacity to store up to 2,420 gallons of permitted hazardous wastes. This is a regulated unit with no history of any releases or violations and shall be closed in accordance with an approved Closure Plan. A Certification of Construction and a Notification of a Newly Identified SWMU recommending no further action was transmitted to the Department on March 6, 1996. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999. The Container Storage Area was closed in accordance with the approved Closure Plan in 2013.

SWMU #49: Lee Road Farmhouse Foundation - This unit was an abandoned cellar foundation remotely located along a dirt road on the west side of the Kesselring Site. Up to 10,000 pounds of acid may have been disposed in this foundation in the late 1950s. The area used for disposal measured approximately 560 square feet. Based on the past disposal practice that was reported to have occurred, the soils may have contained hazardous wastes and/or hazardous constituents. Therefore, the Permittee implemented a Department-approved RCRA Facility Assessment (RFA) Sampling Visit (SV) Work Plan. Based on the results of the SV, provided to the Department on January 30, 1998, an RFA Interim Corrective Measure (ICM) Work Plan was implemented that involved remediation, soil sampling, and restoration. Approximately 113 tons of soil was removed during the ICM. Soil results, specifically lead, zinc, barium, and arsenic, were consistent with Site background. No further action was recommended on January 28, 2002, and approved by the Department on July 3, 2002.

SWMU #50: Building 92 Waste Processing Facility - This unit is a building consisting of a 6,000-square foot high-bay area and an adjacent low-bay area with a mezzanine above. The building is constructed of steel framing and steel exterior walls and roof and rests on a concrete slab foundation. This building is used to process solid (e.g., polyethylene bags and sheets, scrap metal, lagging) and liquid wastes. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999. There is no evidence of contamination of environmental media from this unit.

SWMU #51: Building 91 Waste Compacting and Container Storage Areas - This unit consists of two discreet areas within Building 91: a former mixed waste storage area and a new self-contained

SWMU and AOC Descriptions, cont.

mixed waste storage area. Building 91 is a single story structure measuring approximately 8,400 square feet. The structure resides on a 12-inch thick, reinforced concrete slab. The structure walls are constructed of an outer layer of corrugated steel sheeting with an inner layer of 12-inch thick concrete that rises approximately 10 to 12 feet from the floor. The floor and walls are sealed with a polymeric sealant. A recently constructed area (approximately 1,600 square feet) within the southeast corner of Building 91 was dedicated to the management of mixed waste for greater than 90-day periods under interim status provisions. This mixed waste storage area is a self-contained area within Building 91. Previously, a 32-square foot area located near the center of the Building was established for greater than 90-day mixed waste storage. This mixed waste storage area was then relocated to the new structure. This is a Part 373-permitted unit with no history of releases or violations and shall be closed in accordance with the approved Closure Plan. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999. A portion of the Container Storage Area was closed in accordance with the approved Closure Plan in 2013.

SWMU #52: Scrap Metal Management Areas - This unit consists of nine areas, one of which is still active. The active area is located at Building 24. The eight inactive areas were located in Buildings 2C/3C (3,744 square feet), Building 70 (4,800 square feet), Building 80C (1,080 square feet), Building 91 (760 square feet), Building 1C (4,000 square feet), outdoors north of Building 35 (100 square feet), at Pad 86 north of Building 80A, and an outside asphalt-covered area north of Building 76 (approximately 7,500 square feet). The types of scrap metal that are/were managed include scrapped oil drums and refrigeration units. There is no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

The Building 2C/3C, 70, 80C, and 35 areas were inactive at the time they were initially identified as a SWMU. The Building 76 area was relocated in 2005; an evaluation of the area upon removal of the scrap metal and asphalt did not reveal any indication of a release of hazardous constituents from this area.

SWMU #53: Building 37 Former Waste Oil Storage Tank - This unit was located north of Building 37 and consisted of an in-ground, 500-gallon carbon steel tank. The unit was used to collect residual oil from a wastewater processing system located in Building 37 (SWMU #4). The oil was subsequently pumped out and disposed of offsite as used oil. The unit and associated piping were excavated and removed during October 1979. There was no evidence of contamination of environmental media from this unit. NYSDEC performed a Visual Site Inspection (VSI) on this unit

SWMU and AOC Descriptions, cont.

on November 18, 1997. As a result of the VSI, the Permittee provided additional information for this unit with a recommendation for no further action to the Department on October 26, 1998.
This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #54: Building 5C Wastewater Processing System - This unit consisted of two 18,000-gallon stainless steel accumulation tanks, two 3,000-gallon stainless steel mixing tanks and a filter press. This unit was used to process approximately 10,000 gallons of wastewater generated from chemical cleaning operations. The wastewater contained hazardous levels of lead and chromium, as well as, other hazardous constituents. This unit managed RCRA solid waste potentially containing or mixed with RCRA-solid-waste-exempt special nuclear or byproduct material. At the time that the unit was dismantled, it was agreed that the unit would be closed in accordance with 6 NYCRR Part 373-2.10(h). As a result of discovering two new release pathways in 2000, the Department agreed with a revised approach in lieu of a 373-2.10(h) closure. A release assessment and sampling program in accordance with the Part 373 Permit would be performed and a New York State licensed Professional Engineer certification would not be required. A Sampling Visit (SV) was implemented in 2000; elevated mercury, chromium, copper, and lead were reported. The results of the SV were provided to the Department on June 25, 2001. Further action under an Interim Corrective Measure was recommended by the Permittee to assess the elevated metals. The Department requested that a single soil sample was to be collected to confirm an elevated mercury (4.1 ppm) result, which upon re-sampling was significantly lower (0.18 ppm). The Department determined that the SWMU could be dispositioned as no further action on October 11, 2001.

SWMU #55: Stormwater Drain System - This unit consists of catch basins, drain lines, and ditches throughout the developed portion of the Kesselring Site. The catch basins are constructed of concrete, and in areas of high groundwater, are either bottomless or have perforated floors which serve as a dewatering system. The drain lines consist of reinforced concrete with building tie-ins composed of vitrified clay, cast iron, and polyvinyl chloride. The ditches are unlined. This unit conveys, or has historically conveyed, facility stormwater and wastewater. This unit managed RCRA solid waste potentially containing or mixed with RCRA-solid-waste-exempt special nuclear or byproduct material. Since 1983, all wastewaters have been discharged in accordance with the Site's SPDES permit (#NY0005843). Wastewater discharges have contained heavy metals. Prior to 1990, the ditches have been dredged for both maintenance (sedimentation) and wastewater discharge reasons. Early 1990 sediment analytical data show low levels of leachable heavy metals (barium, chromium, and zinc) that are representative of historical wastewater discharges. Early 2000 sediment analytical data confirmed the presence of heavy metals, and also show low levels of polychlorinated biphenyls (PCBs) and polynuclear aromatic hydrocarbons. Therefore, as part of a RCRA Facility Assessment (RFA)-Sampling Visit (SV), the Permittee provided the Current Industrial Sewer Conditions (CISC) RFA Report on November 21, 2013. The CISC RFA Report identified areas for further action which consisted of the north ditch, east ditch, historical drainages, acid neutralizer pit, west side groundwater, and Building 93.

SWMU and AOC Descriptions, cont.

A RFA SV Work Plan for Building 93 was transmitted to the Department on July 22, 2016, the Department approved the SV Work Plan on September 20, 2016. The SV Work Plan was designed to assess/characterize the presence of volatile organic compounds, primarily Freon compounds, detected in previous Soil Vapor Intrusion Evaluations and past downgradient groundwater samples. The SV Work Plan was subsequently implemented and an SV Report was provided to the Department on September 30, 2020 with a recommendation for further action.

A streamlined Sampling Scope of Work (SOW) to characterize sediment and soil in the east ditch was provided to the Department on February 6, 2020. Based on the findings of the SOW, a streamlined Interim Corrective Measure (ICM) SOW to remove sediment and soil containing heavy metals and PCBs from the east ditch was provided to the Department on August 18, 2021. The ICM was completed and data confirmed that project soil clean-up objectives have been met. The Permittee will provide the Department with a Report documenting the ICM.

Other portions of SWMU #55 identified for further action (e.g., acid neutralizer pit and portions of the historical drainages) have been sampled in support of Site maintenance and construction activities and will be subject to future RCRA Corrective Action reporting. An SV Work Plan will be prepared to address remaining further action areas.

SWMU #56: Former S1G Interment Area - This former unit consisted of an earthen hillside used to temporarily store and shield a 2,400-cubic foot fully contained and defueled pressure vessel-shield tank assembly. It was located approximately 150 yards south of present day Building 1. Lead blankets as well as earthen material were used for shielding while the vessel-shield tank assembly was in storage. A drainage system was constructed to partially encircle the area. No detectable leakage was observed when the vessel-shield tank assembly was excavated for shipment in October 1982. The assembly contained approximately 1,500 gallons of waste oil, metal components, and small amounts of sodium and mercury. There was no evidence of contamination of environmental media from this unit. NYSDEC performed a Visual Site Inspection (VSI) on this unit on November 18, 1997. As a result of the VSI, the Permittee provided additional information for this unit with a recommendation for no further action to the Department on October 26, 1998. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #57: Building 13/14 Former Chemistry Laboratory Wastewater Collection Tank - This former unit, located west of Building 14, consisted of an in-ground 430-gallon stainless steel tank, approximately 6 feet below grade, and approximately 10 feet of 1.5-inch stainless steel underground piping. This unit was used to collect dilute laboratory wastewater. Wastewater was subsequently pumped to a portable tank for disposition. The tank and piping were excavated and disposed of offsite in the 1977/78 time frame. Both were intact and in good condition when removed. There was no evidence of contamination of environmental media from this unit. NYSDEC performed a Visual Site Inspection (VSI) on this unit on November 18, 1997. As a result of the VSI, the Permittee provided additional information for this unit with a recommendation for no further action to the

SWMU and AOC Descriptions, cont.

Department on October 26, 1998. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #58: Building 8 Boiler Blowdown Tank - This active unit, located west of Building 8, consists of an in-ground 400-gallon carbon steel tank with dished ends and flanged connections. The tank has internal baffles designed to condense steam. Inlet and outlet piping for this unit are nominal 1 to 2-inch diameter carbon steel, situated aboveground, and are located either inside Building 8 or outdoors above concrete. Outdoor piping is insulated and heated during cold weather. This unit has been used since its installation, late 1940s/early 1950s, to accumulate boiler blowdown water. There is no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999. The tank was removed in the 2017/2018 timeframe with no indication of contamination of environmental media.

SWMU #59: Building 13 High Bay - This inactive unit, located in the Building 13 High Bay, consisted of an approximately 1,650-square foot area along the east wall of the Fuel Element Service (FES) Cell (SWMU #60). In 1985, wastewater from chemical cleaning operations in the High Bay area was accumulated in one of several temporary containers. This waste was chemically adjusted to a pH of 11 prior to being transferred to the FES Cell for solidification. There was no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #60: Building 13 Waste Processing & Storage Cell - This inactive unit consisted of the FES Cell located within Building 13. The cell measures approximately 9,690 cubic feet and is constructed of 6–foot thick concrete walls, a 1–foot thick concrete floor, and a 4–foot thick concrete ceiling. Although originally designed for special material handling, the unit was only used twice for its intended purpose. Since the early 1960s until 1991, wastewater was solidified within containers at this unit and disposed offsite. There was no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #61: Building 4 Former Wastewater Processing System - This former unit consisted of several open 64-cubic foot carbon steel tanks and 250-gallon polyethylene tanks, a pump, and cotton wound filters connected by hoses. This unit was built to process spent chemical cleaning solution,

SWMU and AOC Descriptions, cont.

which was disposed of offsite as non-hazardous. There was no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #62: Building 4 Former Wastewater Collection Tank - This former unit consisted of a 500-gallon stainless steel tank situated in a pit within the concrete floor of Building 4. This tank received wastewater from chemical laboratory operations. This wastewater was subsequently pumped to the M8-70 tank (SWMU #65) for processing. There was no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #63: Building 4 Former Waste Sodium Processing System - This former unit consisted of tanks (each with an approximate capacity of 300 gallons) and pumps necessary for processing waste sodium. For a brief time in the mid-1950s, this unit received waste sodium resulting from plant operations and replaced it with fresh sodium. Former sodium waste tank (SWMU #66) provided additional waste capacity when required. Waste sodium was shipped offsite for disposal. There was no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #64: Building 4 Former Wastewater Processing System - This former unit consisted of several 64-cubic foot poly-lined carbon steel containers, stainless steel process media vessels, valve manifolds, and interconnecting hoses. This unit was a pre-treatment system for boiler blowdown water. It received wastewater from Wastewater Collection Tank-SWMU #16 and discharged it to Wastewater Collection Tank-SWMU #14 until 1991. At that time, effluent from this unit was directed to the Wastewater Tank-SWMU #15. There was no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #65: Building 63 M8-70 Tank - This inactive unit, located in Building 63, consists of an empty 5,000-gallon stainless steel tank housed in an underground concrete vault. An underground

SWMU and AOC Descriptions, cont.

concrete pipe trench extends from this unit to Buildings 13 and 4D. The trench contains the inactive welded/flanged stainless steel and carbon steel wastewater piping that was used to convey water to and from this unit for processing and reuse. An additional 45 feet of 1.5-inch diameter stainless steel piping, which was removed in October 1979, extended underground from the northern end of Building 13 to this unit. This unit was placed in service in 1954 to collect wastewater from various sources in Buildings 4 and 13. Building 13 operations ceased discharging to the M8-70 tank in 1989 and Building 4 operations ceased discharging in 1996. There was no evidence of contamination to environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999. The tank was removed in the 2008 timeframe.

SWMU #66: Former Sodium Waste Tank - This former unit consisted of a waste storage tank located north of Building 4 at the present day site of Building 64. This unit was a 5,000-gallon closed carbon steel tank. Although the unit was located aboveground, it was covered with sand. This unit was used to store waste sodium contaminated with mercury. The unit was filled once and provided additional capacity for Building 4, Former Waste Sodium Processing System (SWMU #63). In 1959, the tank was emptied and subsequently shipped offsite for disposal. There is no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #67: Building 4 Former Wastewater Collection System - This former unit consisted of two stainless steel containers housed in a temporary structure north of Building 4. Each container's capacity was approximately 3,000 gallons. This unit was used to collect wastewater from a two-phase steam generator cleaning operation. Upon completion of the cleaning in November 1979, accumulated wastewater was treated via filtration, and then shipped offsite for disposal; and the system was subsequently disassembled. There was no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #68: Waste Processing and Staging Area - This inactive unit consists of the area within Building 67, measuring 1,684 square feet. This unit was used from the mid to late 1960s until 1985 for wastewater solidification and waste repackaging for final off-site disposal. Since 1987, the unit has been used as a staging area for reusable personal protective equipment awaiting off-site laundering. This unit managed RCRA solid waste potentially containing or mixed with RCRA-solid-

SWMU and AOC Descriptions, cont.

waste-exempt special nuclear or byproduct material. No known or documented spills or releases to the environment have occurred and there is no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #69: Building 1C (Former Site of Building 2C/3C) Former Wastewater Collection System - This former unit was located east of Building 67 and consisted of a wastewater collection system. The wastewater collection system, housed within a temporary structure, consisted of a 9,000-gallon and five 18,000-gallon stainless steel containers. Inlet and outlet piping for this unit were aboveground, indoors and consisted of welded/flanged/threaded stainless steel and rubber hoses. The steel-framed temporary structure was 3,744 square feet in area and sided with corrugated metal. The structure's floor consisted of layered plywood and Herculite polyethylene sheeting, which was wrapped up the structure walls to form secondary containment. The unit was built and operated for approximately 3 months in 1988 to collect non-hazardous wastewater from a two-phased steam generator cleaning operation. During 1995, Building 1C was moved from the west side of Building 67 to the site of the former Building 2C/3C, east of Building 67. Currently, Building 1C is used to store only hazardous Toxic Substances Control Act-regulated waste. No known or documented spills or releases to the environment have occurred and there is no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #70: Site Wastewater Processing Systems - This unit consists of three active wastewater processing systems and former wastewater processing systems, which have been inactivated and/or dismantled. Each unit typically consists/consisted of one or more collection tanks followed by a carbon, resin, and cotton filter train. Processed water is/was returned to Site reuse tanks for storage or was discharged offsite in accordance with Site SPDES discharge permit (#NY0005843) requirements. Active systems are located in Buildings 21, 81, and 92. In the past, systems were installed within or near Buildings 4, 7A, 13, 19, 21, 21A, 22, 22B, 72, 80, 81, and Pad 86. Two underground concrete pipe trenches have been used to convey wastewater. Wastewater is/was non-hazardous prior to processing and predominately ammonium-based with a pH around 10. Occasionally, leaks have occurred on these systems, usually at hose connections. The majority of these leaks were small and all were local in nature. In each case, all water was contained, confined, and immediately cleaned up with no known or documented spills or releases to the environment. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This

SWMU and AOC Descriptions, cont.

unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #71: Building 20 Former Wastewater Processing System - This former unit was located in the northwest corner of Building 20 and consisted of a 60-gallon carbon steel wastewater accumulation tank, a pump, and demineralizer. The unit resided on the concrete floor. Piping was aboveground and indoors except for wastewater piping, which extended to Building 29 (refer to SWMU #80 Ric-wil piping). The wastewater processing system was used from 1958 until 1990 to treat wastewater prior to being discharged to the wastewater collection pit (SWMU #75) in Building 29. From 1990 until 1992, the system discharged to the Building 21 wastewater processing system (SWMU #70). The Building 20 wastewater processing system was inactivated in 1992, dismantled, and removed in 1995. No known or documented spills or releases to the environment have occurred and there is no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #72: Building 21A Waste Compaction Area - This inactive unit consists of the east room of Building 21A. It is a 442-square foot area constructed of concrete block walls. A corrugated metal roof covers the unit. Building 21A is divided into two rooms; the east room is bermed. The building rests on a concrete slab. A new concrete slab was poured over the old slab in 1993 to level the floor. Compaction of solid waste, via a compactor, occurred in the east room until 1975. Occasionally this unit was used for the temporary storage of non-hazardous wastewater. No known or documented spills or releases to the environment have occurred and there is no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #73: Building 21 Waste Storage/Compaction Area - This inactive unit consists of an area located in the southwest corner of Building 21. It measures approximately 143 square feet and is completely within the building. The building is a cement block structure residing on a poured concrete floor. The area was used to compact non-hazardous solid waste. Waste compaction operations continued until the compactor was relocated to the Building 92, Waste Processing Facility in 1989. No known or documented spills or releases to the environment have occurred and there is no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU and AOC Descriptions, cont.

SWMU #74: Building 21 FSF Dry Pool Area - This unit consists of the Building 21 FSF Dry Pool Area. The Dry Pool is constructed of concrete, lined with carbon steel, and coated with a 2-part epoxy paint system. The pool measures 14 feet long by 40 feet wide by 21 feet deep. Although originally designed to contain water for the thermal cooling of components, this unit was drained in the 1960s and used for maintenance since then. As a result of maintenance operations, containerized waste has often been staged in this area for short intervals of time. Most recently, this unit has been used as a work area for the removal of PCB laden paint from scrap metal. All paint removal work is performed within an enclosed containment tent located inside the FSF Dry Pool Area. This unit was removed from service and no activities occur within the Dry Pool. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #75: Building 29 Wastewater Collection Pit - This unit, located in Building 29, consisted of an in-ground, concrete tank with an estimated capacity of 750 gallons. The unit received wastewater from laboratory, facility, acid cleaning, and decontamination operations. Since this unit consisted of a single containment tank with a potential for releasing hazardous constituents and since the RCRA Facility Assessment Preliminary Review and Visual Site Inspection could not determine, conclusively, whether or not this tank was secure, further evaluation of its integrity was necessary. The Permittee implemented a Department-approved Sampling Visit (SV) Work Plan during the demolition of Building 29 and its associated utilities to determine whether a release of hazardous waste or constituents occurred to the environment from this SWMU. The results of the SV concluded that no release to the environment had occurred; no further action was approved by the Department on May 31, 2012.

SWMU #76: Building 72 Wastewater Accumulation Tank - This unit, located in the south end of Building 72, consists of an 80-gallon, carbon steel aboveground tank. The tank is equipped with a sight glass and a float switch, which actuates a high-level alarm when the tank level rises to 15 inches (45 gallons). Inlet/outlet piping consists of welded/flanged carbon steel and stainless steel. Inlet piping is indoors, whereas outlet piping is within an underground concrete trench that conveys non-hazardous wastewater to the Building 21 Wastewater Processing System (SWMU #70). The tank has been used to accumulate non-hazardous bilge and laboratory wastewater from Building 72 operations. From the early 1970s until 1990, this tank discharged to the Building 29 Wastewater Collection Pit (SWMU #75). No known or documented spills or releases to the environment have occurred and there is no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU and AOC Descriptions, cont.

SWMU #77: Building 3C Former Wastewater Collection System - This former unit consisted of one 9,000-gallon and five 18,000-gallon stainless steel containers. The containers were housed within Building 3C, located south of Building 75. Building 3C is approximately 96 feet long by 39 feet wide by 18 feet high. It is a steel-framed, sheet-metal-sided structure that is secured to a concrete foundation. The Building 3C floor is soil covered with layers of plywood and Herculite polyethylene sheeting, which wraps up the walls of the foundation to form secondary containment. Metal plates were placed on the floor to support the wastewater accumulation containers. Inlet and outlet piping were aboveground and inside the building and consisted of welded/flanged/threaded stainless steel and rubber hose. The unit was used to collect wastewater from a two-phase steam generator cleaning operation in 1990. Phase I was used for copper oxidation and removal while Phase II was used for iron oxide dissolution and removal. Upon completion of the cleaning operation, the wastewater collection system was disassembled and removed. The structure still remains. No known or documented spills or releases to the environment have occurred and there is no evidence of contamination of environmental media from this unit. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #78: Pumphouse Road Land Disposal Area - This unit consists of the general land area located along Pumphouse Road southeast of the Swan School Road and Pumphouse Road intersection. The area was used during the late 1970s to land dispose approximately 2 million gallons of copper-containing (0.06 ppm), non-contact cooling wastewater. Approximately 4,000 feet of pipe was stretched between the Wastewater Treatment Lagoon and this area. Two 500-foot sections of perforated pipe terminating the line served to evenly distribute the wastewater at this location. Discharge was monitored to ensure that runoff did not enter the Glowegee Creek. NYSDEC performed a Visual Site Inspection (VSI) on this unit on November 18, 1997. As a result of the VSI, the Permittee provided additional information for this unit with a recommendation for no further action to the Department on October 26, 1998. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #79: Aboveground Wastewater Piping Systems - This unit consists of all current and former aboveground wastewater piping systems. Wastewater piping systems are/were generally located within buildings and generally constructed of welded stainless steel, carbon steel, or high-density polyethylene. However, three piping sections are/were located outdoors. Two outdoor piping systems are/were insulated and heat-traced for cold weather protection. The third outdoor piping system is a temporary hose that is stored when not in use. Aboveground wastewater piping systems have been in place since the Kesselring Site's 1950s inception, and additional systems were put in place as the Site expanded through the 1970s. However, partial deactivation efforts since 1991 have resulted in the removal of some of these systems, with others scheduled for removal in future years. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This

SWMU and AOC Descriptions, cont.

unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999. There is no evidence of contamination of environmental media from this unit.

SWMU #80: SWMU #4 and SWMU #5 Below-Ground Wastewater Piping Systems - The unit consists of three underground wastewater piping systems. The first two piping systems extend between Buildings 21 and 29 and were used to supply wastewater to the Building 29 Wastewater Treatment Tanks (SWMU #5) via an underground "Ric-wil" pipe. The Ric-wil pipe consists of a larger sized outer conduit (tar coated 16-gauge galvanized steel) containing several small diameter piping systems. One wastewater piping system consists of a 2-inch diameter carbon steel line extending approximately 50 feet through the previously mentioned Ric-wil pipe. The second wastewater piping system is made of flexible hose inside a 4-inch diameter carbon steel pipe, which extends through the Ric-wil conduit. A third piping system extends approximately 150 feet from Building 4 to Building 37 and was used to supply wastewater to the Building 37 Wastewater Treatment Tanks (SWMU #4) via a 2-inch diameter schedule 40 carbon steel pipe. This pipe has coal-tarred joints for added integrity. A SWMU List update containing a recommendation for no further action for this unit was included in the Part 373 Permit modification package transmitted to the Department on August 15, 1997; NYSDEC subsequently performed a Visual Site Inspection of this unit on November 18, 1997. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999. The Ric-wil pipe associated with SWMU #5 was removed during the Building 29 demolition in 2008. Based on field observations, and the integrity of the internal piping, sampling was deemed unnecessary. This resulted in no change to the no further action status of this unit. SWMU #4 piping was removed from service in 1996 and was deactivated in 1997. In 2013, approximately 65 feet of SWMU #4 piping was removed. There was no evidence of contamination of environmental media from the unit based on pipe integrity and field observations noted during removal.

SWMU #81: Steam Condensate Return System Discharge Locations - The Site heating system is a closed-looped steam system, part of this system is the condensate return system that returns most of the condensate (condensed steam) back to the boiler house. The returned condensate is reused to provide feedwater to the boilers. The condensate accumulates at approximately 42 condensate receiver units prior to being pumped back to the boiler house. Condensate receivers are vented and have auxiliary drains to bypass the return lines. Additionally, there are approximately 12 other locations where condensate is not returned to the boilers. These locations and the bypass drains empty to storms sewers, the ground surface, or into the ground via shallow drywells. There is no evidence of contamination of environmental media from this unit. A Newly Identified SWMU Notification with a recommendation of no further action for this unit was transmitted to NYSDEC on June 9, 1999. This unit was subsequently identified as a no further action SWMU in the Part 373 Permit modification issued November 16, 1999.

SWMU #82: Site Service Water Pumphouses - This SWMU encompasses six pumphouses (five existing, one removed in 1993) that provide water to the Site. Identification of these pumphouses as a new SWMU occurred in April 2001 upon the discovery that their design and past operating practices

SWMU and AOC Descriptions, cont.

may have resulted in the release of compressor oil and chlorinated water to the environment. Therefore, the Permittee completed an assessment of this SWMU in May 2001; the results of the assessment concluded that the pumphouses pose no imminent threat to human health or the environment. The Newly Identified SWMU Assessment Report, including a recommendation for no further action was transmitted on June 4, 2001, and was approved by the Department on August 3, 2001.

SWMU #83: Building 4 Scrap Metal Dumpster - This unit consisted of a scrap metal dumpster initially used during Building 4 dismantlement activities. Subsequent to its use, the dumpster was covered and locked. Identification of the dumpster as a SWMU occurred in August 2002, when the dumpster was opened and found to contain scrap metal and rainwater. Based on the appearance of the water, the dumpster was drained, emptied of the scrap metal, and cleaned. Analysis determined that the sediment and some of the water exhibited the hazardous toxicity characteristic for cadmium. An assessment of the SWMU was conducted that concluded that there was the possibility of a release from the dumpster, but based on observations and analytical data, the significance of any such release would have been small. Notification of the newly identified SWMU, including a recommendation of no further action was transmitted to the Department on September 6, 2002, and was approved on October 7, 2002.

SWMU #84: Miscellaneous ≤ 90-Day Waste Accumulation Areas - This SWMU consists of areas which were established since original 373 Permit issuance, are either currently active or closed, and areas to be established subsequent to Permit renewal. Site inspections and historical records show that there have been no releases from the established areas; no further action is warranted. The Permittee shall maintain a list of the individual areas in the facility operating record and shall update the list when areas are established or closed. The Permittee shall provide the Department with the list on an annual basis for those years the list is updated, and/or when requested by the Department.

SWMU #85: Canberra Cronos-11 Unit - The Canberra Cronos-11 Quantitative gamma analysis system is located in Building 92. The system performs gamma analysis to accurately quantify radionuclides for mixed waste characterization. The system is a shielded steel enclosure housing six detectors for gamma counting of sealed containers/packages. Infrequently, mixed waste (e.g., bags, items weighing less than 50 pounds) may be moved from a Part 373-permitted storage area to the Canberra Cronos-11 for non-intrusive gamma counting. The movement and return of the mixed waste is recorded in the operating record. Information to be recorded includes package identification, the date and time removed and returned, where it was moved, and the reason for the movement. Mixed waste removed from the permitted storage area for such purposes is returned to the permitted storage area within one shift of removal and is not opened at any time during this movement. Characteristic and listed mixed waste including debris, elemental lead and mercury, spent solvents, oils, and miscellaneous laboratory chemicals are managed in this unit. There have been no spills or releases to the environment.

AOC #1: Borrow Area - This unit consists of several small isolated areas near the Borrow Area (across from the Hogback Road Landfill). Soil gas survey samples were taken from 85 locations

SWMU and AOC Descriptions, cont.

across the landfill and the Borrow Area during landfill closure. Low concentrations of volatile organic compounds were detected in some of the samples; however, no spills or releases were reported. Therefore, the Permittee implemented a Sampling Visit (SV), the results were provided to the Department on January 30, 1998, and no further action was recommended in the SV report. The Department approved the recommendation on December 17, 1999.

AOC #2: Lead Laydown Area - This area was a former crushed stone parking lot, comprising about 3,000 square feet just north and east of SWMU #1. The area was used for staging lead bricks and lead sheets for reuse. All lead was shipped offsite for recycling in 1993, when it was no longer needed for shielding. While staged for use, some lead, although protected from the weather, was exposed to rainfall. This resulted in small amounts of lead reaching soil underlying this area. An Interim Corrective Measure was implemented to remediate the lead-contaminated soil. Post-remediation soil confirmation samples were collected and the results provided to the Department in a Sampling Visit Work Plan Investigation Report on October 31, 1996 with a request of no further action. The Department concurred with the no further action request on December 31, 1996.

AOC #3: KSO Firing Range - This is an outdoor area containing grass and topsoil, comprising 100 square feet. It is located on the northeast edge of the indoor firing range. No waste was stored in this area; however, lead was discovered in a small area of soil along the north wall, shortly after the start of firing range operations. The lead was attributed to the fact that initially, the ventilation system did not contain high efficiency particulate air filters. As a result, lead dust would exhaust to the roof of the range and wash off to the north side of the building (due to the sloping of the roof) during rainstorms. An Interim Corrective Measure was implemented to remediate the lead-contaminated soil. Post-remediation soil confirmation samples were collected and the results provided to the Department in a Sampling Visit Work Plan Investigation Report on October 31, 1996 with a request of no further action. The Department concurred with the no further action request on December 31, 1996.

AOC #4: Swan School Road Spoils Area - The Swan School Road Spoils Area consists of two areas (Areas 1 and 2) which contain piles of soil, and was operated from the 1960's to the early 1980's. The land separating the areas is occupied by the Swan School Road Area (SWMU #37). Approximately 30 piles (both single and coalescing) exist within the spoils areas. There are approximately 10 piles in Area 1 and 20 piles in Area 2. RCRA solid waste potentially containing or mixed with RCRA-solid-waste-exempt special nuclear or byproduct material was managed in Area 1. The soil piles range from 2 to 5 feet high, 10 to 20 feet long (ranging from 5 to 30 cubic yards). The majority of the piles contain only soil; a few contain construction and demolition debris. No spills or releases to the environment have been reported. Soils from the piles were sampled and the analytical results were provided to the Department on March 24, 2000. The Department determined that no further action was warranted on October 12, 2001.

AOC #5: Building 17 High Yard Area - The High Yard Area is an electrical power distribution area that supplies electricity to the adjacent Building 17, which houses the switchgear for power distribution to the facility. The area contains tower supports for the high-tension lines, a transformer,

SWMU and AOC Descriptions, cont.

circuit breaker, and grounding system. The High Yard Area was built in the late 1940s to early 1950s as part of the original construction of the Kesselring Site. The High Yard Area historically contained three transformers. The original transformer contained PCB dielectric fluid and was removed in 1993. A second transformer contained 10-C oil and was added in 1955 to supplement the original transformer; this transformer was operated until 1960, after which it was removed and disposed offsite. However, this transformer was thought to have been cross-contaminated with PCB dielectric fluids during transfer of PCB dielectric fluid from the nearby Building 17 filter press (SWMU #32). In addition, a capacitor bank, which contained PCB dielectric fluid, was added in 1963 and removed in 1989. All that remains of the removed transformers and capacitor bank is the concrete pads. The current transformer is a mineral oil filled transformer (non-PCB oil) and was installed in 1993. A sampling and analysis plan was implemented in 2005 based on low-level PCB detections in soil, and it was determined that a localized release to soil had occurred. PCBs were not detected in water and sediment samples collected from downgradient groundwater monitoring wells and a nearby catch basin, respectively. A second phase of investigation was recommended in the Phase I Sampling and Analysis Report that was provided to the Department on March 20, 2012, and was approved by the Department on June 11, 2012. The investigation shall be pursued when the High Yard Area is permanently de-energized and accessible.

AOC #6: Swan School Road Drum Area - The Swan School Road Drum Area is a wooded area east of Swan School Road that was the location of a homestead. This area was not used to support Site operations, and no related waste management activities are known to have occurred at this location. A 55-gallon drum containing approximately 5 to 10 gallons of liquid was discovered lying on the ground in the area. Upon removal of the drum, it was discovered that some of the liquid had leaked into the shallow soil. Subsequent analysis of the liquid indicated that the liquid was likely a commercial disinfectant and that the liquid contained selenium at a concentration exceeding the RCRA toxicity characteristic limit. As a result, approximately 15 cubic yards of soil were removed in 2009. A sampling and analysis plan was implemented in 2010 to evaluate the effectiveness of the remediation. The results of the sampling and a no further action recommendation were provided to the Department in the Sampling and Analysis Report on December 6, 2010, which was approved by the Department on March 22, 2011.

AOC #7: Building 20 South - The Building 20 South area is located in the southwestern portion of the facility approximately 60 feet south of Building 20 and 35 feet east of an electrical high yard. During a road upgrade in 2009, discolored soil exhibiting a diesel odor was discovered. Soil samples were collected and PCBs were detected at 10 ppb. Excavation of 2 to 3 cubic yards of soil and confirmation sampling occurred in October 2009. Based on the results, no further action was recommended on January 29, 2010, and approved by the Department on September 16, 2010.

AOC #8: Building 80 Soil Area – The Building 80 Soil area is located adjacent to Building 80, which is within the fenced operational area of the Site. This area is used to support Site operations, and since the construction of Building 80 in the late 1970s/early 1980s, periodic grit blasting operations was performed to remove paint coatings in support of maintenance activities. There have been several grit blasting operations that have been performed in this area to support maintenance and the

SWMU and AOC Descriptions, cont.

last one that may have resulted in a release is known to have occurred in 1992. In May of 2017, to support excavation and removal of an inactive drain line, soil characterization was performed. Four soil samples [two surface 0 to 1 inch below grade) and two near surface (6 to 12 inches below grade)] were collected. Total chromium (44.5 parts per million (ppm) and 186 ppm) in the two surface soil samples and cadmium (4.96 ppm) in one surface soil sample exceed the unrestricted use soil cleanup objectives (SCOs) of 30 ppm (trivalent chromium) and 2.5 ppm, respectively. Lead was elevated in one surface soil sample at 51.9 ppm but is below the unrestricted use SCO of 63 ppm. Metal concentrations decrease markedly in near-surface samples. Notification of a newly-identified AOC was provided to the Department on May 31, 2017. An Assessment Report was provided to the Department on June 28, 2017 with a recommendation for further action.

ATTACHMENT F – PROCEDURES TO PREVENT HAZARDS

In accordance with the regulatory requirements set forth in 40 CFR 270.14(b)(4), (5), (6), (8), (9), 40 CFR 264.14, 264.15, 264.17, 264.32 and 6 NYCRR 373-1.5, 2.2, 2.3, and 2.9, this procedure has been developed to provide information concerning security systems, facility inspection plans, and the equipment, structures, and procedures utilized to minimize hazards at the Kesselring Site.

F-1 SECURITY

F-1A Security Procedures and Equipment

F-1A(1) 24-Hour Surveillance System

The Kesselring Site security surveillance includes continuous 24-hour guard patrol and Site access requirements. Entrance to the Site is controlled by security personnel who are stationed in the guard house at the main access gate. The main gate is the only gate which provides routine access to the Site for vehicles, facility, and non-facility personnel. All other gates on site remain closed and locked when not in use and are manned when unlocked on a case-by-case use.

F-1A(2) Barriers and Means to Control Entry

In addition to the 24-hour security surveillance at the main access gate, the entire Kesselring Site is enclosed with a fence to prevent accidental or unauthorized access to all active portions of the facility. The Container Storage Area (CSA) buildings, which are all located within the secured portion of the Kesselring Site, also remain locked when not in use for extended periods to further restrict unauthorized access to hazardous/mixed wastes.

Warning signs bearing the legend "DANGER - Unauthorized Personnel Keep Out" are posted at the entrances to the CSAs. These warning signs are clearly legible from a distance of 25 feet and can be seen from any access approach to the CSAs. Other warning signs, such as "No Smoking" and signs bearing emergency directions or safety and health precautions are posted throughout the Kesselring Site CSAs, as appropriate. Traffic control signs are also posted throughout the Site.

F-2 INSPECTION SCHEDULE

In accordance with the regulatory requirements set forth under 40 CFR 264.15 and 270.14(b) (5) and 6 NYCRR 373-1.5 (a)(2)(v) and 373-2.2(g), this inspection plan has been developed as an integral part of the 6 NYCRR Part 373 Permit for the Kesselring Site. The procedures set forth in this inspection plan ensure that facility compliance with these regulations is maintained. A copy of this plan is available at the Kesselring Site at all times.

This inspection plan is intended to provide a mechanism to prevent and detect system malfunctions, equipment and container deterioration, and operator errors which, if allowed to continue without remedial action, may ultimately lead to a release of hazardous/mixed waste constituents to the environment or create a threat to human health. The inspection plan is designed to provide an early warning of the potential for such events in order that corrective and preventive actions may be taken in a timely manner.

The inspection plan is divided into two segments: 1) general Site inspections, and 2) specific unit inspections such as CSAs, which are documented weekly. The former focuses on items that apply to facility-wide operations. The specific unit inspections address hazardous/mixed waste storage areas and encompass the equipment and structures associated within those specific units.

F-2A General Site Inspection Requirements

The inspection plan focuses on the hazardous/mixed waste management units covered under this permit. Each unit is regularly inspected for structural integrity, container failure, equipment availability, operator errors, and other causes that could endanger human health and/or the environment.

The types of potential problems and hazards uniquely associated with a general Kesselring Site waste management unit were used to establish the parameters and frequency of inspections as presented in Table F-1.

Inspections of each waste management unit at the Kesselring Site are conducted in accordance with the inspection schedule provided in Table F-1. The results of each inspection are recorded on an inspection log sheet, which has been developed to address the applicable information requirements from Table F-1. Information entered on the log sheet includes the inspector's name and title, date and time of inspection, items to be inspected, status of each item, observations and comments, including the nature of repairs and remedial action if any.

Examples of typical problems that may be encountered with each item of the inspection are provided in Table F-1 to serve as a reminder to the inspector and to ensure a complete inspection. The inspector is required to check the status of each pertinent item and indicate whether its condition is satisfactory or unsatisfactory. If corrective actions are necessary, these items will be noted on the log sheet until the corrective actions are completed.

F-2B Specific Container Storage Area Unit Inspection Requirements

Inspection of all hazardous and mixed waste CSAs will be conducted weekly and recorded on an inspection log sheet, which has been developed to address the applicable information requirements from Table F-1.

F-2C Inspection Responsibilities and Remedial Action

Inspections are performed on four different levels. On a day-to-day basis, operational personnel in the normal performance of their duties inspect the structure and waste storage areas for any obvious damage or non-routine conditions that may contribute to a possible spill.

Emergency Services (ES) personnel also inspect the CSAs and associated emergency equipment daily. They inspect the CSAs for indications of fires, spills, or malfunctioning equipment, container condition, and liquid accumulation in containment areas. With the exception of maintenance check records for alarms, portable self contained eye washes[1], and fire extinguishers, ES does not maintain inspection records of the CSAs. Notification of deficiencies is issued to responsible parties if the inspections reveal any problems. Responsible parties are notified and corrective actions are taken.

Site security personnel also play an important role in the inspection of the chemical and waste storage areas. As part of their normal security patrols, they look for any situations that could contribute to a release, fire, or explosion.

Lastly, the Waste Chemical Coordinator, or their designee, at a minimum, performs documented inspections of the CSAs on a weekly basis. Any comments relative to operational safety/environmental controls are noted on the inspection log sheet and corrective actions are initiated. Records of the inspections are kept on file for three years.

F-2D Inspection Log

The inspection log is discussed in subsection F-2C of this attachment.

F-3 WAIVER OF PREPAREDNESS AND PREVENTION REQUIREMENTS

The Kesselring Site does not request a waiver of the preparedness and prevention requirements of Part 264, Subpart C. Requirements of this Subpart are addressed in Attachment D, Attachment F, and Attachment G of this permit.

F-3A Equipment Requirements

F-3A(1) Internal/External Communications and Alarms

Internal communications are provided on site by alarm, public address (PA) system, telephone, and two-way radio systems operated by Security, ES, and Emergency Response Teams.

[1] Facility personnel inspect and maintain records for permanently installed eye wash stations.

Manual pull box alarm stations and automatic sensors are located throughout the Site to allow activation in case of fire and emergency response. Based on the location of the manually activated pull boxes and automatic sensors, Site personnel will be alerted to the emergency and its location via the site-wide PA system. Once an alarm is tripped, ES personnel within the firehouse (Building 3) are notified as to the location by computer screen and an audible alarm. This fire alarm/PA system is located throughout the Site and is tested weekly.

The CSAs are equipped with automatic sensor activated alarms and manual pull boxes. The CSAs are also equipped with fire suppression systems which, if activated, will trip an alarm within the building and activate the Site alarm system.

Based on the location and nature of the alarm, Site personnel are alerted to take immediate actions. In addition, emergency response personnel are activated.

TABLE F-1 – GENERAL INSPECTION SCHEDULE CONTAINER STORAGE AREA

EQUIPMENT	INSPECTION ELEMENT/TYPE OF PROBLEM	INSPECTION FREQUENCY
Protective Gear (Hard Hats, Face Shields, Goggles, Boots, Gloves, Acid Resistant Clothing)	Check accessibility.	Weekly
	Check for adequate supply.	Quarterly/after each use (1)
	Check for deterioration, damage.	Quarterly/after each use (1)
Emergency Showers and Eyewash Stations	Visual check for leaks, proper pressure.	Weekly
	Operation check (eyewash).	Quarterly (2)
	Operation check (shower).	Quarterly
Alarm Systems	Check accessibility.	Weekly
	Verify completion of periodic operational test/check.	Yearly/Semi-annually
Fire Extinguishers	Check pressure gauge for full charge indication.	Monthly
	Check inspection tag to ensure annual maintenance is up-to-date.	Monthly
	Check seal to ensure no one has used extinguisher.	Monthly
	Check to ensure access to units is not blocked.	Weekly
Warning Signs	Check for presence and legibility.	Weekly

(Continued)

TABLE F-1 – GENERAL INSPECTION SCHEDULE CONTAINER STORAGE AREA

EQUIPMENT	INSPECTION ELEMENT/TYPE OF PROBLEM	INSPECTION FREQUENCY
Emergency Exits	Posted, lighted, accessible.	Weekly
Spill Kits	Check supply of absorbents, other materials.	Weekly/after each use
Container Management	Leaking/corrosion/damaged, secured, hazardous/mixed waste label, completion of waste identification label, grounded, number of containers (not exceeding capacity), two (2) feet minimum aisle space width between rows, proper storage (use of plastic or metal trays), and segregation of incompatible reactive wastes and materials.	Weekly
Buildings (General)	Heated, no unsealed cracks in flooring or curbing, cleanliness, signs posted inside CSAs (no smoking, accumulation identification signs, etc.).	Weekly
Loading/Unloading Area	Check for spills, deterioration.	Daily when in use [3]
Spill Control Facilities (Secondary Containment)	Cracked, degraded, or otherwise failed containment equipment including dikes, individual containment pallets, trenches or other containment equipment.	Weekly
Catch Basin Covers	Verify condition and availability.	Weekly
Fire Hydrants	Verify accessibility.	Weekly
Telephone	Verify system is functional.	Weekly
Fire Suppression System	Verify quarterly/annual operational test/check completed.	Weekly
Ventilation System	Check for function.	Weekly
Public Address System	Listen for announcements within the CSAs.	Weekly

NOTES:
[1] a) Daily and after each use inspections are for safety and verification purposes and are not documented.
b) Daily means during work days when the CSAs are manned.
[2] The inspection frequency for portable self contained eye washes should follow the manufacturer's literature for each device.
[3] Documented in accordance with 6 NYCRR 373-2.2(g)(2)(iv), (g)(4) and 40 CFR 264.15(b)(4) and (d).

Centrally located telephones and cellular telephones are additional tools used for internal communication. Telephones are located in most buildings and process areas throughout the Kesselring Site. The telephone system can also be used to summon emergency assistance from local police or fire departments in the unlikely event that Site personnel cannot handle a hazardous/mixed waste or other emergency. Instructions for contacting internal and external assistance are discussed under Attachment G (Contingency Plan).

The last means of communication to note is the two-way radio system, which is utilized by ES personnel, Security, and various Emergency Response Teams.

F-3A(2) Emergency Equipment

The facility maintains a fire alarm system, communications system, and emergency response equipment. On-site equipment will enable facility personnel to react and respond to the majority of emergency incidents that might arise. However, if needed, supplemental emergency equipment and supplies will be obtained from outside sources. Tables G-4 and G-5 (Attachment G – Contingency Plan) provide a list of the common on-site emergency equipment located in each specific CSA. Figures G-2 and G-3 (Attachment G – Contingency Plan) illustrate the floor plans of the CSAs and the location of the emergency response equipment within the buildings. Table G-6 presents a list of miscellaneous equipment at other locations on the Kesselring Site available for backup for any emergency on site. The emergency equipment lists are updated as necessary to reflect any changes in equipment available for emergency use in the facility.

F-3A(3) Water for Fire Control

Water at adequate pressure and volume for fire fighting at the Kesselring Site is provided by:

1. Fire hydrants located at various locations throughout the Site. The closest hydrant to Building 91 is approximately 150 ft. The closest hydrant to Building 75 is approximately 25 ft. Fire hydrants are spaced strategically to provide proper Site coverage and to maintain approximately 70 psi pressure in the water main. The water main system is a 10-inch looped system fed by a 10-inch and 16-inch supply main from the on-site well field. The water supply system can deliver approximately 4,000 gpm maximum at 70 psi.

2. Two on-site water towers, each holding approximately 250,000 gallons, of which approximately 180,000 gallons is reserved exclusively for fire fighting.

3. Two fire trucks (Ladder 1 and Engine 2), which store a total of approximately 1,250 gallons of water and carry foam producing equipment for immediate response to small scale fires.

F-3B Aisle Space Requirements

Pallets, containers, and racks are arranged to provide adequate aisle space. The aisle space between rows of containers is a minimum of two (2) feet wide, thereby

allowing the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area within the CSA. As illustrated in Figures G-2 and G-3 (Attachment G – Contingency Plan), vehicle and personnel access to any area within the CSAs is provided by the various entrance-ways.

F-4 PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT

F-4A Loading/Unloading Operations

A detailed description of the internal waste collection process and transport operation is included in Attachment D (Process Information). This includes discussion of interdepartmental communication and participation in the loading and unloading of wastes and a description of the duties for the various participants. Large waste containers are normally transported into the CSAs for storage or out of the CSAs for off-site shipment/disposal by either a forklift truck or other suitable equipment. Small containers may be hand carried.

Normal loading and unloading operations at the CSAs occur at the south door of Building 91 illustrated in Figure D-1 (Attachment D – Process Information) and the north door of Building 75 illustrated in Figure D-2 (Attachment D – Process Information). All of these access ways are equipped with ramps to provide ease of entry into and out of the CSAs. Normally, loading and unloading at Building 75 is done within the covered area on the north side of the building. This area has integral diking, roof, and walls to capture and contain any spills or leaks. Since loading and unloading in the vicinity of Building 75 is normally done within a contained area, the three storm drains in the immediate vicinity are at minimal risk. With the closest drainage ditch being approximately 100 ft north of the Building 91 CSA, there is little chance of a release entering the storm/sewer drainage system.

In the event of an inadvertent spill to any Site storm drain, the Site drainage system is controlled by a series of sluice gates, which can be shut to contain spills.

All Kesselring Site personnel directly involved in loading/unloading operations have been trained in emergency response procedures in accordance with the training plan outlined in Attachment H (Training Plan) of the permit application.

F-4B Run-On/Run-Off Management

Run-on/run-off prevention for the contents within the CSAs is achieved by the secondary containment system as described in more detail in Attachment D (Process Information) of this application.

The CSAs are fully enclosed to prevent any container stored within the unit from being exposed to precipitation. With the exception of sanitary drains, which are isolated from waste storage areas in Building 75, there are no drains within any of the CSAs. In the unlikely event that water did enter and collect within the CSAs, the liquid could, if necessary, be treated or cleaned up and properly disposed.

F-4C Protection of Water Supplies

Storm drain covers are available as an additional precautionary measure to prevent hazardous material spills from entering the storm drains. During an outside transfer of liquid hazardous materials or in the event of a spill, storm drains in the immediate vicinity are routinely covered to prevent or control accidental discharge off site.

The Site stormwater and wastewater drain systems consist of discharge channels and a common retention lagoon. Discharge from the lagoon is via a wastewater treatment facility, which has continuous monitoring equipment for pH, chlorine, and temperature and can be secured remotely to prevent off-site releases, if necessary. Discharge from the wastewater treatment facility is via two outfalls to the Glowegee Creek. A third outfall is dedicated to the on-site sewage treatment plant. A fourth outfall collects parking lot stormwater run-off and also collects a small amount of stormwater runoff from the southwest corner of the developed portion of the Site. The fourth outfall has a gate installed, which can be closed remotely, to prevent off-site releases if necessary. This can be seen in Figure B-2 (Attachment B – Facility Description).

F-4D Equipment and Power Outages

In all operating areas of the Site, the facility equipment is inspected and maintained routinely to minimize equipment failure. The Kesselring Site has extensive provisions for emergency power which include:

1. Two independent commercial power supply lines to protect against local power outages.

2. Emergency diesel generators, which are self starting upon loss of commercial power, to provide sufficient power for essential Site loads.

3. Portable emergency backup power and lighting for remote locations provided by the Site's fire trucks, as detailed below.

Exit lighting for the CSAs is provided by battery powered emergency lights, until power for the CSA circuits is restored or until backup power and lighting is provided. Power to Buildings 91 and 75 is provided by circuits, which are restored quickly as an "essential load."

In the unlikely event that all power is lost while a spill is in progress, portable gasoline engine driven pumps are available for spill recovery actions. Portable

lighting and power can also be provided as required by ES. The emergency generating/lighting equipment carried on the Site fire fighting equipment includes portable generators and portable floodlights. In addition, hand-powered pumps are available for small spills in remote or non-powered locations. All emergency response personnel or on-scene leaders are provided with battery powered two-way radios.

F-4E Personnel Protective Equipment

Protective clothing is provided by KAPL for the specific purpose of protecting employees from physical injury, chemical exposure, and heat exposure. An outline of all emergency equipment, including personal protective gear and its location, is provided in Tables G-4 through G-7 (Attachment G – Contingency Plan).

F-5 PREVENTION OF REACTION OF IGNITABLE, REACTIVE AND INCOMPATIBLE WASTES

F-5A Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Waste

The CSAs (detailed in Attachment D - Process Information) are handling and staging facilities. The purpose of these areas is to package and store hazardous/mixed waste prior to shipment to licensed off-site treatment, disposal, or recycling facilities. As discussed in the facility Waste Analysis Plan (Attachment C – Waste Characteristics), all wastes are characterized prior to receipt in the CSAs to ensure proper segregation and handling (Specific waste accumulation and handling procedures are also discussed in Attachment D – Process Information).

F-5A(1) Precautions to Prevent Ignition of Wastes (Ignitable, Reactive)

To prevent the ignition of wastes from sources of ignition such as open flames, smoking, cutting, welding, hot surfaces, and frictional sparks (static, electrical, or mechanical), safe operating and waste handling procedures at the facility are strictly enforced. Specifically:

1. All waste handlers are thoroughly trained in safe waste handling practices as discussed in Attachment H (Training Plan).

2. No open flames, cutting, or welding are permitted in the CSAs, unless for building maintenance, repair or minor improvement and with all necessary and required safety precautions.

3. No smoking is permitted in the CSAs; "No Smoking" signs are conspicuously placed throughout the CSAs as a reminder to personnel.

4. All containers of ignitable wastes are grounded and bonded during container waste transfer.

5. Fork lift trucks and other internal combustion vehicles are not allowed to be operated in the CSAs during ignitable waste transfer from one container to another.

6. No wastes are directly exposed to radiant heat for any extended period of time.

7. All containerized wastes are stored in clearly marked designated staging/storage areas.

8. All tools used in direct contact with ignitable wastes are spark proof.

F-5A(2) Precautions to Prevent Reaction of Wastes (Ignitable, Reactive)

The Kesselring Site has instituted operating procedures and selected or constructed facilities to prevent accidental, uncontrolled reactions, which might result in:

1. Generation of extreme pressure, fire, explosion, or violent reaction;

2. Production of uncontrolled toxic mists, fumes, dusts, or gases that may impact human health or the environment;

3. Production of uncontrolled flammable fumes or gases that may result in a fire or explosion; and

4. Damages to the structural integrity of the facility. These may include:

   a. proper segregation of incompatible or otherwise dissimilar wastes;
   b. use of individual spill containment to preclude mixing of incompatible wastes;
   c. detailed knowledge review of waste streams information, prior to blending, mixing, or common storage; and/or
   d. construction of concrete walls to segregate wastes.

F-5B Management of Ignitable, Reactive or Incompatible Containers

F-5B(1) Management of Ignitable and/or Reactive Wastes in Containers

The Kesselring Site produces minimal amounts of ignitable and/or reactive wastes. The wastes produced are packaged for disposal as packaged laboratory chemicals (PLC) or in other approved United Nations (UN) containers. PLC consists of a container in which small volumes of compatible wastes (usually less than one pint) are individually placed and separated from other wastes by a suitable

absorbent material. As previously mentioned, in accordance with the Waste Analysis Plan (Attachment C – Waste Characteristics), these wastes have been characterized to avoid the placement of incompatible wastes in the same container. Should a spill of an individual or several containers occur, their contents would be absorbed by the absorbent material thus reducing the likeliness of wastes mixing.

The small volumes of wastes, which are received at the CSAs, are stored in designated areas prior to being placed in PLCs in preparation for off-site disposal. These wastes are accumulated in individual trays, which are elevated off the CSA floor. The trays provide segregation for incompatible materials to preclude heat producing reactions should accidental or inadvertent mixing occur. Handling and packaging of these wastes are performed by trained waste handlers.

No ignitable or reactive wastes are stored within 50 ft of the property boundary at Kesselring Site, in compliance with 6 NYCRR 373-2.9(g). The stored volume of ignitable and reactive materials is kept to a minimum by prompt off-site shipments.

F-5B(2) Management of Incompatible Wastes in Containers

The Kesselring Site has instituted operating procedures similar to those outlined above that reduce the risk of mixing incompatible wastes. These procedures are detailed in subsection D-1D(2) in Attachment D (Process Information).

ATTACHMENT G – CONTINGENCY PLAN

PREFACE

In accordance with 6 NYCRR 373-1.5(a)(2)(vii) and 373-2.4 [40 CFR 270.14(b)(7) and 264.50], Knolls Atomic Power Laboratory (KAPL) – Kesselring Site will maintain a Contingency Plan which details procedures to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil, or surface water at the Kesselring Site. The provisions of this Contingency Plan will be carried out whenever the facility's Emergency Director (ED) (Kesselring Site title for Emergency Coordinator as defined in 6 NYCRR 373-2.4 (f)), or a designated alternate, determines that an event may threaten human health or the environment. A copy of the Contingency Plan is kept in the Waste Chemical Coordinator's (WCC) office at the Kesselring Site, and submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

This Contingency Plan provides explicit descriptions of the response procedures to be implemented in an emergency situation, which are intended to protect the public, personnel at the facility, and the environment. Most importantly, the facility has various structural and operational measures in place which are designed to minimize the possibility of emergency situations developing.

It should be noted that full implementation of this Contingency Plan is not a prerequisite for spill notifications to regulatory agencies. The notification procedures in Appendix G-1 are initiated whenever a potentially reportable quantity of a hazardous substance is released to the environment.

G-1 GENERAL FACILITY INFORMATION

The Knolls Atomic Power Laboratory (KAPL) – Kesselring Site is owned by the United States Department of Energy and operated for the Government under contract. The principal function of the Kesselring Site is research and development in the design and operation of naval nuclear propulsion plants. Additionally, the Kesselring Site is used for the training of personnel in the operation of the naval nuclear propulsion plants. As a result of these operations, the Kesselring Site generates hazardous/mixed wastes[1], which may have to be stored on site in excess of 90 days prior to disposition at a permitted off-site facility in accordance with all applicable environmental regulations. Therefore, the Kesselring Site is a storage facility under 40 CFR 264 and 6 NYCRR 373.

G-1A Facility Identification, Location, and Site Location Plan

Name: Knolls Atomic Power Laboratory – Kesselring Site
United States Department of Energy
West Milton, New York

Location: In Saratoga County, approximately 9.0 miles southwest of Saratoga Springs, New York (See Figure G-1)

Facility Operator Name and Location are:
Fluor Marine Propulsion, LLC (FMP)
Knolls Atomic Power Laboratory – Kesselring Site
350 Atomic Project Road
West Milton, New York

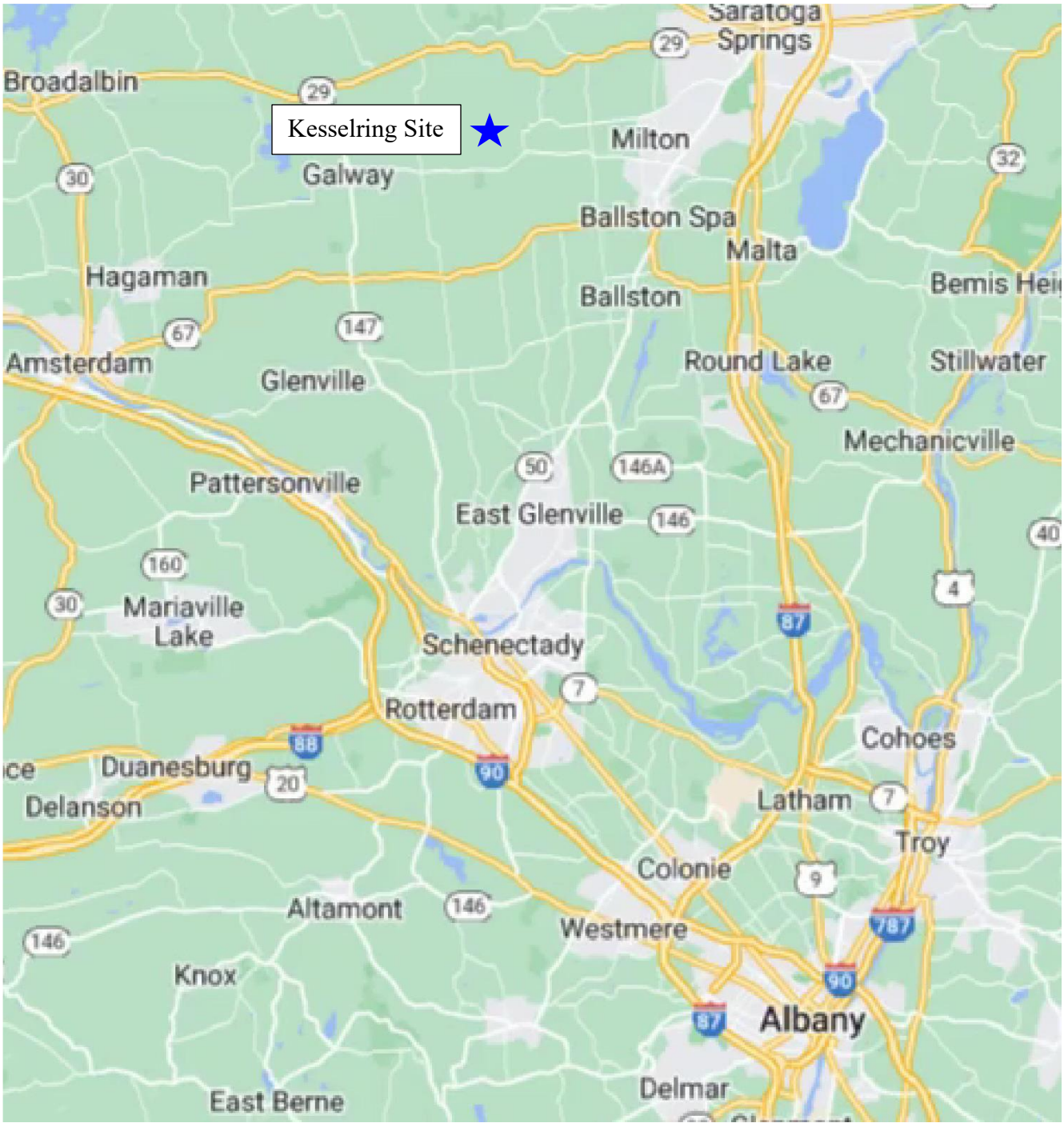
Property Owner and Mailing Address are:
United States Department of Energy
Naval Reactors Laboratory Field Office
P.O. Box 1069
Schenectady, New York 12301-1069

G-1B Facility Operations

The Kesselring Site consists of 3,900 acres on which are located two pressurized water naval nuclear propulsion plants and support facilities, including administrative offices, training facilities, equipment service buildings, a boiler house (oil fired), a cooling tower, and waste water treatment plants. The majority of the Site facilities are located within a fenced security area of approximately 50 acres situated near the Glowegee Creek. The remainder of the site facilities, including parking lots and portions of the site water supply system, including storage tanks, piping, and pumphouses, are located outside the fenced area. The balance of the Site consists of mixed deciduous and evergreen woodlands.

[1] The term *"Mixed Waste* " describes waste that contains both hazardous and radioactive material (source, special nuclear, or by-product material) regulated by the Atomic Energy Act of 1954 as amended, 42 U.S.C. 2011 et seq.

FIGURE G-1 – KESSELRING SITE LOCATION MAP



The surrounding area is a rural, sparsely populated region of wooded lands through which flow the Glowegee Creek and several small streams that empty into the Kayaderosseras Creek.

At a limited number of locations, within the fenced security area, wastes are accumulated in central areas prior to transfer to the Container Storage Areas (CSAs). These locations are operated in compliance with the requirements of 6 NYCRR 372.2(a)(8)(ii) and 40 CFR 262.17.

G-1C Permitted Storage Units

Various types of hazardous/mixed wastes are generated during normal operations and are managed for greater than 90 day periods within two permitted waste management units covered by this plan. The following details are provided relative to each of the permitted units.

The Building 75 CSA is used to store hazardous wastes that are generated from laboratory activities and site operations. Figure G-3 illustrates the general layout of the Building 75 CSA. The CSA occupies an area of 50 ft. x 80 ft. and is designed to completely contain spills, utilizing curbing and/or individual containments, and is protected by a water sprinkler fire suppression system. Easy access to exits allows for quick and safe emergency egress. Building 75 CSA has the capacity to store a maximum of 19,580 gallons of waste. Drums and other containers of liquid stored in Building 75 CSA are placed on individual containments. This is to ensure that the containers are protected from potential contact with accumulated liquids should a spill or leak occur.

The Building 91 CSA is used to store mixed wastes that are generated from laboratory activities and site operations. Figure G-2 illustrates the location and general layout of the Building 91 CSA. The CSA is divided into two areas. The approximate floor dimensions of the two areas are 40 ft. x 29 ft. and 17 ft. x 9 ft. (flammable storage locker). The two areas have the combined capacity to store 7,550 gallons of mixed waste and are also designed to contain spills. The building (including the flammable storage locker) is outfitted with a water sprinkler fire suppression system. Building 91 has exit doors at both ends and a large roll-up door at the southwest end.

Figures G-2 and G-3 also show the CSA locations within their respective buildings. Within these footprints, there are general locations planned for each category based on segregation, compatibility, and inspection requirements. Additionally, for flexibility, Building 91 may store liquid, non-liquid, or flammable waste in any part of the CSA, based on compatibility, secondary containment, and overall CSA inventory. Both CSAs may vary vertically as needed to accommodate variations in individual waste stream generation rate. In all cases, requirements for the proper management of containers will be met. These requirements include aisle space, inspection, segregation of incompatible waste streams, and spill control needs. Details on the amount of hazardous/mixed wastes stored in each area are described in Attachment D (Process Information).

G-1D Areas Exempt from Permitting

The Kesselring Site manages hazardous/mixed wastes in units that are exempt from permitting in 6 NYCRR 373-1.1(d)(1)(iii) (i.e., Satellite Accumulation Area (SAA) units/Waste Accumulation Areas (WAA) - Note: SAA and WAA are equivalent, Central Accumulation Areas (CAA)/≤ 90-day accumulation areas – Note: CAA and ≤ 90-day accumulation areas are equivalent). Appendix G-2 outlines protocols used at the Kesselring Site for establishing these permit exempt units. The actions taken for emergencies that may occur within these established units will be the same as those taken for the two permitted units. Updates to Appendix G-2 will be provided to the plan holders on the Contingency Plan distribution list as required by 6 NYCRR 373-3.4, and are not subject to the permit modification provisions of 6 NYCRR 373-1.7.

G-1E Waste Generation and Control

Hazardous and mixed waste generation is minimized to the maximum extent practicable. Wastes are handled by trained personnel and the materials are monitored during use and storage to prevent exposure of workers and release to the environment. Transportation and disposal are limited to vendors operating under permits/licenses issued by the cognizant State and Federal regulatory agencies. The types of wastes typically generated and stored at the Site are listed in Table G-1.

The Site is staffed on a 24-hour basis. Normal entry to the Site can be gained only through the main gate with permission of Site Security. Alternate gates are available for emergency egress as dictated by the type of emergency. The main entrance has the following purposes:

- Entrance/exit for visitors and facility employees
- Truck shipments
- Special deliveries and outgoing customer shipments
- Emergency exit during an evacuation

G-2 EMERGENCY DIRECTOR (ED)

G-2A Emergency Director List

The names, addresses, and telephone numbers (office and home) of the persons qualified to act as ED of the Kesselring Site are included in Table G-2. The Kesselring Site is manned 24 hours a day, 365 days a year, and has on-site emergency response capability. Accordingly, the most expeditious communication path is through the on-site emergency response telephone, the number of which is (518) 884-1413 (from off-site or cell phone) or 911 (from on-site phone). If the primary ED is not available, the ED list (Table G-2) should be utilized to reach an alternate ED. It should be noted that the title, Emergency Director, is specific to the Kesselring Site and is consistent with existing Site emergency procedures. The ED's duties, as described in the following section, are the same as those

duties and responsibilities associated with "Emergency Coordinator" as outlined in 6 NYCRR 373-2.4.

G-2B Emergency Director Responsibilities

The ED is responsible for coordinating all response measures during an emergency when the Contingency Plan is implemented. The ED has the authority to commit any resources necessary to respond to an emergency. The ED also has the authority to designate responsibilities to other employees and alternates to assist in the event of an emergency.

The ED or alternate ED (Table G-2) will always be "on-call" and will be reachable via telephone. The ED and alternate EDs arrange their schedules such that one of them can be reached any day of the year, 24 hours per day.

TABLE G-1

KESSELRING SITE TYPICAL WASTE CATEGORIES

CATEGORY	DESCRIPTION
Oils/Petroleum Products	Lubricating/cutting, pump, engine, and hydraulic oils from maintenance/repair of various equipment and machinery, and from remediation activities. Waste oils may be contaminated with low concentrations of metals and solvents. Some oils may be combustible.
Polychlorinated Biphenyl (PCB) Contaminated Waste	Waste material with PCB concentrations ≥50 ppm, meeting the criteria specified in 6 NYCRR 371.4(e). Concentrations of PCBs ≥50 ppm are hazardous waste in New York State.
Debris and Solids, Organic	Discarded debris and solids, primarily organic materials (e.g., paper, plastic, cloth, rubber) containing or contaminated with materials/residues, cleaning/decontamination solutions, surface coatings, inherent hazardous waste. This material may contain RCRA listed heavy metals, organic compounds, oxidizers, and/or corrosives.
Debris, Equipment, and Solids, Inorganic	Discarded inorganic (e.g., glass, metals, ceramics) debris, equipment, and solids containing or contaminated with materials/residues, cleaning/decontamination solutions, surface coatings, inherent hazardous waste, or solidified media. This material may contain RCRA listed heavy metals, inorganic compounds, oxidizers, and/or corrosives.
Sludge and Particulates, Primarily Inorganic	System or process residues containing primarily inorganic sludges, particulates, and paint chips from maintenance and remedial operations. This material may contain RCRA listed heavy metals, inorganic compounds, oxidizers, and/or corrosives.
Sludge and Particulates, Primarily Organic	Organic system or process residues, sludges, particulates from maintenance and remedial operations. This material may contain RCRA listed heavy metals, organic compounds, oxidizers, and/or corrosives.
Aqueous Liquids and Slurries, Low Total Organic Carbon (TOC)	Aqueous waste from laboratory, maintenance, decontamination, and remedial operations. These liquids may contain acidic aqueous solutions, corrosive wastes, RCRA listed heavy metals, and/or organic compounds.
Aqueous Liquids and Slurries with Organics	Aqueous waste from laboratory, maintenance, decontamination, and remedial operations, which contain organics (e.g., hydrocarbons, solvents, alcohols). These liquids may contain acidic aqueous solutions, corrosive wastes, RCRA listed heavy metals, and/or organic compounds.
Soils	Waste soils from maintenance, decontamination, and remediation activities. These materials may contain organic compounds, RCRA listed heavy metals, and/or asbestos.
Compressed Gases and Aerosols	Aerosol cans containing product (e.g., paint, lubricant, cleaner), Freon canisters, calibration standards, etc. These wastes may contain constituents that are hazardous due to ignitability, corrosivity, reactivity, toxicity, being an oxidizer, and/or containing RCRA listed heavy metals.
Solvents	Waste solvents from laboratory operations, maintenance, decontamination, and remediation activities. These solvents may be hazardous due to ignitability, corrosivity, reactivity, toxicity, being an oxidizer, and/or containing RCRA listed heavy metals.
Miscellaneous Lab Chemicals	Small quantity, “lab pack-type” wastes consisting of discarded portions of unused or off-specification commercial chemical products, container residues, spill residues, and laboratory wastes. These wastes may contain constituents that are hazardous due to ignitability, corrosivity, reactivity, toxicity, being an oxidizer, and/or containing RCRA listed heavy metals.

TABLE G-2

EMERGENCY DIRECTOR LIST

EMERGENCY DIRECTOR	HOME ADDRESS	WORK TELEPHONE	HOME TELEPHONE
Primary			
L. K. Rieger	24 Sherman Way Ballston Spa, NY 12020	(518) 884-1360	(518) 281-3271 (518) 481-7913 (work cell)
Alternate(s)			
R. H. Reichard	110 Brookline Road Apartment H5 Ballston Spa, NY 12020	(518) 884-3962	(518) 882-1600 (518) 573-3931 (work cell)
R. J. Frankford	2 Liberty Drive Ballston Spa, NY 12020	(518) 884-1995	(518) 937-1027 (work cell)
K. P. Gallagher	9 Larchwood Lane South Glens Falls, NY 12803	(518) 884-1354	(518) 708-7099 (518) 491-2413 (work cell)
W. J. Johnson	5 Meghan Court Saratoga Springs, NY 12866	(518) 884-1237	(518) 583-3966 (518) 727-5437 (work cell)
A. L. Lovelace	315 Goode Street Burnt Hills, NY 12027	(518) 884-3399	(518) 879-7462 (518) 925-0334 (work cell)

EMERGENCY NUMBER SUGGESTED FOR CALLERS FROM OFF-SITE

Emergency Director - (518) 884-1230

G-3 IMPLEMENTATION

The purpose of this section is to summarize the guidance used by the ED in making the decision to implement the Contingency Plan. The decision to implement the Contingency Plan depends upon whether an imminent or actual incident could threaten human health or the environment. In the case of mixed waste, the objective will be to utilize existing procedures for controlling the potential to release radioactivity in conjunction with the emergency procedures for hazardous materials defined herein. In any case, the primary objective will be protection of personnel and the environment consistent with all applicable requirements and procedures. The Contingency Plan will be implemented in whole or part during the following instances.

G-3A Full Implementation of the Contingency Plan

i. Fire and/or Explosion

- A fire that may cause the release of toxic fumes.
- A fire that could spread and ignite materials at other locations on-site or could cause heat-induced explosions.
- A fire that could possibly spread to off-site areas.
- Use of water and chemical fire suppressant that could result in contaminated run-off to the soil or surface water.
- An explosion that could occur and cause a safety hazard because of flying fragments or shock waves.
- An explosion that could ignite stored materials or hazardous/mixed waste at the facility.
- An explosion that could result in release of toxic material.

ii. Unplanned Sudden or Non-Sudden Releases, Spills, and/or Leaks of Hazardous Waste or Hazardous Waste Constituents

- A spill or leak of hazardous waste or hazardous waste constituents that could result in release of flammable liquids or vapors, thus causing a fire or gas explosion hazard.
- A spill or leak of hazardous waste or hazardous waste constituents that could cause the release of toxic liquids or fumes beyond the immediate boundaries of the permitted unit to outer areas of the facility.
- A spill or leak of hazardous waste or hazardous waste constituents in excess of any regulatory limit that could result in extensive on-site contamination of soil or surface water.

- A spill or leak of hazardous waste or hazardous waste constituents which cannot be contained on-site and could result in off-site air, soil, groundwater, or surface water contamination.

iii. Severe Weather/Earthquake

- That could result in surface water contamination.
- That could spread hazardous waste or hazardous waste constituents causing on-site and off-site soil or groundwater contamination.
- That could disrupt activities at the facility and endanger health and safety.

iv. Floods

Floods at the Kesselring Site CSAs are not a likely concern since the hazardous waste facilities are located above the 100-year flood plain.

G-3B Partial Implementation of the Contingency Plan

- Any fire or explosion within a permitted unit that is of a minor controllable nature that poses no potential hazard to human health and the environment.
- Any unplanned sudden or non-sudden release, spill, and/or leak of hazardous waste or hazardous waste constituents which, when spilled, becomes a hazardous waste, beyond the containment of a permitted unit but within the facility boundaries and within the capabilities of the facility personnel (including Kesselring Site emergency responders) to respond.

  Note: A spill or a leak of hazardous waste or hazardous waste constituents that occurs within the building containment of a permitted unit and poses no threat to human health or the environment does not implement the Contingency Plan even if emergency responders are requested to respond.

G-4 EMERGENCY RESPONSE PROCEDURES

G-4A Initial Notification

Whenever there is an imminent or actual emergency situation, the ED or designee will immediately:

- Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel, man the on-site Emergency Control Center (ECC), if necessary; and notify Naval Reactors Laboratory Field Office (NRLFO) immediately of any occurrences involving hazardous material.
- Notify appropriate Federal, State, and/or local agencies with designated response roles if their emergency response assistance is needed, or if their notification is mandated for other reasons (such as spill reporting).

Whenever there is a release, fire, or explosion, the ED will as quickly as possible identify the characterization, exact source, amount, and aerial extent of any released materials. The ED may do this by observation, review of facility records, or manifests and, if necessary, by chemical analysis.

Concurrently, the ED will assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the possible effects of any toxic, irritating, or asphyxiating gases that may be generated, or the possible effects of any hazardous surface water run-off from water or chemical agents used to control fire and explosions).

If the ED determines that the facility has had a release, fire, or explosion, which could threaten human health or the environment outside the facility, the ED must report findings, as follows:

- If assessment indicates that sheltering or evacuation of local areas may be advisable, the ED will immediately notify appropriate local authorities. The ED will be available to help appropriate officials decide what, if any, protective actions are necessary and;

- The ED or designee will immediately notify the New York State Department of Environmental Conservation (NYSDEC) and either the governmental official designated as the on-scene coordinator for that geographical area (in the applicable regional Contingency Plan) or the National Response Center (NRC) (using their 24-hour toll free number 1-800-424-8802). The report must include:

  - Name and telephone number of reporter;
  - Name and address of facility;
  - Time and type of incident (e.g., release, fire);
  - Name and quantity of material(s) involved, to the extent known;
  - The extent of injuries, if any; and
  - The possible hazards to human health or the environment outside the facility.

  Site-specific notification information for specific facility personnel and necessary State and local agencies are detailed in subsection G-4C and Appendix G-1.

- Additional Notifications: Following an emergency that required full implementation of the Contingency Plan, the Commissioner and appropriate State and local authorities must be notified that the facility is in compliance with 6 NYCRR 373-2.4(g)(8) before operations are resumed in the affected area(s) of the facility.

G-4B Identification of Hazardous Materials

As soon as possible, the ED will determine the character, source, and extent of any released materials by visual inspection and by review of other available sources of information. The initial assessment will include the following information:

- Characteristics of material.
- Condition of the source (e.g., repairable leak, uncontrollable leak, easily moved, unmovable).
- Physical state of the release (e.g., solid, powder, pellet, granular, liquid, or gas).
- Odor.
- Color of material.
- Obvious reactions (e.g., fuming, flaming, or gas evolution).
- Approximate quantity of material released.
- Approximate area affected by the release.

G-4C Hazard Assessment

After initially characterizing the release, the ED must apply knowledge of existing conditions to determine the following:

- **Can the facility personnel control the emergency?** If not, the ED or designee will immediately notify the appropriate local and State emergency agencies listed on Table G-3 as required.
- **Does the incident have the potential to affect health and/or environment off-site?** If so, the ED or designee will contact the NRC and the NYSDEC immediately at the following numbers:

United States Coast Guard/NRC	1-800-424-8802
NYSDEC Spill Hot Line	1-800-457-7362

- **Is Site evacuation necessary?** If so, activate Evacuation Plan (section G-7).
- **Is evacuation of local area advisable?** If so, the ED or designee will communicate the necessary information to at least the following agencies:

Site Security	Extension 1406/1230
Saratoga County Sheriff	911 or (518) 885-6761[2]

The Kesselring Site has an external notification plan for releases of hazardous substances to the environment, which is detailed in Appendix G-1. The telephone listing for this plan is given in Table G-3, with the exception of the reporting requirements under the Superfund Amendments and Reauthorization Act (SARA), which is presented in Appendix G-1.

[2] External 911 is the most appropriate number for obtaining emergency response services.

G-4D Response and Control Procedures

G-4D(1) Response Procedures

G-4D(1)(A) Partial Contingency Plan Implementation

Should a fire, explosion, or spill be of a minor controllable nature and pose no potential hazard to human health or the environment, the ED will only implement the emergency notification procedures in this section and complete the necessary reporting, which is described in section G-3.

In case of an imminent or actual emergency situation, the person observing the incident will:

- Utilize the facility's telephone system, fire alarm system, or go in person to notify the appropriate area supervisor, who will in turn notify the ED.

- Provide the location, nature, and extent of the incident prior to any action being implemented.

Subsequently, the ED and/or area supervisor will set up a command post and take control of the affected area. Emergency Services (ES) personnel will arrive on scene and provide the assistance and equipment necessary to control the incident. ES is a trained emergency response organization which maintains trained staff on site at all times. ES is equipped with the necessary emergency response equipment to respond to all probable Kesselring Site emergencies.

The ED has the authority to commit any resources until the emergency has been eliminated and any cleanup or restoration is completed. The ED will direct the following activities:

- Stop operations and ensure that spilled or released material is contained and collected.

- Determine the source and extent of the spilled or released materials and assess the potential for primary and secondary hazards.

- Ensure that any materials spilled or released in the area are isolated from incompatible materials/wastes.

G-4D(1)(B) Full Scale Contingency Plan Implementation

When a decision has been made to implement the full-scale Contingency Plan, the ED will direct:

- Initiation of containment and control procedures.
- An accounting of all facility personnel/visitors by head count and from review of the facility's sign-in/sign-out register at the main gate.
- Implementation of internal notifications.
- Notification to authorities and requests for assistance, as necessary.
- Coordination of first-aid activities if casualties are involved and activation of the control procedures described in subsection G-4D(2).
- Activation of the Evacuation Plan described in section G-7, if required.

G-4D(1)(C) Internal Notification and Responsibilities

It is a standard practice for any employee who discovers a fire or a hazardous material spill to either call extension 911 from an on-site phone (518-884-1413 from a cell phone) or pull the nearest fire alarm box. This activates an alarm at ES and Security which, in turn, results in immediate action by both.

G-4D(1)(D) External Contacts

A list of external contacts that may be required during an emergency is included in Table G-3 and a description of the External Notification Plan is given in Appendix G-1.

All personnel providing information to outside agencies or response groups will do so only after the ED indicates or concurs with the need and management from both the contractor and NRLFO have been informed. The person making such contact must include the required information listed in Appendix G-1, Reporting Procedure.

G-4D(2) Control Procedures

During an emergency, the ED will take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other

areas at the facility. These measures must include, where applicable, stopping operations, collecting, and containing spilled waste, and removing or isolating containers.

If the facility stops operations in response to a fire, explosion, or release, the ED must ensure that appropriate surveillance of the suspended operation is conducted during the stoppage.

Immediately after an emergency, Site personnel must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other materials that result from the emergency.

The Kesselring Site will manage all recovered material in accordance with applicable waste management regulations and will assume the responsibilities of being the waste generator for all materials shipped off-site for treatment or disposal.

In the affected area(s) of the facility the ED will ensure that:

- All emergency equipment listed in the Contingency Plan (Tables G-4 to G-7) is cleaned or restocked and available for its intended use before operations are resumed.

- Following an emergency, operations that were shut down will not resume until approval is given.

The ED will ensure that the time, date, and details of any incident that requires implementing the Contingency Plan are noted in the operating record. After any such incident, a written report of the incident will be submitted to the United States Environmental Protection Agency (USEPA) Regional Administrator and the NYSDEC within 15 days. The report shall include the required information listed in the Appendix G-1, Written Reports.

TABLE G-3

KESSELRING SITE – EXTERNAL NOTIFICATION OF RELEASES OF HAZARDOUS SUBSTANCES TO THE ENVIRONMENT TELEPHONE LISTING

1.	NRC	1-800-424-8802
2.	NYSDEC Spill Hotline	1-800-457-7362
3.	USEPA Region II Spill Hotline	1-800-424-8802
4.	Saratoga County Sheriff	911* (or 518-885-6761)
5.	Local Fire Departments (notified by external 911 operators)	911*
	a. Rock City Falls Fire Department	
	b. Galway Fire Department	
6.	New York State (NYS) Warning Point (NYS Office of Emergency Management)	518-292-2200
7.	Saratoga County Emergency Services (Local Emergency Planning Committee)	911* (or 518-885-5522)
8.	NYSDEC Regional Office (Warrensburg)	518-623-1200
9.	NYSDEC Regional Headquarters (Ray Brook)	518-897-1200

* References to 911 above are to the external 911 services and not the KS 911 extension for internal coordination. Dialing the external 911 listed is the most appropriate number for obtaining emergency response services; the 7-digit numbers listed are backups to 911 as noted.

G-4D(2)(A) Emergency Response Plan

The facility has been designed, constructed, and operates to procedures established with the primary goal of preventing accidents and emergencies. However, the following emergency response procedures are necessary in order to be prepared for the unpredictable circumstances, which are inherent in any business where risks such as those described in section G-3 are present.

The Kesselring Site has an on-site, full time, dedicated ES Team available on a 24 hours per day basis. The organization receives extensive training in medical, fire, health, and environmental emergencies. The organization performs area tours of the CSAs and permanent CAAs on a daily basis.

Any employee, who observes, discovers, or otherwise detects an emergency situation involving a fire, explosion, or release of hazardous material to air, soil, or the environment will follow these general emergency response procedures.

- If safe to do so, render assistance to personnel who may be involved in the emergency and remove them from further exposure or injury.

- Alert other personnel in adjacent areas to potential hazards and inform the area supervisor by the quickest available means. This is done by dialing extension 911 from a site phone (518-884-1413 from a cell phone) or the area supervisor directly. (Note: An individual should only attempt to handle fires or other emergencies in their incipient stages. Under no circumstances, however, should the employee attempt to handle it alone.) The nearest fire alarm box/manual pull station locations are indicated on each individual facility layout drawing (Figures G-2 through G-5).

- Upon sounding the alarm, operations in the affected area should stop. All unnecessary personnel should exit the affected area.

- The area supervisor should make the emergency notification by dialing extension 911 from a site phone (518-884-1413 from a cell phone) if not already activated.

- A site-wide announcement should be made over the public address (PA) system indicating the exact location and nature of the problem (including any special instructions to specific Site personnel).

- If the alarms and announcements result in the manning of the on-site ECC, the ED will manage the emergency from the ECC.

- ES will arrive at the scene and implement emergency response procedures under the direction of the ED.

Such emergency response procedures will include:

1. If a fire exists, ES will take the necessary actions to control the fire or prevent explosive conditions by applying water or foam as appropriate.

2. If a spill, leak, or other emergency has occurred, ES will:

   a. Assess the situation and determine if additional assistance is needed and inform the ED as necessary.

   b. Using proper protective equipment, attempt to minimize the problem by stopping the leak, up righting the container, transferring the material to a new container, or, in other ways, gain control of the situation.

   c. Cover any storm drains or other avenues of release of the material with storm drain covers, absorbent material, or other materials.

   d. Isolate the area with safety ropes and barriers and by requesting assistance from other supporting Emergency Team members.

   e. Use whatever protective equipment is necessary to minimize exposure, such as respiratory protection, and chemical resistant suits, gloves, and aprons.

   f. Secure or establish ventilation as necessary.

   g. Monitor for leaks, pressure buildup, gas generation, or rupture in valves, pipes, or other equipment wherever this is appropriate.

   h. Initiate cleanup.

The required corrective action for any particular spill or leak must be tailored to the properties and physical state of the material released. There are personnel specifically trained to assist in the non-radiological and radiological aspects of any potential waste casualty, including mixed waste.

Information on a particular waste may be obtained from the waste container label, the specific waste analysis, or the manufacturer's Safety Data Sheet (SDS)/Material Safety Data Sheet (MSDS - Form OSHA-174, or equivalent).

Site-wide emergency response procedures also include specific pre-planned steps to be taken when certain classes of materials are released, whether or not the release originates in the Container Storage Area. These procedures, which emphasize environmental protection, are directly applicable to waste materials with similar hazards.

G-4D(2)(B) Fire

The fire alarm system, once activated, results in rapid notification to all employees on-site. The ES Supervisor will supervise the use of available equipment by ES to contain the fire. ES will attempt to control the fire or prevent explosive conditions by applying water or foam as appropriate. The ES Supervisor will also make a determination of the proper material to apply based on the nature of the hazardous material involved, the potential for the material to spread, and the optimum means to stop the fire or explosion. The On-Scene Incident Commander (OSIC) will keep the ED informed of decisions made at the scene:

- If required, ES or OSIC will initiate action to contact the local Fire Department and have them directed to the proper area.

- ES will take appropriate steps to contain the fire. Other unnecessary personnel will be removed from the affected area.

- The ED will determine whether to curtail other Site operations.

- A head count will be made as soon as practical.

G-4D(2)(C) Explosion

In the event of an explosion, Site operations will be placed in a safe condition. A fire alarm will be sounded and the following procedures are instituted:

a. If no fire occurs, an investigation and head count will be made as soon as practical.

b. An investigation of the cause of the explosion and whether it will recur is implemented.

c. The ED and area supervisor are notified of any explosion.

d. General response procedures will be followed as indicated above.

e. If required, the ED or designee will contact the local Fire Department and direct them to the proper area.

f. Should it be necessary, the ED notifies all Site personnel to relocate to unaffected areas on the Site or to evacuate by prescribed routes to predesignated locations.

g. The ED assesses the emergency situation and initiates any additional corrective actions needed.

h. The ED contacts the necessary response agencies.

G-4E Prevention of Recurrence or Spread of Fires, Explosions, or Releases

The ED and the OSIC will take all necessary steps to ensure that a secondary release, fire, or explosion does not recur after an initial incident.

Procedures that will be carried out in the affected area include:

- Inspection for any leaks or cracks in drums.
- Inspection for gas or vapor generation, using appropriate available instrumentation.
- Segregation of potentially incompatible residues.
- Isolation of all residual waste materials.
- Determine the most appropriate containment or diking method if required: earthen dikes, excavation, or diversion.
- Coordinate activities of supervisory personnel, maintaining constant communication with the response team.

- If a container holding a hazardous/mixed waste is not in good condition (i.e., rusting, structural damage during forklift transport) or leakage is occurring, the drum will be drained or repackaged as necessary.

Actions to isolate residual waste materials will first focus on segregation of incompatible wastes. As necessary, the OSIC may order temporary berms or barriers to be placed to segregate potentially incompatible waste residues; alternately, the OSIC may order in-situ neutralization of corrosive materials if these could contact and react with other incompatible materials and other segregation techniques are not available.
All operations that were initially shutdown in response to the incident will not be reactivated until the ED gives an "ALL CLEAR" signal.

G-4F Storage and Treatment of Released Material

Upon release of a hazardous/mixed waste, Site personnel immediately initiate containment and control procedures described in subsection G-4D(2). Once the emergency situation has ended, ES and/or Radiological Controls will begin cleanup and collection of the residues for disposal and decontamination of the affected areas. Actions will be taken as soon as possible to prevent further contamination. Any containers that continue to leak after the initial control actions are taken are segregated as soon as possible and drained or repackaged as necessary.

Wastes collected in absorbents are swept up as solids into a plastic container (if the spill involved acid or basic solutions) or another suitable container if the spill involved solvent or other waste chemicals. Collection containers are then transferred to a suitable drum for storage prior to disposal. The WCC, with the assistance of Site environmental personnel, as necessary, will decide what containers should be used and how the containers must be labeled. Decontamination of any equipment used in recovering spill residues is covered in subsection G-4H.

Isolation and flushing of the spill area after cleanup are done under the direction of ES and the WCC. Water or another appropriate solvent is used to flush the area and then collected for disposal in the same manner as other spill residues. If the spill consisted only of an acidic or basic solution, the water flush may be directed to the storm sewer after testing for neutrality and with the approval of Site Environmental Engineering.

In the remote event that a spill entered the storm water system before the sewers were covered, the Site implements extensive internal procedures for checking discharge locations. Reporting of such incidents will be done in accordance with Appendix G-1.

G-4G Incompatible Waste

There will be no storage of incompatible wastes in the location of the release. If necessary, during the cleanup procedures, temporary berms or barriers will be placed to temporarily segregate the material until cleanup is completed.

G-4H Post-Emergency Equipment Maintenance

All equipment used during the cleanup will be decontaminated using appropriate cleaning solutions and disposal containers, and readied for future use. All Site personnel will remove contaminated clothing and shower, as necessary. Fire extinguishers and personnel protective equipment will be replaced, and absorbent materials restocked. Before operations are resumed, an inspection of all necessary safety equipment will be conducted.

The emergency equipment list will be updated as necessary to reflect any changes in the quantities or types of equipment available for emergency use at the facility.

G-4I Container Spills and Leakage

Should a drum or smaller container leak or spill its contents and assistance be required, partial implementation of the Contingency Plan may be undertaken in accordance with subsection G-4D. Cleanup of spilled material and transfer of the remaining contents of the affected container will be accomplished as outlined in subsection G-4F.

G-4J Spills and Leakage

Leakage or spills from larger containers will activate the Contingency Plan in whole or in part, depending upon the severity of the spill or leak and the need for assistance. Cleanup and transfer of collected material and spilled material will be accomplished as described above in subsection G-4I. Sufficient empty drums and spare containers are available on-site in the event a significant amount of material needs to be transferred. Should the spill cleanup effort require more manpower than available site resources, a trained outside cleanup contractor will be brought in.

G-4K Secondary Storage

Permanent CAAs provide short-term holding capacity for wastes, if needed. As previously stated, only wastes compatible with the CAAs will be placed in the areas, or suitable resistant spill containment will be provided. Appendix G-2 documents the Site's procedure for operating CAAs.

G-5 EMERGENCY EQUIPMENT

The facility maintains a fire alarm system, communications system, and emergency response equipment. On-site equipment will enable facility personnel to react and respond to the majority of emergency incidents that might arise. However, if needed, supplemental emergency equipment and supplies will be obtained from outside sources. Tables G-4 through G-7 identify the description and location of the emergency equipment. Figures G-2 through G-5 illustrate the floor plans for Buildings 75 and 91, as well as the permanent CAAs. Also included is the location of emergency equipment within them.

Other areas are used temporarily as CAAs, in compliance with 6 NYCRR 372.2(a)(8)(ii) and 373-1.1(d)(1)(iii), for specific work evolutions. Common Site emergency equipment will be available as listed in Table G-6 and additional materials, as deemed necessary, are staged as needed for the particular evolution.

G-6 COORDINATION AGREEMENTS

The Kesselring Site has made agreements with the local police, fire departments, and Saratoga Hospital for their support during emergencies that exceed the on-site capabilities, as well as arrangements made with NYS and Saratoga County Office of Emergency Services. These organizations are provided with copies of this Contingency Plan as required by 6 NYCRR 373-2.4(d)(2) [40 CFR §264.53(b)]. Their assistance will be requested, if necessary, as discussed below.

Outside Organization	**Kesselring Site Organization**
Saratoga County Sheriff 911 (or 518-885-6761*) NYS Police 911 (or 518-583-7000*) (Wilton)	The Kesselring Site, because of the classified nature of its work, has its own full-time security force. This security force is assigned specific duties involving emergencies relating to hazardous/mixed waste. County Sheriff or State Police responses would be limited to duties such as traffic control around the Site and on the roadway approaches. See section G-4 for notification procedures for emergency off-site involvement.
Rock City Falls Fire Department 911 Galway Fire Department 911 Saratoga Springs Fire Department 911	In the event that off-site assistance is necessary, the fire department responding to the mutual aid call would be directly briefed of the hazards and supervised by Kesselring Site ES upon their arrival. Periodic joint fire training sessions are held with the Rock City Falls Fire Department.
Saratoga Hospital 518-583-8313 (Emergency Room)	The Kesselring Site transports patients to Saratoga Hospital; Saratoga Springs, New York, for any situations that may require emergency treatment beyond that available from the Site dispensary. Anyone injured while working with hazardous/mixed waste would be brought to Saratoga Hospital in the Site ambulance or a local ambulance service should multiple exposures occur. Waste stored in Building 75 contain common industrial chemicals, which would not present any unusual problems to hospital personnel. Building 91 waste may contain low level radioactivity, for which the Kesselring Site has made an agreement with Saratoga Hospital.

Saratoga County Office of Emergency Services 911 (or 518-885-5522*) Community Emergency Corps (CEC) 911	The nature of the facility is such (storage only) that it is likely any emergency which might develop involving stored hazardous/mixed waste would be contained on site, and would be handled by Kesselring Site Emergency Response Personnel. In the event that the emergency exceeds on-site capability, assistance would be requested from one of the agencies listed in the left hand column. See subsection G-4C and Table G-3 for notification requirements.

* External 911 is the most appropriate number for obtaining emergency response services. The 10-digit numbers listed are backups to 911 as noted.

TABLE G-4

EMERGENCY EQUIPMENT AVAILABLE FOR USE IN BUILDING 91*

Equipment	Capability
Fire Extinguishers	Used to manually extinguish incipient fires.
Automatic Fire Suppression System (water-based)	Heat actuated fire suppression system designed to control a fire, sound the building's fire alarms, and notify the site's fire brigade (ES) to respond.
Fire Alarm Pull Boxes	Allows manual initiation of the building's fire alarms and notification of the site's fire brigade (ES).
Communication Equipment (e.g., telephone, public address system speaker, fire alarm system)	Allows internal and/or external communications to notify personnel of an emergency.
Emergency Eyewash and Safety Shower	For emergency use in flushing or removing chemical contaminants from personnel.
Emergency Lighting	Assist occupants in building to safely egress the building on loss of power.
Chemical Spill Kits (e.g., contains personal protective equipment, cleanup tools, absorbents, neutralizers, warning signs)	Used to clean up or contain small scale spills.
Protective Clothing (e.g., face shields, rubber boots, hard hats)	Used to protect personnel when responding to hazardous material spills, as needed.

* See Figure G-2 for equipment location. Portable and movable emergency equipment locations may vary due to changes in area layouts and/or improvements. Current figure indicates general arrangement and does not necessarily reflect actual locations.

TABLE G-5

EMERGENCY EQUIPMENT AVAILABLE FOR USE IN BUILDING 75*

Equipment	Capability
Fire Extinguishers	Used to manually extinguish incipient fires.
Automatic Sprinkler System (water-based)	Heat actuated fire suppression system designed to control a fire, sound the building's fire alarms, and notify the site's fire brigade (ES) to respond.
Fire Alarm Pull Boxes	Allows manual initiation of the building's fire alarms and notification of the site's fire brigade (ES).
Communication Equipment (e.g., telephone, public address system speaker, fire alarm system)	Allows internal and/or external communications to notify personnel of an emergency.
Emergency Eyewashes and Safety Showers	For emergency use in flushing or removing chemical contaminants from personnel.
Emergency Lighting	Assist occupants in building to safely egress the building on loss of power.
Chemical Spill Kits (e.g., contains personal protective equipment, cleanup tools, absorbents, neutralizers, warning signs)	Used to clean up or contain small scale spills.

* See Figure G-3 for equipment location. Portable and movable emergency equipment locations may vary due to changes in area layouts and/or improvements. Current figure indicates general arrangement and does not necessarily reflect actual locations.

TABLE G-6

MISCELLANEOUS EQUIPMENT – KESSELRING SITE*

The following equipment will be available at the Kesselring Site for emergency use site-wide, including Buildings 75 and 91:

Equipment/Vehicles List	
Equipment	**Capability**
Front End Loader	Used to move large piles of soil to dam, dike, or divert hazardous materials.
Dump Truck	Used to carry large amounts of soil to dam, dike, or divert hazardous materials.
Fire Truck	Used to extinguish fires and mitigate releases.
Ambulance (Firehouse)	Used for on scene treatment and transport of the sick and injured.
Brush Truck (4x4)	Used to attack wild fires that may threaten the facility.
Mobile Command Van	Used to set up a unified command post to ensure proper communications and resources are deployed to handle an event.
Environmental, Safety and Health (ESH) Emergency Vehicle (4x4)	Used to transport personnel to remote site locations.
Rescue Truck	Vehicle that can travel to the affected area where personnel can use specialized equipment to control and clean up hazardous materials.
Protective clothing and boots	Used to protect personnel when responding to hazardous material spills, as needed.
Tools and Handling Equipment	Used to build soil berms or dikes for containing hazardous materials.
Generators and Pumps	Used for working in remote areas.
Universal absorbents and chemical supplies	Used to clean up hazardous material spills.
Inflatable Plugs	Used as secondary device within drainage structure to secure the flow of hazardous materials to the environment.
Sampling Equipment	Used to collect samples, as needed.
Emergency Lighting, Electrical Supplies	Used in remote areas to provide emergency lighting.
Communication Equipment	Used for internal and/or external communications to notify response personnel of an emergency.

* Portable and movable emergency equipment locations may vary due to changes in area layouts and/or improvements. Existing inventory reflects the equipment necessary to support current Site needs, and may be reduced or increased as future needs dictate.

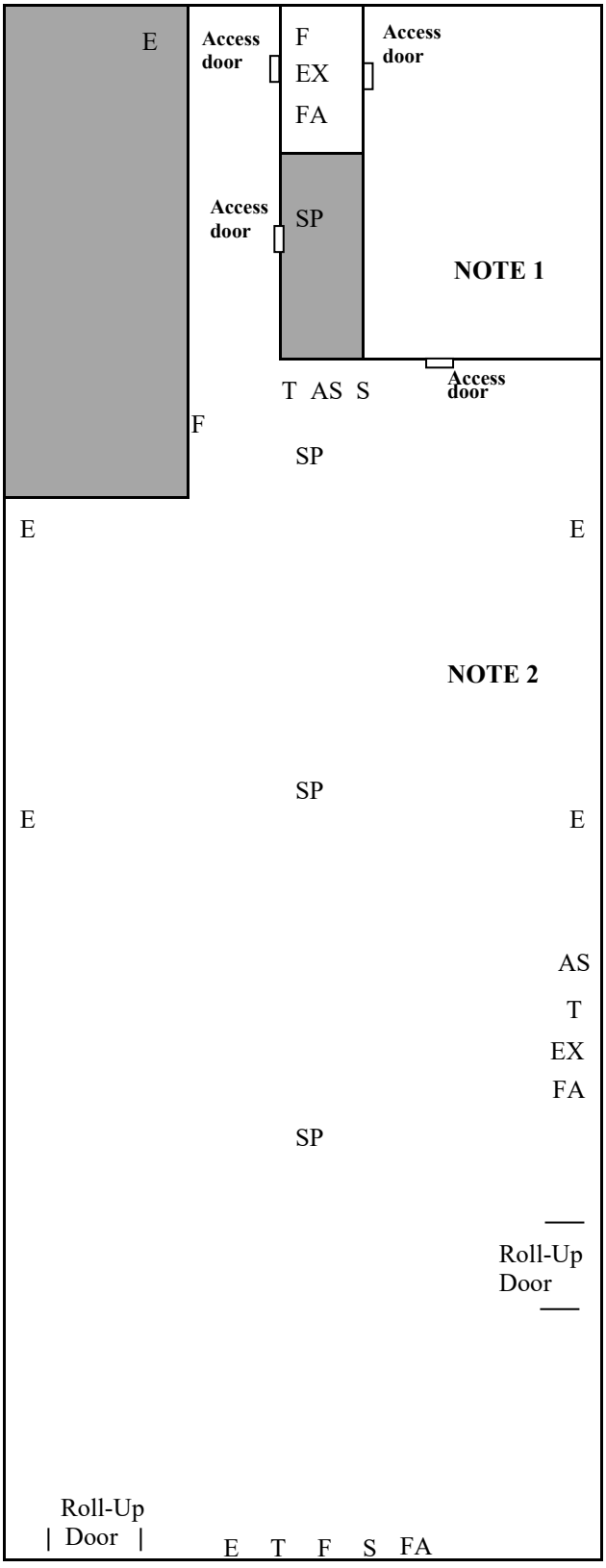
TABLE G-7

EMERGENCY EQUIPMENT AVAILABLE FOR USE IN KESSELRING SITE'S PERMANENT CENTRAL ACCUMULATION AREAS

Emergency Equipment	Capability	Building 92	Building 75B
Emergency Eyewash and Safety Shower	For emergency use in flushing or removing chemical contaminants from personnel.	X(1)	X
Emergency Phone	Allows for internal and/or external communications to notify personnel of an emergency.	X	X
Fire Extinguisher	Used to manually extinguish incipient fires.	X(2)	X(2)
Manual Pull Dry Chemical	Allows manual initiation of the fire suppression system, the building's fire alarms, and notification of the site's fire brigade (ES).		X
Spill Response Kit	Used to clean up or contain small scale spills.	X(2)	X(2)
Automatic Sprinkler System	Heat actuated fire suppression system designed to control a fire using water, sound the building's fire alarms, and notify the site's fire brigade (ES) to respond.	X	
Automatic Fire Suppression System	Heat activated dry chemical fire suppression system designed to control a fire, sound the building's fire alarms, and notify the site's fire brigade (ES) to respond.		X
Fire Alarm Pull Boxes	Allows manual initiation of the building's fire alarms and notification of the site's fire brigade (ES).	X	

(1) Portable eyewash/safety shower will be located in this area, as needed, based on work being performed.

(2) Portable and movable emergency equipment locations may vary due to changes in area layouts and/or improvements. Figures G-4 and G-5 indicate the general arrangement and do not necessarily reflect actual locations.



N

KEY

- E Emergency Lighting
- F Fire Extinguisher
- T Telephone
- S Spill Kit (portable; moved to support work as needed)
- EX Emergency Exit
- FA Fire Alarm Pull Box
- AS Eyewash/Shower (portable; moved to support work as needed)
- SP Automatic Sprinkler System (water-based)
- Container Storage Area

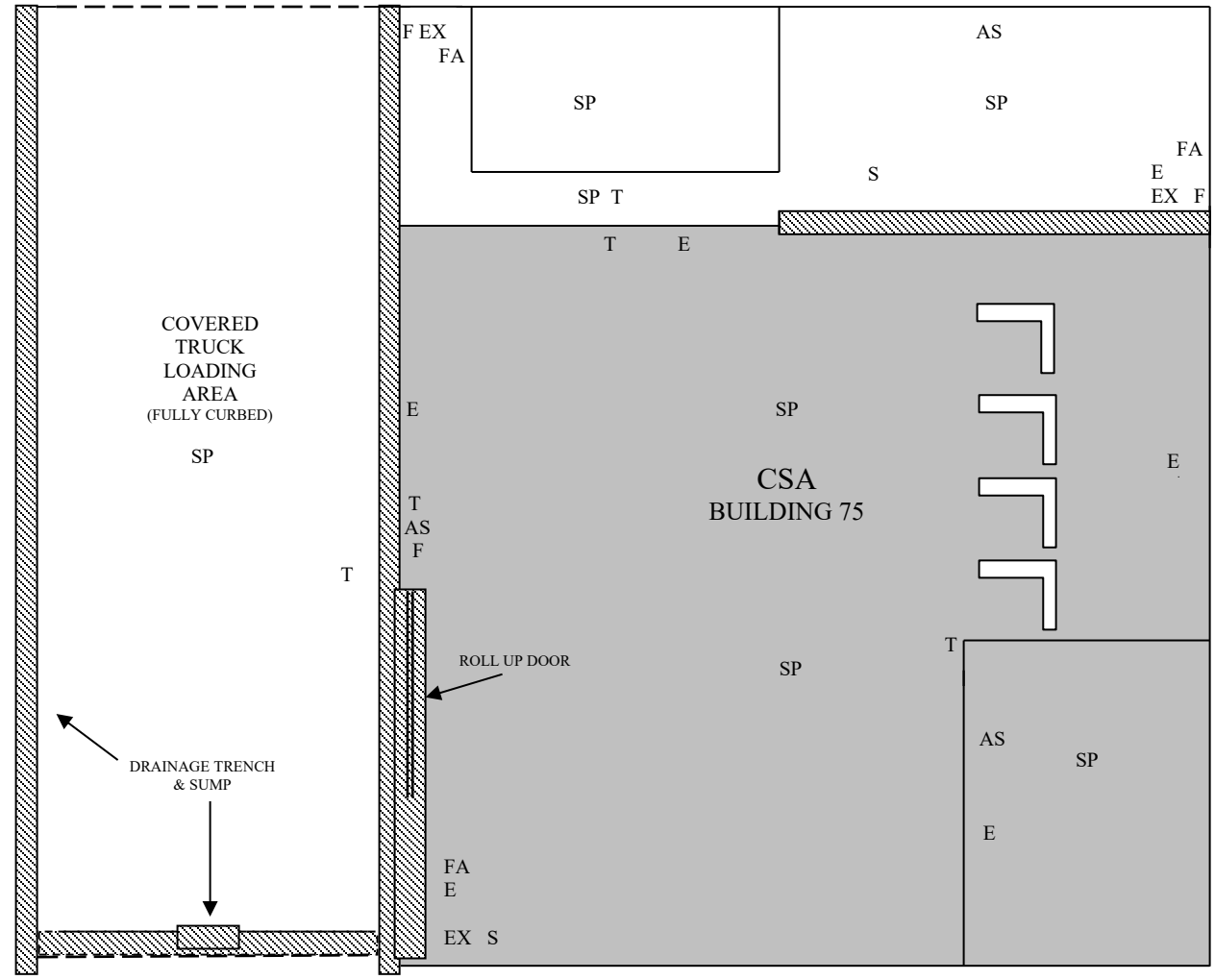
NOTES

1. Two (2) Removable Roof Hatches
2. Perimeter Concrete Shield Wall

Note that, for flexibility, liquid, non-liquid, or flammable waste may be stored in any part of the Container Storage Area, based on compatibility, secondary containment, and overall Container Storage Area inventory.

NOT TO SCALE

FIGURE G-2
BUILDING 91
CONTAINER STORAGE AREAS



KEY

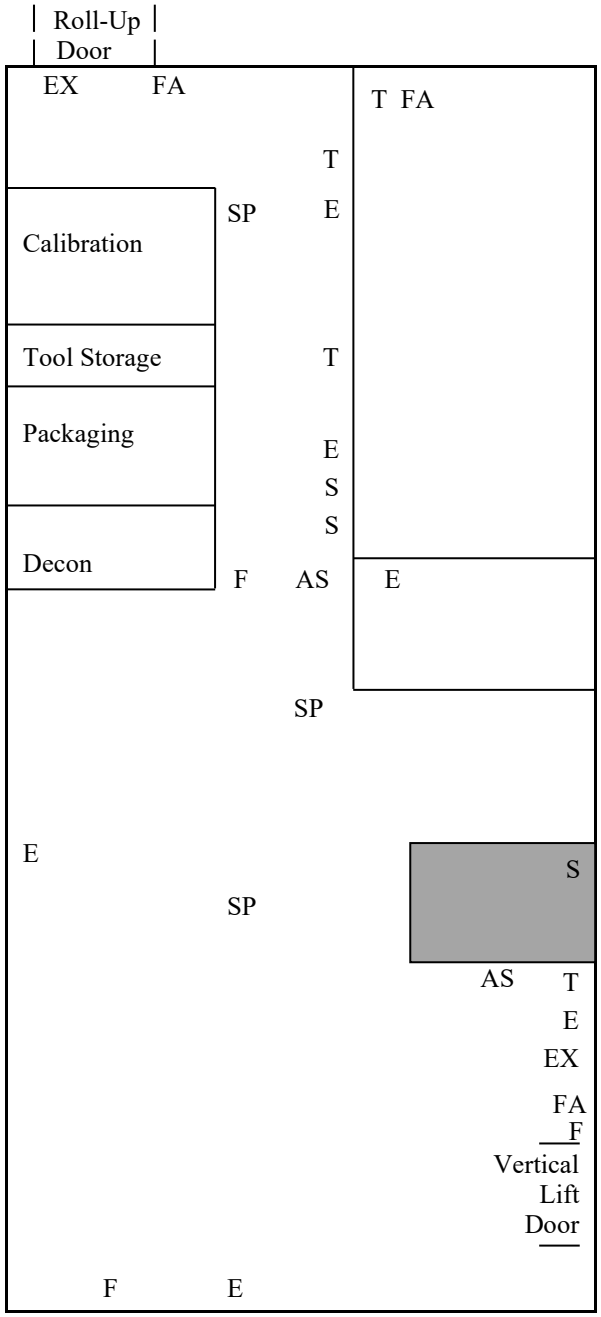
AS	Eyewash/Shower
T	Telephone
F	Fire Extinguisher
S	Spill Kit (portable; moved to support work as needed)
SP	Automatic Sprinkler System (water-based)
FA	Fire Alarm Pull Box
E	Emergency Lighting
EX	Emergency Exit
▨	Curb
▭	Container Storage Area
– – –	No wall at ends of roofed truck bay

← **N**

Note that, for flexibility, liquid, non-liquid, or flammable waste may be stored in any part of the Container Storage Area, based on compatibility, secondary containment, and overall Container Storage Area inventory.

NOT TO SCALE

FIGURE G-3
BUILDING 75
CONTAINER STORAGE AREA



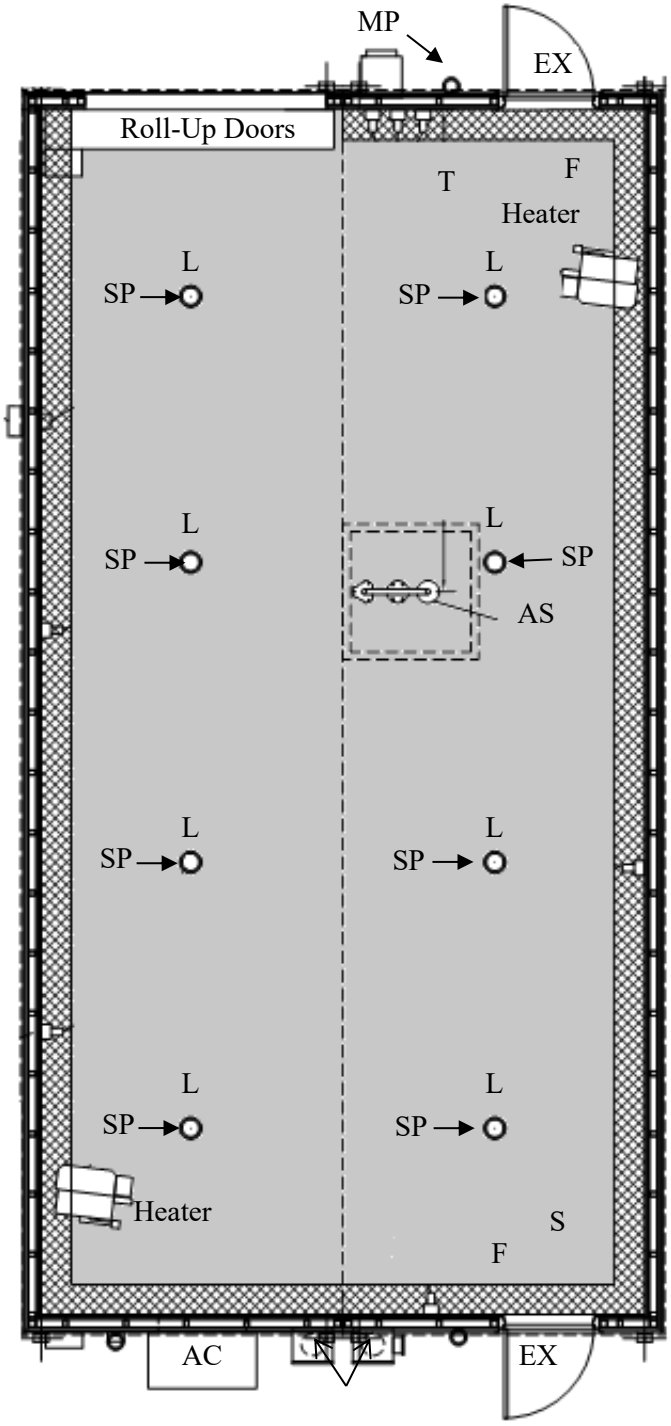
KEY

E	Emergency Lighting
F	Fire Extinguisher
T	Telephone
S	Spill Kit (portable; moved to support work as needed)
EX	Emergency Exit
FA	Fire Alarm Pull Box
AS	Eyewash/Shower (portable; moved to support work as needed)
SP	Automatic Sprinkler System (water-based)
▭	Central Accumulation Area

N

NOT TO SCALE

FIGURE G-4
BUILDING 92
CENTRAL ACCUMULATION AREA



KEY

L	Lighting
MP	Manual Pull For Dry Chemical
AC	Air Conditioner
F	Fire Extinguisher
T	Telephone
S	Spill Kit (portable; moved to support work as needed)
EX	Emergency Exit
AS	Eyewash/Shower
SP	Automatic Suppression System (Dry Chemical)
▭	Central Accumulation Area

N

NOT TO SCALE

FIGURE G-5
BUILDING 75B
CENTRAL ACCUMULATION AREA

G-7 EVACUATION PLAN

The hazardous/mixed waste CSAs have multiple exit routes and pose no obstructions to emergency egress. If any emergency is detected by personnel, they are instructed to immediately leave the building or area (as applicable) and notify ES by pulling the nearest fire alarm or using the nearest phone. Both phones and alarm boxes are located in the respective buildings. The phones are located inside Building 75 and 91 and on the outside of Building 75. If any automatic fire suppression system or fire alarm pull box is activated, ES is notified automatically by an alarm in the on-site firehouse.

- Building 75 is equipped with a sufficient number of both personnel and vehicle access doors. There are two emergency exits in the Building 75 CSA located along the northwest and southeast side to allow for means of egress (Refer to Figure G-3). All personnel exiting the building would assemble north of Building 75.
- Building 91 is equipped with a sufficient number of both personnel and vehicle access doors. There are two emergency exits in Building 91 along the southwest and east side to allow for means of egress (Refer to Figure G-2). All personnel exiting the building would assemble south of Building 91.
- Building 75B is equipped with a sufficient number of both personnel and loading/unloading access doors. There are two emergency exits in Building 75B located along the north and south side to allow for means of egress (Refer to Figure G-5). All personnel exiting the building would assemble northeast of Building 75B.
- Building 92 is equipped with a sufficient number of both personnel and vehicle access doors. There are two emergency exits in Building 92 located along the northeast and south side to allow for means of egress (Refer to Figure G-4). All personnel exiting the building would assemble south of Building 92.

The initial response to an event will involve movement of people away from the immediate scene. Movement will vary depending upon the alarm type and location, but a public address announcement will communicate the movement that is required.

If the ED determines that the event, threatens the health of Kesselring Site personnel, the ED will order the partial or complete evacuation of nonessential personnel. The ED is the only person authorized to call for a partial or complete release of the Site in response to an emergency situation which threatens the health and safety of Site personnel. Facility access normally is restricted. During an emergency, access to the Site will be strictly limited to personnel required to respond to the emergency plus local, State, and Federal emergency response professionals specifically authorized by KAPL. In addition to a site-wide PA announcement, the ED will complete the following actions:

- Utilizing the Relocation Coordinator, the ED will communicate with the affected Site personnel, including Plant management, and order the evacuation. As part of this instruction, the ED will verify that the evacuation routes and assembly areas specified are safe and not impacted by the hazards associated with the release. Personnel will either proceed south to the main gate (primary route) or personnel will proceed east through the east gate (alternate route). If evacuation of personnel is not warranted, the ED on a case-by-case basis can relocate personnel from the building surrounding the scene of the emergency to another building.

G-8 REQUIRED REPORTS

The NRC, USEPA Region II, and NYSDEC will be notified if there has been a spill or release of a hazardous/mixed waste or hazardous substance that may cause environmental damage or a human health hazard and/or exceeds any reportable quantity.

6 NYCRR 373-2.4(g)(4)(ii) and 40 CFR 264.56(d)(2) requires immediate notification to the NRC if the ED determines the facility has had a release, fire, or explosion which could threaten human health or the environment outside the facility. The details of the required notifications are contained in subsection G-4A (Initial Notification). Details of the required reports are further described in Appendix G-1 of this Attachment. This report need not be made if the Commissioner waives the requirement and a report is submitted within 15 days of the Site becoming aware of the event. Reporting may also be necessary under the Superfund Amendments and Reauthorization Act (SARA) provisions (See Appendix G-1).

All required notifications and reports will be made to both the Regional Administrator of Region II USEPA and the Commissioner of the NYSDEC.

G-9 AMENDMENTS TO THE CONTINGENCY PLAN

The Contingency Plan will be reviewed and immediately amended, as necessary, whenever:

1. The facility permit is revised.

2. Response experience is to be incorporated into the plan.

3. The facility changes in its design, operation, construction, maintenance, or other circumstances in a way to materially increase the potential for fires, explosions, or releases of hazardous/mixed waste or hazardous waste constituents, or changes to response procedures necessary in any emergency.

4. The list of Emergency Directors changes.

5. The list of emergency equipment changes.

The Manager of ESH and the ED have the authority to change and/or modify the Contingency Plan as necessary.

APPENDIX G-1
KESSELRING SITE EXTERNAL NOTIFICATION OF RELEASE OF HAZARDOUS SUBSTANCES TO THE ENVIRONMENT

I GENERAL

These instructions summarize necessary steps for reporting releases of hazardous substances. These hazardous substances include oil and radioactive discharges. Action will be taken by on-site emergency personnel to ensure notifications are in accordance with applicable State and Federal regulations.

II NOTIFICATION REQUIREMENTS

A. General Requirement

Several Federal and State regulatory agencies and statutes govern the notification requirements for spills or any release of oils and hazardous substances into the environment: navigable waters, surface and groundwater, drinking water supply, land surface, subsurface strata, and ambient air. NRLFO, or their designee, in accordance with the Contingency Plan notification procedures outlined in section G-4 **must**, as soon as they have knowledge of a release of oil, hazardous substance, or hazardous/mixed waste in a reportable quantity in any 24-hour period, report it by phone to the NRC, the NYSDEC Spill Hotline, or other State and local agencies as necessary.

B. Exemption From Notification

Notification is not required if the release is insufficient to trigger a requirement to notify under the applicable regulations and permits as described herein.

C. Description of Releases Which Must be Reported

1. The release reporting procedure for hazardous substances include those materials designated as hazardous substances by 6 NYCRR 597, Superfund Act (including SARA release reporting requirements), Clean Water Act, Clean Air Act, Toxic Substances Control Act (TSCA), and RCRA hazardous wastes. The majority of the reportable quantities (RQs) for these materials are one pound except when a higher RQ has been established. A listing of most of the hazardous substances and statutory reportable quantities are listed in 6 NYCRR 597 and 40 CFR 302.

2. Oil means oil of any kind, in any form, and is not limited to petroleum. Oil is harmful if it violates applicable water standards, causes a film or sheen upon, or discoloration of the surface of the water[3] or causes a sludge or emulsion to be disposed of beneath the surface of the water.

[3] This refers to waters of the State or waters of the United States.

D. Reporting Procedure

The individual reporting a spill or release of oil or hazardous substance into the environment should be prepared to provide the following information:

1. Name of the person reporting the spill;
2. Company name and address;
3. Material(s) released, (use proper chemical name or description);
4. The actual quantity of material(s) released and its reportable quantity, (an estimate will be required if the actual quantity is not readily available);
5. Date, time, duration, and location of the release;
6. Weather conditions at the time of the spill;
7. Description of the incident;
8. Containment and cleanup action taken;
9. Damage to animal and plant life such as a fish kill;
10. Personnel injuries;
11. Phone number where person reporting the spill can be reached (follow-up calls from agency officials are routine); and
12. Material hazards if Safety Data Sheets (SDSs) are available.

E. Information Requirements

The individual reporting a spill or release should record the following information:

1. The time each agency was notified;
2. The name or Identification Number of the individual answering the call;
3. The unique designator number given by the agency to record the incident; and
4. Follow-up phone calls.

Any special requests from the agencies, such as Site visitations, material toxicology, or personnel information, should be brought to the attention of the ED. A duplicate or split of any sample requested **must** be retained at the facility in case of a dispute or litigation.

F. Written Reports

A follow-up report of the pollution incident and recovery activity must be filed with the USEPA Region II Office, NYSDEC Commissioner, and the NYSDEC Region 5 office within 15 days after the incident. The report shall include:

1. The name, address, and telephone number of the owner or operator;

2. The name, address, and telephone number of the facility;
3. The date, time, and type of incident (e.g., fire, explosion);
4. The unique designation number from the agency (NRC or NYSDEC Spill Hotline) registering the incident;
5. The name and quantity of material(s) involved;
6. The extent of injuries, if any;
7. An assessment of actual or potential hazards to public health, safety, welfare, or the environment when this is applicable;
8. The estimated quantity and the disposition of recovered material that resulted from the incident;
9. Proposed measures to prevent similar incidents in the future; and
10. A diagram of the storage area or another appropriate map to help locate the area(s) affected by the incident.

APPENDIX G-2
GENERAL PROVISIONS FOR PERMIT EXEMPT UNITS

I. Satellite Accumulation Area (SAA) Units

Note: Satellite Accumulation Area and Waste Accumulation Area (term used in local manuals) Units are equivalent.

Regulations Governing This Type of Unit

In accordance with §372.2(a)(8)(i)(a), a generator may accumulate up to 55 gallons of hazardous/mixed waste or up to 1 quart or 1 kilogram (2.2 pounds) (see applicable 40 CFR 262 requirements below for additional accumulation allowances) of acute hazardous/mixed waste in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or interim status and without complying with §372.2(a)(8)(ii), provided the generator:

- complies with §372.3-3.9(b)-(d); and
- marks the containers as follows:
    1. with the words “hazardous waste”,
    2. other words identifying the contents of the container, and
    3. indicates the hazards of the contents (see applicable 40 CFR Part 262 requirements below for additional markings).

In accordance with §372.2(a)(8)(i)('b'), a generator who accumulates at or near any point of generation either >55 gallons of hazardous/mixed waste or >1 quart or 1 kilogram (2.2 pounds) (see applicable 40 CFR 262 requirements below for additional accumulation allowances) of acute hazardous/mixed waste must, with respect to that amount of excess waste, perform one of the following within three days:

- move the waste to a permitted hazardous/mixed waste management unit;
- move the waste to an already operating established/approved CAA;
- establish a new CAA; or
- ship the waste to an approved, appropriately permitted off-site treatment, storage, or disposal facility.

40 CFR Part 262 applicable regulations

- §262.15(a) states, a generator may accumulate as much as 55 gallons of non-acute hazardous waste and/or 1 quart or 1 kilogram (2.2 pounds) of acute hazardous waste…in containers at or near any point of generation where wastes initially accumulate…
- §262.15(a)(5)(ii) states, an indication of the hazards of the contents. Examples include but are not limited to:

- Listing the applicable hazardous waste characteristic;
- Hazard communication consistent with DOT requirements at 49 CFR 172 subpart E (labeling) or subpart F (placarding);
- A hazard statement or pictogram consistent with OSHA Hazard Communication Standard at 29 CFR 1910.1200; or
- A chemical label consistent with NFPA code 704.

- §262.15(a)(8) states, all satellite accumulation areas operated by a large quantity generator must meet the Preparedness, Prevention, and Emergency Procedures in subpart M of 40 CFR Part 262.

General Provisions for Satellite Accumulation Area Units

The following guidelines are applicable to Satellite Accumulation Area units established under this appendix. These guidelines are in addition to any specific requirements stated in the previous sections of this Appendix.

1. Each unit must be on the approved list maintained by Regulated Materials Management (RMM).

2. The container management requirements outlined in §373-3.9, except §373-3.9(e), must be followed.

3. Waste accumulation areas must be posted as such. All containers used to manage the hazardous/mixed waste must be labeled/marked as such:
   a. with the words "Hazardous Waste",
   b. other words identifying the contents, and
   c. an indication of the hazards of the contents. Examples include but are not limited to:
      - Listing the applicable hazardous waste characteristic;
      - Hazard communication consistent with DOT requirements at 49 CFR 172 subpart E (labeling) or subpart F (placarding);
      - A hazard statement or pictogram consistent with OSHA Hazard Communication Standard at 29 CFR 1910.1200; or
      - A chemical label consistent with NFPA code 704.

4. If waste is stored in excess of 55 gallons of non-acute hazardous/mixed waste or up to 1 quart or 1 kg (2.2 lbs.) of acutely hazardous waste, the generator must mark or label the container(s) holding the excess accumulation of hazardous waste with the date the excess amount began accumulating.

5. The requirements for preparedness and prevention outlined 40 CFR 262 Subpart M must be followed.

6. The location of each SAA placed into service (including temporary units) must be recorded on RMM's approval list. In addition, the emergency equipment associated with each unit (where required) must be indicated on the SAA inspection checklist. This will ensure that an up-to-date listing is available to on-site emergency response organizations (e.g., ECC and ES) as well as for use by off-site emergency response organizations should this information be needed.

7. In accordance with 6 NYCRR 372.2(a)(8)(i)(b), a generator who accumulates at or near any point of generation either >55 gallons of hazardous/mixed waste or >1 quart or >1 kilogram (2.2 pounds) acutely hazardous/mixed waste must, with respect to that amount of excess waste, perform one of the following within three days:

   - move the waste to a permitted hazardous/mixed waste management unit (i.e., CSA);
   - move the waste to an already operating established/approved CAA;
   - establish a new CAA; or
   - ship the waste to an approved, appropriately permitted off-site treatment, storage or disposal facility.

The ED has the authority to change and/or modify the contingency plan as necessary. Modifications to the procedures or permitted units or changes to the ED list will be issued in accordance with the permit modification provisions of §373-1.7. Updates to Appendix G.2 will be provided to the plan holders of the contingency plan distribution list as required by §373-3.4 and is not subject to the permit modification provisions of §373-1.7.

II. Central Accumulation Areas:

Regulations Governing This Type of Unit

The requirements applicable to CAAs at the Kesselring Site are outlined in 6 NYCRR 373-1.1(d)(1)(iii). Establishment of a temporary CAA requires an addendum to be added to the Site master Contingency Plan. The master Contingency Plan will not be revised and distributed to outside agencies regarding temporary CAAs, therefore outside emergency services must be briefed to the addendum and situation at the area upon arrival at the facility.

The Kesselring Site currently operates two (2) permanent CAAs. These permanent CAAs are located in Building 92 for Mixed Waste and Building 75B for Non-Radiological, Hazardous Waste.

CAA Provisions

The accumulation of hazardous/mixed waste for ≤ 90 days must adhere to the guidelines cited in section below. Provisions specific to this unit include:

- Upon completion of the unit's operational lifetime, the unit must be closed in accordance with the applicable closure standards in 6 NYCRR 373-3.7. Documentation of such closure is to be generated and approved by KS Environment, Safety and Health (ESH) and forwarded to the KS Regulated Materials Management (RMM) for retention.

- If the waste is to be transported off-site directly from the accumulation unit, then the labeling and marking requirements in 6 NYCRR 372.2(a)(5) and 372.2(a)(6), respectively, must be followed.

- In accordance with 6 NYCRR 373-1.1(d)(1)(ix), on-site treatment of hazardous waste is permissible within Central Accumulation Areas, provided the treatment occurs in the same tanks or containers that are used for accumulation and storage of such wastes. The waste analysis procedures and data documentation requirements found in 6 NYCRR 373-1.5(j)(4) and 6 NYCRR 373-2.24(c) must be followed to demonstrate the effectiveness of any treatment taking place.

General Provisions for Central Accumulation Areas

The following guidelines are applicable to all exempt units established under this appendix. These guidelines are in addition to any specific requirements stated in the previous sections of this appendix.

1. Each unit and its staging location must be approved by KS ESH and KS RMM prior to its establishment.

2. The container management requirements outlined in 6 NYCRR 373-3.9 must be followed.

3. All areas and containers used to manage (treat or store/accumulate) the hazardous/mixed waste must be labeled/marked as such:
   a. with the words “Hazardous Waste”,
   b. other words that identify the contents of container,
   c. an indication of the hazard(s) of the contents. Examples include but are not limited to :
      - Listing the applicable hazardous waste characteristic;
      - Hazard communication consistent with DOT requirements at 49 CFR 172 subpart E (labeling) or subpart F (placarding);
      - A hazard statement or pictogram consistent with OSHA Hazard Communication Standard at 29 CFR 1910.1200; or
      - A chemical label consistent with NFPA code 704.

4. Personnel working within or operating the unit must be trained in accordance with the training requirements outlined in 6 NYCRR 373-3.2

5. The date on which each period of accumulation begins (accumulation start date) must be clearly marked and visible for inspection.

6. The requirements for preparedness and prevention outlined in 6 NYCRR 373-3.3 must also be followed.

7. The location and type of each unit placed into service (including temporary units) must be recorded in the facility operating record. In addition, the emergency equipment associated with each unit (where required) must be added to the facility operating record. This will ensure that an up-to-date listing is available to on-site emergency response organizations (i.e. Emergency Services and ESH) as well as for use by off-site emergency response organizations.

The Emergency Director (ED) has the authority to change and/or modify the contingency plan as necessary. Modifications to the procedures or permitted units or changes to the ED list will be issued in accordance with the permit modification provisions of 6 NYCRR 373-1.7. Updates to Emergency Equipment Available for Use in Kesselring Site's Permanent CAAs (Table G-7) will be provided to the plan holders of the contingency plan distribution list as required by 6 NYCRR 373-3.4, and is not subject to the permit modification provisions of 6 NYCRR 373-1.7.

KNOLLS ATOMIC POWER LABORATORY

KESSELRING SITE

CONTINGENCY PLAN QUICK REFERENCE GUIDE

EPA I.D. NUMBER NY5890008993

6 NYCRR PART 373 PERMIT
NUMBER
5-4142-00005/00049

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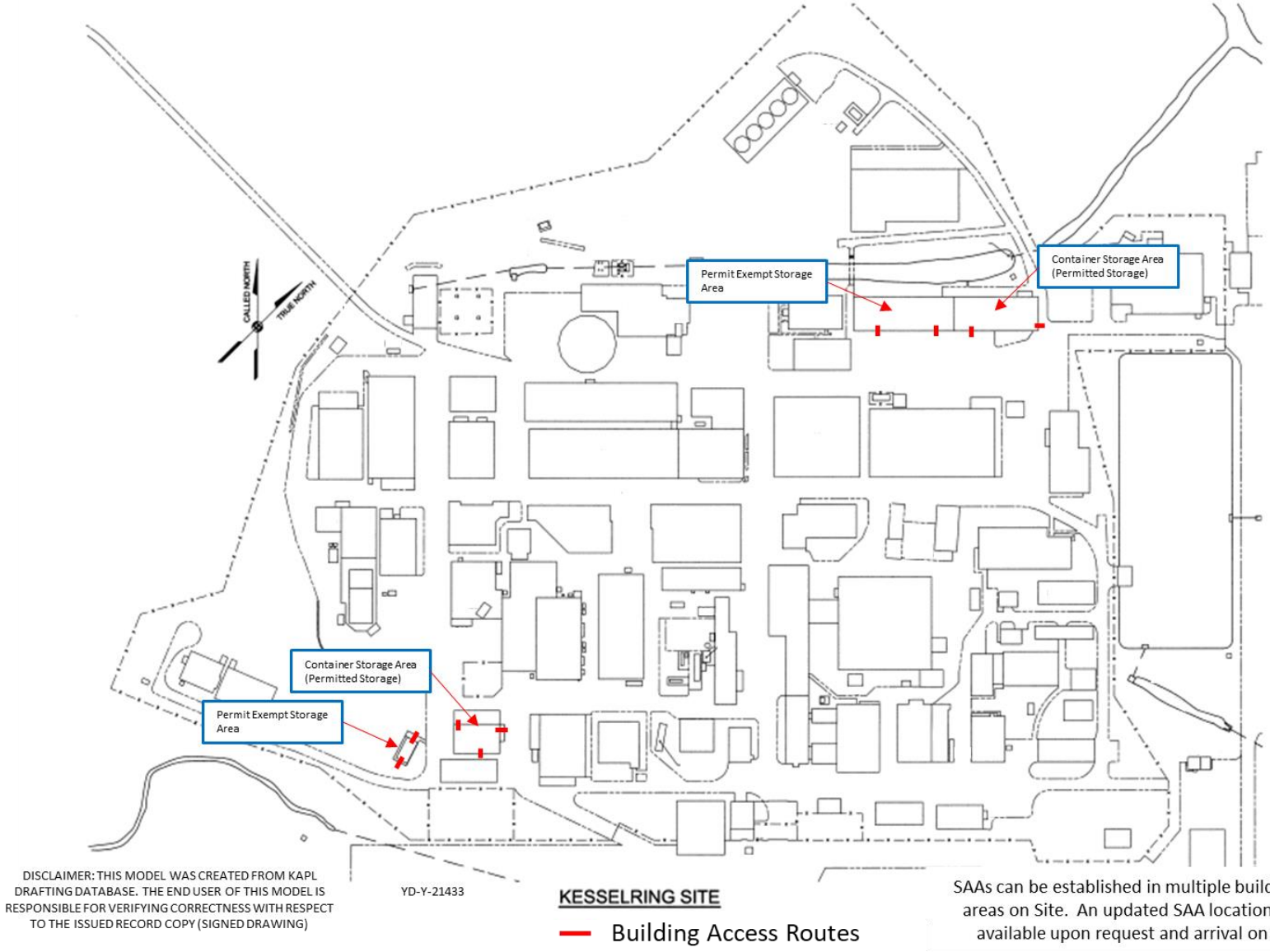
§262.262(b)(1): Types/Names of hazardous wastes and the hazard associated with each waste.
§262.262(b)(2): The estimated maximum amount of each hazardous waste present at any one time
§262.262(b)(3): Identification of any hazardous wastes where exposure would require unique or special treatment by medical staff

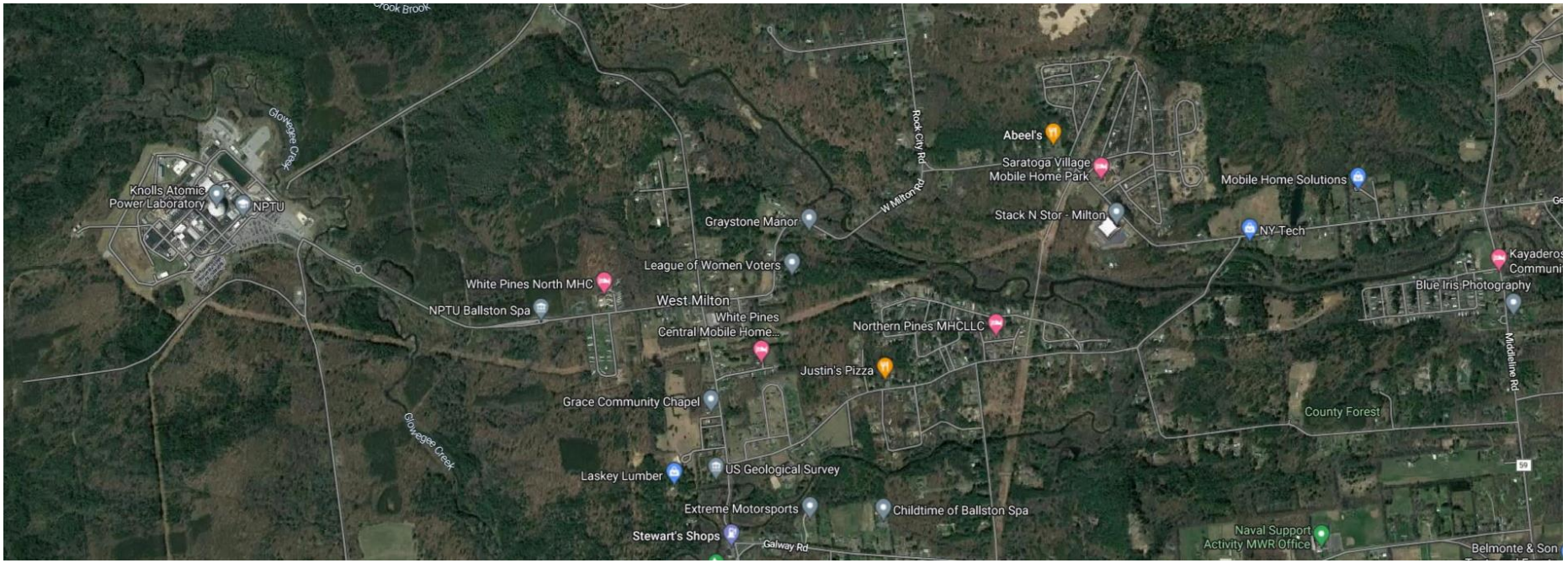
KESSELRING SITE WASTE CATEGORIES

CATEGORY/TYPE	DESCRIPTION/HAZARD	Estimated maximum amount on-site at any one time	Special medical treatment required
Oils/Petroleum Products	Lubricating/cutting, pump, engine, and hydraulic oils from maintenance/repair of various equipment and machinery, and from remediation activities. Waste oils may be contaminated with low concentrations of metals and solvents. Some oils may be combustible.	< 2,000.00 lbs.	None
Polychlorinated Biphenyl (PCB) Contaminated Waste	Waste material with PCB concentrations ≥ 50 ppm, meeting the criteria specified in 6 NYCRR §371.4(e). Concentrations of PCBs ≥ 50 ppm are hazardous waste in New York State.	< 2,000.00 lbs.	None
Debris and Solids, Organic	Discarded debris and solids, primarily organic materials (e.g., paper, plastic, cloth, rubber) containing or contaminated with materials/residues, cleaning/decontamination solutions, surface coatings, inherent hazardous waste. This material may contain RCRA listed heavy metals, organic compounds, oxidizers, and/or corrosives.	< 30,000.00 lbs.	None
Debris, Equipment, and Solids, Inorganic	Discarded inorganic (e.g., glass, metals, ceramics) debris, equipment, and solids containing or contaminated with materials/residues, cleaning/decontamination solutions, surface coatings, inherent hazardous waste, or solidified media. This material may contain RCRA listed heavy metals, inorganic compounds, oxidizers, and/or corrosives.	< 30,000.00 lbs.	None
Sludges and Particulates, Primarily Inorganic	System or process residues containing primarily inorganic sludges, particulates, and paint chips from maintenance and remedial operations. This material may contain RCRA listed heavy metals, inorganic compounds, oxidizers, and/or corrosives.	< 1,000.00 lbs.	None
Sludges and Particulates, Primarily Organic	Organic system or process residues, sludges, particulates from maintenance and remedial operations. This material may contain RCRA listed heavy metals, organic compounds, oxidizers, and/or corrosives.	< 1000.00 lbs.	None
Aqueous Liquids and Slurries, Low Total Organic Carbon (TOC)	Aqueous waste from laboratory, maintenance, decontamination, and remedial operations. These liquids may contain acidic aqueous solutions, corrosive wastes, RCRA listed heavy metals, and/or organic compounds.	< 1,000.00 lbs.	None
Aqueous Liquids and Slurries with Organics	Aqueous waste from laboratory, maintenance, decontamination, and remedial operations, which contain organics (e.g., hydrocarbons, solvents, alcohols). These liquids may contain acidic aqueous solutions, corrosive wastes, RCRA listed heavy metals, and/or organic compounds.	< 1,000.00 lbs.	None
Soils	Waste soils from maintenance, decontamination, and remediation activities. These materials may contain organic compounds, RCRA listed heavy metals, and/or asbestos.	< 30,000.00 lbs.	None
Compressed Gases and Aerosols	Aerosol cans containing product (e.g., paint, lubricant, cleaner), Freon canisters, calibration standards, etc. These wastes may contain constituents that are hazardous due to ignitability, corrosivity, reactivity, toxicity, being an oxidizer, and/or containing RCRA listed heavy metals.	< 500.00 lbs.	None
Solvents	Waste solvents from laboratory operations, maintenance, decontamination, and remediation activities. These solvents may be hazardous due to ignitability, corrosivity, reactivity, toxicity, being an oxidizer, and/or containing RCRA listed heavy metals.	< 150.00 lbs.	If in eyes, wash eyes for several minutes, consult Safety Data Sheet (SDS) for medical treatment information
Miscellaneous Lab Chemicals	Small quantity, "lab pack-type" wastes consisting of discarded portions of unused or off-specification commercial chemical products, container residues, spill residues, and laboratory wastes. These wastes may contain constituents that are hazardous due to ignitability, corrosivity, reactivity, toxicity, being an oxidizer, and/or containing RCRA listed heavy metals.	< 1,000.00 lbs.	If in eyes, wash eyes for several minutes, consult SDS for medical treatment information

§262.262(b)(4): Map showing locations of where hazardous wastes are generated, accumulated, and access routes



§262.262(b)(5): Street map of the facility in relations to surrounding businesses, schools, and residential areas



§262.262(b)(6): Locations of water supply (e.g., fire hydrants and its flow rates)

The Kesselring Site (KS) site service water (SSW) system is classified as a non-transient, non-community public water supply since a portion of the system is used as the site's drinking water supply. The SSW system is supplied from a deep (confined) groundwater aquifer. The well field is located to the east of the site near the Kayaderosseras Creek and currently consists of four active wells (1, 2A, 7, and 8). Water is transported through two underground distribution mains to the site. The site entry point is near building 110. The SSW system also includes two storage tanks on the west side of the site that supply head pressure to the system and provide storage for site water demands (process water, potable water, and fire protection).

KS has an on-site fire service main with fire hydrants located throughout the site. Water for the private fire service main is supplied from the KS well field and storage tanks with an estimated flow rate from the fire hydrants of 810 gallons per minute through side outlets. The entire fire service is maintained, tested, and flushed according to current New York State fire codes.

§262.262(b)(7): The identification of on-site notification systems (e.g., a fire alarm that rings off site, smoke alarms)

KS maintains a fire alarm system, communications system, and emergency response equipment. Fire alarms ring at the KS on-site Emergency Services (ES) Organization for immediate response. No alarms ring off site to alert outside fire departments. The on-duty ES captain or Emergency Director listed below will request off-site assistance during an emergency. The on-site KS ES Organization has both emergency equipment and the training/ability to handle most incidents that may occur at the KS. In addition, all ES personnel are NYS Emergency Medical Technician (EMT) qualified.

KS has a full site communication system for delivering information on localized alarms, building or site evacuations, and other emergency information. In addition to fire hydrants and a full site communication system, fire suppression systems, such as ceiling fire sprinkler systems, are available in select areas.

Each waste management unit covered by the contingency plan has appropriate emergency equipment (dependent upon the waste types stored/accumulated, and if space is readily available to safely store emergency equipment) for the purposes of automatic and manual notification of emergency type situations, addressing minor spills, and addressing minor (incipient stage) fires. If needed, supplemental equipment and supplies will be obtained from other storage locations within the laboratory or outside sources.

§262.262(b)(8): The name of emergency coordinators and 7/24-hour emergency telephone numbers

EMERGENCY DIRECTOR	HOME ADDRESS	WORK TELEPHONE	HOME TELEPHONE
Primary			
L. K. Rieger	24 Sherman Way Ballston Spa, NY 12020	(518) 884-1360	(518) 281-3271 (518) 481-7913 (work cell)
Alternate(s)			
R. H. Reichard	110 Brookline Road Apartment H5 Ballston Spa, NY 12020	(518) 884-3962	(518) 882-1600 (518) 573-3931 (work cell)
R. J. Frankford	2 Liberty Drive Ballston Spa, NY 12020	(518) 884-1995	(518) 937-1027 (work cell)
K. P. Gallagher	9 Larchwood Lane South Glens Falls, NY 12803	(518) 884-1354	(518) 708-7099 (518) 491-2413 (work cell)
W. J. Johnson	5 Meghan Court Saratoga Springs, NY 12866	(518) 884-1237	(518) 583-3966 (518) 727-5437 (work cell)
A. L. Lovelace	315 Goode Street Burnt Hills, NY 12027	(518) 884-3399	(518) 879-7462 (518) 925-0334 (work cell)

ATTACHMENT H – TRAINING PLAN

The waste management information included herein is presented in accordance with the requirements of 6 NYCRR 373-1.5(a)(2)(xii), 373-2.2(h), comparable to 40 CFR 264.16 and 270.14(b)(12). Sections H-1 through H-3 of this attachment describes the training plan to be used to ensure proper operation of the Kesselring Site's permitted hazardous and/or mixed waste management units to preclude hazards to human health and the environment. Section H-4 describes training required for performing Corrective Action fieldwork.

H-1 GENERAL TRAINING CONCEPT

Training is essential to the safe and efficient operation of all facility processes and to ensure rapid and effective responses to emergency conditions. It is Kesselring Site policy that all employees be trained in a manner that emphasizes accident prevention to safeguard human health and the environment. An outline of the waste management training provided to hazardous and/or mixed waste management unit operations personnel is included as Appendix H.1, and Appendix H.2 outlines the training provided to emergency response personnel. The program outlined below discusses the training pertaining to employees who have various responsibilities regarding the operation of the Kesselring Site's hazardous and/or mixed waste management units covered under this permit.

Each new employee involved in waste handling at a hazardous and/or mixed waste management unit or in a support role is instructed in the emergency procedures that are to be followed in the event of an incident. No employee is permitted to work unsupervised until his/her supervisor or a Waste Chemical Coordinator (WCC) has certified that he/she has successfully completed all elements of the training program applicable to their position. A certification of training completion will occur within six months of the new employee's entry into a specific job or after being assigned to a new position in the case of an existing employee. In addition, every employee involved in waste handling at a hazardous and/or mixed waste management unit will participate in annual refresher training to maintain proficiency.

H-2 POSITION DESCRIPTIONS

Training is tailored to prepare the employee to safely and effectively perform the functions of the assigned position. A list of the job positions associated with the Kesselring Site hazardous and/or mixed waste management program is provided in Table H-1.

The operation of the Kesselring Site results in the generation and storage of small quantities of hazardous and/or mixed wastes, which require handling by skilled operations personnel.

Position descriptions, including job functions and responsibilities regarding hazardous and/or mixed waste management, are kept on file as part of the facility's operating record. Table H-1 provides a summary of position responsibilities.

TABLE H-1
EMPLOYEE POSITIONS/RESPONSIBILITIES

EMPLOYEE POSITION	POSITION RESPONSIBILITY
Waste Chemical Coordinator (WCC)	Provide administrative and technical support for the hazardous and/or mixed waste management programs. Responsibilities include handling, transportation requirements, sampling, recordkeeping, vendor coordination, disposition of hazardous and/or mixed wastes in compliance with applicable regulations, and all administrative requirements (e.g., manuals, contracts, quality assurance, and required operating records).
Supervisor	Supervise operations personnel (e.g., Waste Processor(s)) working within the waste management unit. Maintain records and logbooks and perform required inspections.
Waste Processor	Physical handling of waste containers during transit to the hazardous and/or mixed waste management units from on-site locations and within the waste management units and loading of waste containers onto vehicles for shipment off site. Prepares waste chemicals for proper storage and shipment for off-site disposition and assists with maintenance of records and logbooks.
Emergency Responders	Provides emergency response capability in the event of a spill, fire, or other sudden release.

H-3 TRAINING PROGRAM

Personnel currently employed in the hazardous and/or mixed waste management positions listed in Table H-1 have been trained and are fully certified. Certification is attained through completion of training in accordance with this attachment. Furthermore, these personnel will undergo annual refresher training pursuant to this plan. All new hazardous and/or mixed waste management employees will be required to complete this same training and certification process.

H-3A Scope of Training for New Personnel

Each new employee involved in hazardous and/or mixed waste management at one or more of the Kesselring Site's permitted waste management units will undergo job specific training to properly prepare them for their assigned positions. Training for waste management unit operations personnel (e.g., WCCs, Supervisors, and Waste Processors) will include topics in each of the following five categories: control and handling of hazardous and/or mixed waste; types of chemicals and hazards; sampling protocols (as appropriate); emergency response training; and specific Kesselring Site waste management procedures.

Training for new employees, and/or those employees who have changed job positions, will be completed within six months of their employment or transfer to a new position. These employees will not be allowed to work with waste at a permitted waste management unit unsupervised until they have successfully completed training.

H-3B Training Program Administration

The selection of qualified instructors, the use of effective training formats, and establishment/use of meaningful methods for evaluating an employee's learning are critical. These considerations are described herein.

H-3B(1) Training Personnel Qualifications

The WCCs are responsible for the hazardous and/or mixed waste management training program for personnel directly involved in the day-to-day operations of the hazardous and/or mixed waste management units. The WCC may designate specific individuals to carry out portions of the training program. These individuals are recognized as in-house experts for that portion of the training and are familiar with waste management procedures at the facility.

The job qualifications for the WCC positions are as follows:

(A) Have an appropriate degree or a number of years' experience, and associated knowledge. Specific experience in environment, safety, and health training is preferred.

(B) Be knowledgeable in hazardous and/or mixed waste management related subjects, such as:

(1) Chemical and physical agent hazard characteristics and the common source of these agents;

(2) Hazardous and/or mixed waste sampling, characterization, storage, processing and disposal;

(3) Environment, safety, and health related legislation, regulations and standards; and

(4) Emergency response actions including hazard recognition, accident prevention techniques, contingency planning, and accident/incident analysis.

H-3B(2) Training Formats

Training is conducted in classroom meetings, and at an employee's work station (i.e., "on-the-job" training).

Classroom training is most effective when several employees are trained at the same time. Sufficient time for questions and answers is planned so that all participants have the opportunity to clarify their understanding and broaden their knowledge. For some training, courses and teaching materials developed by vendors may be used.

On-the-job training is a teaching format utilized wherever practical. In this format, the employee's supervisor may be designated by a WCC as the individual responsible for assuring that the new employee learns the correct procedures; can perform them accurately, reliably, and efficiently; and that safety awareness is incorporated into each task. It would be the supervisors' responsibility to assist with the instruction and observation of their assigned employees in each task and to evaluate their performance.

H-3B(3) Training Effectiveness Evaluation

As indicated above, training goals are measured by performance of specific tasks. This demonstrates employee proficiency in actual hands-on situations. The trainer must certify that the employee has successfully completed the training program and file such certification as part of the operating record.

H-3B(4) Certification of Employees

No employee may perform unsupervised work at the facility until certified as fully trained by a WCC or supervisor. Certification is earned through completion of the training program. The record of certification will be on forms developed to address the applicable topics outlined in Appendices H.1 or H.2. The information entered on the forms will include the employee's name, position, hazardous and/or mixed waste management unit(s) qualified to work in, date assigned to position, and date qualified. The trainer(s) will certify satisfactory completion for each topic applicable to that employee position.

H-3B(5) Employee Feedback

Trainee (employee) comments and constructive criticism of the training programs are encouraged throughout the entire training process. These comments are used by the trainers to constantly modify and improve the training program scope, content, and format, as appropriate.

H-3C Training Categories

The lesson plan followed in training an employee who will be involved in the day-to-day operations of one or more of the Kesselring Site's hazardous or mixed waste management units has been broken into five main categories. The five categories are: control and handling of hazardous and/or mixed waste; types of chemicals and hazards; sampling protocols (as appropriate); emergency response training; and specific Kesselring Site waste management procedures. The main objective stressed throughout the training program is to prepare the employee to perform his/her job both safely and efficiently.

H-3C(1) Control and Handling of Hazardous and/or Mixed Waste

This lesson plan pertains mainly to the proper handling, packaging, and internal waste transportation procedures. It teaches the necessary safety measures to be taken when handling different types of hazardous and/or mixed waste such as acids, bases, solvents, and oxidizers. Personnel are also made aware of the proper packaging and labeling suitable for various types of waste they may encounter. Appropriate storage protocols for the various hazardous and/or mixed waste stored in the waste management unit(s) is also an important aspect of the training.

H-3C(2) Types of Chemicals and Hazards

A strong emphasis is placed on teaching the employee about the various types of chemical waste that are generated on site and the precautions that should be taken when working with any of them. This training includes information about the waste streams produced on site, their sources, the concerns associated with chemical concentrations that are commonly found at the Kesselring Site, the health concerns in the event of a spill, and the precautions that should be taken when working with chemical wastes, such as personal protective equipment (e.g., gloves, aprons, etc.).

H-3C(3) Sampling Protocols

All hazardous and/or mixed waste management unit personnel who draw samples for waste characterization purposes shall meet, as a minimum, the following training requirements:

- Individuals must be trained via discussions with a WCC or supervisor regarding the sampling procedures applicable to various waste streams;
- Individuals must take at least one sample under the observation of a WCC, followed by a discussion of the factors that can affect the validity of samples and analyses;
- Individuals must demonstrate an understanding of the importance of and the mechanism for maintaining sample traceability and the procedure to ensure the validity of sample results; and
- Requalification observations shall be conducted annually thereafter to ensure that each person retains their certification to draw samples.

H-3C(4) Emergency Response Training

The training provided under this category will be conducted by an Environmental, Safety, and Health – Environmental Engineer, WCC, or supervisor and will include the following aspects from the Kesselring Site contingency plan:

- Site Communications and Alarm Systems;
- Response to spills, fires, or other sudden releases;

- Contingency Plan Implementation; and
- Emergency Equipment Operations.

The training related to these contingency plan topics will be tailored to the employee's position.

H-3C(5) Specific Kesselring Site Waste Management Procedures

Topical discussions related to Kesselring Site specific hazardous and/or mixed waste management procedures are presented to all personnel involved in waste management at the Kesselring Site. The information provided during these discussions varies with the involvement that each employee position has within the waste management process. Typical topics include:

- Waste labeling requirements;
- Internal manifest requirements;
- Internal transportation requirements;
- Disposal methods for common waste streams, including empty or partially filled containers;
- Storage requirements; and
- Waste minimization.

Depending on the responsibilities assigned to the individual being trained, WCCs, Supervisors and Waste Processors may need to receive training in all five training categories (see Appendix H.1), while training for Emergency Responders would stress Types of Chemicals and Hazards, Emergency Response Training, and some aspects of Specific Kesselring Site Waste Management Procedures (see Appendix H.2).

H-3D Frequency of Training

Training is designed to maintain proficiency in job skills, increase safety and quality consciousness, and teach new skills. The annual "refresher" training provides an opportunity for teaching new operating procedures and new skills to the employee.

H-3E Documentation of Training

All training records are maintained on site. A file is maintained for all employees identified in Table H-1 who handle hazardous and/or mixed waste. The files contain each employee's job description as it pertains to hazardous and/or mixed waste, a list of initial and annual refresher training requirements, and appropriate certification that the requisite training has been satisfactorily completed.

Copies of all training documentation for current employees will be maintained in the facility's file until closure, or for three years following the date the employee last worked at the facility. In addition, the personnel training records will be maintained with the facility operating record for at least three years after facility closure.

Individual names and job titles will be listed on training records to comply with requirements of 6 NYCRR 373-2.2(h)(4)(i) and 40 CFR 264.16.

H-4 CORRECTIVE ACTION TRAINING

Relative to Resource Conservation and Recovery Act (RCRA) corrective action fieldwork activities, Fluor Marine Propulsion (FMP) Corrective Action personnel and supporting subcontractors shall receive initial 40-hour training and annual 8-hour refresher training in accordance with 29 CFR 1910.120. FMP requires all subcontractors to comply with RCRA Solid Waste Management Unit/Area of Concern-specific health and safety plans prepared in accordance with 29 CFR 1910.120.

APPENDIX H-1

TRAINING OUTLINE

For WCCs, Supervisors, and Waste Processors

1. Discuss control and handling of hazardous and/or mixed wastes including:
   a) proper handling, packaging, and internal transportation procedures
   b) necessary safety measures to be taken with routine Kesselring Site hazardous and/or mixed waste
   c) precautions to be taken when packaging waste
   d) container labeling requirements
   e) internal transfer procedure/requirements for movement of chemical waste
   f) proper storage of waste within a waste management unit
   g) aisle space requirements
   h) segregation of incompatibles

2. Discuss types of chemicals and hazards of Kesselring Site hazardous and/or mixed waste including:
   a) routine and non-routine waste streams generated on site, and specific hazards/concerns associated with these wastes
   b) waste label information
   c) personal safety measures to be taken when handling waste (e.g., protective clothing, respiratory protection, etc.)
   d) health concerns during a spill
   e) Kesselring Site waste minimization program
   f) discuss external (EPA and NYSDEC) disposal requirements for routine and non-routine waste streams

3. Proper sampling techniques: COLIWASA, grab, composite, surface, and whole waste.

4. Discuss Kesselring Site emergency response actions including:
   a) site communications and alarm system
   b) response to fires and explosions
   c) emergency plan implementation
   d) emergency equipment location and operation

5. Receive on-the-job training in the hazardous and/or mixed waste management unit(s) including:
   a) tour of the waste management unit(s)
   b) emergency equipment location and operation
   c) storage and handling practices
   d) spill response
   e) proper logging procedures for containers and lab pack waste
   f) operation of weighing equipment

APPENDIX H-2

TRAINING OUTLINE

For Emergency Responders

1. Discuss types of chemicals and hazards of Kesselring Site hazardous and/or mixed waste including:
   a) routine and non-routine waste streams generated on site, and specific hazards/concerns associated with these wastes
   b) necessary safety measures to be taken with routine Kesselring Site hazardous and/or mixed waste (e.g., protective clothing, respiratory protection, etc.)

2. Discuss Kesselring Site emergency response actions including:
   a) site communications and alarm system
   b) response to spills, fires, and explosions
   c) contingency plan implementation
   d) health concerns during a spill

3. Receive on-the-job training in the hazardous and/or mixed waste management unit(s) including:
   a) tour of the waste management unit(s)
      i) emergency equipment location and operation
      ii) waste label information
      iii) storage requirements
      iv) segregation of incompatibles
      v) aisle space requirements
   b) emergency equipment location and operation
   c) storage and handling practices
   d) spill response

ATTACHMENT I – CLOSURE PLAN

In accordance with the regulatory requirements set forth in 40 CFR 270.14(b), 264.110 through 264.115, 264.178, and 6 NYCRR 373-1.5, 2.7 and 2.9(i), this general Closure Plan has been developed for the Container Storage Areas (CSAs) at the Kesselring Site. This plan identifies all of the steps that will be required to close the individual CSAs at any point during their operating life or upon closure of the entire Kesselring Site. Pursuant to 6 NYCRR 373-2.7(a)(2) and 40 CFR 264.110(b), a survey plat and post-closure plan is not required because the Kesselring Site does not operate a disposal facility, waste piles, surface impoundments, tank systems or containment buildings under the terms of this permit. All wastes will be removed at closure under the provisions set forth in this plan.

Specific closure plans will be submitted to New York State Department of Environmental Conservation (NYSDEC) for approval prior to initiation of closure of any CSA. These specific closure plans will address current conditions, specific past history, location specific decontamination procedures, changes in closure procedures from those general procedures outlined in this Attachment, and any other pertinent location specific information relevant to closure. A copy of the approved plan and all revisions to the plan will be maintained at the Kesselring Site until the certification of closure completeness has been submitted and accepted by the NYSDEC Commissioner.

The NYSDEC Commissioner will be notified at least 45 days prior to the date when final closure is expected to be initiated. Upon completion of closure, a certification prepared by an independent, qualified Professional Engineer registered in New York, stating the facility was closed in accordance with the specifications in the approved closure plan, will be submitted to the Commissioner.

I-1 INTRODUCTION

This closure plan outlines the procedures required to partially close, if applicable, or completely close individual CSAs. It contains the closure performance standards, a description of partial and final closure activities, an estimate of the maximum waste inventory for removal, decontamination procedures specific to each CSA, and a generic closure schedule.

I-1A General Facility Description

The Kesselring Site is located in West Milton, New York. The principal function of the facility is research and development of naval nuclear propulsion plants. The Site primarily consists of two pressurized water naval nuclear propulsion plants and support facilities that include administrative offices, wastewater treatment facilities, training facilities, a boiler house, a cooling tower, and equipment service buildings.

Various hazardous/mixed wastes are generated in the plants and support facilities on site. The CSAs receive and store all hazardous/mixed and other chemical waste for off-site shipment.

The Building 75 CSA has a floor area approximately 50 ft x 80 ft and has the capacity to store 19,580 gallons of hazardous waste. The hazardous wastes are stored in 55 gallon drums or other approved containers.

The Building 91 CSA, which stores mixed waste, is divided into two areas. The approximate floor dimensions of the two areas are 40 ft x 29 ft and 17 ft x 9 ft. The 40 ft x 29 ft area is

capable of storing 7,000 gallons of mixed waste and the 17 ft x 9 ft area is capable of storing 550 gallons of mixed waste. The mixed wastes are stored in 55 gallon drums or other approved containers.

I-1B Closure Performance Standard

In accordance with 40 CFR 264.111 and 6 NYCRR 373-2.7(b), the Closure Plan is designed to ensure that the permitted CSAs will not require further maintenance and will control, minimize, or eliminate, to the extent necessary to protect human health and the environment, post-closure escape of hazardous/mixed wastes, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere after closure. After removal of the final waste inventory from any of the CSAs, closure will consist of efforts to clean and decontaminate the remaining building and equipment so that the facility can be used without restriction for other non-hazardous waste management activities.

The Kesselring Site will achieve this closure performance standard for the permitted CSAs, by the removal of hazardous waste residues, and by removing all contaminated materials and associated equipment except salvageable equipment, which will be decontaminated. The following sections discuss in detail the procedures and actions that will be taken in order to satisfy the closure performance standard.

I-1C Partial and Final Closure

The procedure outlined in section I-2, Inventory Removal and Facility Decontamination, represents a general plan, which will be implemented for all CSA closures. Specific requirements for individual CSAs are noted where applicable. Therefore, if future circumstances require partial closure of the hazardous/mixed waste CSAs, the same procedures as those outlined in section I-2 will be implemented.

I-1D Maximum Waste Inventory

The maximum inventory of hazardous waste that could be stored in Building 75 is 19,580 gallons. The maximum inventory of mixed waste stored in Building 91 is 7,550 gallons (combined capacity of the two areas). The hazardous/mixed waste identification numbers of the wastes, which may be stored at the Kesselring Site at any of the CSAs, are found in Attachment A of this permit.

I-2 INVENTORY REMOVAL AND FACILITY DECONTAMINATION

I-2A Inventory Removal

The steps required to close a CSA at the Kesselring Site include the termination of the receipt of hazardous/mixed waste in the CSA, removal of all stored wastes in the CSA, decontamination of the CSA and associated equipment, and an environmental survey.

- Termination of Receipt

  At the initiation of closure procedures, the receipt of all wastes typically stored in the affected CSAs will stop. Notification will be issued to individual generators on-site to transfer all hazardous/mixed wastes to an alternate location.

- Waste Removal from CSA

  All containerized wastes will be removed from the affected CSAs by truck or other means. Drums and other containers holding hazardous/mixed wastes, as well as empty containers stored in the CSA, which previously contained hazardous/mixed wastes, will be transported to a new CSA on site, or to a secure off-site permitted facility for ultimate disposal.

I-2B Facility Decontamination, Sample Collection, and Analysis

I-2B(1) Decontamination of Building 91 and 75 CSAs

The decontamination of the CSAs will be accomplished in a similar manner for each building due to common construction, operation, and historical waste storage. Where decontamination techniques are employed that are specific to any building due to special consideration, they are so noted.

The first step toward closure of the CSAs will be a thorough review of all records regarding past operations. A visual inspection of the CSA itself will be conducted to evaluate any indication of past spills or leaks of previously stored materials and the general condition of the floor and wall structure. A scaled grid map will also be prepared for the location of any observed spills, stains, cracks, or other anomalies. The remaining steps will be accomplished as follows:

1. Establish pre-cleaning set up, which will include necessary safety gear and operational equipment (such as personal protective equipment, brooms, brushes, plastic, cleaning solutions, etc.), and review of procedures necessary to prevent the spread of potential contamination.

2. Remove all dust, dirt or accumulated debris from floor, walls, structural steel, and remaining equipment by physical methods such as sweeping, scraping, and vacuuming. If determined necessary, an initial washing/scrubbing of some or all surfaces may be performed to remove any large accumulation of dust, dirt, or debris, and allow clear layout of the grid map. All removed material will be collected and retained for later analysis.

3. Re-inspect floor and wall structures for evidence of cracks or latent stains. (To be noted on grid map.)

4. Wash/scrub all potentially contaminated surfaces with industrial cleaner or other suitable method and follow with water rinse. Collect all solutions, rinses, and condensate (if steam is employed) for later composite analysis. Repeat procedure in areas where stains remain. (Note repeated cleaning areas on grid map.)

5. Wipe or otherwise dry all areas and re-inspect for any remaining stains or cracks. Perform rinsate sample clean closure analysis in accordance with the Sample Collection and Analysis, subsection I-2B(2). (Note on grid map.)

6. If stained areas cannot be completely cleaned to meet the rinsate sample clean closure criteria, repeat Step 4 using an alternate cleaning solution, as necessary, or employ physical methods such as chipping or scarification until stained areas are removed. If stained areas cannot be completely removed, repeat physical methods if deemed necessary and test representative chip or core samples of the area. In extreme cases, complete floor removal may be necessary. Complete clean closure analysis after physical methods are employed in accordance with the Sample Collection and Analysis, subsection I-2B(2). (All subsequent cleaning actions should be noted on grid map.)

7. If cracks are evident, document on grid map and, where spills or stains are evident, chisel out approximately 1" wide to a depth of approximately 1/8" or more below the base of the crack and/or stain. Collect representative samples (i.e., approximately 1 to 5 grams each lineal foot), composite and analyze in accordance with Sample Collection and Analysis, subsection I-2B(2). If clean, document on prepared grid map.

I-2B(2) Sample Collection and Analysis

Sample collection (including composites, storage, handling, and chain-of-custody) will be accomplished utilizing Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, United States Environmental Protection Agency (USEPA) Office of Solid Waste, Washington, DC 20460, SW-846 methods or equivalent (USEPA SW-846), latest edition, as guidance in addition to relevant sections of the Kesselring Site Waste Analysis Plan (Attachment C – Waste Characteristics). This reference will also be utilized for guidance to define the appropriate number of samples to be taken to adequately evaluate the medium sampled (such as concrete or asphalt floors). Utilization of the grid map indicating types, location, and frequency of sampling will provide the basic documentation necessary to ensure complete closure.

In general, maps for each CSA will consist of a numbered 5-ft interval grid laid out along the longest axis of the building. All information noted previously will be documented on this layout. Initial sampling will focus on flat areas or cracks where staining is evident. This will ensure all areas of suspected contamination are evaluated. Random sampling of at least 20% of the remaining grids will also be performed. This random sampling will address areas of potential contamination not apparent during visual inspection. Selection of random sampling locations will be done utilizing USEPA SW-846, latest edition, as guidance. The specific sampling

procedures for selected grids will also utilize this reference. As outlined previously in subsection I-2B(1), a detailed review of the individual building records and spill history will be performed. Any locations where spills or leaks have occurred and where contamination can be expected will be identified. Individual sample analysis will include those hazardous constituents from spills identified in the above review, polychlorinated biphenyls (PCBs), and any suspected toxicity characteristic (TC) constituents specific to storage records for the CSA(s) being closed. Where cleaning liquids, solvents, and debris have been collected, individual or composite sample analysis to determine proper disposal will include any documented contaminant as related above, as well as PCBs and suspected TC constituents where determined to be necessary.

The determination of clean closure, following cleanup operations within the CSA, will be verified through the use of rinsate samples. An example of this process would be to use a spray bottle containing deionized water and spray designated areas, including visibly stained areas of the cleaned floor. The sprayed water would then be collected and analyzed for the suspected target constituents (via the listing developed during the records review). The analytical results of the rinsate samples will be compared to NYSDEC Class GA Drinking Water Standards (found in 6 NYCRR 703.5). If the analytical results fall at or below these criteria, no further closure activities will be performed. However, if the results exceed any of the established standards, further cleaning would be performed and the clean closure determination repeated.

If clean closure cannot be attained through the use of the rinsate samples, an option may be employed to remove stained areas, where applicable, and perform chip sampling below the removed stain. Chip sampling may also be employed in stained or unstained areas that do not meet the rinsate sample clean closure criteria. The analytical results would be compared to the soil/sediment action levels specified in the NYSDEC "Contained-In" Criteria for Environmental Media (TAGM # 3028). If the analytical results fall at or below these criteria, no further closure activities will be performed. However, if an analytical result exceeds any of the established criteria, further physical removal efforts and/or cleaning will proceed in those areas. All cleaning and/or physically removed material will be collected, stored, and dispositioned in accordance with applicable regulations.

Because of the high sensitivity of the analysis with respect to precision variability at extremely low analyte concentration levels coupled with the potential contribution from floor coating/sealing materials and the concrete/asphalt itself, an appropriate background control program will be run. Background areas would be selected based on similar materials of construction and past use history and sampled in similar fashion to those CSAs being closed. Background sample values would be used as a basis for comparison in cases where the closure test sample values exceed the regulatory release or soil/sediment action levels discussed above.

In this case, if the closure test sample analytical results fall at or below the background sample values, no further closure activities will be performed.

Finally, it should be noted that all personnel designated to perform closure efforts will be properly trained and equipped with appropriate personal protective equipment.

I-2B(3) Soil Investigation Plan

This soil investigation plan will be implemented in the event that contamination is found to have breached the containment structure and entered the soil matrix. This plan includes a sampling plan, laboratory analysis plan, and a discussion of the criteria to be used to determine the need for remedial action with regard to soils.

The sampling plan, as outlined here, could potentially include the drilling of soil borings and installation of monitoring wells.

Depth to the first till layer, which is believed to be the first relatively impermeable layer, is approximately 15 ft and this is assumed to be the initial depth of penetration necessary for soil sampling. The necessity and locations for the borings and analytical parameters will be determined by information obtained during review of the facility spill history.

Access to the soil will be obtained through concrete or paved areas as necessary. A drill rig using hollow-stem augers will drill the soil borings. Continuous split-spoon samples will be collected, described, and archived. At a minimum, soil samples for analysis will be obtained from a depth of 0-2 ft, at approximately 10 ft, and from the deepest spoon below grade. This would result in three samples for analysis from each boring. Split-spoon sample descriptions will include information concerning contact between contaminated soil and that, which appears clean. This will provide information concerning the vertical migration of contamination within the soil column.

All equipment that comes in contact with concrete, pavement, and soil will be cleaned between boring locations to eliminate the possibility of cross-contamination. All wastewater from the cleaning operation will be contained and analyzed for previously established parameters and properly disposed.

I-2B(4) Soil Analysis Plan

Soil samples will be analyzed utilizing the total constituents analysis method for those parameters determined by information obtained during review of the facility operating record and the CSA's decontamination results. The analytical results will be compared to the recommended soil cleanup objectives criteria in the NYSDEC regulations (6 NYCRR 375-6) and USEPA's Soil Screening Guidance (most recent edition). The more stringent of the soil cleanup criteria will be used. As noted therein, attainment of these generic cleanup objectives will, at a minimum, eliminate all significant threats to human health and/or the environment. In the event that these levels should prove to be unattainable, alternative remedial actions or institutional controls may be necessary to protect the environment.

If the analytical results fall at or below the recommended soil cleanup objective criteria (6 NYCRR 375-6), no further soil investigation or remediation will be performed. However, if an analytical result exceeds any of the established criteria, additional soil borings will be performed and sampled as previously described and will be used to determine the lateral and vertical extent of the contamination for remedial purposes. Should the lateral and/or vertical spread of contamination be extensive, an action plan would have to be developed to evaluate the contamination's impact on groundwater. This action plan would be submitted for NYSDEC approval as a closure plan amendment in accordance with 6 NYCRR 373-2.7(c)(3) and 40 CFR 264.112(c).

As was previously discussed in subsection I-2B(2), an appropriate background control program will be run. Background areas would be selected based on similar materials of construction and past use history and sampled in similar fashion to the CSA being closed. Background sample values would be used as a basis for comparison in cases where the soil sample values exceed the recommended soil cleanup objectives discussed above. In this case, if the soil sample analytical results fall at or below the background sample values, no further closure activities will be performed.

I-3 CLOSURE SCHEDULE

As previously noted, the NYSDEC Commissioner will be notified in writing at least 45 days prior to the initiation of closure activities. All hazardous/mixed wastes will be removed from the CSA within 90 days after the initiation of closure. For the purpose of this closure plan, the anticipated life of the CSA at the Kesselring Site is expected to be twenty years. Closure is expected to be completed within 180 days of initiating closure.

A schedule of the specific closure activities and their anticipated time frame is given in Table I-1. This schedule starts after the specific CSA closure plan is approved by NYSDEC, issuance of a notice to proceed to the contractor and mobilization by the contractor at the Kesselring Site. Table I-1 illustrates the relationship of these activities during the closure process. Upon closure of the CSA, all equipment that has been in contact with hazardous/mixed wastes will be chemically decontaminated, or removed and transported for reuse, recycle, or disposal in accordance with all applicable federal and state regulations. Removal of wastes and decontamination of the CSA at the time of closure eliminates the need for post-closure care. The closure schedule presented in Table I-1 is for planning purposes, and intermediate time frames at completion dates may vary from those given in the schedule.

In accordance with the Closure Plan provided in section I-2, removal of waste and decontamination of the regulated CSA at the time of closure eliminates the need for post closure care.

I-4 CERTIFICATION

After closure is complete, an independent, qualified Professional Engineer registered in New York will certify that the closure was conducted according to this plan. The certification will be submitted by the owner or operator within 60 days to the NYSDEC.

A final closure certification report will include:

- A brief history of the facility, types of chemicals stored, spill history, and spill cleanup history.
- Closure cleanup activities and sampling conducted.
- Analytical results.
- Locations of off-site disposal facilities which received closure wastes.
- Documentation for partial closure efforts performed prior to final closure.
- Date of final closure of the facility.

I-5 EXEMPTIONS

The KAPL–Kesselring Site is not a disposal facility. Therefore, the facility is not required to comply with the following closure requirements:

	Federal	State
Survey Plat	264.116	373-2.7(f)(2)
Post closure care and use of property	264.117	373-2.7(g)
Post closure plan; amendment of plan	264.118	372-2.7(h)
Post closure notices	264.119	373-2.7(i)
Certification of completion of post-closure care	264.120	373-2.7(j)

Under 40 CFR 264.140 Subpart H "Financial Requirements - Applicability" and 6 NYCRR Part 373-2.8 “Financial requirements”, facilities owned by the Federal government are exempt from the following requirements:

	Federal	State
Cost estimate for closure	264.142	373-2.8(c)
Financial assurance for closure	264.143	373-2.8(d)
Cost estimate for post-closure care	264.144	373-2.8(e)
Final assurance for post-closure care	264.145	373-2.8(f)
Use of a mechanism for financial assurance of both closure and post-closure care	264.146	373-2.8(g)
Liability requirements	264.147	373-2.8(h)

TABLE I-1 – ANTICIPATED CLOSURE SCHEDULE FOR PERMITTED CSA(s) [1]

	DAYS													
ACTIVITY	-45	0	20	40	60	80	100	120	140	160	180	200	220	240
1. Submittal of a more specific closure plan to NYSDEC for approval. [2]														
2. Notification submitted to NYSDEC.	-45													
3. Stop receipt of hazardous waste at CSA. [3]		0												
4. Packaging of wastes received for transfer or shipment.			1……..…90											
5. Determine if extension of inventory removal period is necessary. Submit extension request to regulator. [4]			1……..…60											
6. Inventory removal complete.[4]							90							
7. Records Review (e.g., past operations and inspection records).			1……90											
8. Decontamination and environmental survey (sampling). [4]							90……. 120							
9. Determine if subsurface sampling is necessary and perform. [4]									121……160					
10. Determine if extension of closure period is necessary. Submit extension request to regulator. [4]			1…….150											
11. Complete analysis and decontamination documentation.									121……180					
12. Complete closure activities. [5]											180			

	DAYS													
ACTIVITY	-45	0	20	40	60	80	100	120	140	160	180	200	220	240
13. Certification of closure submitted to NYSDEC. [6]												181……...240		

1. This closure schedule will be adhered to as necessary to ensure compliance with 6 NYCRR 373-2.7(d) and 40 CFR 264.113. It is assumed that these actions may be initiated prior to the date indicated and be complete by those dates indicated.

2. A more specific closure plan will be submitted to NYSDEC for approval, which will address current conditions, specific past history, location specific decontamination procedures, and other pertinent location specific information relevant to closure.

3. Actual start date of CSA(s) closure is dependent upon receipt of NYSDEC approval of specific closure plan, issuance of "Notice to Proceed" to the subcontractor that will actually perform closure activities, and mobilization at the Kesselring Site of that contractor.

4. If a longer period of time is needed (i.e., for removal of all hazardous and/or mixed waste or completion of all closure activities) a permit modification request must be prepared and submitted within 30 days prior to expiration of the 90-day or 180-day period, respectively, that provides demonstrations in accordance with 6 NYCRR 373-2.7(d)(1) & (3) and 40 CFR 264.113(a) & (c).

5. If closure activities will take longer than 180 days, demonstration and request for approval must be prepared and submitted 30 days before the end of the 180 day period pursuant to 6 NYCRR 373-2.7(d)(2) & (3) and 40 CFR 264.113(b) & (c).

6. Pursuant to 6 NYCRR 373-2.7(f)(1) and 40 CFR 264.115, a certification, signed by the owner or operator and an independent, qualified Professional Engineer registered in New York, must be submitted to the regulator within 60 days following completion of partial or final closure activities.

ATTACHMENT J – OTHER FEDERAL AND STATE LAWS

PERMITS AND COMPLIANCE

The Kesselring Site holds a number of permits that were issued pursuant to the Clean Water Act, the Clean Air Act, the Resource Conservation and Recovery Act, and the New York State Environmental Conservation Law. These permits are identified in the Attachment A – Part A Application (e.g., Hazardous Waste Permit Part A Form) and its relevant attachments.

Other laws applicable or potentially applicable to site operations include the Atomic Energy Act, Toxic Substances Control Act, Safe Drinking Water Act, Comprehensive Environmental Response, Compensation, and Liability Act, and the Superfund Amendments and Reauthorization Act of 1986. The Site is currently in compliance with all applicable provisions of these statutes.

ATTACHMENT K – CERTIFICATION

NYSDEC PART 373 RCRA PERMIT APPLICATION

KNOLLS ATOMIC POWER LABORATORY

KESSELRING SITE
EPA ID NUMBER NY5890008993

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

OWNER CERTIFICATION

Name: J. P. Showman

Official Title: Manager, Naval Reactors Laboratory Field Office

Signature and Date Signed: Jay P. Showman Digitally signed by Jay P. Showman Date: 2023.06.14 07:55:53 -04'00'

OPERATOR CERTIFICATION:

Name: W. J. Johnson

Official Title: Site Director, Kesselring Site

Signature and Date Signed: WILLIAM JOHNSON Digitally signed by johnsw@nnpp.gov (1000000209) Date: 2023.06.12 15:40:21 -04'00'

ATTACHMENT L – FINAL STATEMENT OF BASIS SILO AREA (SWMU #38)

KNOLLS ATOMIC POWER LABORATORY

KESSELRING SITE

WEST MILTON, NEW YORK

EPA ID NUMBER: NY5890008993

PERMIT NUMBER: 5-4142-00005/00049

NEW YORK
STATE OF
OPPORTUNITY.

Department of
Environmental
Conservation

FINAL STATEMENT OF BASIS

Silo Area (SWMU #38)

Knolls Atomic Power Laboratory, Kesselring Site

Site No. 546038

EPA ID No. NY5890008993

West Milton, Saratoga County

March 2015

PREPARED BY

DIVISION OF ENVIRONMENTAL REMEDIATION

DECLARATION STATEMENT - STATEMENT OF BASIS

Silo Area (SWMU #38)
Knolls Atomic Power Laboratory, Kesselring Site
West Milton, Saratoga County
Site No. 546038
March 2015

Statement of Purpose and Basis

This document presents the remedy for the Silo Area (SWMU #38), Knolls Atomic Power Laboratory, Kesselring Site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Knolls Atomic Power Laboratory, Kesselring Site and the public's input to the proposed remedy presented by the Department.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 31, 2015
Date

Robert W. Schick, P.E., Director
Division of Environmental Remediation

Statement of Basis

Silo Area (SWMU #38)
Knolls Atomic Power Laboratory, Kesselring Site
West Milton, Saratoga County
Site No. 546038
March 2015

Facility Description

Location: The 1-acre Silo Area, referred to as Solid Waste Management Unit (SWMU) #38, is located along a non-public seasonal dirt road (Lee Road) on the northwest portion of the 3,900-acre U.S. Government-owned Knolls Atomic Power Laboratory, Kesselring Site (Figure 1). The Site consists of land in the Town of Galway and the Town of Milton. The Silo Area is located in the Town of Galway.

SWMU Features: The Silo Area is a gently sloping open field surrounded by undeveloped forested land. There is a centrally located rip-rap lined drainage swale oriented west to east. Lee Road bisects the Silo Area and a culvert is situated beneath the road which receives drainage from the rip-rap lined swale. Adjacent to the Silo Area are the remnants of a former homestead foundation.

Current Zoning/Uses: The Site is U.S. Government-owned and not subject to local town zoning. The land surrounding the Site is zoned as Agricultural Residential (Town of Galway), Rural (Town of Milton), and West Milton Hamlet (Town of Milton). The Silo Area is undeveloped as is the majority of the Site. There is a 65-acre developed area within the Site. The developed area consists of two operating pressurized-water naval nuclear propulsion plants and support facilities. The activities conducted in the developed area are operational testing of prototype nuclear propulsion plants and equipment for U.S. Navy submarines and training of U.S. Navy nuclear propulsion plant operators.

Historic Uses: Prior to acquisition by the U.S. Government in 1948, the Silo Area was a homestead and was used for farming. During the late 1950s and early 1960s, the Silo Area was used for burning waste oil, sodium, and possibly zirconium alloy contaminated with low-level radioactivity and for disposal of components contaminated with mercury. A portion of the mercury-containing components and associated soil were removed in the 1960s and 1970s after the Silo Area was no longer used for waste disposal.

Site Geology and Hydrogeology: The geology of the Silo Area is comprised primarily of unconsolidated glacial deposits overlying dolomite bedrock. The glacial deposits include kame deposits (irregularly stratified fine to coarse sand and gravel) overlying glacial till. Till is typically a dense mixture of glacially deposited rock particles ranging in size from clay to boulders. Bedrock depth is quite variable in the vicinity of the Silo Area and has been noted at approximately 40 feet to the south of the Silo Area and up to 110 feet north of the Silo Area. Depth to groundwater at the Silo Area ranges from 10 to 12 feet below grade and groundwater flow is to the southeast.

Environmental Assessment

Based upon investigations conducted, mercury was determined to be the primary contaminant of concern. Numerous soil samples exceeded the 6 NYCRR Part 375 unrestricted use soil cleanup objective (SCO) of 0.18 parts per million (ppm) with maximum results up to approximately 10 ppm. The mercury contaminated soil did not affect groundwater quality. The Silo Area has been remediated to the unrestricted use SCO for mercury, which is protective of ecological resources.

Human Exposure Assessment

Soils in the Silo Area (SWMU#38) have been cleaned up to unrestricted levels for mercury precluding the necessity for any control measures.

Remediation Objective

Remedial Action Objectives (RAOs). RAOs are site-specific objectives for the protection of public health and the environment and are developed based on contaminant-specific standards, criteria and guidance to address contamination identified at a site. Table 1 contains the Department's list of RAOs accompanied by brief descriptions of how they are being achieved at this site.

Table 1

Remedial Action Objectives (RAOs)	Remedial Action
Groundwater RAOs – No groundwater impact at the Silo Area (SWMU #38)	
Soil RAOs for Protection of Public Health	
Prevent ingestion/direct contact with contaminated soil.	Excavation and off-site disposal of soil from 16 discrete areas (Figure 2) containing mercury at concentrations exceeding the unrestricted use SCO.
Soil RAOs for Environmental Protection	
Prevent migration of contaminants that would result in groundwater or surface water contamination.	Excavation and off-site disposal of soil from 16 discrete areas (Figure 2) containing mercury at concentrations exceeding the unrestricted use SCO.
Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.	Excavation and off-site disposal of soil from 16 discrete areas (Figure 2) containing mercury at concentrations exceeding the unrestricted use SCO.
Sediment RAOs - No sediment impact at the Silo Area (SWMU #38).	
Surface Water RAOs - No surface water impact at the Silo Area (SWMU #38)	
Soil Vapor RAOs - No SVI impact at the Silo Area (SWMU #38)	

Selected Remedy

Based on the results of the investigations at the site, the Interim Corrective Measure (ICM) that has been performed, and the evaluation presented here, the Department has selected No Further Action as the

remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives.

The remediation of the mercury contaminated soil was performed in 2012 resulting in approximately 830 cubic yards of soil being excavated and disposed off-site at a permitted disposal facility. As part of the remedial program, soil samples were collected which confirmed that the unrestricted use SCO (0.18 ppm) was achieved. Cleanup was approved by the Department prior to backfilling. All excavations were backfilled with select sand and gravel from a Department-permitted sand and gravel pit; topsoil was placed for site restoration; and vegetation was re-established. A report was prepared that documents the details of the remediation. This report was approved by the Department on November 19, 2013 and no further action is deemed necessary. The cost for the implementation of the remediation was approximately $353,000.

Public Participation

The proposed Statement of Basis was distributed to the public on February 26, 2015. A comment period was established from February 26, 2015 to March 28, 2015. During the comment period no comments were received and the proposed remedy was adopted without change.

For questions concerning this State of Basis,

please contact:

Mr. Matthew Dunham, PE
NYS Department of Environmental Conservation
Division of Environmental Remediation
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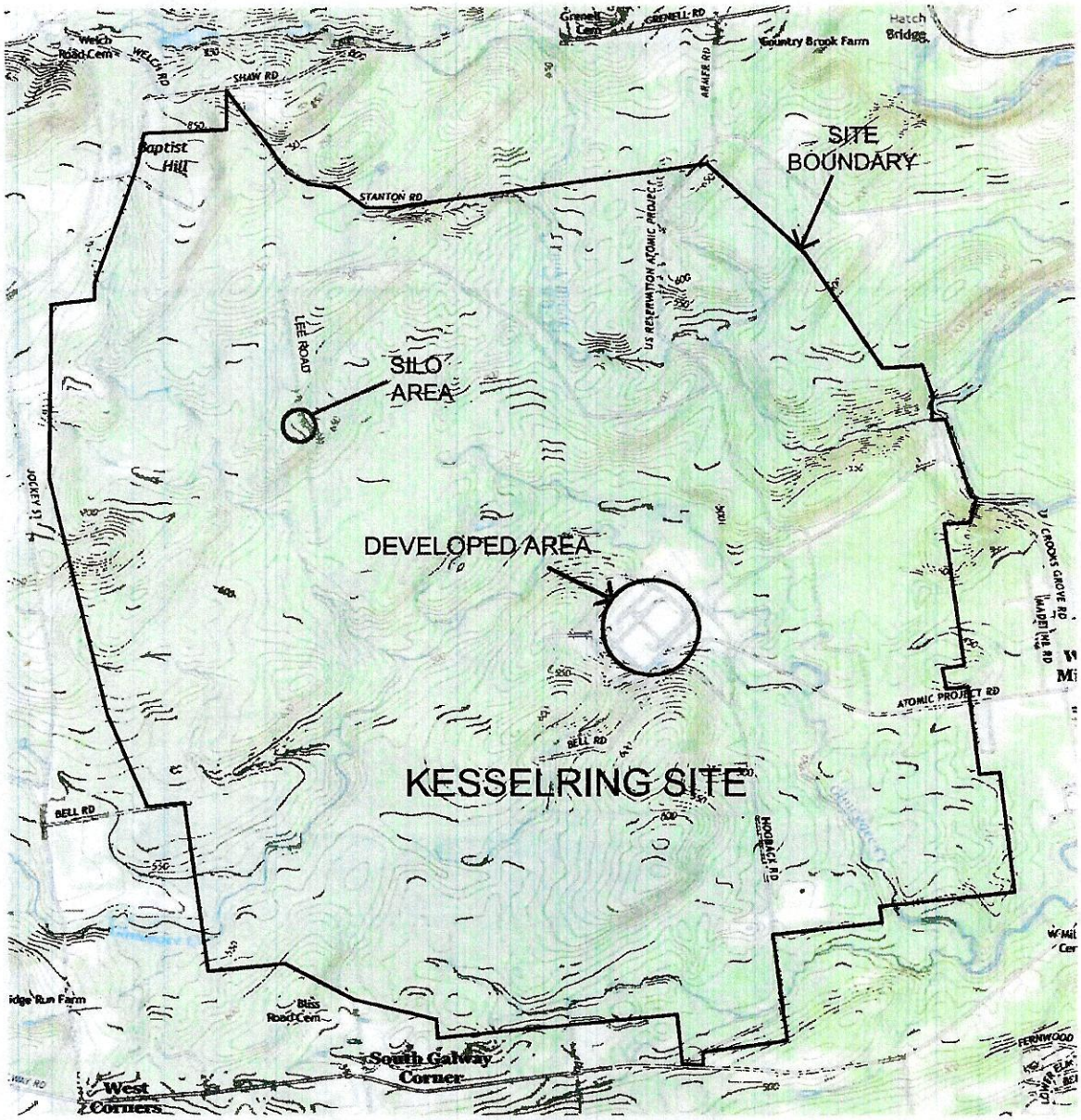
FIGURE 1



ADAPTED FROM: MIDDLE GROVE, NEW YORK U.S.G.S. 7.5 MIN. QUAD (2013)

QUADRANGLE LOCATION

KNOLLS ATOMIC POWER LABORATORY
KESSELRING SITE
WEST MILTON, NEW YORK

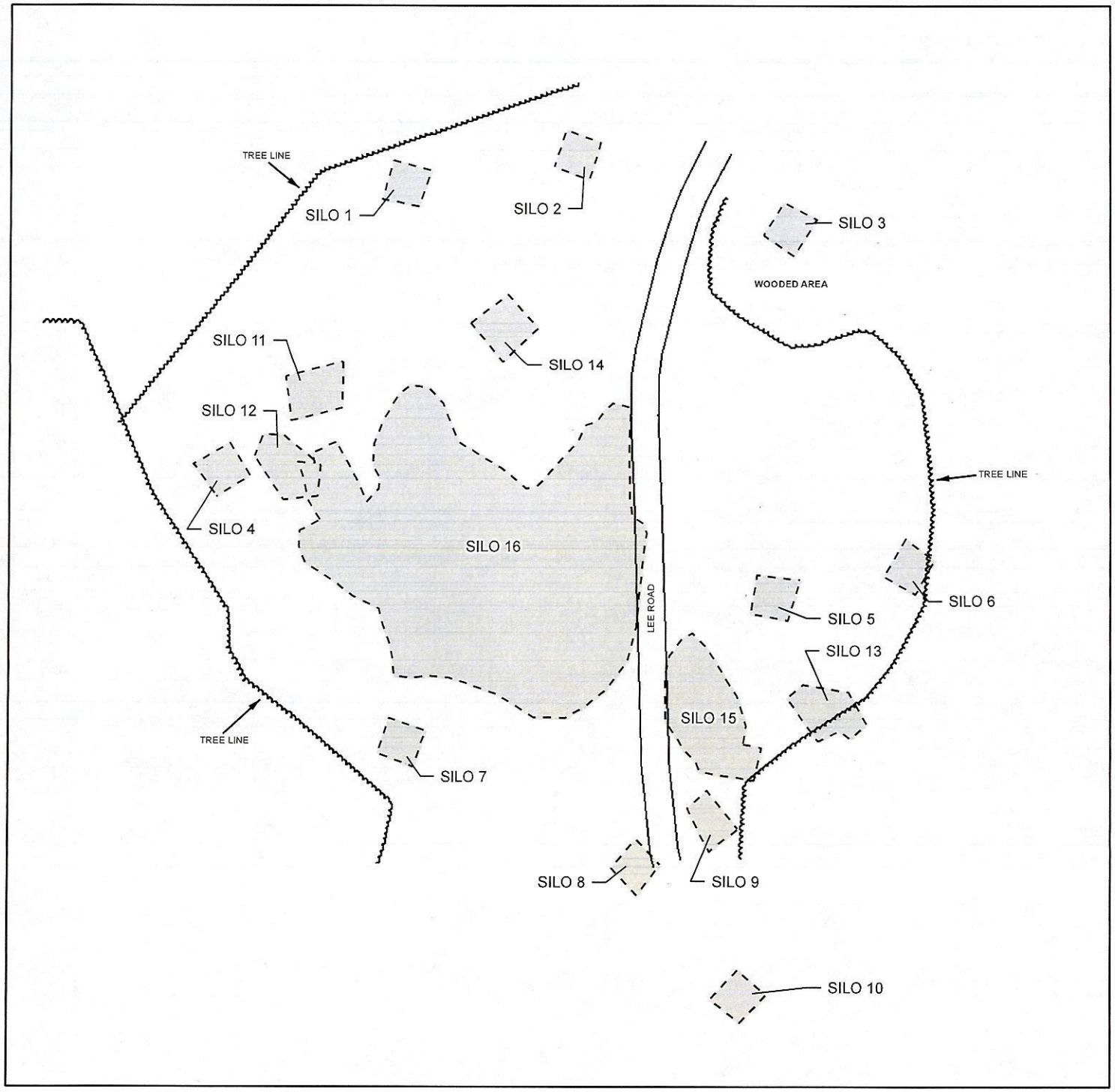
SILO AREA (SWMU #38)
STATEMENT OF BASIS
SITE LOCATION MAP

3,000 0 3,000 6,000

FEET

N

FIGURE 2



N

LEGEND

Excavation Area

KNOLLS ATOMIC POWER LABORATORY
KESSELRING SITE
WEST MILTON, NEW YORK

SILO AREA (SWMU #38)
STATEMENT OF BASIS
EXCAVATION AREAS

40 20 0 40

Feet

06/2023